



Xcel Energy Minnesota DSM Market Potential Assessment

Final Report – Volume 2: Appendices A-H



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April 20, 2012

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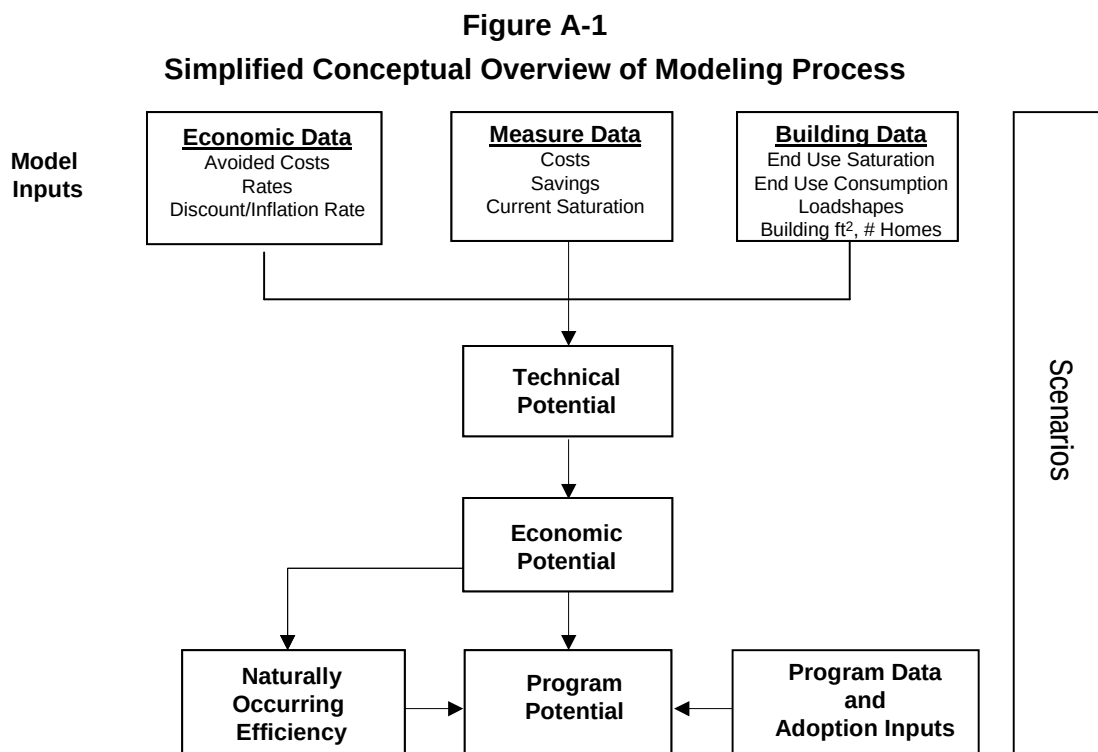
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A. Appendix A: Detailed Methodology and Model Description

In this appendix we present and discuss our basic methodology for conducting market potential studies. We also present an overview of DSM ASSYST™, our model used to develop market potential estimates. Information presented here has been extracted from several recent energy efficiency potential reports.

A.1 Overview of DSM Forecasting Method

The crux of any DSM forecasting process involves carrying out a number of systematic analytical steps that are necessary to produce accurate estimates of energy efficiency (EE) effects on system load. A simplified overview of these basic analytical steps is shown in Figure A-1.



Developing a DSM forecast is viewed by KEMA as a five-step process. The steps include:

Step 1: Develop Initial Input Data

- Develop list of EE measure opportunities to include in scope

- Gather and develop technical data (costs and savings) on efficient measure opportunities
- Gather, analyze, and develop information on building characteristics, including total square footage and households, electricity consumption and intensity by end use, end-use consumption load patterns by time of day and year (i.e., load shapes), market shares of key electric consuming equipment, and market shares of EE technologies and practices.

Step 2: Estimate Technical Potential and Develop Supply Curves

- Match and integrate data on efficient measures to data on existing building characteristics to produce estimates of technical potential and EE supply curves.

Step 3: Estimate Economic Potential

- Gather economic input data such as current and forecasted retail electric prices and current and forecasted costs of electricity generation, along with estimates of other potential benefits of reducing supply, such as the value of reducing environmental impacts associated with electricity production
- Match and integrate measure and building data with economic assumptions to produce indicators of costs from different viewpoints (e.g., utility, societal, and consumer)
- Estimate total economic potential using supply curve approach

Step 4: Estimate Achievable Program and Naturally Occurring Potentials

- Gather and develop estimates of program costs (e.g., for administration and marketing) and historic program savings
- Develop estimates of customer adoption of EE measures as a function of the economic attractiveness of the measures, barriers to their adoption, and the effects of program intervention
- Estimate achievable program and naturally occurring potentials; calibrate achievable and naturally occurring potential to recent program and market data
- Develop alternative economic estimates associated with alternative future scenarios

Step 5: Scenario Analyses and Resource Planning Inputs

- Recalculate potentials under alternate economic scenarios and deliver data in format required for resource planning.

Provided below is additional discussion of KEMA's modeling approaches for technical, economic, and achievable DSM forecasts.

A.1.1 Estimate Technical Potential and Develop Energy-Efficiency Supply Curves

Technical potential refers to the amount of energy savings or peak demand reduction that would occur with the *complete* penetration of all measures analyzed in applications where they were deemed *technically* feasible from an *engineering* perspective. Total technical potential is developed from estimates of the technical potential of individual measures as they are applied to discrete market segments (commercial building types, residential dwelling types, etc.).

A.1.1.1 Core Equation

The core equation used to calculate the energy technical potential for each individual efficiency measure, by market segment, is shown below (using a commercial example):¹

$$\begin{array}{ccccccccc} \text{Technical} & & \text{Total} & & \text{Base} & & \text{Not} & & \\ \text{Potential of} & = & \text{Square} & \times & \text{Case} & \times & \text{Complete} & \times & \\ \text{Efficient} & & \text{Feet} & & \text{Equipment} & \times & \text{Factor} & \times & \text{Feasibility} & \times & \text{Savings} \\ \text{Measure} & & & & \text{EUI} & & & & \text{Factor} & & \text{Factor} \end{array}$$

where:

- **Square feet** is the total floor space for all buildings in the market segment. For the residential analysis, the **number of dwelling units** is substituted for square feet.
- **Base-case equipment EUI** is the energy used per square foot by each base-case technology in each market segment. This is the consumption of the energy-using equipment that the efficient technology replaces or affects. For example, if the efficient measure were a CFL, the base EUI would be the annual kWh per square foot of an equivalent incandescent lamp. For the residential analysis, unit energy consumption (UECs), energy used per dwelling, are substituted for EUIs.
- **Applicability factor** is the fraction of the floor space (or dwelling units) that is applicable for the efficient technology in a given market segment; for the example above, the percentage of floor space lit by incandescent bulbs.
- **Not complete factor** is the fraction of applicable floor space (or dwelling units) that has not yet been converted to the efficient measure; that is, (1 minus the fraction of floor space that already has the EE measure installed).
- **Feasibility factor** is the fraction of the applicable floor space (or dwelling units) that is technically feasible for conversion to the efficient technology from an *engineering* perspective.

¹ Note that stock turnover is not accounted for in our estimates of technical and economic potential, stock turnover is accounted for in our estimates of achievable potential. Our definition of technical potential assumes instantaneous replacement of standard-efficiency with high-efficiency measures.

- **Savings factor** is the reduction in energy consumption resulting from application of the efficient technology.

Technical potential for peak demand reduction is calculated analogously.

An example of the core equation is shown in Table A-1 for the case of a prototypical 4-lamp 4-foot standard T-8 lighting fixture, which is replaced by a 4-lamp 4-foot premium T-8 fixture in the office segment of a large utility service territory.

Table A-1
Example of Technical Potential Calculation—Replace 4-Lamp 4-Foot Standard T-8s with
4-Lamp 4-Foot Premium T-8s in the Office Segment of a Utility Service Territory
(Note: Data are illustrative only)

Technical Potential of Efficient Measure	=	Total square feet	×	Base Case Equipment UEC	×	Applicability Factor	×	Not Complete Factor	×	Feasibility Factor	×	Savings Factor
57 million kWh		195 million		5.74		0.34		0.95		1.00		0.16

Technical EE potential is calculated in two steps. In the first step, all measures are treated *independently*; that is, the savings of each measure are not marginalized or otherwise adjusted for overlap between competing or synergistic measures. By treating measures independently, their relative economics are analyzed without making assumptions about the order or combinations in which they might be implemented in customer buildings. However, the total technical potential across measures cannot be estimated by summing the individual measure potentials directly. The cumulative savings cannot be estimated by adding the savings from the individual savings estimates because some savings would be double counted. For example, the savings from a measure that reduces heat gain into a building, such as window film, are partially dependent on other measures that affect the efficiency of the system being used to cool the building, such as a high-efficiency chiller; the more efficient the chiller, the less energy saved from the application of the window film.

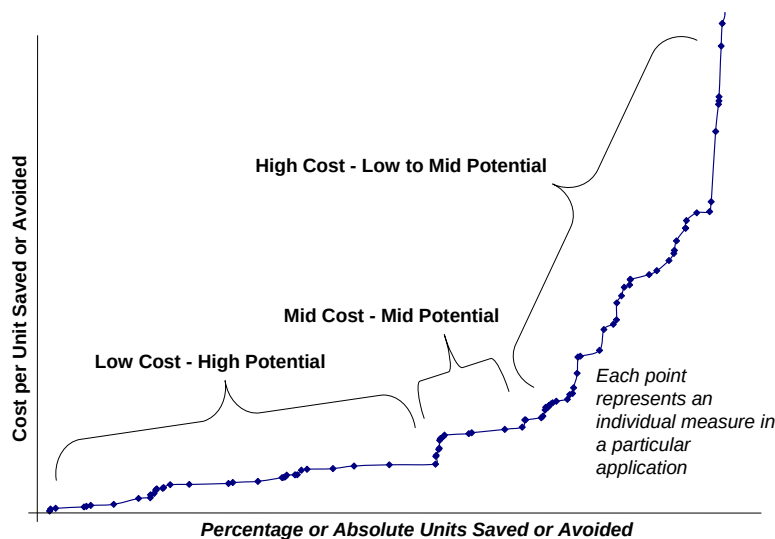
A.1.1.2 Use of Supply Curves

In the second step, cumulative technical potential is estimated using an EE supply curve approach.² This method eliminates the double-counting problem. In Figure A-2, we present a generic example of a supply

² This section describes conservation supply curves as they have been defined and implemented in numerous studies. Readers should note that Stoft 1995 describes several technical errors in the definition and implementation of conservation supply curves in the original and subsequent conservation supply curve studies. Stoft concludes that

curve. As shown in the figure, a supply curve typically consists of two axes—one that captures the cost per unit of saving a resource or mitigating an impact (e.g., \$/kWh saved or \$/ton of carbon avoided) and the other that shows the amount of savings or mitigation that could be achieved at each level of cost. The curve is typically built up across individual measures that are applied to specific base-case practices or technologies by market segment. Savings or mitigation measures are sorted on a least-cost basis, and total savings or impacts mitigated are calculated incrementally with respect to measures that precede them. Supply curves typically, but not always, end up reflecting diminishing returns, i.e., as costs increase rapidly and savings decrease significantly at the end of the curve.

Figure A-2
Generic Illustration of EE Supply Curve



As noted above, the cost dimension of most EE supply curves is usually represented in dollars per unit of energy savings. Costs are usually annualized (often referred to as “levelized”) in supply curves. For example, EE supply curves usually present levelized costs per kWh or kW saved by multiplying the initial investment in an efficient technology or program by the “capital recovery rate” (CRR):

$$\text{CRR} = \frac{d}{1 - (1 + d)^{-n}}$$

conservation supply curves are not “true” supply curves in the standard economic sense but can still be useful (albeit with his recommended improvements) for their intended purpose (demonstration of cost-effective conservation opportunities).

where d is the real discount rate and n is the number of years over which the investment is written off (i.e., amortized).

Thus,

$$\text{Levelized Cost per kWh Saved} = \text{Initial Cost} \times \text{CRR} / \text{Annual Energy Savings}$$

$$\text{Levelized Cost per kW Saved} = \text{Initial Cost} \times \text{CRR} / \text{Peak Demand Savings}$$

The levelized cost per kWh and kW saved are useful because they allow simple comparison of the characteristics of EE with the characteristics of energy supply technologies. However, the levelized cost per kW saved is a biased indicator of cost-effectiveness because all of the efficiency measure costs are arbitrarily allocated to peak savings.

Returning to the issue of EE supply curves, Table A-2 shows a simplified numeric example of a supply curve calculation for several EE measures applied to commercial lighting for a hypothetical population of buildings. What is important to note is that in an EE supply curve, the measures are sorted by relative cost—from least to most expensive. In addition, the energy consumption of the system being affected by the efficiency measures goes down as each measure is applied. As a result, the savings attributable to each subsequent measure decrease if the measures are interactive. For example, the occupancy sensor measure shown in Table 1-2 would save more at less cost per unit saved if it were applied to the base-case consumption before the T8 lamp and electronic ballast combination. Because the T8 electronic ballast combination is more cost-effective, however, it is applied first, reducing the energy savings potential for the occupancy sensor. Thus, in a typical EE supply curve, the base-case end-use consumption is reduced with each unit of EE that is acquired. Notice in Table 1-2 that the total end-use GWh consumption is recalculated after each measure is implemented, thus reducing the base energy available to be saved by the next measure.

Table A-2 shows an example that would represent measures for one base-case technology in one market segment. These calculations are performed for all of the base-case technologies, market segments, and measure combinations in the scope of a study. The results are then ordered by levelized cost and the individual measure savings are summed to produce the EE potential for the entire sector.

In the next subsection, we discuss how economic potential is estimated as a subset of the technical potential.

Table A-2
Sample Technical Potential Supply Curve Calculation for Commercial Lighting
(Note: Data are illustrative only)

Measure	Total End Use Consumption of Population (GWh)	Applicable, Not Complete and Feasible (1000s of ft ²)	Average kWh/ft ² of population	Savings %	GWh Savings	Levelized Cost (\$/kWh saved)
Base Case: T12 lamps with Magnetic Ballast	425	100,000	4.3	N/A	N/A	N/A
1. T8 w. Elec. Ballast	425	100,000	4.3	21%	89	\$0.04
2. Occupancy Sensors	336	40,000	3.4	10%	13	\$0.11
3. Perimeter Dimming	322	10,000	3.2	45%	14	\$0.25
With all measures	309		3.1	27%	116	

A.1.2 Estimation of Economic Potential

Economic potential is typically used to refer to the *technical potential* of those energy conservation measures that are cost effective when compared to either supply-side alternatives or the price of energy. Economic potential takes into account the fact that many EE measures cost more to purchase initially than do their standard-efficiency counterparts. The incremental costs of each efficiency measure are compared to the savings delivered by the measure to produce estimates of energy savings per unit of additional cost. These estimates of EE resource costs can then be compared to estimates of other resources such as building and operating new power plants.

A.1.2.1 Cost Effectiveness Tests

To estimate economic potential, it is necessary to develop a method by which it can be determined that a measure or program is *economic*. There is a large body of literature that debates the merits of different approaches to calculating whether a public purpose investment in EE is cost effective (Chamberlin and Herman 1993, RER 2000, Ruff 1988, Stoft 1995, and Sutherland 2000). We usually utilize the total resource cost (TRC) test to assess cost effectiveness. The TRC is a form of societal benefit-cost test. Other tests that have been used in analyses of program cost-effectiveness by EE analysts include the utility cost, ratepayer impact measure (RIM), and participant tests. These tests are discussed in detail the CASPM.

Before discussing the TRC test and how it is often used in our DSM forecasts, we present below a brief introduction to the basic tests as described in the CASPM:³

- **Total Resource Cost Test**—The TRC test measures the net costs of a demand-side management program as a resource option based on the total costs of the program, including both the participants' and the utility's costs. The test is applicable to conservation, load management, and fuel substitution programs. For fuel substitution programs, the test measures the net effect of the impacts from the fuel not chosen versus the impacts from the fuel that is chosen as a result of the program. TRC test results for fuel substitution programs should be viewed as a measure of the economic efficiency implications of the total energy supply system (gas and electric). A variant on the TRC test is the societal test. The societal test differs from the TRC test in that it includes the effects of externalities (e.g. environmental, national security), excludes tax credit benefits, and uses a different (societal) discount rate.
- **Participant Test**—The participant test is the measure of the quantifiable benefits and costs to the customer due to participation in a program. Since many customers do not base their decision to participate in a program entirely on quantifiable variables, this test cannot be a complete measure of the benefits and costs of a program to a customer.
- **Utility (Program Administrator) Test**—The program administrator cost test measures the net costs of a demand-side management program as a resource option based on the costs incurred by the program administrator (including incentive costs) and excluding any net costs incurred by the participant. The benefits are similar to the TRC benefits. Costs are defined more narrowly.
- **Ratepayer Impact Measure Test**—The ratepayer impact measure (RIM) test measures what happens to customer bills or rates due to changes in utility revenues and operating costs caused by the program. Rates will go down if the change in revenues from the program is greater than the change in utility costs. Conversely, rates or bills will go up if revenues collected after program implementation are less than the total costs incurred by the utility in implementing the program. This test indicates the direction and magnitude of the expected change in customer bills or rate levels.

The key benefits and costs of the various cost-effectiveness tests are summarized in Table A-3.

³ These definitions are direct excerpts from the California Standard Practice Manual, October 2001.

Table A-3
Summary of Benefits and Costs of California Standard Practice Manual Tests

Test	Benefits	Costs
TRC Test	Generation, transmission and distribution savings Participants avoided equipment costs (fuel switching only)	Generation costs Program costs paid by the administrator Participant measure costs
Participant Test	Bill reductions Incentives Participants avoided equipment costs (fuel switching only)	Bill increases Participant measure costs
Utility (Program Administrator) Test	Generation, transmission and distribution savings	Generation costs Program costs paid by the administrator Incentives
Ratepayer Impact Measure Test	Generation, transmission and distribution savings Revenue gain	Generation costs Revenue loss Program costs paid by the administrator Incentives

Generation, transmission and distribution savings (hereafter, energy benefits) are defined as the economic value of the energy and demand savings stimulated by the interventions being assessed. These benefits are typically measured as induced changes in energy consumption, valued using some mix of avoided costs. Statewide values of avoided costs are prescribed for use in implementing the test. Electricity benefits are valued using three types of avoided electricity costs: avoided distribution costs, avoided transmission costs, and avoided electricity generation costs.

Participant costs are comprised primarily of incremental measure costs. Incremental measure costs are essentially the costs of obtaining EE. In the case of an add-on device (say, an adjustable-speed drive or ceiling insulation), the incremental cost is simply the installed cost of the measure itself. In the case of equipment that is available in various levels of efficiency (e.g., a central air conditioner), the incremental cost is the excess of the cost of the high-efficiency unit over the cost of the base (reference) unit.

Administrative costs encompass the real resource costs of program administration, including the costs of administrative personnel, program promotions, overhead, measurement and evaluation, and shareholder incentives. In this context, administrative costs are not defined to include the costs of various incentives (e.g., customer rebates and salesperson incentives) that may be offered to encourage certain types of behavior. The exclusion of these incentive costs reflects the fact that they are essentially transfer payments. That is, from a societal perspective they involve offsetting costs (to the program administrator) and benefits (to the recipient).

A.1.2.2 Use of the Total Resource Cost to Estimate Economic Potential

We often use the TRC test in two ways in our model. First, we develop an estimate of economic potential by calculating the TRC of individual measures and applying the methodology described below. Second, we develop estimates of whether different program scenarios are cost effective.

Economic potential can be defined either inclusively or exclusively of the costs of programs that are designed to increase the adoption rate of EE measures. *In many of our projects, we define economic potential to **exclude** program costs.* We do so primarily because program costs are dependent on a number of factors that vary significantly as a function of program delivery strategy. There is no single estimate of program costs that would accurately represent such costs across the wide range of program types and funding levels possible. Once an assumption is made about program costs, one must also link those assumptions to expectations about market response to the types of interventions assumed. Because of this, we believe it is more appropriate to factor program costs into our analysis of *program potential*. Thus, our definition of *economic potential* is that portion of the technical potential that passes our economic screening test (described below) exclusive of program costs. Economic potential, like technical potential, is a theoretical quantity that will exceed the amount of potential we estimate to be achievable through current or more aggressive program activities.

As implied in Table A-3 and defined in the CASPM 2001, the TRC focuses on resource savings and counts benefits as utility-avoided supply costs and costs as participant costs and utility program costs. It ignores any impact on rates. It also treats financial incentives and rebates as transfer payments; i.e., the TRC is not affected by incentives. The somewhat simplified benefit and cost formulas for the TRC are presented in Equations A-1 and A-2 below.

Equation A-1

$$\text{Benefits} = \sum_{t=1}^N \frac{\text{Avoided Costs of Supply}_{p,t}}{(1+d)^{t-1}}$$

Equation A-2

$$\text{Costs} = \sum_{t=1}^N \frac{\text{Program Cost}_t + \text{Participant Cost}_t}{(1+d)^{t-1}}$$

Where:

- d = the discount rate
- p = the costing period

t = time (in years)

n = 20 years

A nominal discount rate is typically used in the analysis, as inflation is taken into account separately. We use a *normalized* measure life of 20 years to capture the benefit of long-lived measures. Measures with measure lives shorter than 20 years are “re-installed” in our analysis as many times as necessary to reach the normalized 20-year life of the analysis.

The avoided costs of supply are calculated by multiplying measure energy savings and peak demand impacts by per-unit avoided costs by costing period. Energy savings are allocated to costing periods and peak impacts estimated using load shape factors.

As noted previously, in the *measure-level* TRC calculation used to estimate economic potential, program costs are excluded from Equation A-2. Using the supply curve methodology discussed previously, measures are ordered by TRC (highest to lowest) and then the *economic* potential is calculated by summing the energy savings for all of the technologies for which the marginal TRC test is greater than 1.0. In the example in Table A-4, the economic potential would include the savings for measures 1 and 2, but exclude saving for measure 3 because the TRC is less than 1.0 for measure 3. The supply curve methodology, when combined with estimates of the TRC for individual measures, produces estimates of the economic potential of efficiency improvements. By definition and intent, this estimate of economic potential is a theoretical quantity that will exceed the amount of potential we estimate to be achievable through program activities in the final steps of our analyses.

Table A-4
Sample Use of Supply Curve Framework to Estimate Economic Potential
(Note: Data are illustrative only)

Measure	Total End Use Consumption of Population (GWh)	Applicable, Not Complete and Feasible Sq.Feet (000s)	Average kWh/ft ² of population	Savings %	GWh Savings	Total Resource Cost Test	Savings Included in Economic Potential?
Base Case: T12 lamps with Magnetic Ballast	425	100,000	4.3	N/A	N/A	N/A	N/A
1. T8 w. Elec. Ballast	425	100,000	4.3	21%	89	2.5	Yes
2. Occupancy Sensors	336	40,000	3.4	10%	13	1.3	Yes
3. Perimeter Dimming	322	10,000	3.2	45%	14	0.8	No
Technical Potential with all measures				27%	116		
Economic Potential with measures for which TRC Ratio > 1.0				24%	102		

A.1.3 Estimation of Program and Naturally occurring Potentials

In this section we present the method we employ to estimate the fraction of the market that adopts each EE measure in the presence and absence of EE programs. We define:

- **Program potential** as the amount of savings that would occur in response to one or more specific market interventions
- **Naturally occurring potential** as the amount of savings estimated to occur as a result of normal market forces, that is, in the absence of any utility or governmental intervention.

Our estimates of program potential are typically the most important results of the modeling process. Estimating technical and economic potentials are necessary steps in the process from which important information can be obtained; however, the end goal of the process is better understanding how much of the remaining potential can be captured in programs, whether it would be cost-effective to increase program spending, and how program costs may be expected to change in response to measure adoption over time.

A.1.3.1 Adoption Method Overview

We use a method of estimating adoption of EE measures that applies equally to be our program and naturally occurring analyses. Whether as a result of natural market forces or aided by a program intervention, the rate at which measures are adopted is modeled in our method as a function of the following factors:

- The availability of the adoption opportunity as a function of capital equipment turnover rates and changes in building stock over time
- Customer awareness of the efficiency measure
- The cost-effectiveness of the efficiency measure
- Market barriers associated with the efficiency measure.

The method we employ is executed in the measure penetration module of KEMA's DSM ASSYST™ model.

In many of our projects, only measures that pass the measure-level TRC test are put into the penetration module for estimation of customer adoption.

A.1.3.2 Availability

A crucial part of the model is a stock accounting algorithm that handles capital turnover and stock decay over a period of up to 20 years. In the first step of our achievable potential method, we calculate the number of customers for whom each measure will apply. The input to this calculation is the total floor space available for the measure from the technical potential analysis, i.e., the total floor space multiplied by the applicability, not complete, and feasibility factors described previously. We call this the *eligible* stock. The stock algorithm keeps track of the amount of floor space available for each efficiency measure in each year based on the total eligible stock and whether the application is new construction, retrofit, or replace-on-burnout.⁴

Retrofit measures are available for implementation by the entire eligible stock. The eligible stock is reduced over time as a function of adoptions⁵ and building decay.⁶ Replace-on-burnout measures are available only on an annual basis, approximated as equal to the inverse of the service life.⁷ The annual portion of the eligible market that does not accept the replace-on-burnout measure does not have an opportunity again until the end of the service life.

New construction applications are available for implementation in the first year. Those customers that do not accept the measure are given subsequent opportunities corresponding to whether the measure is a replacement or retrofit-type measure.

A.1.3.3 Awareness

In our modeling framework, customers cannot adopt an efficient measure merely because there is stock available for conversion. Before they can make the adoption choice, they must be aware and informed about the efficiency measure. Thus, in the second stage of the process, the model calculates the portion of the available market that is *informed*. An initial user-specified parameter sets the initial level of awareness for all measures. Incremental awareness occurs in the model as a function of the amount of money spent on awareness/information building and how well those information-building resources are directed to

⁴ Replace-on-burnout measures are defined as the efficiency opportunities that are available only when the base equipment turns over at the end of its service life. For example, a high-efficiency chiller measure is usually only considered at the end of the life of an existing chiller. By contrast, retrofit measures are defined to be constantly available, for example, application of a window film to existing glazing.

⁵ That is, each square foot that adopts the retrofit measure is removed from the eligible stock for retrofit in the subsequent year.

⁶ Buildings do not last forever. An input to the model is the rate of decay of the existing floor space. Floor space typically decays at a very slow rate.

⁷ For example, a base-case technology with a service life of 15 years is only available for replacement to a high-efficiency alternative each year at the rate of 1/15 times the total eligible stock. For example, the fraction of the market that does not adopt the high-efficiency measure in year t will not be available to adopt the efficient alternative again until year $t + 15$.

target markets. User-defined program characteristics determine how well information-building money is targeted. Well-targeted programs are those for which most of the money is spent informing only those customers that are in a position to implement a particular group of measures. Untargeted programs are those in which advertising cannot be well focused on the portion of the market that is available to implement particular measures. The penetration module in DSM ASSYST has a target effectiveness parameter that is used to adjust for differences in program advertising efficiency associated with alternative program types.

The model also controls for information retention. An information decay parameter in the model is used to control for the percentage of customers that will retain program information from one year to the next. Information retention is based on the characteristics of the target audience and the temporal effectiveness of the marketing techniques employed.

A.1.3.4 Adoption

The portion of the total market this is available and informed can now face the choice of whether or not to adopt a particular measure. Only those customers for whom a measure is available for implementation (stage 1) and, of those customers, only those who have been informed about the program/measure (stage 2), are in a position to make the implementation decision.

In the third stage of our penetration process, the model calculates the fraction of the market that adopts each efficiency measure as a function of the participant test. The participant test is a benefit-cost ratio that is generally calculated as follows:

Equation A-3

$$\text{Benefits} = \sum_{t=1}^N \frac{\text{Customer Bill Savings (\$)}_t}{(1+d)^{t-1}}$$

Equation A-4

$$\text{Costs} = \sum_{t=1}^N \frac{\text{Participant Costs (\$)}_t}{(1+d)^{t-1}}$$

Where:

- d = the discount rate
- t = time (in years)
- n = 20 years

We use a *normalized* measure life of 20 years in order to capture the benefits associated with long-lived measures. Measures with lives shorter than 20 years are “re-installed” in our analysis as many times as necessary to reach the normalized 20-year life of the analysis.

The bill reductions are calculated by multiplying measure energy savings and customer peak demand impacts by retail energy and demand rates.

The model uses measure implementation curves to estimate the percentage of the informed market that will accept each measure based on the participant’s benefit-cost ratio. The model provides enough flexibility so that each measure in each market segment can have a separate implementation rate curve. The functional form used for the implementation curves is:

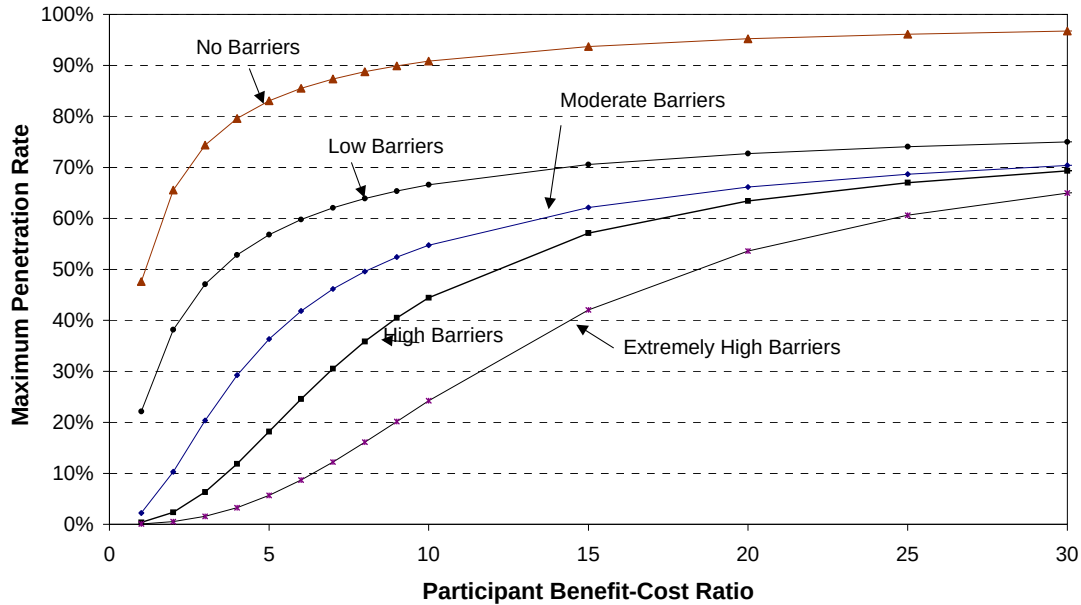
$$y = \frac{a}{\left(1 + e^{-\frac{\ln x}{4}}\right) \times \left(1 + e^{-\ln(bx)}\right)}$$

where:

- y = the fraction of the market that installs a measure in a given year from the pool of informed applicable customers;
- x = the customer’s benefit-cost ratio for the measure;
- a = the maximum annual acceptance rate for the technology;
- b = the inflection point of the curve. It is generally 1 over the benefit-cost ratio that will give a value of 1/2 the maximum value; and
- c = the parameter that determines the general shape (slope) of the curve.

The primary curves utilized in our model are shown in Figure A-3. These curves produce base year program results that are calibrated to actual measure implementation results associated with major IOU commercial efficiency programs over the past several years. Different curves are used to reflect different levels of market barriers for different efficiency measures. A list of market barriers is shown in Table A-5. It is the existence of these barriers that necessitates program interventions to increase the adoption of EE measures.

Figure A-3
Primary Measure Implementation Curves Used in Adoption Model



Note that for the moderate, high barrier, and extremely high curves, the participant benefit-cost ratios have to be very high before significant adoption occurs. This is because the participant benefit-cost ratios are based on a 15-percent discount rate. This discount rate reflects likely adoption if there were no market barriers or market failures, as reflected in the no-barriers curve in the figure. Experience has shown, however, that actual adoption behavior correlates with implicit discount rates several times those that would be expected in a perfect market.⁸

⁸ For some, it is easier to consider adoption as a function of simple payback. However, the relationship between payback and the participant benefit-cost ratio varies depending on measure life and discount rate. For a long-lived measure of 15 years with a 15-percent discount rate, the equivalent payback at which half of the market would adopt a measure is roughly 6 months, based on the high barrier curve in Figure 2-3. At a 1-year payback, one-quarter of the market would adopt the measure. Adoption reaches near its maximum at a 3-month payback. The curves reflect the real-world observation that implicit discount rates can average up to 100 percent.

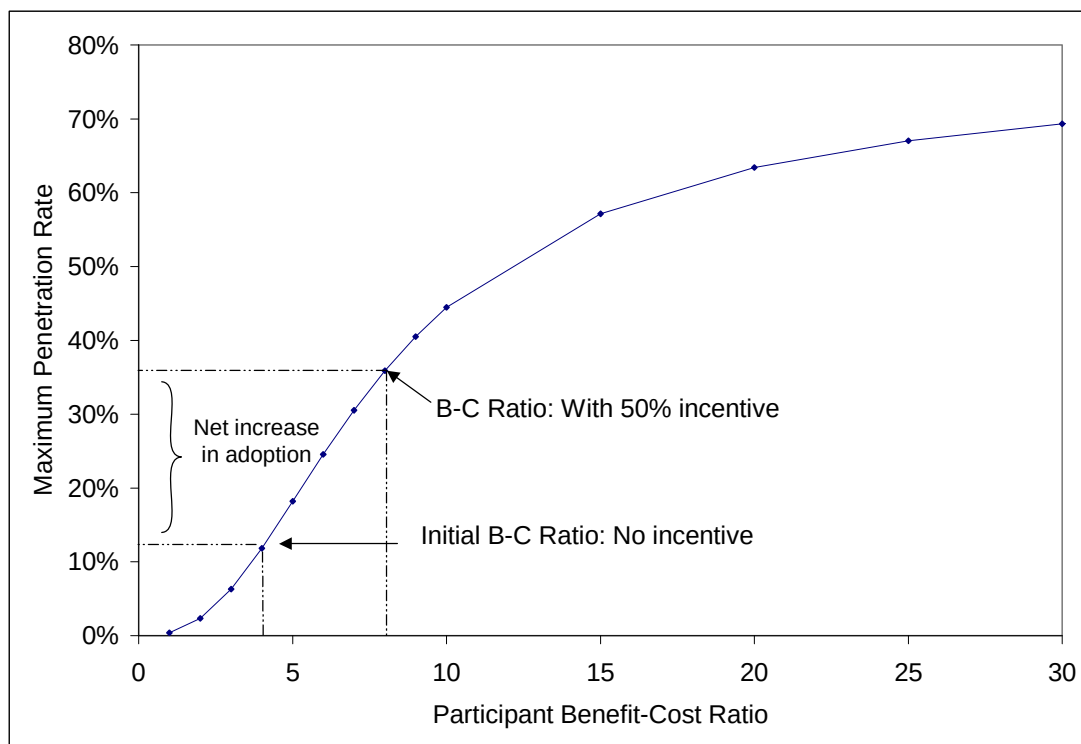
Table A-5
Summary Description of Market Barriers from Eto, Prah, Schlegel 1997

Barrier	Description
Information or Search Costs	The costs of identifying energy-efficient products or services or of learning about energy-efficient practices, including the value of time spent finding out about or locating a product or service or hiring someone else to do so.
Performance Uncertainties	The difficulties consumers face in evaluating claims about future benefits. Closely related to high search costs, in that acquiring the information needed to evaluate claims regarding future performance is rarely costless.
Asymmetric Information and Opportunism	The tendency of sellers of energy-efficient products or services to have more and better information about their offerings than do consumers, which, combined with potential incentives to mislead, can lead to sub-optimal purchasing behavior.
Hassle or Transaction Costs	The indirect costs of acquiring EE, including the time, materials and labor involved in obtaining or contracting for an energy-efficient product or service. (Distinct from search costs in that it refers to what happens once a product has been located.)
Hidden Costs	Unexpected costs associated with reliance on or operation of energy-efficient products or services - for example, extra operating and maintenance costs.
Access to Financing	The difficulties associated with the lending industry's historic inability to account for the unique features of loans for energy savings products (i.e., that future reductions in utility bills increase the borrower's ability to repay a loan) in underwriting procedures.
Bounded Rationality	The behavior of an individual during the decision-making process that either seems or actually is inconsistent with the individual's goals.
Organization Practices or Customs	Organizational behavior or systems of practice that discourage or inhibit cost-effective EE decisions, for example, procurement rules that make it difficult to act on EE decisions based on economic merit.
Misplaced or Split incentives	Cases in which the incentives of an agent charged with purchasing EE are not aligned with those of the persons who would benefit from the purchase.
Product or Service Unavailability	The failure of manufacturers, distributors or vendors to make a product or service available in a given area or market. May result from collusion, bounded rationality, or supply constraints.
Externalities	Costs that are associated with transactions, but which are not reflected in the price paid in the transaction.
Non-externality Pricing	Factors other than externalities that move prices away from marginal cost. An example arises when utility commodity prices are set using ratemaking practices based on average (rather than marginal) costs.
Inseparability of Product Features	The difficulties consumers sometimes face in acquiring desirable EE features in products without also acquiring (and paying for) additional undesired features that increase the total cost of the product beyond what the consumer is willing to pay.
Irreversibility	The difficulty of reversing a purchase decision in light of new information that may become available, which may deter the initial purchase, for example, if energy prices decline, one cannot resell insulation that has been blown into a wall.

The model estimates adoption under both naturally occurring and program intervention situations. There are only two differences between the naturally occurring and program analyses. First, in any program

intervention case in which measure incentives are provided, the participant benefit-cost ratios are adjusted based on the incentives. Thus, if an incentive that pays 50 percent of the incremental measure cost is applied in the program analysis, the participant benefit-cost ratio for that measure will double (since the costs have been halved). The effect on the amount of adoption estimated will depend on where the pre- and post-incentive benefit-cost ratios fall on the curve. This effect is illustrated in Figure A-4.

Figure A-4
Illustration of Effect of Incentives on Adoption Level
as Characterized in Implementation Curves



In many of our projects achievable potential EE forecasts are developed for several scenarios, ranging from base levels of program intervention, through moderate levels, up to an aggressive EE acquisition scenario. Uncertainty in rates and avoided costs are often characterized in alternate scenarios. The final results produced are annual streams of achievable program impacts (energy and demand by time-of-use period) and all societal and participant costs (program costs plus end-user costs).

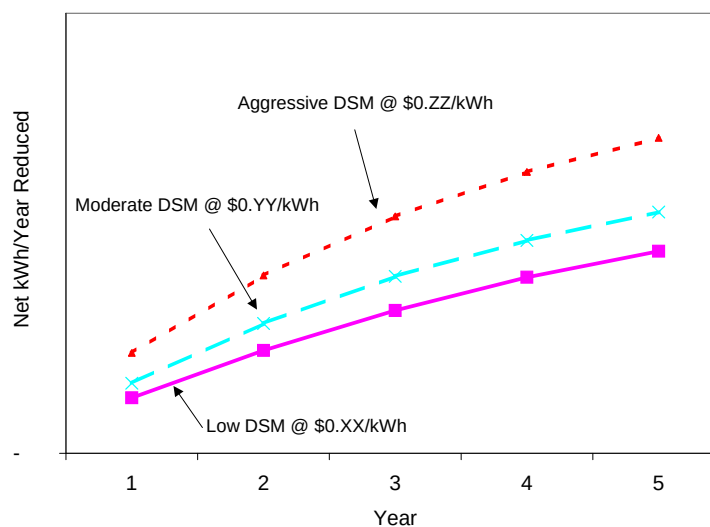
A.1.4 Scenario Analyses

Achievable potential forecasts can be developed for multiple scenarios. For example, program savings can be modeled under low levels of program intervention, through moderate levels, up to an aggressive DSM acquisition scenario. Uncertainty in rates and avoided costs can be characterized in alternate scenarios as well. The final results produced will be annual streams of achievable DSM program impacts (energy and demand by time-of-use period) and all societal and participant costs. An example of the types of outputs that have been produced for similar studies in the past is shown in Table A-6 and Figure A-5.

Table A-6
Example Format of DSM ASSYST Achievable Potential Outputs

DSM ASSYST Program Output	2006	2007	2008	etc.
Annual Energy Savings (kWh)				
Summer Period Energy Savings (kWh)				
Non Summer Period Energy Savings (kWh)				
Net Annual Energy Savings (kWh)				
Summer Period Net Energy Savings (kWh)				
Non Summer Period Net Energy Savings (kWh)				
Peak Demand Savings (kW)				
Net Peak Demand Savings (kW)				
Annual Program Costs				
Supplemental Customer Costs				

Figure A-5
Example of DSM Scenario Outputs



A.1.5 Measure “Bundles” for Complex End Uses

Although potential can be estimated through measure-specific analyses for many sectors and end uses, there are some cases where the measure-specific approach becomes problematic because of the complexity or heterogeneity of the base-case energy systems being addressed. Two key examples are industrial processes and some aspects of residential and commercial new construction.

In the industrial case, there may be dozens or even hundreds of individual measures that can be applied to industrial processes throughout the population of industrial facilities in a service territory; however, analyzing each of these opportunities, though possible, is impractical within a resource and time-constrained study such as this one.

In the case of new construction, the problem is sometimes that an equipment substitution paradigm does not fit the real-world circumstances in which efficiency levels are improved. For example, in commercial lighting, virtually all new buildings tend to have electronic ballasts and T-8 lamps, as well as CFLs, and other high-efficiency components. These high-efficiency components are generally needed to meet Title 24 efficiency requirements; however, the overall lighting system efficiency can often be increased by using these same components in smarter designs configurations or by combining with other features such as daylighting.

For both of these situations, our approach on recent related work has been to bundle multiple individual efficiency measures into somewhat simplified efficiency levels. For example, lighting levels for commercial new construction might be set at 10- and 20-percent improvement over Title 24 standards (as they are often specified in the Savings by Design program planning documents). Similarly, for industrial compressed air systems, we have bundled savings opportunities into three levels where both savings and costs increase with each level. We then estimate an incremental cost for achieving each of the efficiency levels. An example of these results developed in a recent study for industrial motors, compressed air, and processes in California is shown in Table A-7.

Once the levels efficiency are specified in terms of costs and savings, they are run through the modeling system as if they were individual measures. Thus, cost-effectiveness indicators are calculated for each level, those that pass the TRC are included in the achievable potential forecasting, and adoption is modeled using the same process as described above. Although we recommend using this approach for complex end uses in the proposed study because it creates a manageable forecasting process, care must be taken in developing the levels and recognizing that this approach results in some aggregation bias.

A.2 DSM ASSYST™ Model Description

DSM ASSYST™ (Demand-Side Management Technology Assessment System) is a tool developed to assess the technical, economic and market potential of DSM technologies in the residential, commercial and industrial sectors. Based on user-specified information about base technologies, conservation technologies, load shapes, utility avoided costs, utility service rates, and economic parameters, DSM ASSYST yields numeric data for a variety of criteria. The user can then evaluate and compare technologies. DSM ASSYST allows the user to analyze each DSM technology in multiple combinations of building types, market segments, end uses, and vintages both individually and compared to other DSM technology options.

Table A-7

Example of Industrial Efficiency Levels Developed for a Recent California Potential Study

DSM ASSYST ADDITIVE SUPPLY ANALYSIS				Year	2011		
End Use	Measure Number	Vintage: Existing Sector: Industrial Scenario: Base	GWH Savings	MW Savings	Levelized Cost per KWh Saved	Levelized Cost per KW Saved	Total Resource Cost Test
		Measure			\$/kWH	\$/kW	TRC
Motors	101	Replace 1-5 HP Motor	248.7	34.1	\$0.10	\$698	0.8
Motors	102	Add 1-5 HP VSD	447.1	61.3	\$0.14	\$1,019	0.6
Motors	103	Motor Practices Level 1	607.0	83.2	\$0.06	\$440	1.3
Motors	104	Motor Practices Level 2	539.1	73.9	\$0.24	\$1,764	0.3
Motors	121	Replace 21-50 HP Motor	78.1	10.7	\$0.09	\$661	0.9
Motors	122	Add 21-50 HP VSD	319.0	43.7	\$0.04	\$278	2.1
Motors	123	Motor Practices Level 1	404.3	55.4	\$0.03	\$211	2.7
Motors	124	Motor Practices Level 2	361.9	49.6	\$0.12	\$840	0.7
Motors	151	Replace 201-500 HP Motor	143.5	19.7	\$0.03	\$201	2.8
Motors	152	Add 201-500 HP VSD	516.6	70.8	\$0.01	\$106	5.4
Motors	153	Motor Practices Level 1	598.6	82.0	\$0.02	\$152	3.7
Motors	154	Motor Practices Level 2	554.9	76.0	\$0.08	\$586	1.0
Compressed Air	202	CAS Level 1	433.9	59.5	\$0.02	\$168	3.4
Compressed Air	203	CAS Level 2	453.6	62.2	\$0.05	\$362	1.6
Compressed Air	204	CAS Level 3	325.5	44.6	\$0.13	\$936	0.6
Other Process	301	Process Level 1	1,031.8	141.4	\$0.03	\$190	3.0
Other Process	302	Process Level 2	1,219.7	167.1	\$0.05	\$345	1.7
Other Process	303	Process Level 3	767.3	105.1	\$0.25	\$1,831	0.3

The current version of DSM ASSYST uses a combination of Microsoft Excel spreadsheets and Visual Basic (VB) programming software. All input and output data are stored in spreadsheets. The VB modules read input data from various spreadsheets, perform the various analyses, and store output results into spreadsheets.

There are three major VB analysis modules: Basic, Supply, and Penetration. Figure A-6 provides an overview of the model process and key inputs. Each module is briefly described below.

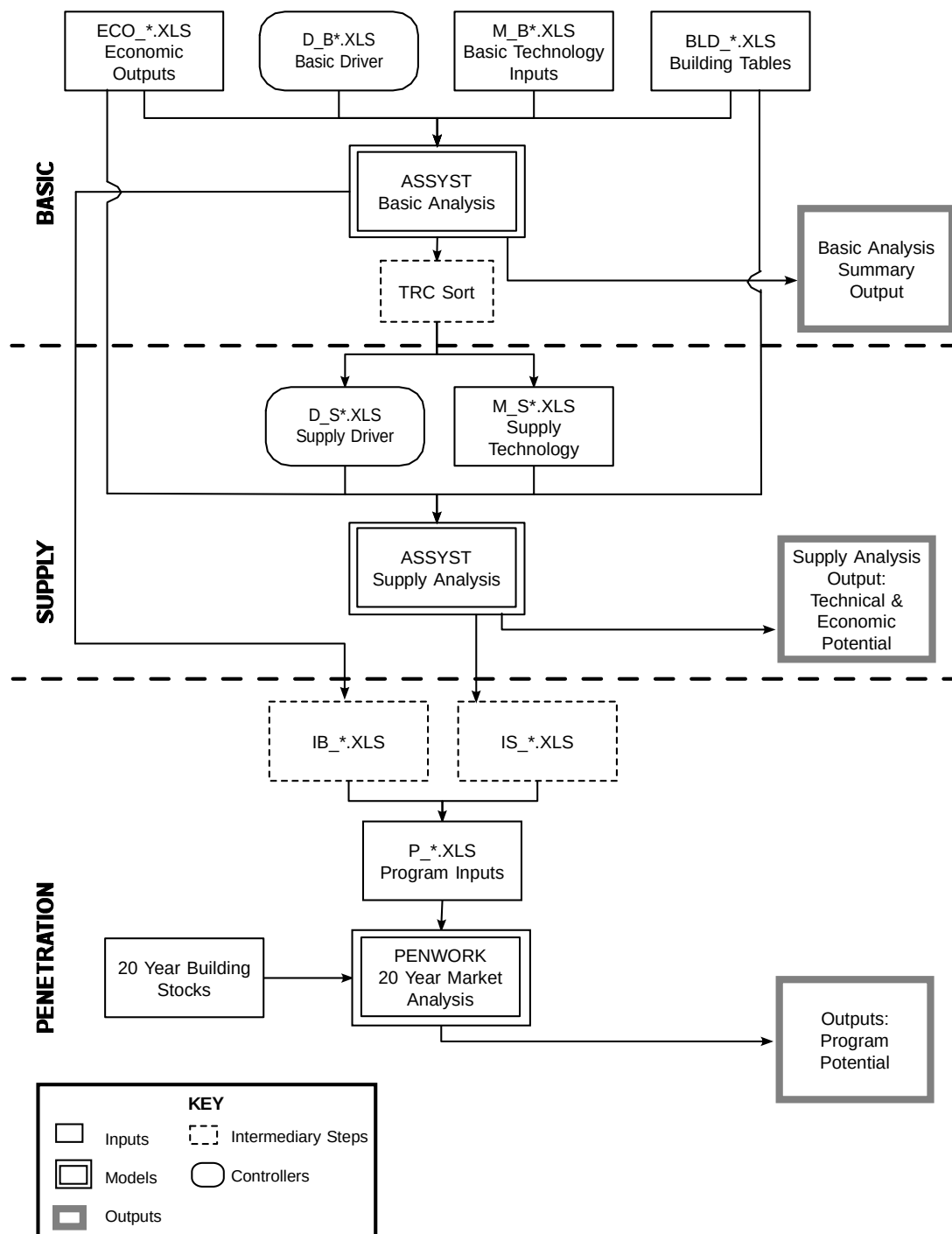
A.2.1 Basic Module

In the Basic module, each technology is assessed individually by comparing it to a base case. Comparisons are made at a high degree of segmentation. The segmentation may include, but is not limited to sector, building type, end use, vintage and geographic area.

The Basic module reads four types of information, contained within four spreadsheet files. These files include:

- **Economic:** containing utility rates paid by customers, discount rates, avoided costs, and other utility-specific economic parameters
- **Building:** containing square footage or number of households and load shape data
- **Measure:** containing technology based inputs for the Basic Analysis
- **Driver:** containing information that drives the analysis process.

Figure A-6
DSM ASSYST Analytic Flow



The output files produced by the Basic module include a Summary Basic Output file that contains an assessment of how much energy and demand each technology will save relative to the base case within each segment. In addition, the summary contains cost data, savings fractions, before and after EUIs or UECs, service life, the levelized costs of implementing the technology, and results of economic tests including the TRC test, participant test, and customer payback.

This module also produces a second file that contains all the measures that were assessed in the Basic Analysis sorted in the highest to lowest TRC order within each market segment and end use. This file serves as an input file for the Supply module.

A.2.2 Supply Module

In the Supply Module each technology, within each market segment, is stacked, or implemented, such that all energy savings are realized from preceding technologies prior to the implementation of all subsequent technologies. The stacking order generally follows the TRC sort order, highest to lowest, resulting from the Basic module.

The Supply module requires two input files: a Driver file and a modified output file from the Basic module. As in the Basic module, the Driver file contains instructions for the analysis process. The output file from the basic analysis must be modified in Excel to address overlapping measures, such as different SEER levels or measures that are direct substitutes for each other.

Output from the Supply module contains the technical and economic potential plus energy and demand supply curves. The Supply module produces measure-level information that can be incorporated into the input file for the Penetration module

A.2.3 Penetration Module

The Penetration (or Program Potential) module of ASSYST is designed to calculate the costs and net energy and demand savings from DSM programs under a variety of marketing scenarios. This module estimates the net impact and cost of a program over time by forecasting the naturally occurring penetration of each measure as well as the penetration of each measure given the program activities (i.e., incentives and awareness building).

Using a stock accounting algorithm over a period of 20 years, this module first calculates the number of customers for whom the measure will apply. Second, the model calculates the number of informed customers based on the amount of money spent on advertising. Third, the model calculates the number of customers who will implement the technology based on their benefit/cost ratio. Finally, the model compares the number of customers that implement the technology due to the program with those who

would take the technology anyway (naturally occurring). Per-unit energy and demand savings are applied to the net number of customers (total minus naturally occurring) over the 20-year period. After completing the analysis, the results are automatically summed across measures to provide program-level costs and savings for 20 years, and formatted for input into Integrated Resource Planning models.

A program input file is used to define a program and provide the building stock forecast. The program characterization variables include:

- Incentive Levels
- Incentive Budget Constraints
- Yearly Incentive Adjuster
- Technology Acceptance Curve Parameters
- Administration Budgets
- Advertising Budgets
- Awareness Decay Rate
- Target Effectiveness
- Advertising Effective Ratio.

B. Appendix B: Measure Descriptions

This appendix describes the energy efficiency measures used in the study.

B.1 Residential Measures

This subsection provides brief descriptions of the residential electric measures included in this study. Measures are grouped by end use.

B.1.1 HVAC Equipment

Central air conditioner upgrade: Air conditioner equipment includes a compressor, an air-cooled or evaporatively-cooled condenser (located outdoors), an expansion valve, and an evaporator coil (located in the supply air duct near the supply fan). Cooling efficiencies vary based on the quality of the materials used, the size of equipment, the condenser type, and the configuration of the system. Central air conditioners may be of the unitary variety (all components housed in a factory-built assembly) or be a split system (an outdoor condenser section and an indoor evaporator section connected by refrigerant lines and with the compressor at either the outdoor or indoor location). Efficient air conditioner measures involve the upgrade of a standard efficiency unit (13 SEER) to a higher efficiency unit (15 SEER or higher), assuming quality installation.

Central air conditioner early replacement: For this measure we assume replacement of an older central air conditioner (11 SEER) with a new high-efficiency unit (15 SEER). Energy savings are diminished to account for the fact that a fraction of the associated energy savings would have been realized at the end of the older unit's useful life, when a minimum EER unit would have been purchased as a replacement.

AC maintenance: The efficiency of a central air conditioner can be reduced if the unit is not properly maintained. This group of measures includes both indoor and outdoor coil cleaning, as well as other standard efficiency practices such as filter replacement.

Proper refrigerant charging and air flow: This measure involves diagnostic and repair services for existing central air conditioners to improve their efficiency. Inspection and services of AC systems involves checking the refrigerant level, cleaning the coils, cleaning the blower, cleaning or replacing filters, and making sure air is flowing properly through the system.

High efficiency room air conditioner: Window (or wall) mounted room air conditioners are designed to cool individual rooms or spaces. This type of unit incorporates a complete air-cooled refrigeration and air-handling system in an individual package. Cooled air is discharged in response to thermostatic control to

meet room requirements. Each unit has a self-contained, air-cooled direct expansion (DX) cooling system and associated controls. Room air conditioners are rated by energy efficiency ratio (EER), which is cooling output divided by power consumption. The efficient room air conditioner measure involves the upgrade of a standard efficiency unit (9 EER) to a higher efficiency unit (EER 10.8 or 11.3).

Ductless split heat pump: Ductless, mini-split-system heat pumps (mini splits) are appropriate retrofits for homes with non-ducted heating systems, such as boilers. Like standard air-source heat pumps, mini splits have an outdoor compressor/condenser and an indoor air-handling unit. The small size and lack of ducts makes these units a flexible choice for heating and cooling individual rooms. Models can have as many as four indoor air handling units connected to one outdoor unit.

Room air conditioner early replacement: For this measure we assume replacement of an older room air conditioner (EER 8.5) with a new high-efficiency unit (EER 11.3). Energy savings are diminished to account for the fact that a fraction of the associated energy savings would have been realized at the end of the older unit's useful life, when a minimum EER unit would have been purchased as a replacement.

High-efficiency dehumidifier: ENERGY STAR® qualified dehumidifiers use less energy to remove moisture from the air on account of more efficient refrigeration coils, fans, and compressors. Savings are compared to a unit meeting the minimum federal standard.

Ceiling fans: ENERGY STAR® Ceiling Fans save energy through improved motors and blade designs. Ceiling fans save energy from space conditioning in the summer by creating a wind chill, and during the winter by distributing hot air evenly throughout the room.

Variable speed furnace/AC fans: Air handler models with the lowest electrical use ratings employ electronically commutated motors (ECMs). ECMs, also known as brushless DC motors or variable speed blower motors, have two principal advantages over the typical permanent-magnet split capacitor (PSC) blower motors found in the majority of air handlers. First, ECMs are claimed to be 20% to 30% more efficient than standard blower motors. Second, the typical ECM blower can produce a much wider range of airflow than a PSC blower, which typically has only three or four set speeds over a fairly narrow range. Because power consumption by an air handler rises with the cube of airflow, the ability to reduce airflow when appropriate can dramatically reduce the electrical power draw by the air handler.

Proper sizing and quality install: Most HVAC systems are typically over-sized by contractors for a variety of reasons: as a precaution against peak day temperatures or future problems from duct leaks, improper flow across the coils, and improper charge, or because they replace older systems with the same size (or larger) unit – even though the house may have been made more energy efficient since it was originally constructed (through home improvements, window replacements, insulation, caulking, and so

on). Oversized air conditioners will be more expensive and tend to cycle, rather than run continuously, during both typical and peak cooling periods. This more frequent cycling reduces overall operating efficiency and also results in more variable indoor humidity levels. This measure assumes the contractor performs an Air Conditioning Contractors of America (ACCA) Manual J calculation to size the HVAC system and an ACCA Manual D calculation to size the ducts. These calculations take into account climate, house and site characteristics and orientation, air exchange rates, occupancy, and heat-emitting appliances. Since our central air conditioner upgrade measure includes quality installation, this measure applies only to the installation of standard efficiency equipment.

Programmable thermostat: ENERGY STAR® programmable thermostats come pre-programmed with settings intended to deliver energy savings without sacrificing comfort. The settings vary for the cooling and heating months, with specific temperature ranges and setback points for the morning, daytime, evening, and night. Programmable thermostat settings may also be changed to reflect individual schedules and preferences.

B.1.2 Building Envelope

Duct repair: An ideal duct system would be free of leaks, especially when the ducts are outside the conditioned space. Leakage in unsealed ducts varies considerably with the fabricating machinery used, the methods for assembly, installation workmanship, and age of the ductwork. To seal ducts, a wide variety of sealing methods and products exist. Care should be taken to tape or otherwise seal all joints to minimize leakage in all duct systems and the sealing material should have a projected life of 20 to 30 years. Current duct sealing methods include use of computer-controlled aerosol and pre- and post-sealing duct pressurization testing.

Duct insulation: Insulation material inhibits the transfer of heat through the air-supply duct. Several types of ducts and duct insulation are available, including flexible duct, pre-insulated flexible duct, duct board, duct wrap, tacked or glued rigid insulation, and water proof hard shell materials for exterior ducts. Duct insulation for existing construction involves wrapping un-insulated ducts with an R-4 insulating material.

Sealed attic w/sprayed foam insulated roof deck: By applying expanding sprayed foam insulation directly to the underside of the roof down to the soffit areas and gable end walls, this measure seals the entire attic space and significantly reduces heat gain from the exterior roof. This effectively brings the duct system into the conditioned space of the house, resulting in reduced attic temperatures and reduced radiative losses in the duct system, as well as reduced humidity and infiltration.

Windows - add storm windows: These are installed on the exterior or interior of the primary window and reduce air infiltration by sealing tightly to the window frame. Interior storm windows are typically less costly and easier to install, and also save more energy, because the exterior storm windows require drainage holes to vent excess moisture. Although some models offer multiple glazing and low-e coatings, they are typically cost-comparable with new windows.

ENERGY STAR® windows: Windows which meet the ENERGY STAR® requirements have U-value and solar heat gain coefficients (SHGC) specified by climate zone, and are certified by the National Fenestration Rating Council (NFRC). These are modeled as a replace on burnout measure, so the costs are not the full cost of the window and installation, but rather the cost compared to installing a new non-ENERGY STAR® window.

Comprehensive shell air sealing - infiltration reduction: Professional installation of weather stripping, caulking, and expanding foam insulation aided by a blower door test. These measures reduce energy consumption by improving the tightness of the building shell and limiting heat gain and loss.

Self-install weatherization: Installation of weather stripping, caulking, and expanding foam insulation from a spray can to fix easily found leaks and reduce air infiltration, completed by the homeowner.

Ceiling and floor insulation: Thermal insulation is material or combinations of materials that are used to inhibit the flow of heat energy by conductive, convective, and radiative transfer modes. By inhibiting the flow of heat energy, thermal insulation can conserve energy by reducing heat loss or gain of a structure. An important characteristic of insulating materials is the thermal resistivity, or R-value. The R-value of a material is the reciprocal of the time rate of heat flow through a unit of this material in a direction perpendicular to two areas of different temperatures.

Basement insulation: Basement walls are typically insulated by constructing a stud wall inside the house foundation, and insulating it as any interior wall. This increases the cost of basement insulation compared to crawlspace insulation (in addition to the taller wall height to be insulated). The cost-effectiveness of basement insulation depends on whether the basement will be conditioned. Basement insulation includes rim joist insulation.

Wall insulation: For existing construction, this measure involves adding R-13 insulation to un-insulated walls. This is usually accomplished by drilling holes into the building's siding or interior walls and blowing in insulation material.

B.1.3 Lighting

Compact fluorescent lighting (CFLs): Compact fluorescent lamps are designed to replace standard incandescent lamps. They are approximately four times more efficient than incandescent light sources. Screw-in modular lamps have reusable ballasts that typically last the life of four lamps. This study takes into account recently enacted Federal standards under the Energy Policy and Conservation Act. The standards mandate an increase in efficiency of approximately 30% for the majority of residential incandescent light bulbs using a phased approach, beginning with 100 watt bulbs in 2012 and ending with 40 watt bulbs in 2014. It was that this would result in a shift to a high efficiency incandescent lamps baseline for the specified bulb types.

LED general purpose lighting: A light emitting diode (LED) is a solid state lighting (SSL) technology that produces light by passing electrons through a semiconductor material, which is mounted on a heat sink and encased in a lens. Each LED is 7 mm to 9 mm on a side, and typically mounted in arrays on a circuit board, which is in turn mounted on another heat sink and encased in a fixture or bulb. This technology is revolutionizing the field in terms of light quality, energy efficiency, and design. However, poor manufacture has led to a range of problems in early products, notably color degradation and prematurely dimmed diodes from under-performing heat sinks, and “burnt out” diodes from faulty circuit boards. ENERGY STAR® provides rigorous standards to certify quality LED lighting fixtures, which are commercially available and currently rebated in numerous energy efficiency programs, and has recently completed an LED bulb specification around which products are being rapidly developed. LED general purpose lighting is applied as a measure to both high efficiency incandescent lighting and to base CFLs.

Super T-8 lamps with electronic ballasts: T-8 lamps are a smaller diameter fluorescent lamp than T-12 lamps. When paired with specially designed electronic ballasts, T-8 lamps provide more lumens per watt, resulting in energy savings. Electronic ballasts replace the standard core and coil technology in magnetic ballasts with solid-state components. This technology allows for more consistent control over ballast output and converts power to higher frequencies, causing the fluorescent lamps to operate more efficiently. For existing first generation T-8 systems, this measure is specified as an upgrade to efficiency levels associated with optimal Super T-8 lamp-ballast combinations on a replace-on-burnout basis.

Photocell/time clock (outdoor lighting): Photocells automatically turn off lights when the sensor detects enough ambient light. Used on outdoor fixtures, photocells ensure that the lamp is turned off during daylight hours. Photocells can be combined with other lighting controls, such as motion sensors or time clocks. Time clocks are devices that can be programmed to turn lights on and off according to a set schedule.

B.1.4 Water Heat

Heat pump water heater: Air-to-water heat pump water heaters extract low-grade heat from the air then transfer this heat to the water by means of an immersion coil. This is the most commonly utilized residential heat pump water heater. The air-to-water heat pump unit includes a compressor, air-to-refrigerant evaporator coil, evaporator fan, water circulating pump, refrigerant-to-water condenser coil, expansion valve, and controls. Residential heat pump water heaters replace base electric units with the same tank capacities.

Early replacement water heater to heat pump water heater: For this measure we assume replacement of an older water heater with a heat pump water heater as a retrofit measure. Energy savings are diminished to account for the fact that a fraction of the associated energy savings would have been realized at the end of the older unit's useful life, when a new unit meeting current standards would have been purchased.

High efficiency water heater: Higher efficiency water heaters have greater insulation to reduce standby heat loss.

Solar water heater: Heat transfer technology that uses the sun's energy to warm water. Solar water heaters preheat water supplied to a conventional domestic hot water heating system. The energy savings for the system depend on solar radiation, air temperatures, water temperatures at the site, and the hot water use pattern.

Tankless water heater: Also known as "instant" or "on-demand" water heaters, tankless units function only when a hot water faucet is turned on. There is no energy required to maintain the temperature of the water in a tank, eliminating standby losses.

Drain water heat recovery (GFX): Gravity film exchange (GFX) drain-water heat recovery systems consist of a copper pipe for incoming cold water coiled tightly around a copper drain-water pipe. When water goes down the drain, it doesn't drop straight down as though poured from a spout, but rather falls against the side of the pipe. This phenomenon allows the GFX unit to easily re-capture some of this energy, as heat is transferred through the copper pipes to the incoming water supply going to the water heater.

Low-flow showerhead: Many households are still equipped with showerheads using 3+ gallons per minute. Low flow showerheads can significantly reduce water heating energy for a nominal cost. Typical low-flow showerheads use 1.0-2.5 gallons per minute compared to conventional flow rate of 3.5-6.0

gallons per minute. The reduction in shower water use can substantially lower water heating energy use since showering accounts for about one-fourth of total domestic hot water energy use.

Pipe wrap: Thermal insulation is material or combinations of materials that are used to inhibit the flow of heat energy by conductive, convective, and radiative transfer modes. By inhibiting the flow of heat energy, thermal insulation can conserve energy by reducing heat loss or gain.

Faucet aerators: Water faucet aerators are threaded screens that attach to existing faucets. They reduce the volume of water coming out of faucets while introducing air into the water stream. A standard non-conserving faucet aerator has a typical flow rate of 3-5 gallons per minute. A water-saving aerator can reduce the flow to 1-2 gallons per minute. The reduction in the flow rate will lower hot water use and save energy (kitchen and bathroom sinks utilize approximately 7 percent of total domestic hot water energy use).

B.1.5 Appliances

High efficiency refrigerator: We model both an ENERGY STAR® and a CEE Tier 2 refrigerator. ENERGY STAR® refrigerators must exceed the stringent July 1, 2001 minimum federal standards for refrigerator energy consumption by at least 10%. As specified for this study, the average efficiency improvement is 20% for ENERGY STAR® and 25% for CEE Tier II. An energy efficient refrigerator/freezer is designed by improving the various components of the cabinet and refrigeration system. These component improvements include cabinet insulation, compressor efficiency, evaporator fan efficiency, defrost controls, mullion heaters, oversized condenser coils, and improved door seals.

Early replacement refrigerator: We model an ENERGY STAR® refrigerator as an early replacement measure. Energy savings are diminished to account for the fact that a fraction of the associated energy savings would have been realized at the end of the older unit's useful life, when a minimum efficiency unit would have been purchased as a replacement.

Refrigerator/freezer recycling: For this measure we assume replacement of an older refrigerator (10 years old or more) with a new standard-efficiency refrigerator. The early replacement assumes that the same new refrigerator would have been bought, only six years later. Savings for this measure result for six years because the newer refrigerators, given the stringent efficiency standards implemented in 2001, use much less energy than older units.

High efficiency freezer: Stand-alone freezers include either upright or chest models. Efficient freezers should exceed standard efficiencies by 10 percent or more. As specified for this study, the average efficiency improvement is 15 percent.

Early replacement freezer: We also model an ENERGY STAR® freezer as an early replacement measure. Energy savings are diminished to account for the fact that a fraction of the associated energy savings would have been realized at the end of the older unit's useful life, when a minimum efficiency unit would have been purchased as a replacement.

ENERGY STAR® dishwasher: ENERGY STAR® labeled dishwashers save by using both improved technology for the primary wash cycle, and by using less hot water to clean. They include more effective washing action, energy efficient motors and other advanced technology such as sensors that determine the length of the wash cycle and the temperature of the water necessary to clean the dishes.

High efficiency clothes washer: A standard clothes washer uses various temperatures, water levels, and cycle durations to wash clothes depending on the clothing type and size of the laundry load. A high-efficiency vertical-axis clothes washer, which eliminates the warm rinse option and utilizes a spray technology to rinse clothes, can significantly reduce washer-related energy. Such machines also utilize a spin cycle that eliminates more water from the clothes than conventional clothes washers and are generally driven by more efficient motors. A horizontal axis clothes washer utilizes a cylinder that rotates horizontally to wash, rinse, and spin the clothes. These types of washing machines can be top loading or front loading, and utilize significantly less water (hot and cold) than the standard vertical axis machines. A vertical axis machine generally fills the tub until all of the clothes are immersed in water. In contrast, the horizontal axis machine only requires about one third of the tub to be full, since the rotation of the drum around its axis forces the clothes into the water and thus can drastically reduce the total energy use for washing. These machines are also easier on clothes and use less detergent. We consider two levels of clothes washer efficiency: an ENERGY STAR® clothes washer and a CEE Tier 3 clothes washer.

High efficiency clothes dryer: High efficiency clothes dryers incorporate moisture sensors and prevent the frequency and magnitude of over-drying compared to clothes dryers without moisture sensors. The Federal minimum Energy Factor (pounds of clothing per kilowatt hour) is 3.01, and does not vary widely between models currently on the market.

Heat pump clothes dryer: These clothes dryers are sometimes referred to as "ventless" dryers because the warm, moist process air is passed in a closed-loop cycle from the tumbler through a heat pump. The refrigerant first takes energy out of the process air sufficient to cool it to the ambient dew point in order to condense any water vapor, which is then drained. Then the cycle transfers heat back into the dehumidified process air, which is passed into the clothes tumbler, and the cycle repeats.

B.1.6 Home Electronics

ENERGY STAR® home electronics (televisions, set-top boxes, DVD players, laptop and desktop computers): ENERGY STAR® qualified home electronics have off-mode power draws of 1 watt or less. Some home electronic devices spend the vast majority of their time in off-mode but often continue to draw a small “trickle charge” to maintain clock or other memory functions. Reductions in off-mode power draws can thus produce significant reductions in total energy consumption without changing on-mode power consumption characteristics. In addition, some products, such as TVs and computers, have active mode power requirements. Savings from ENERGY STAR® home electronics considered in this study were estimated based data from the Environmental Protection Agency.

Smart power strip: These power strips use a variety of controls to reduce standby power consumption of home electronics, including timers, occupancy sensors, and secondary outlets which automatically turn off in tandem with a pre-specified outlet.

B.1.7 Whole House Measures

Behavioral conservation: Indirect feedback approaches utilize energy information report mailers that motivate customers to use less, while direct feedback interventions use in-home energy-use monitors.

Residential new construction: The Environmental Protection Agency’s ENERGY STAR® Homes Program sets efficiency requirements for new homes. To earn the ENERGY STAR label, homes must be at least 15% more energy efficient than homes built to the 2004 International Residential Code (IRC), and include additional energy-saving features that typically make them 20–30% more efficient than standard homes.

B.1.8 Other End Uses

ENERGY STAR® ventilating fans: These fans use improved blade design and high performance motors to significantly increase efficiency while decreasing noise. If the fan has a light source, it must be fluorescent or LED.

Variable-speed pool pump: This measure saves energy much in the same way as two-speed pool pumps, with the exception that variable-speed pumps are able to further optimize pump operation and pool water flows to match the specific needs and requirements of individual owners.

B.2 Commercial Measures

This subsection provides brief descriptions of the commercial measures included in this study.

B.2.1 Lighting

Super T-8 lamps with electronic ballast: T-8 lamps are a smaller diameter fluorescent lamp than T-12 lamps. When paired with specially designed electronic ballasts, T-8 lamps provide more lumens per watt, resulting in energy savings. Electronic ballasts replace the standard core and coil technology in magnetic ballasts with solid-state components. This technology allows for more consistent control over ballast output and converts power to higher frequencies, causing the fluorescent lamps to operate more efficiently. For existing first generation T-8 systems, this measure is specified as an upgrade to efficiency levels associated with optimal Super T-8 lamp-ballast combinations on a replace-on-burnout basis.

T-5 high-output lighting with electronic ballast: Like T8 lamps, straight tube T5 lamps are available in nominal 2', 3', 4', and 5' lengths. Standard T-5 lamps have light output and efficiency comparable to T-8/electronic ballast systems. High output T-5 lamps have considerably higher light output: a 1-lamp high output T-5 cross-section can replace a 2-lamp T-8 cross-section. The 5/8" bulb diameter of the T-5 lamp lends itself to low profile luminaires well-suited for cove lighting and display case lighting. Its smaller scale allows for sleeker fluorescent indirect and direct/indirect pendants and shallower profile recessed troffer type luminaires. Because of variances in actual lamp lengths and a different socket design, the T-5 lamp cannot easily be retrofitted in existing T-12 and T-8 luminaires. Consequently, use the T-5 lamp to its best advantage in specially designed luminaires.

Induction lamps: The primary difference between induction lighting and conventional fluorescent lamps is that induction lighting does not have an electrical connection going inside the glass bulb (electrodeless). Instead, energy is transferred wirelessly into the glass envelope via electromagnetic induction. Induction lamps typically take the place of HID lamps. Their advantage is both long life and quick start, which unlike HID lamps, allows them to be turned off and on with the demand. Although induction lamps have a longer service life than other lamp technology they are also more expensive. They are most often used in places where the lamps are difficult to reach and replace. Induction lamps have very long lifetimes (100,000 hours), excellent color rendering, and perform well in a wide temperature range. They have better lumen maintenance than HID lamps. Our study looks at two applications for induction lighting--high bay lighting and streetlighting.

Ceramic metal halide lamps: Metal halide lamps are HID lamps, which are approximately four times more efficacious than incandescent lamps. Metal halide (MH) lamps are a form of high intensity discharge (HID) lighting with good lighting efficiency and excellent color rendition.

Pulse-start metal halide lamps: Pulse start lamps have a greater light output than standard metal halide, provide a white light and require special ballasts and fixtures for each specific lamp. The pulse start metal halide combined with new, more efficient low current crest factor ballasts using high voltage igniters provides higher light levels initially (20% more) and significantly more maintained light over time (40% more) than today's standard metal halide.

Compact fluorescent lighting (CFLs): Compact fluorescent lamps are designed to replace standard incandescent lamps. They are approximately four times more efficacious than incandescent light sources. Screw-in modular lamps have reusable ballasts that typically last for four lamp lives.

Cold cathode fluorescent lamps: The term cold cathode refers to the fact that the cathode is not independently heated, as it is in conventional fluorescent lamps. Unlike conventional fluorescent lamps, cold cathode lamps reach full brightness instantly, can be operated in rapid on off cycles without degrading the lamp lifetime, and operate in cold ambient temperatures. This makes them appropriate for some applications where a conventional fluorescent lamp would not be appropriate. Cold cathode lamps are significantly more expensive than conventional fluorescents but have a much longer life.

Lighting control tune-up: This involves various measures to optimize the customer's current lighting control systems, with measures such as: relocating/tuning occupancy sensors, relocating photocells, optimizing sweep timers, repairing lighting timers, and adjust lighting schedules.

Occupancy sensors: Occupancy sensors (infrared or ultrasonic motion detection devices) turn lights on upon entry of a person into a room, and then turn the lights off from ½ minute to 20 minutes after they have left. Occupancy sensors require proper installation and calibration. Their savings depend on the mounting type.

Continuous dimming: (Emerging Technology) Dimming electronic ballasts can be incorporated into a daylighting strategy around the perimeter of office buildings or in areas under skylights. These systems use photocells to reduce power consumption and light output when daylight is available.

Delamping: One way to quickly and inexpensively reduce lighting load is to remove existing fluorescent lamps, for example removing one lamp from a two lamp fixture. This technique is called "delamping". Delamping reduces light levels, and is appropriate only for spaces where the resulting light level is adequate for productivity and safety. Ballast characteristics also affect the feasibility of delamping, as the ballast must be rated appropriated to operate with fewer lamps.

Outdoor lighting controls (photocells and timeclocks): Photocells can be used to automatically control both outdoor lamps and indoor lamps adjacent to skylights and windows. When lights do not need to be on all night, a photocell in series with a time clock provides maximum savings and eliminates the need for

manual operation and seasonal time clock adjustments. Time clocks enable users to turn on and off electrical equipment at specific times during the day or week.

LED lighting: A light emitting diode (LEDs) is a semiconductor light source. They have been used for many years in niche applications (such as indicator lights), but it was not until the late 1990's that high-output white LEDs became feasible. Over the last decade, LEDs have begun appearing in a variety of illumination applications. LEDs have the potential to be more efficient than fluorescent lighting, although efficacy varies widely between products (but in general continues to improve). They have long lifetimes (about 50,000 hours), are shock resistant and dimmable, can be cycled rapidly, and they perform well in low temperatures. The light from LEDs is highly directional, creating challenges for luminaire design, which is reflected in highly variable luminaire performance. This study considers LED lighting as a measure for indoor lighting, outdoor lighting, and streetlighting.

LED technology, both in the LEDs themselves and in luminaire design, continues to change rapidly. In certain applications (architectural lighting, undercabinet lighting, streetlighting), highly effective LED products are available and competitive on a life-cycle-cost basis with incandescent and fluorescent technologies. In other applications, such as commercial ambient lighting, LED products are not yet competitive on a performance or cost basis. That could easily change in the next few years, given the rapid pace of technological change and innovation.

LED exit sign: Exit signs were an early application of LED technology. Since exit signs are typically red or green, colored LEDs could be used directly, without the colored filter necessary when using a white light source. LED exit signs require significantly less maintenance than incandescent or CFL exit signs. Even a CFL would need to be replaced every year or two, while an LED sign could go without maintenance for up to 10 years. Because exit signs are operated continuously, the energy savings are significant.

Bi-level LED outdoor lighting: Bi-level lighting is designed to operate at a minimum level of light output until occupancy is detected (e.g. through a motion sensor), then temporarily increase to a higher level of illumination.

High performance lighting retrofit/replacement: Because of the interaction between lighting measures (daylighting, controls, etc.), the costs and benefits may not be additive. We allocate a percent of the applicable stock to comprehensive lighting retrofits, at a 25 percent savings level.

B.2.2 Space Cooling

Chiller efficiency upgrade: Centrifugal chillers are used in building types which normally use water-based cooling systems and have cooling requirements greater than 200 tons. Centrifugal chillers reject

heat through a water cooled condenser or cooling tower. In general, efficiency levels for centrifugal chillers start at 0.80 kW/ton (for older units) and may go as high as 0.4 kW/ton. This measure involves installation of a high-efficiency chiller (0.51 kW per ton) versus a standard unit (0.58 kW per ton). This measure also serves in the potential analysis as a proxy for other non-centrifugal chiller systems.

High-efficiency chiller motors: This measure involves replacement of standard efficiency motors that power compressor systems on chillers. High-efficiency chiller motors have typically have efficiencies exceeding 90% and are typically electronically-commutated motors, which produce higher average operating efficiencies at partial loads compared to standard efficiency, brushed DC compressor motors.

VSD – cooling circulation pumps: Variable speed drives installed on chilled water pumps can reduce energy use by varying the pump speed according to the building's demand for cooling. There is also a reduction in piping losses associated with this measure, which can have a major impact on the heating loads and energy use for a building. Pump speeds, however, can generally only be reduced to a minimum specified rate, because chillers and the control valves may require a minimum flow rate to operate.

VSD – cooling tower fans: Energy usage in cooling tower fans can be reduced by installing electronic variable speed drives (VSDs). VSDs are a far more efficient method of regulating speed or torque than other control mechanisms. Energy required to operate a fan motor can be reduced significantly during reduced load conditions by installing a VSD.

Chiller tune-up/diagnostics: In addition to some of the activities conducted in a DX tune-up, an optimization of the chilled water plant can include activities such as: optimizing CW/CHW set points, improving chiller staging, trimming pump impellers, resetting chilled water supply temperature, and staging cooling tower fan operation.

Energy management system: The term Energy Management System (EMS) refers to a complete building control system which usually can include controls for both lighting and HVAC systems. The HVAC control system may include on/off scheduling and warm-up routines. The complete lighting and HVAC control systems are generally integrated using a personal computer and control system software.

EMS optimization: Energy management systems are frequently underutilized and have hundreds of minor inefficiencies throughout the system. Optimization of the existing system frequently results in substantial savings to the measures controlled by the EMS (e.g. lighting, HVAC) by minimizing waste. Improvements can include: building start-up schedule adjustments, improving integrated sequence of operations, calibration of sensors, and relocation of OA sensors.

Cool roof: The color and material of a building structure surface will determine the amount of solar radiation absorbed by that surface. By using an appropriate reflective material to coat the roof, the roof will absorb less solar radiation and consequently reduce the cooling load.

DX packaged system efficiency upgrade: A single-package A/C unit consists of a single package (or cabinet housing) containing a condensing unit, a compressor, and an indoor fan/coil. An additional benefit of package units is that there is no need for field-installed refrigerant piping, thus minimizing labor costs and the possibility of contaminating the system with dirt, metal, oxides or non-condensing gases. We look at two efficiency levels, EERs of 10.9 and an EER 13.4, compared to a base case unit with EER=10.3. We also consider a 10.3 EER device with automated fault detection.

Tune up/advanced diagnostics: The assumed tune-up includes cleaning the condenser and evaporator coils, establishing optimal refrigerant levels, and purging refrigerant loops of entrained air. The qualifying relative performance range for a tune-up is between 60 and 85 percent of the rated efficiency of the unit. This measure includes fresh air economizer controls providing demand control ventilation and consisting of a logic module, enthalpy sensor(s), and CO2 sensors in appropriate applications.

Window film: Reflective window film is an effective way to reduce solar energy gains, thus reducing mechanical cooling energy consumption. Windows affect building energy use through thermal heat transfer (U-value), solar heat gains (shading coefficient), daylighting (visible light transmittance), and air leakage.

Programmable thermostat: Setback programmable thermostats are appropriate controls for HVAC equipment that serve spaces with regular occupied and unoccupied periods, resulting in long periods of time when heating and cooling set points can be adjusted.

Roof / ceiling insulation: Thermal insulation is material or combinations of materials that are used to inhibit the flow of heat energy by conductive, convective, and radiative transfer modes. By inhibiting the flow of heat energy, thermal insulation can conserve energy by reducing heat loss or gain of a structure. An important characteristic of insulating materials is the thermal resistance, or R-value. The R-value of a material is the reciprocal of the time rate of heat flow through a unit of this material in a direction perpendicular to two areas of different temperatures.

Installation of air-side economizers: Air-side economizers reduce the energy consumption associated with cooling by providing access to outside air – when temperatures permit – in lieu of using mechanical cooling of recirculated indoor air.

Duct insulation: Insulation material inhibits the transfer of heat through air supply ducts or hot water pipes. Several types of ducts and duct insulation are available, including flexible duct, pre-insulated

flexible duct, duct board, duct wrap, tacked or glued rigid insulation, and water proof hard shell materials for exterior ducts.

Duct repair and sealing: An ideal duct system would be free of leaks, especially when the ducts are outside the conditioned space. Leakage in unsealed ducts varies considerably with the fabricating machinery used, the methods for assembly, installation workmanship, and age of the ductwork. To seal ducts, a wide variety of sealing methods and products exist. Care should be taken to tape or otherwise seal all joints to minimize leakage in all duct systems and the sealing material should have a projected life of 20-30 years. Current duct sealing methods include use of computer-controlled aerosol and pre- and post-sealing duct pressurization testing.

DX coil cleaning: A dirty coil cannot supply proper heat transfer, leading to higher energy consumption and reduced cooling capacity. Coil cleaning should be a routine maintenance measure, but in practice many systems operate with fouled coils.

Geothermal heat pump: A geothermal, or ground-source, heat pump operates on the same principle as more common air-source heat pumps. But unlike air-source heat pumps, which transfers heat to or from the outside air, geothermal heat pumps exchange heat with the ground. Underground temperatures maintain a relatively constant temperature throughout the year, especially compared to air temperatures, which increases the system efficiency compared to an air-source heat pump. Because the system relies on extensive subterranean piping for heat exchange, geothermal heat pumps are expensive to install, and installation opportunities in existing buildings are limited.

High efficiency packaged terminal air conditioner: A packaged terminal air conditioner (PTAC) is a self-contained heating and air conditioning system commonly found in hotels. High efficiency units are available, offering significant energy savings in the lodging industry.

Hotel room controllers: Large amounts of energy are wasted in the lodging industry heating, cooling, and lighting unoccupied hotel room. Hotel guest room energy management control systems use occupancy sensors to determine whether anyone is present in the room, and adjusts the HVAC settings for energy savings when the room is empty.

B.2.3 Ventilation

Motor efficiency upgrade: Premium-efficiency motors use additional copper to reduce electrical losses and better magnetic materials to reduce core losses, and are generally built to more precise tolerances. Consequently, such motors are more reliable, resulting in reduced downtime and replacement costs. Premium-efficiency motors may also carry longer manufacturer's warranties.

VFD on motor installation: Energy usage in HVAC systems can be reduced by installing electronic variable frequency drives (VFDs) on ventilation fans. VFDs are a far more efficient method of regulating speed or torque than throttling valves, inlet vanes and fan dampers. Energy required to operate a fan motor can be reduced as much as 85% during reduced load conditions by installing a VFD.

Installation of demand-controlled ventilation (via occupancy sensors, CO2 sensors, etc.): Often, usage of a building's ventilation control goes beyond what is necessary to maintain a healthy and comfortable environment. A variety of controls can save energy by limiting the use of the ventilation system to minimum amount necessary. Sensors that detect critical contaminants activate ventilations systems only when necessary. Occupancy sensors limit the operation ventilation systems to periods when the building is in use.

Air handler optimization: Optimization of a building's air-handling system is concerned principally with the proper sizing and configuration of its HVAC units. Energy savings can result from a variety of improvements, including reduced equipment loads and better functionality of existing equipment.

Electronically commutated motors (ECM) on air-handler unit: Air handler models with the lowest electrical use ratings employ ECMs. ECMs, also known as brushless DC motors or variable speed blower motors, have two principal advantages over the typical permanent magnet split capacitor (PSC) blower motors found in the majority of air handlers. First, ECMs are claimed to be 20% to 30% more efficient than standard blower motors. Second, the typical ECM blower can produce a much wider range of airflow than a PSC blower, which typically has only three or four set speeds over a narrow range. Because power consumption by an air handler rises with the cube of airflow, the ability to reduce airflow when appropriate can dramatically reduce the electrical power draw by the air handler.

Energy recovery ventilation: These systems provide a controlled way of ventilating a building while minimizing energy loss. Heating energy requirements are reduced during the winter season by transferring heat from the warm inside air being exhausted to the fresh (but cold) supply air. Similarly, in the summer, the inside air being exhausted cools the warmer supply air and reduces cooling energy requirements.

Separate makeup air/exhaust hoods: Ventilation requirements in restaurants and grocery stores are driven both by occupancy and by the need to exhaust fumes from food preparation activities. Standard ventilation and exhaust systems operate at constant speeds that are most often matched to maximum ventilation requirements. Systems that modulate both exhaust and make-up air flow rates in response to measurements of "smoke" and temperature in the exhaust hood reduce exhaust and make-up air flow rates when full exhaust capacity is not required, and can thereby produce significant reduction in fan power and space conditioning energy use.

B.2.4 Refrigeration

Motor efficiency upgrade for fans and compressors: In addition to saving energy, premium-efficiency motors are more reliable, resulting in reduced downtime and replacement costs.

Strip curtains: Installing strip curtains on doorways to walk-in boxes and refrigerated warehouses can produce energy savings due to decreased infiltration of outside air into the refrigerated space. Although refrigerated spaces have doors, these doors are often left open, for example during product delivery and store stocking activities.

Night covers: Installing film or blanket type night covers on display cases can significantly reduce the infiltration of warm ambient air into the refrigerated space. This reduction in display case loads in turn reduces the electric use of the central plant, including compressors and condensers, thus saving energy. The target market for this measure is small, independently owned grocery stores and other stores that are typically closed at night and restock their shelves during the day. The target cases are vertical displays, with a single- or double-air curtain, and tub (coffin) type cases.

Variable speed compressor retrofit: A variable speed compressor is a screw or reciprocating compressor whose current is modulated by a frequency inverter. A controller senses the compressor suction pressure and modulates the current and therefore the motor speed in response to changes in this pressure. When low load conditions exist, the current to the compressor motor is decreased, decreasing the compressor work done on the refrigerant.

Floating head pressure controls: Floating head pressure controls allow a refrigeration system to operate under lower condensing temperature and pressure settings, where compressor operation is most efficient, working against a relatively low head pressure. The condensing temperature is allowed to float below the design set point of, say, 95 deg. F under lower outdoor temperatures, which in-turn lowers the condensate pressure. In a conventional system a higher fixed condensing temperature set point is used which results in a lowered capacity for the system, requires extra power, and may overload the compressor motor. Energy savings can be realized if the refrigeration system head pressure is allowed to float during periods of low ambient temperature, when the condensing temperature can be dramatically reduced.

Refrigeration commissioning: Refrigeration commissioning refers to a process whereby refrigeration systems are subject to inspection on a variety of criteria to ensure efficiency. The commissioning process can involve tests that cover a system's controls for humidity and temperature, anti-condensation, and heat recovery, among others.

Demand defrost: Defrost of a refrigeration system is critical to its efficient operation. Demand defrost uses a pressure-sensing device to activate the defrost cycle when it detects a significant drop in pressure

of the air across the refrigeration coil. Because load during defrost can be three times that of normal operation, defrosting on demand only – not when an individual operator deems it necessary – can save energy by minimizing the amount of time spent on defrosting.

Humidistat controls: A humidistat control is a control device to turn refrigeration display case anti-sweat heaters off when ambient relative humidity is low enough that sweating will not occur. Anti-sweat heaters evaporate moisture by heating the door rails, case frame and glass of display cases. Savings result from reducing the operating hours of the anti-sweat heaters, which without a humidistat control generally run continuously. There are various types of control strategies including cycling on a fixed schedule.

LED display lighting: This measure involves the replacement of standard fluorescent tube lighting fixtures within medium and low-temperature display cases with LED fixtures. The higher luminous efficacy of LED lamps compared to T-8 and T-5 fluorescent lamps delivers significant energy savings and also results in lower heat gains inside refrigerator and freezer cases, which in turn reduces the effective load served by the compressor. LED fixtures also exhibit much longer service lives compared to T-8 or T-5 fixtures and very little maintenance requirements.

Fiber optic display lighting: Fiber optics can be used to distribute light from a single light source located outside the refrigerator system to multiple display cases. Lighting energy use is reduced, because a single high efficiency light source (e.g. metal halide) serves multiple cases. But the bigger savings are in the refrigeration: by taking the light source outside the refrigerated space, it reduces the load on the compressor. While this technology has been used in demonstration projects, it is not a mature technology.

High R-value glass doors: This measure involves the replacement of standard glass doors on refrigerated display cases with advanced glass doors that incorporate heat-reflective treated glass and/or low-conductivity gas fills between panes to produce high R-values. The greater insulation properties of the insulated glass doors reduce condensation buildup and reduce or eliminate the need for anti-sweat heaters.

Multiplex compressor systems: Multiplex refrigeration systems involve the use of multiple compressors in parallel, rather than single compressors, to serve specific refrigeration loads. Multiplex systems are designed so that compressors can be selectively selected and cycled in order to better match changes in refrigeration load dynamically and increase the overall operational efficiency of the compressors.

Oversized air cooled condenser: The use of oversized condensers can provide additional “natural sub-cooling” of the condensed refrigerant, which results in lower-temperature refrigerant liquid in the system, lower evaporator temperatures, and reduced load on the compressor.

Freezer/cooler replacement gaskets: Worn out freezer/cooler door gaskets can result in significant leakage and increased cooling energy consumption. Regular replacement of worn door gaskets reduces unnecessary air leaks and can lead to significant refrigeration energy savings.

ENERGY STAR® refrigeration: The Environmental Protection Agency’s ENERGY STAR® program labels high-efficiency commercial refrigerators, freezers, and ice machines. High efficiency units are designed with components such as ECM evaporator and condenser fan motors, hot gas anti-sweat heaters, or high-efficiency compressors, which significantly reduce energy consumption. Compared to standard models, ENERGY STAR labeled commercial refrigerators and freezers can lead to energy savings of as much as 35 percent with a 1.3 year payback.

B.2.5 Office Equipment

Power management enabling: Most PCs, monitors, printers and copiers have the capability of entering a low-power “sleep” mode when idle. However devices may come with this feature disabled or users may disable it for a variety of reasons. Enabling power management reduces energy use when devices are left idle during the day, or when a device is left on overnight. Most savings occur off-peak. This measure can be applied to PCs, PC monitors, printers and copiers.

ENERGY STAR® or better office equipment: For many years, virtually all PCs and monitors met the ENERGY STAR® efficiency requirements, which required only that devices be capable of entering a low-power “sleep” mode after a period of inactivity. The Environmental Protection Agency (EPA) has tightened its requirements, adding active-mode power requirements to the specifications. Choosing ENERGY STAR® PCs, monitors, copiers and printers can reduce energy use both in all power modes.

Data center energy efficiency: Data centers are facilities that are densely packed with electronic equipment for data processing, data storage, and networking. Ranging from a server closet in a small building to building that provide remote data operations to multiple clients, data centers are extremely energy intensive, both for the information architecture and the for cooling required to support it. We analyze three scenarios for reduce energy use in data centers, taken from a 2007 EPA report:⁹ (1) Improved operations focuses on operational improvements with little or no capital investment. (1) Best Practices assumes the adoption of practices and technologies used in the most energy-efficient of today’s data centers. (3) State of the Art Practices represents the maximum efficiency achievable using available technologies.

⁹ EPA, 2007. *Report to Congress on Server and Data Center Energy Efficiency, Public Law 109-431*. Available at: http://www.energystar.gov/ia/partners/prod_development/downloads/EPA_Datacenter_Report_Congress_Final1.pdf

B.2.6 Water Heating

High efficiency water heater: Higher efficiency water heaters have greater insulation to reduce standby heat loss. For this study, efficiency of the base unit (measured as the Energy Factor) is specified as 0.88, whereas the efficiency of the high efficiency electric water heater is specified as 0.93.

Heat pump water heater: Air-to-water heat pump water heaters extract low-grade heat from the air then transfer this heat to the water by means of an immersion coil. This is the most commonly utilized residential heat pump water heater. The air-to-water heat pump unit includes a compressor, air-to-refrigerant evaporator coil, evaporator fan, water circulating pump, refrigerant-to-water condenser coil, expansion valve, and controls. Residential heat pump water heaters replace base electric units with the same tank capacities. For this study, efficiency of the base unit (measured as the Energy Factor) is specified as 0.88, whereas the efficiency of the heat pump water heater is specified as 2.9.

Solar water heater: Heat transfer technology that uses the sun's energy to warm water. Solar water heaters preheat water supplied to a conventional domestic hot water heating system. The energy savings for the system depend on solar radiation, air temperatures, water temperatures at the site, and the hot water use pattern.

Demand-controlled circulating systems: Hot water circulation systems are designed to maintain water in hot water pipes at a pre-determined temperature and prevent excess water demand (and associated water heating energy) from waiting for hot water to arrive from the water heater. Demand-controlled circulating systems provide additional savings by optimizing pumping energy requirements to only specific moments of hot water demand. This is achieved through the integration of an electronic controller on the circulation pump that is triggered by a switch engaged by the consumer at the point of hot water demand.

Heat recovery units: This measure is heat transfer strategy that uses the heat rejected during the refrigerant cycle on air conditioning units to heat water.

Pipe wrap: Thermal insulation is material or combinations of materials that are used to inhibit the flow of heat energy by conductive, convective, and radiative transfer modes. By inhibiting the flow of heat energy, thermal insulation can conserve energy by reducing heat loss or gain.

Heat trap: Heat traps are valves or loops of pipe, which allow water to flow into the water heater tank but prevent unwanted hot-water flow out of the tank that would otherwise occur due to convection.

Tankless water heater: Tankless water heaters eliminate the standby tank (and associated losses) of a standard water heater. The water is heated instantaneously by a high energy heat source that can be either gas or electric.

B.2.7 Cooking

Convection oven: Convection ovens use a small fan to circulate hot air within the oven cavity. Circulating air can heat food more efficiently than the still air found in conventional ovens. The hot air in the oven can be heated by gas or electricity. In general, a convection oven will save 30% of the energy used by an oven. These savings result from burners cycling off for a longer period.

ENERGY STAR® fryer: Fryers cook foods by submerging them in hot animal or vegetable oils, and utilize a range of different burner types. In order to qualify as ENERGY STAR, electric fryers must meet a minimum cooking efficiency 80 percent while also meeting a maximum idle energy rate of 1,000 watts. Energy efficient fryers offer shorter cook times and higher production rates through advanced burner and heat exchanger designs. Fry pot insulation reduces standby losses resulting in a lower idle energy rate.

ENERGY STAR® steamer: Commercial steam cookers are versatile appliances which can be used to quickly prepare any foods that do not require a crust. Steamers come in a variety of configurations but generally resemble an oven, with between one and four gasketed and windowless compartments. The stacked compartments typically accommodate a standard 12 by 20-inch hotel pan. Pressure steamers have an external boiler that produces potable steam under pressure, and atmospheric steamers have a steam generator located directly below the compartments. Both require a water line and drain hookup. In contrast, the connectionless steamer is a closed loop system with a reservoir that is periodically drained and refilled. Significant improvements in water- and energy- efficiency are achieved because no steam is allowed to escape down the condensate drain.

ENERGY STAR® hot food holding cabinet: Hot food holding cabinets maintain heated foods at a safe temperature for commercial food service. ENERGY STAR units use 65 percent less energy than standard models. ENERGY STAR units must meet a maximum idle energy rate of 40 watts/ft³. Models that meet this requirement incorporate better insulation to reduce heat loss. Other energy-saving features, such as magnetic door gaskets, auto-door closures, and dutch doors, may also be incorporated.

Vending misers: The Vending Miser is an after-market energy control technology for refrigerated vending machines. It incorporates an occupancy sensor, thermostat, and timer to power down the vending machine for extended period, while periodically repowering the device to ensure that the product stays cold.

B.3 Industrial Measures

This subsection provides brief descriptions of the industrial measures included in this study. First measures that cut across industries are described, followed by descriptions of industry-specific measures.

B.3.1 Cross-Cutting Electricity Efficiency Measures

Replace motors: This measure refers to the replacement of existing motors with high-efficiency motors. High-efficiency motors reduce energy losses through improved design, better materials, tighter tolerances, and improved manufacturing techniques. With proper installation, high-efficiency motors can run cooler than standard motors and can consequently have higher service factors, longer bearing life, longer insulation life, and less vibration.

Adjustable speed drives (ASDs): Adjustable speed drives better match motor speed to load and can therefore lead to significant energy savings compared to constant speed motors. Typical energy savings associated with ASDs range from 7-60%.

Motor practices: This measure refers to proper motor maintenance. The purposes of motor maintenance are to prolong motor life and to foresee a motor failure. Motor maintenance measures can be categorized as either preventive or predictive. Preventive measures, whose purpose is to prevent unexpected downtime of motors, include electrical consideration, voltage imbalance minimization, motor ventilation, alignment, and lubrication, and load consideration. The purpose of predictive motor maintenance is to observe ongoing motor temperature, vibration, and other operating data to identify when it becomes necessary to overhaul or replace a motor before failure occurs. The savings associated with ongoing motor maintenance could range from 2-30% of total motor system energy use.

Compressed air - operation and maintenance (O&M): Inadequate maintenance can lower compression efficiency and increase air leakage or pressure variability, as well as lead to increased operating temperatures, poor moisture control, and excessive contamination. Improved maintenance will reduce these problems and save energy. Proper maintenance includes regular motor lubrication, replacement of air lubricant separators, fan and pump inspection, and filter replacement.

Compressed air – controls: The objective of any control strategy is to shut off unneeded compressors or delay bringing on additional compressors until needed. Energy savings for sophisticated controls have been around 12% annually. Available controls for compressed air systems include start/stop, load/unload, throttling, multi-step, variable speed, and network controls.

Compressed air - system optimization: This is a general measure that refers to compressed air system improvements (besides sizing, controls, and maintenance) that allow it to perform at maximum energy efficiency. Such improvements could include reducing leaks, better load management, minimizing pressure drops throughout the system, reducing air inlet temperatures, and recovering waste compressor heat for other facility applications.

Compressed air – sizing: This measure refers to the proper sizing of compressors, regulators, and distribution pipes. Oversizing of compressors can result in wasted energy. By properly sizing regulators, compressed air will be saved that is otherwise wasted as excess air. Pipes must be sized correctly for optimal performance or resized to fit the current compressor system. Increasing pipe diameters typically reduces annual energy consumption by 3%.

Pumps - operation and maintenance (O&M): Inadequate maintenance can lower pump system efficiency, cause pumps to wear out more quickly, and increase costs. Better maintenance will reduce these problems and also save energy. Proper pump system maintenance includes bearing inspection and repair, bearing lubrication, replacement of worn impellers, and inspection and replacement of mechanical seals.

Pumps – controls: The objective of pump control strategies is to shut off unneeded pumps or, alternatively, to reduce pump load until needed. In addition to energy savings, proper pump control can lead to reduced maintenance costs and increased pump life.

Pumps - system optimization: This is a general measure that refers to pump system improvements (besides sizing, controls, and maintenance) that allow it to perform at maximum energy efficiency. Such improvements could include pump demand reduction, high-efficiency pumps, impeller trimming, and installing multiple pumps for variable loads.

Pumps – sizing: Pumps that are sized inappropriately result in unnecessary losses. Where peak loads can be reduced, pump size can also be reduced. Replacing oversized pumps with pumps that are properly sized can save 15-25% of the electricity consumption of a pumping system (on average for U.S. industry).

Fans - operation and maintenance (O&M): This measure refers to the improvement of general O&M practice for fans, such as tightening belts, cleaning fans, and changing filters regularly.

Fans – controls: The objective of fan control strategies is to shut off unneeded fans or, alternatively, to reduce fan load until needed. In addition to energy savings, proper fan control can lead to reduced maintenance costs and increased pump life.

Fans - system optimization: This measure refers to general strategies for optimizing fans from a systems perspective, and includes such actions as better inlet and outlet design and reduction of fan sizing, where appropriate.

Fans - improve components: This measure refers to the improvement of fan components, such as replacing standard v-belts with cog v-belts and upgrading to the most energy efficient motors possible.

Replace T-8 with premium T-8 and electronic ballasts: Replacing T-8 lamps with premium T-8 lamps with electronic ballasts save significant energy.

Metal halides/fluorescents: Metal halide lamps can replace mercury or fluorescent lamps with energy savings of 50%. For even further savings, high-intensity fluorescent lamps can be installed, which can yield 50% electricity savings over standard metal halide (high-intensity discharge) systems.

Compact fluorescent lighting (CFLs): Compact fluorescent lighting fixtures are designed to replace standard incandescent lighting fixtures. They are approximately four times more efficacious than incandescent light sources.

Controls/sensors: Lights can be shut off during non-working hours by automatic controls, such as occupancy sensors, which turn off lights when a space becomes unoccupied. Manual controls can also be used in addition to automatic controls to save additional energy in small areas.

Chiller efficiency upgrade: Centrifugal chillers are used in building types which normally use water-based cooling systems and have cooling requirements greater than 200 tons. Centrifugal chillers reject heat through a water cooled condenser or cooling tower. In general, efficiency levels for centrifugal chillers start at 0.80 kW/ton (for older units) and may go as high as 0.4 kW/ton. This measure involves installation of a high-efficiency chiller (0.51 kW per ton) versus a standard unit (0.58 kW per ton). This measure also serves in the potential analysis as a proxy for other non-centrifugal chiller systems.

HVAC management system: An energy monitoring and control system supports the efficient operation of HVAC systems by monitoring, controlling, and tracking system energy consumption. Such systems continuously manage and optimize HVAC system energy consumption while also providing building engineers and energy managers with a valuable diagnostic tool for tracking energy consumption and identifying potential HVAC system problems.

Cooling circulation pumps – variable speed drives (VSDs): Variable speed drives better match motor speed to load and can therefore lead to significant energy savings compared to constant speed drives. This measure considers the installation of VSDs on cooling circulation pumps.

DX tune up/advanced diagnostics: The tune-up includes cleaning the condenser and evaporator coils, establishing optimal refrigerant levels, and purging refrigerant loops of entrained air. The qualifying relative performance range for a tune-up is between 60 and 85 percent of the rated efficiency of the unit. This measure includes fresh air economizer controls providing demand control ventilation and consisting of a logic module, enthalpy sensor(s), and CO² sensors in appropriate applications.

DX packaged system, EER=10.9, 10 tons: A single-package A/C unit consists of a single package (or cabinet housing) containing a condensing unit, a compressor, and an indoor fan/coil. An additional benefit of package units is that there is no need for field-installed refrigerant piping, thus minimizing labor costs and the possibility of contaminating the system with dirt, metal, oxides or non-condensing gases. This measure involves installation of a TIER 2 high-efficiency unit (EER=10.9) versus a standard unit (EER=10.3).

Window film: Low-emittance windows are an effective strategy for improving building insulation. Low-emittance windows can lower the heat transmitted into a building and therefore increase its insulating ability. There are two types of Low-E glass, high solar transmitting (for regions with higher winter utility bills) and low solar transmitting (for regions with higher summer utility bills).

Programmable thermostat: A programmable thermostat controls temperature settings of space heating and cooling, and allows settings to be optimized based on occupancy and use of the building. This reduces unnecessary heating and cooling outside hours of building use. It may also help in building cooling using nighttime cooling.

Chiller O&M/tune up: This measure refers to the proper inspection and maintenance of chilled water systems. This can include setting correct head pressure, maintaining correct levels of refrigerant, and selecting and running appropriate compressors for part load. Energy saving can also be achieved by cleaning the condensers and evaporators to prevent scale buildup.

Cool roof: The color and material of a building structure surface will determine the amount of solar radiation absorbed by that surface. By using an appropriate reflective material to coat the roof, the roof will absorb less solar radiation and consequently reduce the cooling load.

Replace v-belts: Inventory data suggest that 4% of pumps have V-belt drives, many of which can be replaced with direct couplings to save energy. Based on assessments in several industries, the savings associated with V-belt replacement are estimated at 4%.

Custom measures –drives: In addition to the sector-specific drive measures defined below, custom measures offer the potential for additional energy savings. Costs and savings for this measure were based on Xcel Energy's history of custom projects.

Custom measures – process heating: In addition to the sector-specific process heating measures defined below, custom measures offer the potential for additional energy savings. Costs and savings for this measure were based on Xcel Energy's history of custom projects.

Custom measures – process cooling: In addition to the sector-specific process cooling measures defined below, custom measures offer the potential for additional energy savings. Costs and savings for this measure were based on Xcel Energy's history of custom projects.

Custom measures – other process: In addition to the sector-specific process measures defined below, custom measures offer the potential for additional energy savings. Costs and savings for this measure were based on Xcel Energy's history of custom projects.

B.3.2 Sector-Specific Efficiency Measures

B.3.2.1 NAICS 311: Food Manufacturing

NAICS 312: Beverage and Tobacco Product Manufacturing

Efficient refrigeration – operations: Refrigeration is an important energy user in the food industries. Operations of refrigeration systems can be improved by applying appropriate settings, opening refrigerated space as short as possible, reducing leakage by controlling doorways, making sure that refrigerated space is used optimally, optimization of defrosting cycle, as well as other small operational changes.

Optimization refrigeration: The refrigeration system can be optimized by improving the operation of the compressors, selecting cooling systems with high COP values, reducing losses in the coolant distribution system, improved insulation of the cooled space, variable speed drives on cooling system, and optimizing the temperature setting of the cooling system.

Bakery – process: Process improvements in the bakery can reduce electricity consumption through selection of energy-efficient equipment for the different processes, optimization of electric ovens, and good housekeeping (e.g. switching equipment off when not in use).

Bakery – process (mixing): About 35% of electricity in bakeries is used to mix and knead the dough. When selecting equipment electricity use should be one of the considerations as energy is the largest cost on a life-cycle basis. Today, energy use is not a criterion. High-efficiency motors, speed control and other measures may reduce electricity consumption.

B.3.2.2 NAICS 313: Textile Mills**NAICS 314: Textile Product Mills****NAICS 315: Textile Product Mills****NAICS 316: Leather and Allied Product Manufacturing**

Drying (UV/IR): This measure refers to the use of direct heating methods, such as infrared dryers. Direct heating provides significant energy savings because it eliminates the inefficiency of transferring heat to air and from the air to the wet material. The energy efficiency of direct heating is about 90%.

Membranes for wastewater: Membrane technologies focus on separating the water from the contaminants using semi-permeable membranes and applied pressure differentials. Membrane filtration of wastewater is typically more energy efficient than evaporation methods, and can lead to significant reductions in facility freshwater intake.

O&M/drives spinning machines: Electric motors are the single largest electricity user in spinning mills. Optimization of motor use, proper maintenance procedures (e.g. preventative maintenance), use of new high-efficiency motors instead of re-winding, and switching off equipment when not in use can help improve energy efficiency.

B.3.2.3 NAICS 321: Wood Product Manufacturing**NAICS 337: Household and Institutional Furniture and Kitchen Cabinet Manufacturing**

Air conveying systems: Pneumatic or air conveying systems are used to transport material (e.g. sawdust, fibers) in the lumber industry. Energy efficiency improvement is feasible by optimizing the lay-out of the systems, reducing leakages, reducing bends in the system, and improving compressor operations (see also with compressed air systems).

Optimize drying processes: This is a general measure, which refers to the optimization of drying systems through such actions as the use of controls, heat recovery, insulation, and good housekeeping/maintenance.

Heat pumps – drying: This measure refers to the recovery of low grade heat from the drying process via a heat pump, where cost effective.

B.3.2.4 NAICS 322: Paper Manufacturing

Gap forming paper machine: The gap former produces a paper of equal and uniform quality at a higher rate of speed. Coupling the former with a press section rebuild or an improvement in the drying capacity

increases production capacity by as much as 30%. Energy savings from gap formers come from reduced electricity consumption per ton of product produced.

High consistency forming: In high consistency forming, the furnish (process pulp) which enters at the forming stage has more than double the consistency (3%) than normal furnish. This measure increases forming speed, and reduces dewatering and vacuum power requirements. Application of this technology is limited to specific paper grades, especially low-basis weight grades such as tissue, toweling, and newsprint. Electricity savings are estimated at 8%.

Optimization control PM: Large electric motors are used to run the paper machine. Optimization of the paper machine will reduce electricity use of the drives. Improved control strategies will improve throughput, reduce breakage and downtime, improving the energy efficiency per unit of throughput. Variable speed drives may help to optimize the energy use in water pumps in the paper machine.

B.3.2.5 NAICS 323: Printing and Related Support Activities

Efficient practices printing press: Optimizing the use of the printing press by reducing production losses, switching off of the press when not in use and other improved operational practices.

Efficient printing press (fewer cylinders): New printing press designs allow the use of fewer cylinders (or rollers). This reduces the electricity use to drive the printing machine.

Light cylinders: Reducing the weight of the cylinders (or rollers) in the printing machine will reduce the power needed to drive the machine. Using lightweight materials for cylinders has been demonstrated in Europe.

B.3.2.6 NAICS 324: Petroleum and Coal Products

Process controls (batch + site): This is a general measure to implement computer-based process controls, where applicable, to monitor and optimize various processes from an energy consumption perspective. In general, by monitoring key process parameters, processes can be fine tuned to minimize energy consumption while still meeting quality and productivity requirements. Control systems can also reduce the time required to perform complex tasks and can often improve product quality and consistency while optimizing process operations. This measure could include the installation of controls based on neural networks, knowledge based systems, or improved sensor technology.

Power recovery: Various processes run at elevated pressures, enabling the opportunity for power recovery from the pressure in the flue gas. The major application for power recovery in the petroleum refinery is the fluid catalytic cracker (FCC). However, power recovery can also be applied to

hydrocrackers or other equipment operated at elevated pressures. A power recovery turbine or turbo expander is used to recover energy from the pressure. The recovered energy can be used to drive the FCC compressor or to generate power.

Efficient desalter: Alternative designs for desalting include multi-stage desalters and a combination of AC and DC fields. These alternative designs may lead to increased efficiency and lower energy consumption.

B.3.2.7 NAICS 325: Chemical Manufacturing

Clean room – controls: Reduced recirculation air change rates, while still meeting quality control and regulatory standards can reduce energy use, optimized chilled water systems, reduction of clean room exhaust, and, occasionally, a clean room is classified at a higher cleanliness level than is necessary for its current use, and by declassifying energy can be saved.

Clean room – new designs: When designing a clean room, energy use should be a primary consideration. Benchmarking tools and design tools are being developed to help improve the energy efficiency of new clean room systems. Furthermore, in the design phase the system can be optimized for improved air filtration quality and efficiency, and the use of cooling towers in lieu of water chillers.

Process controls (batch + site): See discussion for NAICS 324.

B.3.2.8 NAICS 326: Plastics and Rubber Products Manufacturing

O&M – extruders/injection molding: Improved operation and maintenance procedures of extruders, optimization of extruder settings, optimization of the extruder screw shape, optimization of the shape/thickness of the product, and reduction of standby time.

Extruders/injection molding – multipump: The use of multiple pumps and an appropriate control system allow reduced energy use of the extruder when not working at full capacity, only using the pump(s) needed.

Direct drive extruders: Use of a direct drive, instead of a gearbox or belt, will reduce the losses by approximately 15% in extruders.

Intelligent extruder: Intelligent extruder refers to a software system and associated support services for monitoring and control of compounding extruders to improve material quality, reduce waste and energy use, with minimal addition of new sensors or changes to the factory floor system components. Emphasis is on process improvements to the mixing, melting and de-volatilization of base resins, fillers, pigments,

fire retardants and other additives in the “finishing” stage of high value added engineering polymer materials.

Injection molding – impulse cooling: Impulse cooling regulates the cooling water use increasing the cooling rate and reducing productivity (and downtime).

Injection molding – direct drive: Use of a direct drive, instead of a gearbox or belt, will reduce the losses by approximately 20% in injection molding machines.

B.3.2.9 NAICS 327: Nonmetallic Mineral Product Manufacturing

Efficient grinding: This is a general measure that refers to efficient grinding technologies, which can include the use of high-efficiency classifiers or separators.

Process controls: See discussion for NAICS 324.

Top-heating (glass): Most electric furnaces use electrodes in the batch to melt the raw materials into glass. Newer designs with top-mounted electrodes can improve and maintain product quality, and obtain a higher share of salable glass, which leads to lower energy intensities (energy per kg of glass produced).

Process optimization: This is a general measure, which refers to the optimization of grinding and melting systems through such actions as the use of controls, heat recovery, insulation, and good housekeeping/maintenance.

B.3.2.10 NAICS 331: Primary Metal Manufacturing

Process controls: See discussion for NAICS 324.

Efficient electric melting: Electric arc furnaces are used in the steel industry to melt scrap. Multiple options are available to reduce the electricity consumption of the furnace, e.g. foamy slag, oxy-fuel injection, improved transformers, eccentric bottom tapping (EBT), as well as scrap preheating.

Near net shape casting: Near net shape casting is the direct casting of the metal into very nearly the final shape, thereby eliminating other processing steps such as hot rolling, which can lead to significant energy savings.

B.3.2.11 NAICS 332: Fabricated Metal Products
NAICS 333: Machinery Manufacturing
NAICS 336: Transportation Equipment

Optimization process (M&T): This is a general measure for optimizing the efficiency of painting processes, via such actions as the use of process controls, proper maintenance, and reducing the airflow rates in paint booths.

Scheduling: Optimization of the scheduling of various pieces of equipment can reduce downtime and hence save energy. Furthermore, improved control strategies can reduce standby energy use of equipment as part of an optimized scheduling system.

Efficient curing ovens: Efficiency options for curing ovens include the optimization of oven insulation, the use of heat recovery techniques, and the use of direct heating methods, such as infrared heating, microwave heating, and ultraviolet heating.

Machinery: Many machines (e.g. metal processing) use electricity or compressed air to drive the equipment. The use of compressed air systems should be minimized and replaced by direct drive systems, because of the low efficiency of the compressed air supply. Furthermore, many machines do not use high-efficiency motors or speed controls.

New Transformers - Welding: Transformers incur two types of losses: no-load losses in the transformer core that are constant regardless of the load being served, and load losses in the transformer's electrical circuit that change depending on the loading conditions. The NEMA Premium Efficiency Transformer Program requires 30 percent fewer losses than existing DOE standards for dry-type distribution transformers. Efficiencies range from 98 percent to more than 99 percent, depending on the size of the transformer, compared to 97 percent for the DOE standard.

B.3.2.12 NAICS 334: Computers and Electronic Products
NAICS 335: Electrical Equipment, Appliance, and Component Manufacturing

Scheduling: See discussion for NAICS 332.

Efficient curing ovens: See discussion for NAICS 332.

Machinery: See discussion for NAICS 332.

Efficient processes (welding, etc.): New more power efficient welding technology is developed. For welding robots, new servo-based systems reduce energy use.

B.3.2.13 NAICS 339: Miscellaneous Manufacturing

Scheduling: See discussion for NAICS 332.

Efficient Machinery: See discussion for NAICS 332.

Process heating: Induction furnaces are often used for electric process heating. Improved operation and maintenance can reduce part-load operation, downtime and tap-to-tap time. Furthermore, high-frequency induction furnaces improve energy use.

Process controls: See discussion for NAICS 324.

B.3.2.14 Water/Wastewater

Efficient Machinery: See discussion for NAICS 332.

C. Appendix C: Economic Inputs

APPENDIX C - ECONOMIC PARAMETERS

Residential Electricity

UTILITY NAME	Xcel Energy MN
SECTOR	Res
BATCH #	1
UTILITY DISCOUNT RATE	7.42%
CUSTOMER DISCOUNT RATE	15.0%
GENERAL INFLATION RATE (Measure)	1.9%
BASE YEAR	2011
START YEAR	2011
DIFFERENCE	0
UTILITY LINE LOSS RATE	5.77%

ENERGY COSTS AND RATES

Rate/Time Per	1	2	3	4	5	6	
Name	Summer Super-Peak	Summer On-Peak	Summer Partial Peak	Summer Off-Peak	Winter On-Peak	Winter Off-Peak	
Abbreviation	SSUP	SON	SMID	SOFF	WON	WOFF	TOTAL
Hours	440	1410	278	800	3918	1914	8760
Monthly Adjust	0	0	0	0	0	0	

Year	AVOIDED ENERGY COSTS BY TIME PERIOD						AVOIDED DEMAND COSTS BY TIME PERIOD						Residential ENERGY RATES					
	SSUP \$/kWh	SON \$/kWh	SMID \$/kWh	SOFF \$/kWh	WON \$/kWh	WOFF \$/kWh	SSUP \$/kW	SON \$/kW	SMID \$/kW	SOFF \$/kW	WON \$/kW	WOFF \$/kW	SSUP \$/kWh	SON \$/kWh	SMID \$/kWh	SOFF \$/kWh	WON \$/kWh	WOFF \$/kWh
2011	0.0504	0.0385	0.0246	0.0168	0.0402	0.0244	121.4071	0.0000	0.0000	0.0000	0.0000	0.0000	0.1113	0.1113	0.1113	0.1113	0.1010	0.1010
2012	0.0545	0.0397	0.0256	0.0167	0.0396	0.0234	123.7381	0.0000	0.0000	0.0000	0.0000	0.0000	0.1134	0.1134	0.1134	0.1134	0.1029	0.1029
2013	0.0563	0.0445	0.0321	0.0217	0.0418	0.0267	126.1139	0.0000	0.0000	0.0000	0.0000	0.0000	0.1156	0.1156	0.1156	0.1156	0.1049	0.1049
2014	0.0642	0.0503	0.0351	0.0234	0.0469	0.0284	128.5353	0.0000	0.0000	0.0000	0.0000	0.0000	0.1178	0.1178	0.1178	0.1178	0.1069	0.1069
2015	0.0780	0.0588	0.0374	0.0244	0.0513	0.0294	131.0032	0.0000	0.0000	0.0000	0.0000	0.0000	0.1201	0.1201	0.1201	0.1201	0.1090	0.1090
2016	0.0779	0.0601	0.0370	0.0242	0.0523	0.0286	133.5184	0.0000	0.0000	0.0000	0.0000	0.0000	0.1224	0.1224	0.1224	0.1224	0.1110	0.1110
2017	0.0814	0.0618	0.0396	0.0260	0.0568	0.0307	136.0820	0.0000	0.0000	0.0000	0.0000	0.0000	0.1247	0.1247	0.1247	0.1247	0.1132	0.1132
2018	0.0845	0.0645	0.0424	0.0282	0.0570	0.0311	138.6947	0.0000	0.0000	0.0000	0.0000	0.0000	0.1271	0.1271	0.1271	0.1271	0.1153	0.1153
2019	0.0863	0.0669	0.0451	0.0298	0.0580	0.0330	141.3577	0.0000	0.0000	0.0000	0.0000	0.0000	0.1295	0.1295	0.1295	0.1295	0.1176	0.1176
2020	0.0937	0.0708	0.0483	0.0320	0.0606	0.0344	144.0718	0.0000	0.0000	0.0000	0.0000	0.0000	0.1320	0.1320	0.1320	0.1320	0.1198	0.1198
2021	0.0943	0.0732	0.0495	0.0331	0.0645	0.0359	146.8379	0.0000	0.0000	0.0000	0.0000	0.0000	0.1346	0.1346	0.1346	0.1346	0.1221	0.1221
2022	0.0998	0.0764	0.0496	0.0330	0.0647	0.0370	149.6572	0.0000	0.0000	0.0000	0.0000	0.0000	0.1371	0.1371	0.1371	0.1371	0.1245	0.1245
2023	0.1045	0.0781	0.0527	0.0351	0.0679	0.0397	152.5306	0.0000	0.0000	0.0000	0.0000	0.0000	0.1398	0.1398	0.1398	0.1398	0.1269	0.1269
2024	0.1049	0.0802	0.0544	0.0364	0.0693	0.0397	155.4592	0.0000	0.0000	0.0000	0.0000	0.0000	0.1425	0.1425	0.1425	0.1425	0.1293	0.1293
2025	0.1026	0.0806	0.0537	0.0350	0.0703	0.0394	158.4440	0.0000	0.0000	0.0000	0.0000	0.0000	0.1452	0.1452	0.1452	0.1452	0.1318	0.1318
2026	0.1048	0.0810	0.0546	0.0360	0.0686	0.0380	161.4862	0.0000	0.0000	0.0000	0.0000	0.0000	0.1480	0.1480	0.1480	0.1480	0.1343	0.1343
2027	0.1063	0.0812	0.0523	0.0350	0.0698	0.0375	164.5867	0.0000	0.0000	0.0000	0.0000	0.0000	0.1508	0.1508	0.1508	0.1508	0.1369	0.1369
2028	0.1102	0.0828	0.0548	0.0365	0.0707	0.0385	167.7468	0.0000	0.0000	0.0000	0.0000	0.0000	0.1537	0.1537	0.1537	0.1537	0.1395	0.1395
2029	0.1144	0.0861	0.0578	0.0381	0.0717	0.0394	170.9675	0.0000	0.0000	0.0000	0.0000	0.0000	0.1567	0.1567	0.1567	0.1567	0.1422	0.1422
2030	0.1158	0.0892	0.0592	0.0390	0.0749	0.0419	174.2501	0.0000	0.0000	0.0000	0.0000	0.0000	0.1597	0.1597	0.1597	0.1597	0.1449	0.1449
2031	0.1154	0.0912	0.0606	0.0414	0.0762	0.0446	177.5957	0.0000	0.0000	0.0000	0.0000	0.0000	0.1628	0.1628	0.1628	0.1628	0.1477	0.1477
2032	0.1195	0.0945	0.0628	0.0429	0.0790	0.0462	181.6641	0.0000	0.0000	0.0000	0.0000	0.0000	0.1659	0.1659	0.1659	0.1659	0.1505	0.1505
2033	0.1239	0.0979	0.0650	0.0445	0.0818	0.0479	185.8756	0.0000	0.0000	0.0000	0.0000	0.0000	0.1691	0.1691	0.1691	0.1691	0.1534	0.1534
2034	0.1283	0.1014	0.0674	0.0460	0.0848	0.0496	190.2398	0.0000	0.0000	0.0000	0.0000	0.0000	0.1723	0.1723	0.1723	0.1723	0.1564	0.1564
2035	0.1330	0.1050	0.0698	0.0477	0.0878	0.0514	194.7673	0.0000	0.0000	0.0000	0.0000	0.0000	0.1756	0.1756	0.1756	0.1756	0.1594	0.1594
2036	0.1377	0.1088	0.0723	0.0494	0.0910	0.0532	199.4697	0.0000	0.0000	0.0000	0.0000	0.0000	0.1790	0.1790	0.1790	0.1790	0.1624	0.1624
2037	0.1427	0.1128	0.0749	0.0512	0.0943	0.0551	204.3599	0.0000	0.0000	0.0000	0.0000	0.0000	0.1824	0.1824	0.1824	0.1824	0.1656	0.1656
2038	0.1479	0.1168	0.0776	0.0530	0.0977	0.0571	209.4522	0.0000	0.0000	0.0000	0.0000	0.0000	0.1859	0.1859	0.1859	0.1859	0.1687	0.1687
2039	0.1532	0.1210	0.0804	0.0549	0.1012	0.0592	214.7626	0.0000	0.0000	0.0000	0.0000	0.0000	0.1895	0.1895	0.1895	0.1895	0.1720	0.1720
2040	0.1587	0.1254	0.0833	0.0569	0.1049	0.0613	220.3087	0.0000	0.0000	0.0000	0.0000	0.0000	0.1931	0.1931	0.1931	0.1931	0.1753	0.1753

APPENDIX C - ECONOMIC PARAMETERS

Commercial Electricity

UTILITY NAME	Xcel Energy MN
SECTOR	Com
BATCH #	1
UTILITY DISCOUNT RATE	7.42%
CUSTOMER DISCOUNT RATE	15.0%
GENERAL INFLATION RATE (Measure)	1.9%
BASE YEAR	2011
START YEAR	2011
DIFFERENCE	0
UTILITY LINE LOSS RATE	4.2%

ENERGY COSTS AND RATES

Segment 1	Existing
RATE TYPE	Commercial
ENERGY UNITS	\$/kWh
DEMAND UNITS	\$/kW

Rate/Time Per	1	2	3	4	5	6	
	Summer	Summer	Summer	Summer	Winter	Winter	
Name	Super-Peak	On-Peak	Partial Peak	Off-Peak	On-Peak	Off-Peak	
Abbreviation	SSUP	SON	SMID	SOFF	WON	WOFF	TOTAL
Hours	440	1410	278	800	3918	1914	8760
Monthly Adjust	4	0	0	0	8	0	

Year	AVOIDED ENERGY COSTS BY TIME PERIOD						AVOIDED DEMAND COSTS BY TIME PERIOD						Commercial ENERGY RATES						Commercial DEMAND RATES					
	SSUP \$/kWh	SON \$/kWh	SMID \$/kWh	SOFF \$/kWh	WON \$/kWh	WOFF \$/kWh	SSUP \$/kW	SON \$/kW	SMID \$/kW	SOFF \$/kW	WON \$/kW	WOFF \$/kW	SSUP \$/kWh	SON \$/kWh	SMID \$/kWh	SOFF \$/kWh	WON \$/kWh	WOFF \$/kWh	SSUP \$/kW	SON \$/kW	SMID \$/kW	SOFF \$/kW	WON \$/kW	WOFF \$/kW
2011	0.0504	0.0385	0.0246	0.0168	0.0402	0.0244	121.4071	0.0000	0.0000	0.0000	0.0000	0.0000	0.0580	0.0580	0.0580	0.0580	0.0580	0.0580	11.0884	11.0884	11.0884	11.0884	7.4631	7.4631
2012	0.0545	0.0397	0.0256	0.0167	0.0396	0.0234	123.7381	0.0000	0.0000	0.0000	0.0000	0.0000	0.0591	0.0591	0.0591	0.0591	0.0591	0.0591	11.3013	11.3013	11.3013	11.3013	7.6064	7.6064
2013	0.0563	0.0445	0.0321	0.0217	0.0418	0.0267	126.1139	0.0000	0.0000	0.0000	0.0000	0.0000	0.0603	0.0603	0.0603	0.0603	0.0603	0.0603	11.5183	11.5183	11.5183	11.5183	7.7525	7.7525
2014	0.0642	0.0503	0.0351	0.0234	0.0469	0.0284	128.5353	0.0000	0.0000	0.0000	0.0000	0.0000	0.0614	0.0614	0.0614	0.0614	0.0614	0.0614	11.7394	11.7394	11.7394	11.7394	7.9013	7.9013
2015	0.0780	0.0588	0.0374	0.0244	0.0513	0.0294	131.0032	0.0000	0.0000	0.0000	0.0000	0.0000	0.0626	0.0626	0.0626	0.0626	0.0626	0.0626	11.9648	11.9648	11.9648	11.9648	8.0530	8.0530
2016	0.0779	0.0601	0.0370	0.0242	0.0523	0.0286	133.5184	0.0000	0.0000	0.0000	0.0000	0.0000	0.0638	0.0638	0.0638	0.0638	0.0638	0.0638	12.1945	12.1945	12.1945	12.1945	8.2077	8.2077
2017	0.0814	0.0618	0.0396	0.0260	0.0568	0.0307	136.0820	0.0000	0.0000	0.0000	0.0000	0.0000	0.0650	0.0650	0.0650	0.0650	0.0650	0.0650	12.4287	12.4287	12.4287	12.4287	8.3652	8.3652
2018	0.0845	0.0645	0.0424	0.0282	0.0570	0.0311	138.6947	0.0000	0.0000	0.0000	0.0000	0.0000	0.0663	0.0663	0.0663	0.0663	0.0663	0.0663	12.6673	12.6673	12.6673	12.6673	8.5259	8.5259
2019	0.0863	0.0669	0.0451	0.0298	0.0580	0.0330	141.3577	0.0000	0.0000	0.0000	0.0000	0.0000	0.0675	0.0675	0.0675	0.0675	0.0675	0.0675	12.9105	12.9105	12.9105	12.9105	8.6895	8.6895
2020	0.0937	0.0708	0.0483	0.0320	0.0606	0.0344	144.0718	0.0000	0.0000	0.0000	0.0000	0.0000	0.0688	0.0688	0.0688	0.0688	0.0688	0.0688	13.1584	13.1584	13.1584	13.1584	8.8564	8.8564
2021	0.0943	0.0732	0.0495	0.0331	0.0645	0.0359	146.8379	0.0000	0.0000	0.0000	0.0000	0.0000	0.0702	0.0702	0.0702	0.0702	0.0702	0.0702	13.4110	13.4110	13.4110	13.4110	9.0264	9.0264
2022	0.0998	0.0764	0.0496	0.0330	0.0647	0.0370	149.6572	0.0000	0.0000	0.0000	0.0000	0.0000	0.0715	0.0715	0.0715	0.0715	0.0715	0.0715	13.6685	13.6685	13.6685	13.6685	9.1997	9.1997
2023	0.1045	0.0781	0.0527	0.0351	0.0679	0.0397	152.5306	0.0000	0.0000	0.0000	0.0000	0.0000	0.0729	0.0729	0.0729	0.0729	0.0729	0.0729	13.9310	13.9310	13.9310	13.9310	9.3764	9.3764
2024	0.1049	0.0802	0.0544	0.0364	0.0693	0.0397	155.4592	0.0000	0.0000	0.0000	0.0000	0.0000	0.0743	0.0743	0.0743	0.0743	0.0743	0.0743	14.1984	14.1984	14.1984	14.1984	9.5564	9.5564
2025	0.1026	0.0806	0.0537	0.0350	0.0703	0.0394	158.4440	0.0000	0.0000	0.0000	0.0000	0.0000	0.0757	0.0757	0.0757	0.0757	0.0757	0.0757	14.4710	14.4710	14.4710	14.4710	9.7399	9.7399
2026	0.1048	0.0810	0.0546	0.0360	0.0686	0.0380	161.4862	0.0000	0.0000	0.0000	0.0000	0.0000	0.0772	0.0772	0.0772	0.0772	0.0772	0.0772	14.7489	14.7489	14.7489	14.7489	9.9269	9.9269
2027	0.1063	0.0812	0.0523	0.0350	0.0698	0.0375	164.5867	0.0000	0.0000	0.0000	0.0000	0.0000	0.0786	0.0786	0.0786	0.0786	0.0786	0.0786	15.0321	15.0321	15.0321	15.0321	10.1175	10.1175
2028	0.1102	0.0828	0.0548	0.0365	0.0707	0.0385	167.7468	0.0000	0.0000	0.0000	0.0000	0.0000	0.0801	0.0801	0.0801	0.0801	0.0801	0.0801	15.3207	15.3207	15.3207	15.3207	10.3117	10.3117
2029	0.1144	0.0861	0.0578	0.0381	0.0717	0.0394	170.9675	0.0000	0.0000	0.0000	0.0000	0.0000	0.0817	0.0817	0.0817	0.0817	0.0817	0.0817	15.6148	15.6148	15.6148	15.6148	10.5097	10.5097
2030	0.1158	0.0892	0.0592	0.0390	0.0749	0.0419	174.2501	0.0000	0.0000	0.0000	0.0000	0.0000	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	15.9146	15.9146	15.9146	15.9146	10.7115	10.7115
2031	0.1154	0.0912	0.0606	0.0414	0.0762	0.0446	177.5957	0.0000	0.0000	0.0000	0.0000	0.0000	0.0849	0.0849	0.0849	0.0849	0.0849	0.0849	16.2202	16.2202	16.2202	16.2202	10.9172	10.9172
2032	0.1195	0.0945	0.0628	0.0429	0.0790	0.0462	181.6641	0.0000	0.0000	0.0000	0.0000	0.0000	0.0865	0.0865	0.0865	0.0865	0.0865	0.0865	16.5316	16.5316	16.5316	16.5316	11.1268	11.1268
2033	0.1239	0.0979	0.0650	0.0445	0.0818	0.0479	185.8756	0.0000	0.0000	0.0000	0.0000	0.0000	0.0881	0.0881	0.0881	0.0881	0.0881	0.0881	16.8490	16.8490	16.8490	16.8490	11.3404	11.3404
2034	0.1283	0.1014	0.0674	0.0460	0.0848	0.0496	190.2398	0.0000	0.0000	0.0000	0.0000	0.0000	0.0898	0.0898	0.0898	0.0898	0.0898	0.0898	17.1725	17.1725	17.1725	17.1725	11.5582	11.5582
2035	0.1330	0.1050	0.0698	0.0477	0.0878	0.0514	194.7673	0.0000	0.0000	0.0000	0.0000	0.0000	0.0916	0.0916	0.0916	0.0916	0.0916	0.0916	17.5023	17.5023	17.5023	17.5023	11.7801	11.7801
2036	0.1377	0.1088	0.0723	0.0494	0.0910	0.0532	199.4697	0.0000	0.0000	0.0000	0.0000	0.0000	0.0933	0.0933	0.0933	0.0933	0.0933	0.0933	17.8383	17.8383	17.8383	17.8383	12.0062	12.0062
2037	0.1427	0.1128	0.0749	0.0512	0.0943	0.0551	204.3599	0.0000	0.0000	0.0000	0.0000	0.0000	0.0951	0.0951	0.0951	0.0951	0.0951	0.0951	18.1808	18.1808	18.1808	18.1808	12.2368	12.2368
2038	0.1479	0.1168	0.0776	0.0530	0.0977	0.0571	209.4522	0.0000	0.0000	0.0000	0.0000	0.0000	0.0969	0.0969	0.0969	0.0969	0.0969	0.0969	18.5299	18.5299	18.5299	18.5299	12.4717	12.4717
2039	0.1532	0.1210	0.0804	0.0549	0.1012	0.0592	214.7626	0.0000	0.0000	0.0000	0.0000	0.0000	0.0988	0.0988	0.0988	0.0988	0.0988	0.0988	18.8856	18.8856	18.8856	18.8856	12.7112	12.7112
2040	0.1587	0.1254	0.0833	0.0569	0.1049	0.0613	220.3087	0.0000	0.0000	0.0000	0.0000	0.0000	0.1007	0.1007	0.1007	0.1007	0.1007	0.1007	19.2482	19.2482	19.2482	19.2482	12.9552	12.9552

APPENDIX C - ECONOMIC PARAMETERS

Industrial
Electricity

UTILITY NAME	Xcel Energy MN
SECTOR	Ind
BATCH #	1
UTILITY DISCOUNT RATE	7.42%
CUSTOMER DISCOUNT RATE	15.0%
GENERAL INFLATION RATE (Measure)	1.9%
BASE YEAR	2011
START YEAR	2011
DIFFERENCE	0
UTILITY LINE LOSS RATE	4.24%

ENERGY COSTS AND RATES

Segment 1	Existing	Rate/Time Pe						
		1	2	3	4	5	6	
		Summer	Summer	Summer	Summer	Winter On-	Winter Off-	
		Super-Peak	On-Peak	Partial	Off-Peak	Peak	Peak	
RATE TYPE	Industrial	SSUP	SON	SMID	SOFF	WON	WOFF	TOTAL
ENERGY UNITS	\$/kWh	440	1410	278	800	3918	1914	8760
DEMAND UNITS	\$/kW	4	0	0	0	8	0	

Year	AVOIDED ENERGY COSTS BY TIME PERIOD						AVOIDED DEMAND COSTS BY TIME PERIOD						Industrial ENERGY RATES						Industrial DEMAND RATES					
	SSUP \$/kWh	SON \$/kWh	SMID \$/kWh	SOFF \$/kWh	WON \$/kWh	WOFF \$/kWh	SSUP \$/kW	SON \$/kW	SMID \$/kW	SOFF \$/kW	WON \$/kW	WOFF \$/kW	SSUP \$/kWh	SON \$/kWh	SMID \$/kWh	SOFF \$/kWh	WON \$/kWh	WOFF \$/kWh	SSUP \$/kW	SON \$/kW	SMID \$/kW	SOFF \$/kW	WON \$/kW	WOFF \$/kW
2011	0.0504	0.0385	0.0246	0.0168	0.0402	0.0244	121.4071	0.0000	0.0000	0.0000	0.0000	0.0000	0.0580	0.0580	0.0580	0.0580	0.0580	0.0580	11.0884	11.0884	11.0884	11.0884	7.4631	7.4631
2012	0.0545	0.0397	0.0256	0.0167	0.0396	0.0234	123.7381	0.0000	0.0000	0.0000	0.0000	0.0000	0.0591	0.0591	0.0591	0.0591	0.0591	0.0591	11.3013	11.3013	11.3013	11.3013	7.6064	7.6064
2013	0.0563	0.0445	0.0321	0.0217	0.0418	0.0267	126.1139	0.0000	0.0000	0.0000	0.0000	0.0000	0.0603	0.0603	0.0603	0.0603	0.0603	0.0603	11.5183	11.5183	11.5183	11.5183	7.7525	7.7525
2014	0.0642	0.0503	0.0351	0.0234	0.0469	0.0284	128.5353	0.0000	0.0000	0.0000	0.0000	0.0000	0.0614	0.0614	0.0614	0.0614	0.0614	0.0614	11.7394	11.7394	11.7394	11.7394	7.9013	7.9013
2015	0.0780	0.0588	0.0374	0.0244	0.0513	0.0294	131.0032	0.0000	0.0000	0.0000	0.0000	0.0000	0.0626	0.0626	0.0626	0.0626	0.0626	0.0626	11.9648	11.9648	11.9648	11.9648	8.0530	8.0530
2016	0.0779	0.0601	0.0370	0.0242	0.0523	0.0286	133.5184	0.0000	0.0000	0.0000	0.0000	0.0000	0.0638	0.0638	0.0638	0.0638	0.0638	0.0638	12.1945	12.1945	12.1945	12.1945	8.2077	8.2077
2017	0.0814	0.0618	0.0396	0.0260	0.0568	0.0307	136.0820	0.0000	0.0000	0.0000	0.0000	0.0000	0.0650	0.0650	0.0650	0.0650	0.0650	0.0650	12.4287	12.4287	12.4287	12.4287	8.3652	8.3652
2018	0.0845	0.0645	0.0424	0.0282	0.0570	0.0311	138.6947	0.0000	0.0000	0.0000	0.0000	0.0000	0.0663	0.0663	0.0663	0.0663	0.0663	0.0663	12.6673	12.6673	12.6673	12.6673	8.5259	8.5259
2019	0.0863	0.0669	0.0451	0.0298	0.0580	0.0330	141.3577	0.0000	0.0000	0.0000	0.0000	0.0000	0.0675	0.0675	0.0675	0.0675	0.0675	0.0675	12.9105	12.9105	12.9105	12.9105	8.6895	8.6895
2020	0.0937	0.0708	0.0483	0.0320	0.0606	0.0344	144.0718	0.0000	0.0000	0.0000	0.0000	0.0000	0.0688	0.0688	0.0688	0.0688	0.0688	0.0688	13.1584	13.1584	13.1584	13.1584	8.8564	8.8564
2021	0.0943	0.0732	0.0495	0.0331	0.0645	0.0359	146.8379	0.0000	0.0000	0.0000	0.0000	0.0000	0.0702	0.0702	0.0702	0.0702	0.0702	0.0702	13.4110	13.4110	13.4110	13.4110	9.0264	9.0264
2022	0.0998	0.0764	0.0496	0.0330	0.0647	0.0370	149.6572	0.0000	0.0000	0.0000	0.0000	0.0000	0.0715	0.0715	0.0715	0.0715	0.0715	0.0715	13.6685	13.6685	13.6685	13.6685	9.1997	9.1997
2023	0.1045	0.0781	0.0527	0.0351	0.0679	0.0397	152.5306	0.0000	0.0000	0.0000	0.0000	0.0000	0.0729	0.0729	0.0729	0.0729	0.0729	0.0729	13.9310	13.9310	13.9310	13.9310	9.3764	9.3764
2024	0.1049	0.0802	0.0544	0.0364	0.0693	0.0397	155.4592	0.0000	0.0000	0.0000	0.0000	0.0000	0.0743	0.0743	0.0743	0.0743	0.0743	0.0743	14.1984	14.1984	14.1984	14.1984	9.5564	9.5564
2025	0.1026	0.0806	0.0537	0.0350	0.0703	0.0394	158.4440	0.0000	0.0000	0.0000	0.0000	0.0000	0.0757	0.0757	0.0757	0.0757	0.0757	0.0757	14.4710	14.4710	14.4710	14.4710	9.7399	9.7399
2026	0.1048	0.0810	0.0546	0.0360	0.0686	0.0380	161.4862	0.0000	0.0000	0.0000	0.0000	0.0000	0.0772	0.0772	0.0772	0.0772	0.0772	0.0772	14.7489	14.7489	14.7489	14.7489	9.9269	9.9269
2027	0.1063	0.0812	0.0523	0.0350	0.0698	0.0375	164.5867	0.0000	0.0000	0.0000	0.0000	0.0000	0.0786	0.0786	0.0786	0.0786	0.0786	0.0786	15.0321	15.0321	15.0321	15.0321	10.1175	10.1175
2028	0.1102	0.0828	0.0548	0.0365	0.0707	0.0385	167.7468	0.0000	0.0000	0.0000	0.0000	0.0000	0.0801	0.0801	0.0801	0.0801	0.0801	0.0801	15.3207	15.3207	15.3207	15.3207	10.3117	10.3117
2029	0.1144	0.0861	0.0578	0.0381	0.0717	0.0394	170.9675	0.0000	0.0000	0.0000	0.0000	0.0000	0.0817	0.0817	0.0817	0.0817	0.0817	0.0817	15.6148	15.6148	15.6148	15.6148	10.5097	10.5097
2030	0.1158	0.0892	0.0592	0.0390	0.0749	0.0419	174.2501	0.0000	0.0000	0.0000	0.0000	0.0000	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	15.9146	15.9146	15.9146	15.9146	10.7115	10.7115
2031	0.1154	0.0912	0.0606	0.0414	0.0762	0.0446	177.5957	0.0000	0.0000	0.0000	0.0000	0.0000	0.0849	0.0849	0.0849	0.0849	0.0849	0.0849	16.2202	16.2202	16.2202	16.2202	10.9172	10.9172
2032	0.1195	0.0945	0.0628	0.0429	0.0790	0.0462	181.6641	0.0000	0.0000	0.0000	0.0000	0.0000	0.0865	0.0865	0.0865	0.0865	0.0865	0.0865	16.5316	16.5316	16.5316	16.5316	11.1268	11.1268
2033	0.1239	0.0979	0.0650	0.0445	0.0818	0.0479	185.8756	0.0000	0.0000	0.0000	0.0000	0.0000	0.0881	0.0881	0.0881	0.0881	0.0881	0.0881	16.8490	16.8490	16.8490	16.8490	11.3404	11.3404
2034	0.1283	0.1014	0.0674	0.0460	0.0848	0.0496	190.2398	0.0000	0.0000	0.0000	0.0000	0.0000	0.0898	0.0898	0.0898	0.0898	0.0898	0.0898	17.1725	17.1725	17.1725	17.1725	11.5582	11.5582
2035	0.1330	0.1050	0.0698	0.0477	0.0878	0.0514	194.7673	0.0000	0.0000	0.0000	0.0000	0.0000	0.0916	0.0916	0.0916	0.0916	0.0916	0.0916	17.5023	17.5023	17.5023	17.5023	11.7801	11.7801
2036	0.1377	0.1088	0.0723	0.0494	0.0910	0.0532	199.4697	0.0000	0.0000	0.0000	0.0000	0.0000	0.0933	0.0933	0.0933	0.0933	0.0933	0.0933	17.8383	17.8383	17.8383	17.8383	12.0062	12.0062
2037	0.1427	0.1128	0.0749	0.0512	0.0943	0.0551	204.3599	0.0000	0.0000	0.0000	0.0000	0.0000	0.0951	0.0951	0.0951	0.0951	0.0951	0.0951	18.1808	18.1808	18.1808	18.1808	12.2368	12.2368
2038	0.1479	0.1168	0.0776	0.0530	0.0977	0.0571	209.4522	0.0000	0.0000	0.0000	0.0000	0.0000	0.0969	0.0969	0.0969	0.0969	0.0969	0.0969	18.5299	18.5299	18.5299	18.5299	12.4717	12.4717
2039	0.1532	0.1210	0.0804	0.0549	0.1012	0.0592	214.7626	0.0000	0.0000	0.0000	0.0000	0.0000	0.0988	0.0988	0.0988	0.0988	0.0988	0.0988	18.8856	18.8856	18.8856	18.8856	12.7112	12.7112
2040	0.1587	0.1254	0.0833	0.0569	0.1049	0.0613	220.3087	0.0000	0.0000	0.0000	0.0000	0.0000	0.1007	0.1007	0.1007	0.1007	0.1007	0.1007	19.2482	19.2482	19.2482	19.2482	12.9552	12.9552

D. Appendix D: Building and TOU Inputs

APPENDIX D

Residential Electric Building Stock Table

Number of Homes			
Segment	Single Family	Multifamily	Low Income
	Building Type 1	Building Type 2	Building Type 3
Existing	720,267	264,635	67,610
New	17,844	6,556	1,675

APPENDIX D

Residential Electric End Use Load Shape Table
(Fraction of annual energy)

Building Type	End Use 1 - Space Cooling						End Use 2 - Lighting						End Use 3 - Refrigeration						End Use 4 - Freezer						End Use 5 - Water Heating					
	SSUP	SON	SMID	SOFF	WON	WOFF	SSUP	SON	SMID	SOFF	WON	WOFF	SSUP	SON	SMID	SOFF	WON	WOFF	SSUP	SON	SMID	SOFF	WON	WOFF	SSUP	SON	SMID	SOFF	WON	WOFF
Single Family	0.2123	0.5103	0.0756	0.1727	0.0227	0.0064	0.0426	0.1976	0.0292	0.0347	0.5785	0.1174	0.0575	0.1821	0.0336	0.0908	0.4396	0.1964	0.0613	0.1784	0.0323	0.0918	0.4290	0.2072	0.0394	0.1604	0.0243	0.0469	0.5782	0.1507
Multifamily	0.2123	0.5103	0.0756	0.1727	0.0227	0.0064	0.0426	0.1976	0.0292	0.0347	0.5785	0.1174	0.0575	0.1821	0.0336	0.0908	0.4396	0.1964	0.0613	0.1784	0.0323	0.0918	0.4290	0.2072	0.0394	0.1604	0.0243	0.0469	0.5782	0.1507
Low Income	0.2123	0.5103	0.0756	0.1727	0.0227	0.0064	0.0426	0.1976	0.0292	0.0347	0.5785	0.1174	0.0575	0.1821	0.0336	0.0908	0.4396	0.1964	0.0613	0.1784	0.0323	0.0918	0.4290	0.2072	0.0394	0.1604	0.0243	0.0469	0.5782	0.1507

Residential Electric End Use Load Shape Table - Continued
(Fraction of annual energy)

Building Type	End Use 6 - Clothes Washer						End Use 7 - Clothes Dryer						End Use 8 - Dishwasher						End Use 9 - Space Heating						End Use 10 - Cooking					
	SSUP	SON	SMID	SOFF	WON	WOFF	SSUP	SON	SMID	SOFF	WON	WOFF	SSUP	SON	SMID	SOFF	WON	WOFF	SSUP	SON	SMID	SOFF	WON	WOFF	SSUP	SON	SMID	SOFF	WON	WOFF
Single Family	0.0670	0.2222	0.0221	0.0214	0.6421	0.0251	0.0658	0.1990	0.0165	0.0134	0.6555	0.0497	0.0462	0.2264	0.0166	0.0113	0.6788	0.0207	0.0007	0.0063	0.0019	0.0043	0.6618	0.3250	0.0643	0.2044	0.0126	0.0195	0.6590	0.0402
Multifamily	0.0670	0.2222	0.0221	0.0214	0.6421	0.0251	0.0658	0.1990	0.0165	0.0134	0.6555	0.0497	0.0462	0.2264	0.0166	0.0113	0.6788	0.0207	0.0007	0.0063	0.0019	0.0043	0.6618	0.3250	0.0643	0.2044	0.0126	0.0195	0.6590	0.0402
Low Income	0.0670	0.2222	0.0221	0.0214	0.6421	0.0251	0.0658	0.1990	0.0165	0.0134	0.6555	0.0497	0.0462	0.2264	0.0166	0.0113	0.6788	0.0207	0.0007	0.0063	0.0019	0.0043	0.6618	0.3250	0.0643	0.2044	0.0126	0.0195	0.6590	0.0402

Residential Electric End Use Load Shape Table - Continued
(Fraction of annual energy)

Building Type	End Use 11 - TV						End Use 12 - Pool Pump						End Use 13 - Cooling and Heating						End Use 14 - Miscellaneous						End Use 15 - House					
	SSUP	SON	SMID	SOFF	WON	WOFF	SSUP	SON	SMID	SOFF	WON	WOFF	SSUP	SON	SMID	SOFF	WON	WOFF	SSUP	SON	SMID	SOFF	WON	WOFF	SSUP	SON	SMID	SOFF	WON	WOFF
Single Family	0.0497	0.2253	0.0351	0.0214	0.5594	0.1090	0.0972	0.2264	0.0173	0.0232	0.5843	0.0515	0.0777	0.2389	0.0373	0.0701	0.4612	0.1148	0.0376	0.1580	0.0416	0.0541	0.5283	0.1805	0.07774	0.23886	0.0373	0.07009	0.46123	0.11478
Multifamily	0.0497	0.2253	0.0351	0.0214	0.5594	0.1090	0.0972	0.2264	0.0173	0.0232	0.5843	0.0515	0.0777	0.2389	0.0373	0.0701	0.4612	0.1148	0.0376	0.1580	0.0416	0.0541	0.5283	0.1805	0.07774	0.23886	0.0373	0.07009	0.46123	0.11478
Low Income	0.0497	0.2253	0.0351	0.0214	0.5594	0.1090	0.0972	0.2264	0.0173	0.0232	0.5843	0.0515	0.0777	0.2389	0.0373	0.0701	0.4612	0.1148	0.0376	0.1580	0.0416	0.0541	0.5283	0.1805	0.07774	0.23886	0.0373	0.07009	0.46123	0.11478

APPENDIX D

Residential Electric Peak To Energy Relationship Table (Utility Coincidence)
(Ratio of peak kW to average kW)

Building Type	End Use 1 - Space Cooling						End Use 2 - Lighting						End Use 3 - Refrigeration						End Use 4 - Freezer						End Use 5 - Water Heating					
	SSUP	SON	SMID	SOFF	WON	WOFF	SSUP	SON	SMID	SOFF	WON	WOFF	SSUP	SON	SMID	SOFF	WON	WOFF	SSUP	SON	SMID	SOFF	WON	WOFF	SSUP	SON	SMID	SOFF	WON	WOFF
Single Family	2.2120	3.0405	3.2179	3.2975	0.0000	0.0000	0.9379	0.7132	1.0564	1.4352	1.1768	2.0510	1.0352	1.0813	1.0283	1.0464	0.9429	0.9615	0.9883	1.0747	1.0566	1.0302	0.8763	0.8843	1.1129	1.0964	0.4369	0.5298	1.0755	1.8432
Multifamily	2.2120	3.0405	3.2179	3.2975	0.0000	0.0000	0.9379	0.7132	1.0564	1.4352	1.1768	2.0510	1.0352	1.0813	1.0283	1.0464	0.9429	0.9615	0.9883	1.0747	1.0566	1.0302	0.8763	0.8843	1.1129	1.0964	0.4369	0.5298	1.0755	1.8432
Low Income	2.2120	3.0405	3.2179	3.2975	0.0000	0.0000	0.9379	0.7132	1.0564	1.4352	1.1768	2.0510	1.0352	1.0813	1.0283	1.0464	0.9429	0.9615	0.9883	1.0747	1.0566	1.0302	0.8763	0.8843	1.1129	1.0964	0.4369	0.5298	1.0755	1.8432

Residential Electric Peak To Energy Relationship Table (Utility Coincidence) - Continued
(Ratio of peak kW to average kW)

Building Type	End Use 6 - Clothes Washer						End Use 7 - Clothes Dryer						End Use 8 - Dishwasher						End Use 9 - Space Heating						End Use 10 - Cooking					
	SSUP	SON	SMID	SOFF	WON	WOFF	SSUP	SON	SMID	SOFF	WON	WOFF	SSUP	SON	SMID	SOFF	WON	WOFF	SSUP	SON	SMID	SOFF	WON	WOFF	SSUP	SON	SMID	SOFF	WON	WOFF
Single Family	0.8868	0.9156	0.3081	0.5151	0.3372	0.0000	0.8592	0.9354	0.5642	1.2901	0.7756	4.2595	1.3785	1.4108	0.4583	1.0376	1.3017	0.2775	0.0000	0.0000	0.0000	0.0000	2.6187	2.0064	1.8174	2.7698	0.2163	0.3044	2.1518	1.4341
Multifamily	0.8868	0.9156	0.3081	0.5151	0.3372	0.0000	0.8592	0.9354	0.5642	1.2901	0.7756	4.2595	1.3785	1.4108	0.4583	1.0376	1.3017	0.2775	0.0000	0.0000	0.0000	0.0000	2.6187	2.0064	1.8174	2.7698	0.2163	0.3044	2.1518	1.4341
Low Income	0.8868	0.9156	0.3081	0.5151	0.3372	0.0000	0.8592	0.9354	0.5642	1.2901	0.7756	4.2595	1.3785	1.4108	0.4583	1.0376	1.3017	0.2775	0.0000	0.0000	0.0000	0.0000	2.6187	2.0064	1.8174	2.7698	0.2163	0.3044	2.1518	1.4341

Residential Electric Peak To Energy Relationship Table (Utility Coincidence) - Continued
(Ratio of peak kW to average kW)

Building Type	End Use 11 - TV						End Use 12 - Pool Pump						End Use 13 - Cooling and Heating						End Use 14 - Miscellaneous						End Use 15 - House					
	SSUP	SON	SMID	SOFF	WON	WOFF	SSUP	SON	SMID	SOFF	WON	WOFF	SSUP	SON	SMID	SOFF	WON	WOFF	SSUP	SON	SMID	SOFF	WON	WOFF	SSUP	SON	SMID	SOFF	WON	WOFF
Single Family	1.1125	0.8596	1.5443	4.3010	1.5308	3.7733	0.4898	0.5613	0.1446	0.4144	0.1416	0.2939	1.5332	1.7688	1.7865	2.1360	1.3003	1.6872	1.2829	1.2251	1.5229	2.3195	2.2636	2.2492	1.5332	1.7688	1.7865	2.1360	1.3003	1.6872
Multifamily	1.1125	0.8596	1.5443	4.3010	1.5308	3.7733	0.4898	0.5613	0.1446	0.4144	0.1416	0.2939	1.5332	1.7688	1.7865	2.1360	1.3003	1.6872	1.2829	1.2251	1.5229	2.3195	2.2636	2.2492	1.5332	1.7688	1.7865	2.1360	1.3003	1.6872
Low Income	1.1125	0.8596	1.5443	4.3010	1.5308	3.7733	0.4898	0.5613	0.1446	0.4144	0.1416	0.2939	1.5332	1.7688	1.7865	2.1360	1.3003	1.6872	1.2829	1.2251	1.5229	2.3195	2.2636	2.2492	1.5332	1.7688	1.7865	2.1360	1.3003	1.6872

APPENDIX D

Commercial Electric Building Stock Table
Square Feet

	Office-S	Office-L	Restaurant	Retail-S	Retail-L	Grocery	Warehouse	School	College	Health	Lodging	Other
Segment	Building Type 1	Building Type 2	Building Type 3	Building Type 4	Building Type 5	Building Type 6	Building Type 7	Building Type 8	Building Type 9	Building Type 10	Building Type 11	Building Type 12
Existing	235,207,673	171,166,590	21,850,753	157,204,444	40,659,191	34,748,965	359,597,224	106,866,022	34,359,670	31,790,310	55,723,262	214,634,198
New	3,756,267	2,733,530	348,957	2,510,555	649,327	554,941	5,742,768	1,706,650	548,724	507,691	889,900	3,427,708

APPENDIX D

Commercial Electric End Use Load Shape Table
(Fraction of annual energy)

Building Type	End Use 1 - Indoor Lighting						End Use 2 - Outdoor Lighting						End Use 3 - Cooling						End Use 4 - Ventilation					
	SSUP	SON	SMID	SOFF	WON	WOFF	SSUP	SON	SMID	SOFF	WON	WOFF	SSUP	SON	SMID	SOFF	WON	WOFF	SSUP	SON	SMID	SOFF	WON	WOFF
Office-S	0.0858	0.1683	0.0260	0.0537	0.5500	0.1162	0.0039	0.1348	0.0363	0.1359	0.3265	0.3626	0.2186	0.4089	0.0442	0.0779	0.2128	0.0375	0.0833	0.1770	0.0279	0.0625	0.5061	0.1432
Office-L	0.0858	0.1683	0.0260	0.0537	0.5500	0.1162	0.0039	0.1348	0.0363	0.1359	0.3265	0.3626	0.1583	0.3105	0.0431	0.0924	0.3159	0.0798	0.0833	0.1770	0.0279	0.0625	0.5061	0.1432
Restaurant	0.0761	0.1998	0.0200	0.0397	0.5695	0.0949	0.0085	0.1521	0.0332	0.1205	0.3609	0.3248	0.1845	0.3864	0.0435	0.0850	0.2465	0.0540	0.0691	0.1987	0.0281	0.0673	0.5058	0.1311
Retail-S	0.0758	0.1866	0.0235	0.0490	0.5567	0.1085	0.0068	0.1597	0.0331	0.1192	0.3583	0.3229	0.1845	0.3864	0.0435	0.0850	0.2465	0.0540	0.0768	0.2011	0.0247	0.0552	0.5321	0.1101
Retail-L	0.0758	0.1866	0.0235	0.0490	0.5567	0.1085	0.0068	0.1597	0.0331	0.1192	0.3583	0.3229	0.1845	0.3864	0.0435	0.0850	0.2465	0.0540	0.0768	0.2011	0.0247	0.0552	0.5321	0.1101
Grocery	0.0607	0.1822	0.0274	0.0642	0.5170	0.1484	0.0058	0.1347	0.0352	0.1334	0.3354	0.3555	0.1845	0.3864	0.0435	0.0850	0.2465	0.0540	0.0587	0.1817	0.0293	0.0763	0.4887	0.1654
Warehouse	0.0813	0.1587	0.0268	0.0658	0.5356	0.1319	0.0020	0.1279	0.0359	0.1390	0.3234	0.3719	0.1845	0.3864	0.0435	0.0850	0.2465	0.0540	0.0929	0.1836	0.0285	0.0628	0.4884	0.1438
School	0.0729	0.1577	0.0249	0.0434	0.5998	0.1013	0.0033	0.1454	0.0350	0.1263	0.3381	0.3519	0.1845	0.3864	0.0435	0.0850	0.2465	0.0540	0.0985	0.1688	0.0244	0.0216	0.5965	0.0902
College	0.0759	0.1627	0.0215	0.0466	0.5800	0.1133	0.0002	0.1210	0.0357	0.1448	0.3159	0.3824	0.1845	0.3864	0.0435	0.0850	0.2465	0.0540	0.0756	0.1832	0.0272	0.0553	0.5352	0.1235
Health	0.0632	0.1726	0.0288	0.0707	0.5059	0.1589	0.0035	0.1299	0.0354	0.1401	0.3225	0.3686	0.1845	0.3864	0.0435	0.0850	0.2465	0.0540	0.0555	0.1673	0.0313	0.0867	0.4566	0.2027
Lodging	0.0496	0.1826	0.0301	0.0730	0.4965	0.1682	0.0014	0.1310	0.0355	0.1415	0.3158	0.3747	0.1845	0.3864	0.0435	0.0850	0.2465	0.0540	0.0556	0.1717	0.0311	0.0867	0.4497	0.2052
Other	0.0787	0.1761	0.0252	0.0532	0.5529	0.1140	0.0095	0.1579	0.0318	0.1126	0.3780	0.3101	0.1845	0.3864	0.0435	0.0850	0.2465	0.0540	0.0810	0.1956	0.0269	0.0596	0.5001	0.1368

Commercial Electric End Use Load Shape Table - Continued
(Fraction of annual energy)

Building Type	End Use 5 - Refrigeration						End Use 6 - Office Equipment						End Use 7 - Water Heating						End Use 8 - Vending					
	SSUP	SON	SMID	SOFF	WON	WOFF	SSUP	SON	SMID	SOFF	WON	WOFF	SSUP	SON	SMID	SOFF	WON	WOFF	SSUP	SON	SMID	SOFF	WON	WOFF
Office-S	0.0531	0.1632	0.0313	0.0882	0.4574	0.2068	0.0688	0.1643	0.0291	0.0720	0.5011	0.1647	0.0612	0.1497	0.0264	0.0680	0.5153	0.1794	0.0760	0.1679	0.0277	0.0635	0.5213	0.1437
Office-L	0.0531	0.1632	0.0313	0.0882	0.4574	0.2068	0.0688	0.1643	0.0291	0.0720	0.5011	0.1647	0.0612	0.1497	0.0264	0.0680	0.5153	0.1794	0.0760	0.1679	0.0277	0.0635	0.5213	0.1437
Restaurant	0.0549	0.1699	0.0310	0.0863	0.4600	0.1978	0.0775	0.1978	0.0199	0.0403	0.5700	0.0944	0.0735	0.1804	0.0184	0.0357	0.6024	0.0896	0.0672	0.1910	0.0244	0.0532	0.5311	0.1332
Retail-S	0.0562	0.1716	0.0313	0.0878	0.4561	0.1969	0.0809	0.1821	0.0230	0.0489	0.5573	0.1077	0.0706	0.1691	0.0208	0.0434	0.5847	0.1114	0.0761	0.1857	0.0238	0.0503	0.5532	0.1111
Retail-L	0.0562	0.1716	0.0313	0.0878	0.4561	0.1969	0.0809	0.1821	0.0230	0.0489	0.5573	0.1077	0.0706	0.1691	0.0208	0.0434	0.5847	0.1114	0.0761	0.1857	0.0238	0.0503	0.5532	0.1111
Grocery	0.0592	0.1775	0.0318	0.0894	0.4502	0.1919	0.0725	0.1903	0.0235	0.0483	0.5573	0.1081	0.0631	0.1735	0.0232	0.0485	0.5742	0.1175	0.0648	0.1754	0.0263	0.0680	0.5193	0.1461
Warehouse	0.0675	0.1994	0.0355	0.0998	0.4199	0.1779	0.0871	0.1619	0.0266	0.0584	0.5480	0.1181	0.0734	0.1454	0.0252	0.0608	0.5487	0.1465	0.0780	0.1643	0.0267	0.0668	0.5242	0.1401
School	0.0529	0.1649	0.0314	0.0881	0.4582	0.2044	0.0627	0.1658	0.0233	0.0494	0.5740	0.1248	0.0663	0.1627	0.0249	0.0427	0.6085	0.0950	0.0548	0.1651	0.0227	0.0425	0.6024	0.1125
College	0.0533	0.1645	0.0306	0.0858	0.4648	0.2010	0.0706	0.1557	0.0226	0.0539	0.5634	0.1338	0.0751	0.1584	0.0199	0.0446	0.5864	0.1157	0.0664	0.1568	0.0210	0.0519	0.5660	0.1379
Health	0.0540	0.1670	0.0311	0.0864	0.4618	0.1997	0.0662	0.1670	0.0289	0.0723	0.5023	0.1633	0.0586	0.1500	0.0263	0.0668	0.5221	0.1762	0.0655	0.1702	0.0287	0.0702	0.5081	0.1573
Lodging	0.0533	0.1683	0.0309	0.0845	0.4660	0.1970	0.0611	0.1761	0.0286	0.0697	0.5069	0.1577	0.0500	0.1605	0.0277	0.0652	0.5383	0.1583	0.0580	0.1823	0.0284	0.0689	0.5020	0.1603
Other	0.0554	0.1709	0.0315	0.0882	0.4554	0.1986	0.0819	0.1700	0.0253	0.0559	0.5469	0.1200	0.0641	0.1619	0.0227	0.0531	0.5587	0.1396	0.0754	0.1768	0.0259	0.0552	0.5464	0.1204

Commercial Electric End Use Load Shape Table - Continued
(Fraction of annual energy)

Building Type	End Use 9 - Cooking						End Use 10 - Heating						End Use 11 - Miscellaneous						End Use 12 - Whole Building					
	SSUP	SON	SMID	SOFF	WON	WOFF	SSUP	SON	SMID	SOFF	WON	WOFF	SSUP	SON	SMID	SOFF	WON	WOFF	SSUP	SON	SMID	SOFF	WON	WOFF
Office-S	0.1022	0.1731	0.0240	0.0357	0.5993	0.0657	0.0302	0.0956	0.0221	0.0529	0.5615	0.2376	0.0760	0.1679	0.0277	0.0635	0.5213	0.1437	0.0950	0.1853	0.0277	0.0621	0.4960	0.1339
Office-L	0.1022	0.1731	0.0240	0.0357	0.5993	0.0657	0.0302	0.0956	0.0221	0.0529	0.5615	0.2376	0.0760	0.1679	0.0277	0.0635	0.5213	0.1437	0.0950	0.1853	0.0277	0.0621	0.4960	0.1339
Restaurant	0.0742	0.2028	0.0193	0.0386	0.5801	0.0851	0.0016	0.0164	0.0041	0.0124	0.6969	0.2685	0.0672	0.1910	0.0244	0.0532	0.5311	0.1332	0.0761	0.2086	0.0247	0.0582	0.5080	0.1244
Retail-S	0.0856	0.1896	0.0231	0.0374	0.5927	0.0715	0.0029	0.0172	0.0084	0.0273	0.6140	0.3302	0.0761	0.1857	0.0238	0.0503	0.5532	0.1111	0.0886	0.2110	0.0242	0.0538	0.5077	0.1147
Retail-L	0.0856	0.1896	0.0231	0.0374	0.5927	0.0715	0.0029	0.0172	0.0084	0.0273	0.6140	0.3302	0.0761	0.1857	0.0238	0.0503	0.5532	0.1111	0.0886	0.2110	0.0242	0.0538	0.5077	0.1147
Grocery	0.0609	0.1822	0.0268	0.0652	0.5340	0.1309	0.0016	0.0083	0.0025	0.0110	0.4540	0.5225	0.0648	0.1754	0.0263	0.0680	0.5193	0.1461	0.0650	0.1890	0.0302	0.0796	0.4663	0.1699
Warehouse	0.0964	0.1666	0.0247	0.0453	0.5861	0.0808	0.0005	0.0084	0.0068	0.0131	0.7486	0.2226	0.0780	0.1643	0.0267	0.0668	0.5242	0.1401	0.0819	0.1810	0.0302	0.0791	0.4746	0.1532
School	0.0608	0.1628	0.0251	0.0326	0.6543	0.0643	0.0030	0.0102	0.0060	0.0097	0.6842	0.2870	0.0548	0.1651	0.0227	0.0425	0.6024	0.1125	0.0928	0.1785	0.0253	0.0469	0.5356	0.1210
College	0.0731	0.1748	0.0237	0.0452	0.5777	0.1055	0.0361	0.1347	0.0235	0.0445	0.5771	0.1841	0.0664	0.1568	0.0210	0.0519	0.5660	0.1379	0.0789	0.1795	0.0251	0.0579	0.5229	0.1358
Health	0.0741	0.1851	0.0232	0.0527	0.5655	0.0994	0.0247	0.1064	0.0278	0.0877	0.4626	0.2909	0.0655	0.1702	0.0287	0.0702	0.5081	0.1573	0.0727	0.1901	0.0306	0.0789	0.4653	0.1624
Lodging	0.0672	0.2002	0.0226	0.0507	0.5676	0.0917	0.0123	0.0455	0.0119	0.0444	0.4288	0.4571	0.0580	0.1823	0.0284	0.0689	0.5020	0.1603	0.0651	0.1979	0.0301	0.0767	0.4585	0.1717
Other	0.0693	0.1869	0.0234	0.0554	0.5532	0.1118	0.0110	0.0388	0.0088	0.0265	0.5670	0.3477	0.0754	0.1768	0.0259	0.0552	0.5464	0.1204	0.0804	0.1930	0.0268	0.0636	0.4957	0.1405

APPENDIX D

Commercial Electric Peak To Energy Relationship Table (Utility Coincidence)
(Ratio of peak kW to average kW)

Building Type	End Use 1 - Indoor Lighting						End Use 2 - Outdoor Lighting						End Use 3 - Cooling						End Use 4 - Ventilation					
	SSUP	SON	SMID	SOFF	WON	WOFF	SSUP	SON	SMID	SOFF	WON	WOFF	SSUP	SON	SMID	SOFF	WON	WOFF	SSUP	SON	SMID	SOFF	WON	WOFF
Office-S	0.7959	1.1670	0.5742	0.7827	0.9946	0.9043	1.2831	0.6327	1.6982	1.3010	2.1999	1.1743	1.0090	1.5282	1.2275	1.6677	2.6856	3.0239	0.9490	1.2344	0.8094	1.0065	0.9731	1.0181
Office-L	0.7959	1.1670	0.5742	0.7827	0.9946	0.9043	1.2831	0.6327	1.6982	1.3010	2.1999	1.1743	0.9452	1.3607	1.0053	1.0937	1.5460	1.6350	0.9490	1.2344	0.8094	1.0065	0.9731	1.0181
Restaurant	0.9485	1.2395	0.6827	0.8292	1.1403	1.4907	2.8517	1.0801	1.6827	1.3180	2.3792	1.2751	1.1148	1.5929	1.1534	1.3917	2.8000	2.5022	0.9673	1.1717	0.9568	1.0781	1.1455	1.2957
Retail-S	0.8742	1.1062	0.5396	0.7148	0.9334	0.8597	3.5199	1.3416	1.7053	1.3129	2.5732	1.2952	1.1148	1.5929	1.1534	1.3917	2.8000	2.5022	0.9433	1.2063	0.8317	1.0182	1.1217	1.1166
Retail-L	0.8742	1.1062	0.5396	0.7148	0.9334	0.8597	3.5199	1.3416	1.7053	1.3129	2.5732	1.2952	1.1148	1.5929	1.1534	1.3917	2.8000	2.5022	0.9433	1.2063	0.8317	1.0182	1.1217	1.1166
Grocery	0.9192	1.0615	0.7275	0.7941	1.0147	1.0370	1.4958	0.7214	1.6931	1.2611	2.1707	1.1715	1.1148	1.5929	1.1534	1.3917	2.8000	2.5022	0.9451	1.0582	0.8424	0.9319	1.0599	1.0681
Warehouse	0.7980	1.2002	0.5517	0.6116	0.9750	0.8098	2.5040	0.5450	1.7386	1.2870	2.3560	1.1515	1.1148	1.5929	1.1534	1.3917	2.8000	2.5022	0.8636	1.3032	1.0012	1.2739	0.9830	1.1862
School	0.6889	0.6629	0.4934	0.8163	0.5728	0.8326	4.3783	0.8919	1.7246	1.3536	2.5176	1.3295	1.1148	1.5929	1.1534	1.3917	2.8000	2.5022	0.5108	0.7289	0.2115	0.5911	0.3811	1.7621
College	1.0237	1.5800	0.7035	0.8451	1.2613	1.1725	4.3961	0.2681	1.7712	1.2550	2.6730	1.1267	1.1148	1.5929	1.1534	1.3917	2.8000	2.5022	0.9568	1.3339	0.7036	0.9616	1.2172	1.1644
Health	0.8821	1.0688	0.7271	0.8283	0.9443	0.8936	0.9777	0.5850	1.7139	1.2423	2.1804	1.1189	1.1148	1.5929	1.1534	1.3917	2.8000	2.5022	0.9475	1.0713	0.9771	1.0052	1.0083	1.0007
Lodging	1.0457	1.1066	0.7675	0.8279	1.2108	1.0780	2.2991	0.6053	1.7492	1.2616	2.3365	1.1335	1.1148	1.5929	1.1534	1.3917	2.8000	2.5022	0.9876	1.1090	0.9952	1.0150	1.0682	1.0231
Other	0.7931	1.0429	0.5011	0.6258	0.8853	0.8726	2.9751	1.1705	1.7050	1.3164	2.7224	1.3452	1.1148	1.5929	1.1534	1.3917	2.8000	2.5022	0.9249	1.1719	0.8805	1.0784	1.0267	1.1768

Commercial Electric Peak To Energy Relationship Table (Utility Coincidence) - Continued
(Ratio of peak kW to average kW)

Building Type	End Use 5 - Refrigeration						End Use 6 - Office Equipment						End Use 7 - Water Heating						End Use 8 - Vending					
	SSUP	SON	SMID	SOFF	WON	WOFF	SSUP	SON	SMID	SOFF	WON	WOFF	SSUP	SON	SMID	SOFF	WON	WOFF	SSUP	SON	SMID	SOFF	WON	WOFF
Office-S	0.9271	0.9876	0.9711	0.9901	0.9720	0.9956	0.7386	0.8819	0.7899	0.9161	0.8033	0.9503	0.8086	0.9798	0.8338	0.9283	0.8976	0.9371	0.7023	0.8817	0.7088	0.8883	0.7848	0.9332
Office-L	0.9271	0.9876	0.9711	0.9901	0.9720	0.9956	0.7386	0.8819	0.7899	0.9161	0.8033	0.9503	0.8086	0.9798	0.8338	0.9283	0.8976	0.9371	0.7023	0.8817	0.7088	0.8883	0.7848	0.9332
Restaurant	0.9572	1.0220	0.9681	0.9873	1.0130	1.0136	0.9227	1.2176	0.6532	0.8364	1.0795	1.1901	0.8449	1.1240	0.5001	0.6463	0.8908	1.0689	1.0685	1.2828	0.9196	1.1009	1.1951	1.3624
Retail-S	0.9495	1.0133	0.9577	0.9786	1.0155	1.0070	0.8072	1.0603	0.5539	0.7264	0.8247	0.8592	0.8334	1.0706	0.5418	0.7052	0.8052	0.8260	0.8606	1.1139	0.5614	0.6913	0.9431	0.9259
Retail-L	0.9495	1.0133	0.9577	0.9786	1.0155	1.0070	0.8072	1.0603	0.5539	0.7264	0.8247	0.8592	0.8334	1.0706	0.5418	0.7052	0.8052	0.8260	0.8606	1.1139	0.5614	0.6913	0.9431	0.9259
Grocery	0.9565	1.0256	0.9779	0.9964	1.0453	1.0361	0.9034	1.1166	0.5378	0.6675	0.9541	0.9265	0.9303	1.1335	0.4829	0.5588	0.9240	0.8043	0.8967	1.0761	0.6017	0.6159	0.9192	0.8013
Warehouse	0.9916	1.0692	1.0222	1.0403	1.1405	1.1764	0.7007	1.0053	0.4864	0.6236	0.7754	0.7651	0.7809	1.0659	0.5973	0.7055	0.7557	0.7140	0.8843	1.2922	0.6955	0.7480	1.0966	0.9614
School	0.9177	0.9680	0.9657	0.9891	0.9440	0.9885	0.5072	0.5039	0.7680	1.0421	0.4586	0.9669	0.4380	0.4350	0.4139	0.6846	0.4435	0.9431	0.6012	0.4324	0.6421	0.9950	0.4433	0.9099
College	0.9811	1.0580	0.9602	0.9720	1.0335	1.0142	0.9263	1.3168	0.7061	0.8417	1.0502	0.9902	0.9602	1.5010	0.6996	0.7734	1.1654	1.3079	1.0388	1.4379	0.7278	0.8124	1.1596	1.0273
Health	0.9418	1.0016	0.9450	0.9613	0.9798	0.9929	0.7877	0.9305	0.7359	0.8397	0.7700	0.8855	0.8020	0.9388	0.7681	0.8637	0.7302	0.8625	0.7782	0.9052	0.6996	0.8068	0.7624	0.8666
Lodging	0.9628	1.0154	0.9384	0.9507	1.0027	1.0126	0.9025	1.0344	0.7248	0.8037	0.9479	0.9862	0.9923	1.0771	0.5668	0.5821	0.9618	0.8585	1.0199	1.1729	0.8020	0.8692	1.1628	1.1436
Other	0.9534	1.0183	0.9610	0.9783	1.0056	0.9769	0.6861	0.8891	0.5535	0.7065	0.7344	0.8263	0.8508	1.0771	0.6550	0.7548	0.9767	1.0105	0.8118	1.0459	0.5576	0.6701	0.9091	0.9260

Commercial Electric Peak To Energy Relationship Table (Utility Coincidence) - Continued
(Ratio of peak kW to average kW)

Building Type	End Use 9 - Cooking						End Use 10 - Heating						End Use 11 - Miscellaneous						End Use 12 - Whole Building					
	SSUP	SON	SMID	SOFF	WON	WOFF	SSUP	SON	SMID	SOFF	WON	WOFF	SSUP	SON	SMID	SOFF	WON	WOFF	SSUP	SON	SMID	SOFF	WON	WOFF
Office-S	0.5364	0.6374	0.2179	0.4224	0.5076	0.5330	0.8303	0.8024	0.6222	0.7886	0.8153	0.7362	0.7023	0.8817	0.7088	0.8883	0.7848	0.9332	0.8957	1.2406	0.7986	0.9870	0.9526	1.0140
Office-L	0.5364	0.6374	0.2179	0.4224	0.5076	0.5330	0.8303	0.8024	0.6222	0.7886	0.8153	0.7362	0.7023	0.8817	0.7088	0.8883	0.7848	0.9332	0.8957	1.2406	0.7986	0.9870	0.9526	1.0140
Restaurant	1.0134	1.2836	0.4856	0.5587	1.1328	1.2518	0.5141	0.2000	0.5626	0.5637	0.0657	1.4615	1.0685	1.2828	0.9196	1.1009	1.1951	1.3624	1.0164	1.2876	0.8887	0.9909	1.2782	1.2026
Retail-S	0.7717	0.9804	0.1961	0.2752	0.7304	0.5720	0.8628	0.5137	0.3232	0.2294	0.0635	0.3664	0.8606	1.1139	0.5614	0.6913	0.9431	0.9259	0.9696	1.3181	0.7823	0.9508	1.1785	1.0101
Retail-L	0.7717	0.9804	0.1961	0.2752	0.7304	0.5720	0.8628	0.5137	0.3232	0.2294	0.0635	0.3664	0.8606	1.1139	0.5614	0.6913	0.9431	0.9259	0.9696	1.3181	0.7823	0.9508	1.1785	1.0101
Grocery	0.8366	0.9465	0.3736	0.3270	0.8270	0.6401	0.2818	0.2232	0.4438	0.3286	0.0254	0.3559	0.8967	1.0761	0.6017	0.6159	0.9192	0.8013	0.9540	1.1112	0.9065	0.9451	1.1150	1.0367
Warehouse	0.6242	0.9177	0.2123	0.3351	0.6753	0.4701	0.6355	0.1414	0.3570	0.6326	0.0838	0.0761	0.8843	1.2922	0.6955	0.7480	1.0966	0.9614	0.8768	1.2024	0.8574	0.9169	1.0827	1.0186
School	0.4531	0.2895	0.2241	0.5051	0.2426	0.6069	2.3700	1.0397	0.1285	0.4512	0.8655	1.6254	0.6012	0.4324	0.6421	0.9950	0.4433	0.9099	0.6023	0.7487	0.6440	0.9765	0.6116	1.1218
College	1.0055	1.3702	0.6072	0.5893	1.1465	1.2981	0.8538	0.8704	0.7914	0.7227	0.7867	1.1524	1.0388	1.4379	0.7278	0.8124	1.1596	1.0273	0.9938	1.4383	0.8424	0.9624	1.3330	1.1068
Health	0.9429	1.1957	0.2598	0.3276	0.9057	0.4180	0.8200	0.7216	0.8563	0.8456	0.6600	0.6914	0.7782	0.9052	0.6996	0.8068	0.7624	0.8666	0.9475	1.1750	0.9171	0.9840	1.0515	1.0373
Lodging	1.1113	1.3308	0.2127	0.2479	1.1470	0.4546	0.8492	0.8259	0.6764	0.5652	0.2738	1.9052	1.0199	1.1729	0.8020	0.8692	1.1628	1.1436	1.0878	1.2886	0.9532	0.9977	1.3166	1.0865
Other	0.8722	1.0634	0.3501	0.3503	0.9687	0.6908	0.8781	0.9205	0.5953	0.5969	0.3410	2.1922	0.8118	1.0459	0.5576	0.6701	0.9091	0.9260	0.9133	1.1846	0.8161	0.9170	1.0859	1.0449

APPENDIX D

Industrial Electric Building Stock Table
Base Electricity Use (kWh)

Segment	Food Building Type 1	Textiles-Apparel Building Type 2	Lumber-Furniture Building Type 3	Paper Building Type 4	Printing Building Type 5	Chemicals Building Type 6	Petroleum Building Type 7	Rubber-Plastics Building Type 8
Existing	415,194,493	22,355,345	102,045,145	44,776,700	192,763,169	115,695,900	309,126,728	113,138,485

Industrial Electric Building Stock Table - Continued
Base Electricity Use (kWh)

Segment	Stone-Clay-Glass Building Type 9	Prim Metals Building Type 10	Fab Metals Building Type 11	Ind Mach Building Type 12	Electronics Building Type 13	Transp Equip Building Type 14	Misc Ind Building Type 15	Water/WW Building Type 16
Existing	262,529,133	499,426,419	320,531,125	114,273,783	663,662,860	39,230,970	58,242,404	113,860,723

Industrial Electric End Use Load Shape Table
(Fraction of annual energy)

Industrial Electric End Use Load Shape Table - Continued
(Fraction of annual energy)

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Industrial Electric Peak To Energy Relationship Table (Utility Coincidence)
(Ratio of peak kW to average kW)

Industrial Electric Peak To Energy Relationship Table (Utility Coincidence) - Continued
(Ratio of peak kW to average kW)

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E. Appendix E: Electric Measure Inputs

Residential Electric Measure Inputs			BASE TECHNOLOGY EUIs (kWh/home)		
Segment	Measure #	Measure Description	Single Family	Multifamily	Low Income
Existing	100	Base Split-System Air Conditioner (11 SEER)	1,789	322	1,321
Existing	130	Base Early Replacement Split-System Air Conditioner (11 SEER)	2,236	403	1,652
Existing	140	Base Room Air Conditioner - EER 9.7	773	315	736
Existing	160	Base Early Replacement Room Air Conditioner- EER 9.0	827	337	788
Existing	170	Base Dehumidifier- New Federal Standard	1,064	351	851
Existing	180	Base Furnace Fans	1,105	332	978
Existing	200	Base Resistance Space Heating (Primary)	5,658	1,700	5,007
Existing	300	Base High-Efficiency Incandescent Lighting,<1.15 hrs/day	133	66	64
Existing	310	Base High-Efficiency Incandescent Lighting,1.15-2.15 hrs/day	575	284	277
Existing	320	Base High-Efficiency Incandescent Lighting,2.15-5 hrs/day	249	123	120
Existing	330	Base High-Efficiency Incandescent Lighting,>5 hrs/day	377	186	182
Existing	340	Base Lighting 15 Watt CFL, <1.15 hrs/day	6	3	4
Existing	350	Base Lighting 15 Watt CFL, 1.15-2.15 hrs/day	51	22	29
Existing	360	Base Lighting 15 Watt CFL, 2.15-5 hrs/day	45	19	25
Existing	370	Base Lighting 15 Watt CFL, >5 hrs/day	67	29	38
Existing	380	Base Fluorescent Fixture 1.8 hrs/day	242	62	84
Existing	400	Base Refrigerator	790	575	773
Existing	410	Base Early Replacement Refrigerator	790	575	773
Existing	420	Base Second Refrigerator	1,071	842	1,089
Existing	430	Base Freezer	549	549	549
Existing	440	Base Early Replacement Freezer	549	549	549
Existing	500	Base 40 gal. Water Heating (EF=0.88)	4,516	3,447	4,516
Existing	550	Base Early Replacement Water Heating to Heat Pump Water Heater	4,516	3,447	4,516
Existing	600	Base Clotheswasher (MEF=1.26)	81	81	81
Existing	610	Base Clothes Dryer (EF=3.01)	969	583	776
Existing	700	Base Dishwasher (EF=0.65)	162	162	162
Existing	800	Base Single Speed Pool Pump (RET)	822	822	822
Existing	810	Base Two Speed Pool Pump (1.5 hp) (ROB)	419	419	419
Existing	900	Base Plasma TV	235	235	268
Existing	910	Base LCD TV	158	142	165
Existing	920	Base CRT TV	186	123	208
Existing	930	Base Set-Top Box	234	197	233
Existing	940	Base DVD Player	33	26	34
Existing	950	Base Desktop PC	730	572	685
Existing	960	Base Laptop PC	192	168	170
Existing	970	Base Cooking	316	316	316
Existing	980	Base Miscellaneous	1,803	34	1,800
Existing	990	Base House Practices	9,861	4,197	7,689
New	100	Base Code Home -2011 Energy Star	9,861	4,197	7,689

Residential Electric Measure Inputs										NPV of		Full = 1		Implementation										Implementation	
										Lifetime		Incr. = 0												Type	
										O & M		Full												End 1=1 time	
Segment	Measure #	Measure Description	Savings Units	Cost Units	Unit Equipment Cost	Unit Labor Cost	Cost	Factor	Service Life	Initial Cost	Replace Cost	Unit Cost	SS	S-ON	S-MD	S-OFF	W-ON	W-OFF	Use 2=ROB						
Existing	100	Base Split-System Air Conditioner (13 SEER)	home	ton	\$0.00	\$0.00	\$0.00	\$0.00	14	1	1	\$0.00	1.00	1.00	1.00	1.00	1.00	1.00	1	2					
Existing	101	15 SEER (12.72 EER) Split-System Air Conditioner w/ quality install	home	unit	\$593.00	\$100.00	\$0.00	\$693.00	14	1	1	\$693.00	1.00	1.00	1.00	1.00	1.00	1.00	1	2					
Existing	102	17 SEER (12.28 EER) Split-System Air Conditioner w/ quality install	home	unit	\$1,185.00	\$100.00	\$0.00	\$1,285.00	14	1	1	\$1,285.00	1.00	1.00	1.00	1.00	1.00	1.00	1	2					
Existing	103	AC Maintenance (Indoor Coil Cleaning)	home	unit	\$0.00	\$100.00	\$0.00	\$100.00	4	1	1	\$100.00	1.00	1.00	1.00	1.00	1.00	1.00	1	1					
Existing	104	AC Maintenance (Outdoor Coil Cleaning)	home	unit	\$0.00	\$60.00	\$0.00	\$60.00	4	1	1	\$60.00	1.00	1.00	1.00	1.00	1.00	1.00	1	1					
Existing	105	AC Maintenance and/or tune-up	home	unit	\$0.00	\$50.00	\$0.00	\$50.00	4	1	1	\$50.00	1.00	1.00	1.00	1.00	1.00	1.00	1	1					
Existing	106	Ceiling Fans (base split-system)	home	unit	\$80.00	\$40.00	\$0.00	\$120.00	15	1	1	\$120.00	1.00	1.00	1.00	1.00	1.00	1.00	1	1					
Existing	107	Ceiling R-0 to R-38 Insulation (base split-system)	home	sq ft	\$0.67	\$0.36	\$0.00	\$1.03	30	1	1	\$1.03	1.00	1.00	1.00	1.00	1.00	1.00	1	1					
Existing	108	Ceiling R-0 to R-49 Insulation (base split-system)	home	sq ft	\$0.88	\$0.37	\$0.00	\$1.25	30	1	1	\$1.25	1.00	1.00	1.00	1.00	1.00	1.00	1	1					
Existing	109	Ceiling R-11 to R-38 Insulatn (base split-system)	home	sq ft	\$0.46	\$0.31	\$0.00	\$0.77	30	1	1	\$0.77	1.00	1.00	1.00	1.00	1.00	1.00	1	1					
Existing	110	Ceiling R-11 to R-49 Insulation (base split-system)	home	sq ft	\$0.66	\$0.36	\$0.00	\$1.02	30	1	1	\$1.02	1.00	1.00	1.00	1.00	1.00	1.00	1	1					
Existing	111	Ceiling R-19 to R-38 Insulation (base split-system)	home	sq ft	\$0.33	\$0.34	\$0.00	\$0.66	30	1	1	\$0.66	1.00	1.00	1.00	1.00	1.00	1.00	1	1					
Existing	112	Ceiling R-19 to R-49 Insulation (base split-system)	home	sq ft	\$0.44	\$0.36	\$0.00	\$0.80	30	1	1	\$0.80	1.00	1.00	1.00	1.00	1.00	1.00	1	1					
Existing	113	Comprehensive Shell Air Sealing - Inf. Reduction (base split-system)	home	sq ft	\$0.09	\$0.00	\$0.00	\$0.09	10	1	1	\$0.09	1.00	1.00	1.00	1.00	1.00	1.00	1	1					
Existing	114	Duct Insulation	home	linear foot	\$0.68	\$2.40	\$0.00	\$3.08	18	1	1	\$3.08	1.00	1.00	1.00	1.00	1.00	1.00	1	1					
Existing	115	Duct Repair	home	home	\$36.34	\$287.99	\$0.00	\$324.33	18	1	1	\$324.33	1.00	1.00	1.00	1.00	1.00	1.00	1	1					
Existing	116	Programmable Thermostat (base split-system)	home	unit	\$19.00	\$14.35	\$0.00	\$33.35	15	1	1	\$33.35	0.90	0.95	1.20	1.20	1.00	1.00	1	1					
Existing	117	Proper Refrigerant Charging and Air Flow	home	ton	\$14.11	\$28.23	\$0.00	\$42.34	10	1	1	\$42.34	1.00	1.00	1.00	1.00	1.00	1.00	1	1					
Existing	118	Proper Sizing and Quality Install	home	ton	\$0.00	\$110.00	\$0.00	\$110.00	18	1	1	\$110.00	1.19	1.19	0.50	0.50	0.50	0.50	1	2					
Existing	119	Sealed Attic w/Sprayed Foam Insulated Roof Deck (base split-system)	home	sq ft	\$1.90	\$0.00	\$0.00	\$1.90	30	1	1	\$1.90	1.00	1.00	1.00	1.00	1.00	1.00	1	1					
Existing	120	Self Install Weatherization (base split-system)	home	home	\$6.52	\$0.00	\$0.00	\$6.52	10	1	1	\$6.52	1.00	1.00	1.00	1.00	1.00	1.00	1	1					
Existing	121	Wall Blow-in R-0 to R-13 Insulation (base split-system)	home	sq ft	\$0.15	\$0.30	\$0.00	\$0.45	30	1	1	\$0.45	1.00	1.00	1.00	1.00	1.00	1.00	1	1					
Existing	122	Single Pane Windows to Double Pane with Gas (base split-system)	home	sq ft	\$2.42	\$0.00	\$0.00	\$2.42	25	1	1	\$2.42	1.00	1.00	1.00	1.00	1.00	1.00	1	2					
Existing	123	Double Pane with Glazing to Energy Star (base split-system)	home	sq ft	\$8.15	\$0.00	\$0.00	\$8.15	25	1	1	\$8.15	1.00	1.00	1.00	1.00	1.00	1.00	1	2					
Existing	130	Base Early Replacement Split-System Air Conditioner (13 SEER)	home	unit	\$0.00	\$0.00	\$0.00	\$0.00	7	1	1	\$0.00	1.00	1.00	1.00	1.00	1.00	1.00	1	1					
Existing	131	15 SEER (12.72 EER) Split-System Air Conditioner--early replacement	home	unit	\$514.00	\$0.00	\$0.00	\$514.00	7	1	1	\$514.00	1.00	1.00	1.00	1.00	1.00	1.00	1	1					
Existing	140	Base Room Air Conditioner - EER 9.7	home	unit	\$0.00	\$0.00	\$0.00	\$0.00	12	1	1	\$0.00	1.00	1.00	1.00	1.00	1.00	1.00	1	2					
Existing	141	HE Room Air Conditioner - Energy star EER 10.8	home	unit	\$50.00	\$0.00	\$0.00	\$50.00	12	1	1	\$50.00	1.00	1.00	1.00	1.00	1.00	1.00	1	2					
Existing	142	HE Room Air Conditioner - CEE Tier 1 EER 11.3	home	unit	\$53.00	\$0.00	\$0.00	\$53.00	12	1	1	\$53.00	1.00	1.00	1.00	1.00	1.00	1.00	1	2					
Existing	143	Ceiling Fans (base RAC)	home	unit	\$80.00	\$40.00	\$0.00	\$120.00	15	1	1	\$120.00	1.00	1.00	1.00	1.00	1.00	1.00	1	1					
Existing	144	Single Pane Windows to Double Pane with Gas (base RAC)	home	sq ft	\$2.42	\$0.00	\$0.00	\$2.42	25	1	1	\$2.42	1.00	1.00	1.00	1.00	1.00	1.00	1	2					
Existing	145	Double Pane with Glazing to Energy Star (base RAC)	home	sq ft	\$8.15	\$0.00	\$0.00	\$8.15	25	1	1	\$8.15	1.00	1.00	1.00	1.00	1.00	1.00	1	2					
Existing	146	Ceiling R-0 to R-38 Insulation (base RAC)	home	sq ft	\$0.67	\$0.36	\$0.00	\$1.03	30	1	1	\$1.03	1.00	1.00	1.00	1.00	1.00	1.00	1	1					
Existing	147	Ceiling R-0 to R-49 Insulation (base RAC)	home	sq ft	\$0.88	\$0.37	\$0.00	\$1.25	30	1	1	\$1.25	1.00	1.00	1.00	1.00	1.00	1.00	1	1					
Existing	148	Ceiling R-11 to R-38 Insulatn (base RAC)	home	sq ft	\$0.46	\$0.31	\$0.00	\$0.77	30	1	1	\$0.77	1.00	1.00	1.00	1.00	1.00	1.00	1	1					
Existing	149	Ceiling R-11 to R-49 Insulation (base RAC)	home	sq ft	\$0.66	\$0.36	\$0.00	\$1.02	30	1	1	\$1.02	1.00	1.00	1.00	1.00	1.00	1.00	1	1					
Existing	150	Ceiling R-19 to R-38 Insulation (base RAC)	home	sq ft	\$0.33	\$0.34	\$0.00	\$0.66	30	1	1	\$0.66	1.00	1.00	1.00	1.00	1.00	1.00	1	1					
Existing	151	Ceiling R-19 to R-49 Insulation (base RAC)	home	sq ft	\$0.44	\$0.36	\$0.00	\$0.80	30	1	1	\$0.80	1.00	1.00	1.00	1.00	1.00	1.00	1	1					
Existing	152	Wall 2x4 R-0 to Blow-In R-13 Insulation (base RAC)	home	sq ft	\$0.15	\$0.30	\$0.00	\$0.45	30	1	1	\$0.45	1.00	1.00	1.00	1.00	1.00	1.00	1	1					
Existing	153	Self Install Weatherization (base RAC)	home	home	\$6.52	\$0.00	\$0.00	\$6.52	10	1	1	\$6.52	1.00	1.00	1.00	1.00	1.00	1.00	1	1					
Existing	154	Infiltration Reduction (base RAC)	home	sq ft	\$0.09	\$0.00	\$0.00	\$0.09	10	1	1	\$0.09	1.00	1.00	1.00	1.00	1.00	1.00	1	1					
Existing	155	Ductless Split Heat Pump	home	unit	\$238.92	\$0.00	\$0.00	\$238.92	18	1	1	\$238.92	1.00	1.00	1.00	1.00	1.00	1.00	1	1					
Existing	160	Base Early Replacement Room Air Conditioner- EER 9.7	home	Unit	\$0.00	\$0.00	\$0.00	\$0.00	12	1	1	\$0.00	1.00	1.00	1.00	1.00	1.00	1.00	1	1					
Existing	161	EER 8.5 AC Early Replacement, CEE Tier 1 EER 11.3	home	Unit	\$67.71	\$0.00	\$0.00	\$67.71	12	1	1	\$67.71	1.00	1.00	1.00	1.00	1.00	1.00	1	1					
Existing	170	Base Dehumidifier - New Federal Standard	home	unit	\$0.00	\$0.00	\$0.00	\$0.00	12	1	1	\$0.00	1.00	1.00	1.00	1.00	1.00	1.00	14	2					
Existing	171	Energy Star Dehumidifier (ROB)	home	unit	\$10.00	\$0.00	\$0.00	\$10.00	12	1	1	\$10.00	1.00	1.00	1.00	1.00	1.00	1.00	14	2					
Existing	180	Base Furnace Fans	home	Unit	\$0.00	\$0.00	\$0.00	\$0.00	18	1	1	\$0.00	1.00	1.00	1.00	1.00	1.00	1.00	13	2					
Existing	181	Variable speed furnace fans	home	Unit	\$600.00	\$0.00	\$0.00	\$600.00	18	1	1	\$600.00	1.00	1.10	1.10	1.00	1.00	1.00	13	1					
Existing	200	Base Resistance Space Heating (Primary)	home	Unit	\$0.00	\$0.00	\$0.00	\$0.00	18	1	1	\$0.00	1.00	1.00	1.00	1.00	1.00	1.00	9	2					
Existing	201	Ceiling R-0 to R-38 Insulation (base space heating)	home	sq ft	\$0.45	\$0.25	\$0.00	\$0.70	30	1	1	\$0.70	1.00	1.00	1.00	1.00	1.00	1.00	9	1					
Existing	202	Ceiling R-0 to R-49 Insulation (base space heating)	home	sq ft	\$0.56	\$0.24	\$0.00	\$0.80	30	1	1	\$0.80	1.00	1.00	1.00	1.00	1.00	1.00	9	1					
Existing	203	Ceiling R-11 to R-38 Insulatn (base space heating)	home	sq ft	\$0.33	\$0.22	\$0.00	\$0.55	30	1	1	\$0.55	1.00	1.00	1.00	1.00	1.00	1.00	9	1					
Existing	204	Ceiling R-11 to R-49 Insulation (base space heating)	home	sq ft	\$0.46	\$0.25	\$0.00	\$0.71	30	1	1	\$0.71	1.00	1.00	1.00	1.00	1.00	1.00	9	1					
Existing	205	Ceiling R-19 to R-38 Insulation (base space heating)	home	sq ft	\$0.18	\$0.19	\$0.00	\$0.38	30	1	1	\$0.38	1.00	1.00	1.00	1.00	1.								

Residential Electric Measure Inputs										NPV of		Full = 1		Implementation										Implementation			
										Lifetime		Incr. = 0		Full												Type	
										O & M		Initial		Replace												1=1 time	
Segment	Measure #	Measure Description	Savings Units	Cost Units	Unit Equipment Cost	Unit Labor Cost	Cost	Factor	Service Life	Cost	Cost	Unit Cost	SS	S-ON	S-MD	S-OFF	W-ON	W-OFF	Use 2=ROB								
Existing	214	Single Pane- Add storm windows (base space heating)	home	sq ft	\$6.40	\$16.00	\$0.00	\$22.40	25	1	1	\$22.40	1.00	1.00	1.00	1.00	1.00	1.00	9	1							
Existing	215	Double Pane- Add storm windows (base space heating)	home	sq ft	\$6.40	\$16.00	\$0.00	\$22.40	25	1	1	\$22.40	1.00	1.00	1.00	1.00	1.00	1.00	9	1							
Existing	216	Programmable Thermostat (base space heating)	home	unit	\$31.66	\$19.00	\$0.00	\$50.66	10	1	1	\$50.66	1.00	1.00	1.00	1.10	0.90	1.20	9	1							
Existing	300	Base High-Efficiency Incandescent Lighting,<1.15 hrs/day	lamp	lamp	\$1.00	\$0.00	\$0.00	\$1.00	1,000	1	1	\$1.00	1.00	1.00	1.00	1.00	1.00	1.00	2	1							
Existing	301	CFL 15W (base HE incandescent<1.15 hrs/day)	lamp	lamp	\$1.25	\$0.00	\$0.00	\$1.25	8,000	0	0	\$1.25	1.00	1.00	1.00	1.00	1.00	1.00	2	1							
Existing	302	CFL 15W - Specialty (base HE incandescent<1.15 hrs/day)	lamp	lamp	\$9.00	\$0.00	\$0.00	\$9.00	8,000	0	0	\$9.00	1.00	1.00	1.00	1.00	1.00	1.00	2	1							
Existing	303	LEDs (base HE incandescent<1.15 hrs/day)	lamp	lamp	\$24.00	\$0.00	\$0.00	\$24.00	35,000	0	0	\$24.00	1.00	1.00	1.00	1.00	1.00	1.00	2	1							
Existing	310	Base High-Efficiency Incandescent Lighting,1.15-2.15 hrs/day	lamp	lamp	\$1.00	\$0.00	\$0.00	\$1.00	1,000	1	1	\$1.00	1.00	1.00	1.00	1.00	1.00	1.00	2	1							
Existing	311	CFL 15W (base HE incandescent 1.15-2.15 hrs/day)	lamp	lamp	\$1.51	\$0.00	\$0.00	\$1.51	8,000	0	0	\$1.51	1.00	1.00	1.00	1.00	1.00	1.00	2	1							
Existing	312	CFL 15W - Specialty (base HE incandescent 1.15-2.15 hrs/day)	lamp	lamp	\$9.00	\$0.00	\$0.00	\$9.00	8,000	0	0	\$9.00	1.00	1.00	1.00	1.00	1.00	1.00	2	1							
Existing	313	LEDs (base HE incandescent 1.15-2.15 hrs/day)	lamp	lamp	\$24.00	\$0.00	\$0.00	\$24.00	35,000	0	0	\$24.00	1.00	1.00	1.00	1.00	1.00	1.00	2	1							
Existing	320	Base High-Efficiency Incandescent Lighting,2.15-5 hrs/day	lamp	lamp	\$1.00	\$0.00	\$0.00	\$1.00	1,000	1	1	\$1.00	1.00	1.00	1.00	1.00	1.00	1.00	2	1							
Existing	321	CFL 15W (base HE incandescent 2.15-5 hrs/day)	lamp	lamp	\$1.51	\$0.00	\$0.00	\$1.51	8,000	0	0	\$1.51	1.00	1.00	1.00	1.00	1.00	1.00	2	1							
Existing	322	CFL 15W - Specialty (base HE incandescent 2.15-5 hrs/day)	lamp	lamp	\$9.00	\$0.00	\$0.00	\$9.00	8,000	0	0	\$9.00	1.00	1.00	1.00	1.00	1.00	1.00	2	1							
Existing	323	LEDs (base HE incandescent 2.15-5 hrs/day)	lamp	lamp	\$24.00	\$0.00	\$0.00	\$24.00	35,000	0	0	\$24.00	1.00	1.00	1.00	1.00	1.00	1.00	2	1							
Existing	330	Base High-Efficiency Incandescent Lighting,>5 hrs/day	lamp	lamp	\$1.00	\$0.00	\$0.00	\$1.00	1,000	1	1	\$1.00	1.00	1.00	1.00	1.00	1.00	1.00	2	1							
Existing	331	CFL 15W (base HE incandescent >5 hrs/day)	lamp	lamp	\$1.51	\$0.00	\$0.00	\$1.51	8,000	0	0	\$1.51	1.00	1.00	1.00	1.00	1.00	1.00	2	1							
Existing	332	CFL 15W - Specialty (base HE incandescent >5 hrs/day)	lamp	lamp	\$9.00	\$0.00	\$0.00	\$9.00	8,000	0	0	\$9.00	1.00	1.00	1.00	1.00	1.00	1.00	2	1							
Existing	333	LEDs (base HE incandescent >5 hrs/day)	lamp	lamp	\$24.00	\$0.00	\$0.00	\$24.00	35,000	0	0	\$24.00	1.00	1.00	1.00	1.00	1.00	1.00	2	1							
Existing	340	Base Lighting 15 Watt CFL, <1.15 hrs/day	lamp	lamp	\$1.51	\$0.00	\$0.00	\$1.51	8,000	1	1	\$1.51	1.00	1.00	1.00	1.00	1.00	1.00	2	1							
Existing	341	LEDs (base CFL < 1.15 hrs/day)	lamp	lamp	\$24.00	\$0.00	\$0.00	\$24.00	35,000	0	0	\$24.00	1.00	1.00	1.00	1.00	1.00	1.00	2	1							
Existing	342	Photocell/timeclock (outdoor) (base CFL < 1.15 hrs/day)	home	fixture	\$20.00	\$0.00	\$0.00	\$20.00	70,000	1	1	\$20.00	1.15	1.09	0.60	0.60	1.09	0.60	2	1							
Existing	350	Base Lighting 15 Watt CFL, 1.15-2.15 hrs/day	lamp	lamp	\$1.51	\$0.00	\$0.00	\$1.51	8,000	1	1	\$1.51	1.00	1.00	1.00	1.00	1.00	1.00	2	1							
Existing	351	LEDs (base CFL 1.15-2.15 hrs/day)	lamp	lamp	\$24.00	\$0.00	\$0.00	\$24.00	35,000	0	0	\$24.00	1.00	1.00	1.00	1.00	1.00	1.00	2	1							
Existing	352	Photocell/timeclock (outdoor) (base CFL 1.15-2.15 hrs/day)	home	fixture	\$20.00	\$0.00	\$0.00	\$20.00	70,000	1	1	\$20.00	1.15	1.09	0.60	0.60	1.09	0.60	2	1							
Existing	360	Base Lighting 15 Watt CFL, 2.15-5 hrs/day	lamp	lamp	\$1.51	\$0.00	\$0.00	\$1.51	8,000	1	1	\$1.51	1.00	1.00	1.00	1.00	1.00	1.00	2	1							
Existing	361	LEDs (base CFL 2.15-5 hrs/day)	lamp	lamp	\$24.00	\$0.00	\$0.00	\$24.00	35,000	0	0	\$24.00	1.00	1.00	1.00	1.00	1.00	1.00	2	1							
Existing	362	Photocell/timeclock (outdoor) (base CFL 2.15-5 hrs/day)	home	fixture	\$20.00	\$0.00	\$0.00	\$20.00	70,000	1	1	\$20.00	1.15	1.09	0.60	0.60	1.09	0.60	2	1							
Existing	370	Base Lighting 15 Watt CFL, >5 hrs/day	lamp	lamp	\$1.51	\$0.00	\$0.00	\$1.51	8,000	1	1	\$1.51	1.00	1.00	1.00	1.00	1.00	1.00	2	1							
Existing	371	LEDs (base CFL >5 hrs/day)	lamp	lamp	\$24.00	\$0.00	\$0.00	\$24.00	35,000	0	0	\$24.00	1.00	1.00	1.00	1.00	1.00	1.00	2	1							
Existing	372	Photocell/timeclock (outdoor) (base CFL >5 hrs/day)	home	fixture	\$20.00	\$0.00	\$0.00	\$20.00	70,000	1	1	\$20.00	1.15	1.09	0.60	0.60	1.09	0.60	2	1							
Existing	380	Base Fluorescent Fixture, 2L4T8, 1.8 hrs/day	fixture	fixture	\$0.00	\$0.00	\$0.00	\$0.00	25,000	1	1	\$0.00	1.00	1.00	1.00	1.00	1.00	1.00	2	1							
Existing	381	ROB 2L4' Premium T8	fixture	fixture	\$4.00	\$0.00	\$0.00	\$4.00	25,000	1	1	\$4.00	1.00	1.00	1.00	1.00	1.00	1.00	2	2							
Existing	400	Base Refrigerator	home	unit	\$0.00	\$0.00	\$0.00	\$0.00	12	1	1	\$0.00	1.00	1.00	1.00	1.00	1.00	1.00	3	2							
Existing	401	HE Refrigerator (CEE Tier 2)	home	unit	\$79.00	\$0.00	\$0.00	\$79.00	12	1	1	\$79.00	1.00	1.00	1.00	1.00	1.00	1.00	3	2							
Existing	402	HE Refrigerator (Energy Star)	home	unit	\$179.00	\$0.00	\$0.00	\$179.00	12	1	1	\$179.00	1.00	1.00	1.00	1.00	1.00	1.00	3	2							
Existing	410	Base Early Replacement Refrigerator	home	unit	\$0.00	\$0.00	\$0.00	\$0.00	12	1	1	\$0.00	1.00	1.00	1.00	1.00	1.00	1.00	3	1							
Existing	411	Refrigerator - Early Replacement (Energy Star)	home	unit	\$204.19	\$0.00	\$0.00	\$204.19	5	1	1	\$204.19	1.00	1.00	1.00	1.00	1.00	1.00	3	1							
Existing	420	Base Second Refrigerator	home	unit	\$0.00	\$0.00	\$0.00	\$0.00	5	1	1	\$0.00	1.00	1.00	1.00	1.00	1.00	1.00	3	1							
Existing	421	Refrigerator Recycling - second refrigerator	home	unit	\$125.00	\$0.00	\$0.00	\$125.00	5	1	1	\$125.00	1.00	1.00	1.00	1.00	1.00	1.00	3	1							
Existing	430	Base Freezer	home	unit	\$0.00	\$0.00	\$0.00	\$0.00	12	1	1	\$0.00	1.00	1.00	1.00	1.00	1.00	1.00	4	2							
Existing	431	Freezer (Energy Star)	home	unit	\$59.99	\$0.00	\$0.00	\$59.99	12	1	1	\$59.99	1.00	1.00	1.00	1.00	1.00	1.00	4	2							
Existing	440	Base Early Replacement Freezer	home	unit	\$0.00	\$0.00	\$0.00	\$0.00	12	1	1	\$0.00	1.00	1.00	1.00	1.00	1.00	1.00	4	1							
Existing	441	Freezer - Early Replacement (Energy Star)	home	unit	\$75.28	\$0.00	\$0.00	\$75.28	12	1	1	\$75.28	1.00	1.00	1.00	1.00	1.00	1.00	4	1							
Existing	500	Base 40 gal. Water Heating (EF=0.88)	home	unit	\$0.00	\$0.00	\$0.00	\$0.00	15	1	1	\$0.00	1.00	1.00	1.00	1.00	1.00	1.00	5	2							
Existing	501	Drain Water Heat Recovery (GFX)	home	unit	\$470.00	\$200.00	\$0.00	\$670.00	20	1	1	\$670.00	1.00	1.00	1.00	1.00	1.00	1.00	5	1							
Existing	502	Faucet Aerators (1.5 GPM)	home	unit	\$8.00	\$0.00	\$0.00	\$8.00	5	1	1	\$8.00	1.00	1.00	1.00	1.00	1.00	1.00	5	1							
Existing	503	HE Water Heater (EF=0.93)	home	unit	\$72.30	\$0.00	\$0.00	\$72.30	10	1	1	\$72.30	1.00	1.00	1.00	1.00	1.00	1.00	5	2							
Existing	504	Heat Pump Water Heater - Energy Star	home	unit	\$1,288.02	\$122.83	\$0.00	\$1,410.85	12	1	1	\$1,410.85	1.00	1.00	1.00	1.00	1.00	1.00	5	2							
Existing	505	Low Flow Showerhead 1.5 Gal/Min	home	unit	\$22.95	\$0.00	\$0.00	\$22.95	5	1	1	\$22.95	1.00	1.00	1.00	1.00	1.00	1.00	5	1							
Existing	506	Pipe Wrap	home	linear foot	\$0.37	\$0.00	\$0.00	\$0.37	15	1	1	\$0.37	1.00	1.00	1.00	1.00	1.00	1.00	5	1							
Existing	507	Solar Domestic Water Heating	home	unit	\$1,650.00	\$1,850.00	\$0.00	\$3,500.00	15	1	1	\$3,500.00	1.00	1.00	1.00	1.00	1.00	1.00	5	2							
Existing	508	Tankless Water Heater	home	unit	\$708.00	\$135.00	\$0.00	\$843.00	20	0	0	\$843.00	1.00	1.00	1.00	1.00	1.00	1.00	5	2							
Existing	509	Energy Star CW CEE Tier 2 (MEF=2.0) (base WH)	home	unit	\$166.24	\$0.00	\$0.00	\$166.24	11	1	1	\$166.24	1.00	1													

Residential Electric Measure Inputs							NPV of	Implementation	Full = 1 Incr. = 0			Full	Relative Energy Reduction Factors						Implementation Type	
Segment	Measure #	Measure Description	Savings Units	Cost Units	Unit Equipment Cost	Unit Labor Cost	O & M Cost	Cost Factor	Service Life	Initial Cost	Replace Cost	Unit Cost	SS	S-ON	S-MD	S-OFF	W-ON	W-OFF	End 1=1 time Use 2=ROB	
Existing	611	Heat Pump Dryer	home	unit	\$1,680.98	\$0.00	\$0.00	\$1,680.98	12	1	1	\$1,680.98	1.00	1.00	1.00	1.00	1.00	1.00	7	2
Existing	612	High Efficiency CD (EF=3.01 w/moisture sensor)	home	unit	\$238.23	\$0.00	\$0.00	\$238.23	12	1	1	\$238.23	1.00	1.00	1.00	1.00	1.00	1.00	7	2
Existing	700	Base Dishwasher (EF=0.65)	home	unit	\$292.65	\$0.00	\$0.00	\$292.65	11	1	1	\$292.65	1.00	1.00	1.00	1.00	1.00	1.00	8	2
Existing	701	Energy Star Dishwasher (EF=0.72) (base DW)	home	unit	\$93.00	\$0.00	\$0.00	\$93.00	13	1	1	\$93.00	1.00	1.00	1.00	1.00	1.00	1.00	8	2
Existing	800	Base Single Speed Pool Pump (RET)	home	unit	\$273.32	\$357.12	\$0.00	\$630.44	10	1	1	\$630.44	1.00	1.00	1.00	1.00	1.00	1.00	12	1
Existing	801	Variable Speed Pool Pump (1.5 hp)	home	unit	\$434.41	\$357.12	\$0.00	\$791.53	10	1	1	\$791.53	1.00	1.00	1.00	1.00	1.00	1.00	12	1
Existing	810	Base Two Speed Pool Pump (1.5 hp) (ROB)	home	unit	\$0.00	\$0.00	\$0.00	\$0.00	10	1	1	\$0.00	1.00	1.00	1.00	1.00	1.00	1.00	12	2
Existing	811	Variable Speed Pool Pump (1.5 hp)	home	unit	\$394.47	\$357.12	\$0.00	\$751.59	10	1	1	\$751.59	1.00	1.00	1.00	1.00	1.00	1.00	12	2
Existing	900	Base Plasma TV	home	unit	\$0.00	\$0.00	\$0.00	\$0.00	6	1	1	\$0.00	1.00	1.00	1.00	1.00	1.00	1.00	11	2
Existing	901	Energy Star Plasma TV	home	unit	\$1.00	\$0.00	\$0.00	\$1.00	6	1	1	\$1.00	1.00	1.00	1.00	1.00	1.00	1.00	11	2
Existing	910	Base LCD TV	home	unit	\$0.00	\$0.00	\$0.00	\$0.00	6	1	1	\$0.00	1.00	1.00	1.00	1.00	1.00	1.00	11	2
Existing	911	Energy Star LCD TV	home	unit	\$1.00	\$0.00	\$0.00	\$1.00	6	1	1	\$1.00	1.00	1.00	1.00	1.00	1.00	1.00	11	2
Existing	920	Base CRT TV	home	unit	\$0.00	\$0.00	\$0.00	\$0.00	6	1	1	\$0.00	1.00	1.00	1.00	1.00	1.00	1.00	11	2
Existing	921	Energy Star LCD TV	home	unit	\$1.00	\$0.00	\$0.00	\$1.00	6	1	1	\$1.00	1.00	1.00	1.00	1.00	1.00	1.00	11	2
Existing	930	Base Set-Top Box	home	unit	\$0.00	\$0.00	\$0.00	\$0.00	7	1	1	\$0.00	1.00	1.00	1.00	1.00	1.00	1.00	11	2
Existing	931	Energy Star Set-Top Box	home	unit	\$1.00	\$0.00	\$0.00	\$1.00	7	1	1	\$1.00	1.00	1.00	1.00	1.00	1.00	1.00	11	2
Existing	940	Base DVD Player	home	unit	\$0.00	\$0.00	\$0.00	\$0.00	7	1	1	\$0.00	1.00	1.00	1.00	1.00	1.00	1.00	11	2
Existing	941	Energy Star DVD Player	home	unit	\$1.00	\$0.00	\$0.00	\$1.00	7	1	1	\$1.00	1.00	1.00	1.00	1.00	1.00	1.00	11	2
Existing	950	Base Desktop PC	home	unit	\$0.00	\$0.00	\$0.00	\$0.00	4	1	1	\$0.00	1.00	1.00	1.00	1.00	1.00	1.00	14	2
Existing	951	Energy Star Desktop PC	home	unit	\$1.00	\$0.00	\$0.00	\$1.00	4	1	1	\$1.00	1.00	1.00	1.00	1.00	1.00	1.00	14	2
Existing	960	Base Laptop PC	home	unit	\$0.00	\$0.00	\$0.00	\$0.00	4	1	1	\$0.00	1.00	1.00	1.00	1.00	1.00	1.00	14	2
Existing	961	Energy Star Laptop PC	home	unit	\$1.00	\$0.00	\$0.00	\$1.00	4	1	1	\$1.00	1.00	1.00	1.00	1.00	1.00	1.00	14	2
Existing	970	Base Cooking	home	unit	\$0.00	\$0.00	\$0.00	\$0.00	15	1	1	\$0.00	1.00	1.00	1.00	1.00	1.00	1.00	10	2
Existing	980	Base Miscellaneous	home	unit	\$0.00	\$0.00	\$0.00	\$0.00	10	1	1	\$0.00	1.00	1.00	1.00	1.00	1.00	1.00	14	2
Existing	981	Plug Load Controls - Smart Power Strip	home	unit	\$25.00	\$0.00	\$0.00	\$25.00	5	1	1	\$25.00	1.00	1.00	1.00	1.00	1.00	1.00	14	1
Existing	982	Energy Star Ventilating Fans	home	unit	\$100.00	\$0.00	\$0.00	\$100.00	10	1	1	\$100.00	1.00	1.00	1.00	1.00	1.00	1.00	14	2
Existing	990	Base House Practices	home	home	\$0.00	\$0.00	\$0.00	\$0.00	1	1	1	\$0.00	1.00	1.00	1.00	1.00	1.00	1.00	15	1
Existing	991	Indirect feedback	home	home	\$7.00	\$0.00	\$0.00	\$7.00	1	1	1	\$7.00	1.00	1.00	1.00	1.00	1.00	1.00	15	1
New	100	Base Code Home - 2011 Energy Star	home	home	\$0.00	\$0.00	\$0.00	\$0.00	30	1	1	\$0.00	1.00	1.00	1.00	1.00	1.00	1.00	15	2
New	101	2011 ENERGY STAR Home	home	home	\$943.00	\$0.00	\$0.00	\$943.00	30	1	1	\$943.00	1.00	1.00	1.00	1.00	1.00	1.00	15	2

Residential Electric Measure Inputs			Applicability Factor (percent)			Incomplete Factor (percent)			Feasibility Factor (percent)		
Segment	Measure #	Measure Description	Single Family	Multifamily	Low Income	Single Family	Multifamily	Low Income	Single Family	Multifamily	Low Income
Existing	100	Base Split-System Air Conditioner (13 SEER)	73.69%	46.78%	38.26%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	101	15 SEER (12.72 EER) Split-System Air Conditioner w/ quality install	73.69%	46.78%	38.26%	99.00%	99.00%	99.00%	100.00%	100.00%	100.00%
Existing	102	17 SEER (12.28 EER) Split-System Air Conditioner w/ quality install	73.69%	46.78%	38.26%	99.00%	99.00%	99.00%	100.00%	100.00%	100.00%
Existing	103	AC Maintenance (Indoor Coil Cleaning)	73.69%	46.78%	38.26%	80.00%	80.00%	80.00%	80.00%	80.00%	80.00%
Existing	104	AC Maintenance (Outdoor Coil Cleaning)	73.69%	46.78%	38.26%	60.00%	60.00%	60.00%	100.00%	100.00%	100.00%
Existing	105	AC Maintenance and/or tune-up	73.69%	46.78%	38.26%	67.00%	64.00%	68.00%	100.00%	100.00%	100.00%
Existing	106	Ceiling Fans (base split-system)	73.69%	46.78%	38.26%	20.90%	39.25%	10.92%	100.00%	100.00%	100.00%
Existing	107	Ceiling R-0 to R-38 Insulation (base split-system)	3.13%	0.00%	0.00%	100.00%	100.00%	100.00%	33.00%	33.00%	33.00%
Existing	108	Ceiling R-0 to R-49 Insulation (base split-system)	3.13%	0.00%	0.00%	100.00%	100.00%	100.00%	33.00%	33.00%	33.00%
Existing	109	Ceiling R-11 to R-38 Insulation (base split-system)	4.74%	12.11%	8.52%	100.00%	100.00%	100.00%	50.00%	50.00%	50.00%
Existing	110	Ceiling R-11 to R-49 Insulation (base split-system)	4.74%	12.11%	8.52%	100.00%	100.00%	100.00%	50.00%	50.00%	50.00%
Existing	111	Ceiling R-19 to R-38 Insulation (base split-system)	26.20%	11.27%	0.00%	100.00%	100.00%	100.00%	83.00%	83.00%	83.00%
Existing	112	Ceiling R-19 to R-49 Insulation (base split-system)	26.20%	11.27%	0.00%	100.00%	100.00%	100.00%	50.00%	50.00%	50.00%
Existing	113	Comprehensive Shell Air Sealing - Inf. Reduction (base split-system)	73.69%	46.78%	38.26%	64.86%	64.78%	45.75%	100.00%	100.00%	100.00%
Existing	114	Duct Insulation	73.69%	46.78%	38.26%	79.24%	67.54%	83.20%	100.00%	100.00%	100.00%
Existing	115	Duct Repair	73.69%	46.78%	38.26%	2.72%	2.72%	2.72%	100.00%	100.00%	100.00%
Existing	116	Programmable Thermostat (base split-system)	55.35%	38.70%	20.63%	44.64%	61.29%	79.36%	100.00%	100.00%	100.00%
Existing	117	Proper Refrigerant Charging and Air Flow	73.69%	46.78%	38.26%	67.00%	67.00%	67.00%	100.00%	100.00%	100.00%
Existing	118	Proper Sizing and Quality Install	8.70%	8.00%	7.20%	50.00%	50.00%	50.00%	100.00%	100.00%	100.00%
Existing	119	Sealed Attic w/Sprayed Foam Insulated Roof Deck (base split-system)	34.27%	21.76%	17.79%	97.22%	97.22%	97.22%	33.00%	30.00%	31.55%
Existing	120	Self Install Weatherization (base split-system)	73.69%	46.78%	38.26%	62.00%	62.00%	62.00%	100.00%	100.00%	100.00%
Existing	121	Wall Blow-in R-0 to R-13 Insulation (base split-system)	71.08%	46.78%	38.25%	100.00%	100.00%	100.00%	80.00%	40.00%	63.33%
Existing	122	Single Pane Windows to Double Pane with Gas (base split-system)	73.69%	46.78%	38.26%	59.48%	73.37%	59.88%	100.00%	100.00%	100.00%
Existing	123	Double Pane with Glazing to Energy Star (base split-system)	73.69%	46.78%	38.26%	94.78%	91.72%	95.96%	100.00%	100.00%	100.00%
Existing	130	Base Early Replacement Split-System Air Conditioner (13 SEER)	13.00%	8.26%	6.75%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	131	15 SEER (12.72 EER) Split-System Air Conditioner--early replacement	13.00%	8.26%	6.75%	99.00%	99.00%	99.00%	100.00%	100.00%	100.00%
Existing	140	Base Room Air Conditioner - EER 9.7	13.78%	29.95%	44.69%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	141	HE Room Air Conditioner - Energy star EER 10.8	13.78%	29.95%	44.69%	89.32%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	142	HE Room Air Conditioner - CEE Tier 1 EER 11.3	13.78%	29.95%	44.69%	99.00%	99.00%	99.00%	100.00%	100.00%	100.00%
Existing	143	Ceiling Fans (base RAC)	13.78%	29.95%	44.69%	21.57%	47.28%	34.65%	100.00%	100.00%	100.00%
Existing	144	Single Pane Windows to Double Pane with Gas (base RAC)	13.78%	29.95%	44.69%	35.42%	89.77%	77.48%	100.00%	100.00%	100.00%
Existing	145	Double Pane with Glazing to Energy Star (base RAC)	13.78%	29.95%	44.69%	96.94%	88.58%	92.73%	100.00%	100.00%	100.00%
Existing	146	Ceiling R-0 to R-38 Insulation (base RAC)	0.55%	0.00%	0.00%	100.00%	100.00%	100.00%	33.00%	33.00%	33.00%
Existing	147	Ceiling R-0 to R-49 Insulation (base RAC)	0.55%	0.00%	0.00%	100.00%	100.00%	100.00%	33.00%	33.00%	33.00%
Existing	148	Ceiling R-11 to R-38 Insulation (base RAC)	1.10%	6.18%	5.10%	100.00%	100.00%	100.00%	50.00%	50.00%	50.00%
Existing	149	Ceiling R-11 to R-49 Insulation (base RAC)	1.10%	6.18%	5.10%	100.00%	100.00%	100.00%	50.00%	50.00%	50.00%
Existing	150	Ceiling R-19 to R-38 Insulation (base RAC)	5.16%	5.75%	7.07%	100.00%	100.00%	100.00%	83.00%	83.00%	83.00%
Existing	151	Ceiling R-19 to R-49 Insulation (base RAC)	5.16%	5.75%	7.07%	100.00%	100.00%	100.00%	50.00%	50.00%	50.00%
Existing	152	Wall 2x4 R-0 to Blow-In R-13 Insulation (base RAC)	13.77%	29.94%	44.68%	8.57%	11.76%	10.11%	80.00%	40.00%	63.33%
Existing	153	Self Install Weatherization (base RAC)	13.78%	29.95%	44.69%	62.00%	62.00%	62.00%	100.00%	100.00%	100.00%
Existing	154	Infiltration Reduction (base RAC)	13.78%	29.95%	44.69%	50.88%	51.79%	51.44%	100.00%	100.00%	100.00%
Existing	155	Ductless Split Heat Pump	1.20%	2.60%	5.50%	99.00%	99.00%	99.00%	100.00%	100.00%	100.00%
Existing	160	Base Early Replacement Room Air Conditioner- EER 9.7	2.43%	5.28%	7.89%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	161	EER 8.5 AC Early Replacement, CEE Tier 1 EER 11.3	2.43%	5.28%	7.89%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	170	Base Dehumidifier - New Federal Standard	8.24%	6.44%	10.07%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	171	Energy Star Dehumidifier (ROB)	8.24%	6.44%	10.07%	91.75%	93.55%	89.92%	100.00%	100.00%	100.00%
Existing	180	Base Furnace Fans	48.49%	17.17%	38.36%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	181	Variable speed furnace fans	48.49%	17.17%	38.36%	96.37%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	200	Base Resistance Space Heating (Primary)	8.72%	8.68%	12.30%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Residential Electric Measure Inputs			Applicability Factor (percent)			Incomplete Factor (percent)			Feasibility Factor (percent)		
Segment	Measure #	Measure Description	Single Family	Multifamily	Low Income	Single Family	Multifamily	Low Income	Single Family	Multifamily	Low Income
Existing	201	Ceiling R-0 to R-38 Insulation (base space heating)	0.35%	0.00%	0.00%	100.00%	100.00%	100.00%	33.00%	33.00%	33.00%
Existing	202	Ceiling R-0 to R-49 Insulation (base space heating)	0.35%	0.00%	0.00%	100.00%	100.00%	100.00%	33.00%	33.00%	33.00%
Existing	203	Ceiling R-11 to R-38 Insulation (base space heating)	0.70%	1.79%	1.40%	100.00%	100.00%	100.00%	50.00%	50.00%	50.00%
Existing	204	Ceiling R-11 to R-49 Insulation (base space heating)	0.70%	1.79%	1.40%	100.00%	100.00%	100.00%	50.00%	50.00%	50.00%
Existing	205	Ceiling R-19 to R-38 Insulation (base space heating)	3.26%	1.67%	1.95%	100.00%	100.00%	100.00%	83.00%	83.00%	83.00%
Existing	206	Ceiling R-19 to R-49 Insulation (base space heating)	3.26%	1.67%	1.95%	100.00%	100.00%	100.00%	50.00%	50.00%	50.00%
Existing	207	Wall Blow-in R-0 to R-13 Insulation (base space heating)	7.52%	8.68%	11.02%	100.00%	100.00%	100.00%	75.00%	45.00%	60.51%
Existing	208	Basement insulation R-11 (base space heating)	1.78%	0.81%	1.93%	100.00%	100.00%	100.00%	65.00%	65.00%	65.00%
Existing	209	Floor R-0 to R-19 Insulation-Batts (base space heating)	7.00%	7.42%	10.14%	100.00%	100.00%	100.00%	50.00%	20.00%	37.50%
Existing	210	Comprehensive Shell Air Sealing - Inf. Reduction (base space heating)	8.72%	8.68%	12.30%	70.00%	70.00%	70.00%	100.00%	100.00%	100.00%
Existing	211	Self Install Weatherization (base space heating)	8.72%	8.68%	12.30%	62.00%	62.00%	62.00%	100.00%	100.00%	100.00%
Existing	212	Single Pane Windows to Double Pane with Gas (base space heating)	8.72%	8.68%	12.30%	47.47%	100.00%	5.00%	100.00%	100.00%	100.00%
Existing	213	Double Pane with Glazing to Energy Star (base space heating)	8.72%	8.68%	12.30%	86.84%	100.00%	99.48%	100.00%	100.00%	100.00%
Existing	214	Single Pane- Add storm windows (base space heating)	8.72%	8.68%	12.30%	58.30%	60.00%	5.00%	100.00%	100.00%	100.00%
Existing	215	Double Pane- Add storm windows (base space heating)	8.72%	8.68%	12.30%	82.51%	100.00%	99.48%	100.00%	100.00%	100.00%
Existing	216	Programmable Thermostat (base space heating)	8.72%	8.68%	12.30%	44.64%	61.29%	79.36%	100.00%	100.00%	100.00%
Existing	300	Base High-Efficiency Incandescent Lighting,<1.15 hrs/day	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	301	CFL 15W (base HE incandescent<1.15 hrs/day)	90.00%	90.00%	90.00%	100.00%	100.00%	100.00%	90.00%	90.00%	90.00%
Existing	302	CFL 15W - Specialty (base HE incandescent<1.15 hrs/day)	10.00%	10.00%	10.00%	100.00%	100.00%	100.00%	90.00%	90.00%	90.00%
Existing	303	LEDs (base HE incandescent<1.15 hrs/day)	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	310	Base High-Efficiency Incandescent Lighting,1.15-2.15 hrs/day	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	311	CFL 15W (base HE incandescent 1.15-2.15 hrs/day)	90.00%	90.00%	90.00%	100.00%	100.00%	100.00%	90.00%	90.00%	90.00%
Existing	312	CFL 15W - Specialty (base HE incandescent 1.15-2.15 hrs/day)	10.00%	10.00%	10.00%	100.00%	100.00%	100.00%	90.00%	90.00%	90.00%
Existing	313	LEDs (base HE incandescent 1.15-2.15 hrs/day)	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	320	Base High-Efficiency Incandescent Lighting,2.15-5 hrs/day	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	321	CFL 15W (base HE incandescent 2.15-5 hrs/day)	90.00%	90.00%	90.00%	100.00%	100.00%	100.00%	90.00%	90.00%	90.00%
Existing	322	CFL 15W - Specialty (base HE incandescent 2.15-5 hrs/day)	10.00%	10.00%	10.00%	100.00%	100.00%	100.00%	90.00%	90.00%	90.00%
Existing	323	LEDs (base HE incandescent 2.15-5 hrs/day)	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	330	Base High-Efficiency Incandescent Lighting,>5 hrs/day	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	331	CFL 15W (base HE incandescent >5 hrs/day)	90.00%	90.00%	90.00%	100.00%	100.00%	100.00%	90.00%	90.00%	90.00%
Existing	332	CFL 15W - Specialty (base HE incandescent >5 hrs/day)	10.00%	10.00%	10.00%	100.00%	100.00%	100.00%	90.00%	90.00%	90.00%
Existing	333	LEDs (base HE incandescent >5 hrs/day)	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	340	Base Lighting 15 Watt CFL, <1.15 hrs/day	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	341	LEDs (base CFL < 1.15 hrs/day)	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	342	Photocell/timerlock (outdoor) (base CFL < 1.15 hrs/day)	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	350	Base Lighting 15 Watt CFL, 1.15-2.15 hrs/day	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	351	LEDs (base CFL 1.15-2.15 hrs/day)	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	352	Photocell/timerlock (outdoor) (base CFL 1.15-2.15 hrs/day)	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	360	Base Lighting 15 Watt CFL, 2.15-5 hrs/day	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	361	LEDs (base CFL 2.15-5 hrs/day)	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	362	Photocell/timerlock (outdoor) (base CFL 2.15-5 hrs/day)	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	370	Base Lighting 15 Watt CFL, >5 hrs/day	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	371	LEDs (base CFL >5 hrs/day)	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	372	Photocell/timerlock (outdoor) (base CFL >5 hrs/day)	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	380	Base Fluorescent Fixture, 2L4T8, 1.8 hrs/day	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	381	ROB 2L4' Premium T8	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	400	Base Refrigerator	85.00%	85.00%	85.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	401	HE Refrigerator (CEE Tier 2)	85.00%	85.00%	85.00%	99.00%	99.00%	99.00%	100.00%	100.00%	100.00%
Existing	402	HE Refrigerator (Energy Star)	85.00%	85.00%	85.00%	90.00%	87.00%	88.00%	100.00%	100.00%	100.00%

Residential Electric Measure Inputs			Applicability Factor (percent)			Incomplete Factor (percent)			Feasibility Factor (percent)		
Segment	Measure #	Measure Description	Single Family	Multifamily	Low Income	Single Family	Multifamily	Low Income	Single Family	Multifamily	Low Income
Existing	410	Base Early Replacement Refrigerator	15.00%	15.00%	15.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	411	Refrigerator - Early Replacement (Energy Star)	15.00%	15.00%	15.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	420	Base Second Refrigerator	17.61%	32.88%	26.60%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	421	Refrigerator Recycling - second refrigerator	17.61%	32.88%	26.60%	100.00%	100.00%	100.00%	90.00%	90.00%	90.00%
Existing	430	Base Freezer	32.98%	38.34%	31.32%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	431	Freezer (Energy Star)	32.98%	38.34%	31.32%	97.00%	94.00%	90.00%	100.00%	100.00%	100.00%
Existing	440	Base Early Replacement Freezer	5.82%	6.77%	5.53%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	441	Freezer - Early Replacement (Energy Star)	5.82%	6.77%	5.53%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	500	Base 40 gal. Water Heating (EF=0.88)	6.86%	7.32%	3.01%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	501	Drain Water Heat Recovery (GFX)	6.86%	7.32%	3.01%	100.00%	100.00%	100.00%	10.00%	10.00%	10.00%
Existing	502	Faucet Aerators (1.5 GPM)	6.86%	7.32%	3.01%	76.00%	84.00%	81.00%	100.00%	100.00%	100.00%
Existing	503	HE Water Heater (EF=0.93)	6.86%	7.32%	3.01%	88.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	504	Heat Pump Water Heater - Energy Star	6.86%	7.32%	3.01%	99.00%	99.00%	99.00%	25.00%	25.00%	25.00%
Existing	505	Low Flow Showerhead 1.5 Gal/Min	6.86%	7.32%	3.01%	75.00%	91.00%	88.00%	100.00%	100.00%	100.00%
Existing	506	Pipe Wrap	6.86%	7.32%	3.01%	88.53%	89.43%	75.17%	85.00%	85.00%	85.00%
Existing	507	Solar Domestic Water Heating	6.86%	7.32%	3.01%	99.00%	99.00%	99.00%	100.00%	100.00%	100.00%
Existing	508	Tankless Water Heater	6.86%	7.32%	3.01%	99.00%	99.00%	99.00%	75.00%	75.00%	75.00%
Existing	509	Energy Star CW CEE Tier 2 (MEF=2.0) (base WH)	5.72%	6.34%	2.51%	99.00%	99.00%	99.00%	100.00%	100.00%	100.00%
Existing	510	Tier 3 CW (MEF=2.20) (base WH)	5.72%	6.34%	2.51%	74.89%	100.00%	84.85%	100.00%	100.00%	100.00%
Existing	511	Energy Star Dishwasher (EF=0.72) (base WH)	5.89%	5.59%	0.00%	56.16%	100.00%	70.19%	100.00%	100.00%	100.00%
Existing	550	Base Early Replacement Water Heating to Heat Pump Water Heater	0.76%	0.81%	0.33%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	551	Early Replacement Water Heating to Heat Pump Water Heater	0.76%	0.81%	0.33%	100.00%	100.00%	100.00%	10.00%	10.00%	10.00%
Existing	600	Base Clotheswasher (MEF=1.26)	83.38%	86.61%	83.37%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	601	Energy Star CW CEE Tier 2 (MEF=2.0) (base CW)	83.38%	86.61%	83.37%	99.00%	99.00%	99.00%	100.00%	100.00%	100.00%
Existing	602	Tier 3 CW (MEF=2.20) (base CW)	83.38%	86.61%	83.37%	79.25%	71.88%	74.26%	100.00%	100.00%	100.00%
Existing	610	Base Clothes Dryer (EF=3.01)	45.13%	43.48%	40.27%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	611	Heat Pump Dryer	45.13%	43.48%	40.27%	99.00%	99.00%	99.00%	100.00%	100.00%	100.00%
Existing	612	High Efficiency CD (EF=3.01 w/moisture sensor)	45.13%	43.48%	40.27%	50.32%	47.48%	39.79%	100.00%	100.00%	100.00%
Existing	700	Base Dishwasher (EF=0.65)	67.00%	79.92%	80.59%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	701	Energy Star Dishwasher (EF=0.72) (base DW)	67.00%	79.92%	80.59%	18.00%	29.00%	18.00%	100.00%	100.00%	100.00%
Existing	800	Base Single Speed Pool Pump (RET)	0.40%	0.40%	0.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	801	Variable Speed Pool Pump (1.5 hp)	0.40%	0.40%	0.00%	86.80%	86.80%	86.80%	100.00%	100.00%	100.00%
Existing	810	Base Two Speed Pool Pump (1.5 hp) (ROB)	0.40%	0.40%	0.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	811	Variable Speed Pool Pump (1.5 hp)	0.40%	0.40%	0.00%	86.80%	86.80%	86.80%	100.00%	100.00%	100.00%
Existing	900	Base Plasma TV	10.01%	12.50%	9.17%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	901	Energy Star Plasma TV	10.01%	12.50%	9.17%	80.00%	60.00%	82.00%	100.00%	100.00%	100.00%
Existing	910	Base LCD TV	67.80%	55.78%	63.77%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	911	Energy Star LCD TV	67.80%	55.78%	63.77%	47.00%	34.00%	46.00%	100.00%	100.00%	100.00%
Existing	920	Base CRT TV	79.40%	61.51%	77.78%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	921	Energy Star LCD TV	79.40%	61.51%	77.78%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	930	Base Set-Top Box	73.14%	66.66%	70.63%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	931	Energy Star Set-Top Box	73.14%	66.66%	70.63%	62.00%	50.00%	67.00%	100.00%	100.00%	100.00%
Existing	940	Base DVD Player	84.34%	79.86%	71.92%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	941	Energy Star DVD Player	84.34%	79.86%	71.92%	52.00%	50.00%	65.00%	100.00%	100.00%	100.00%
Existing	950	Base Desktop PC	68.41%	61.97%	50.84%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	951	Energy Star Desktop PC	68.41%	61.97%	50.84%	93.00%	82.00%	99.00%	100.00%	100.00%	100.00%
Existing	960	Base Laptop PC	71.54%	66.24%	35.43%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	961	Energy Star Laptop PC	71.54%	66.24%	35.43%	76.00%	69.00%	73.00%	100.00%	100.00%	100.00%
Existing	970	Base Cooking	60.73%	65.10%	53.28%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Residential Electric Measure Inputs			Applicability Factor (percent)			Incomplete Factor (percent)			Feasibility Factor (percent)		
Segment	Measure #	Measure Description	Single Family	Multifamily	Low Income	Single Family	Multifamily	Low Income	Single Family	Multifamily	Low Income
Existing	980	Base Miscellaneous	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	981	Plug Load Controls - Smart Power Strip	100.00%	100.00%	100.00%	99.00%	99.00%	99.00%	100.00%	100.00%	100.00%
Existing	982	Energy Star Ventilating Fans	73.69%	46.78%	38.26%	70.00%	70.00%	70.00%	100.00%	100.00%	100.00%
Existing	990	Base House Practices	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	991	Indirect feedback	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
New	100	Base Code Home - 2011 Energy Star	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
New	101	2011 ENERGY STAR Home	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Residential Electric Measure Inputs			Energy Savings (percent)			Standards Adjustment Factor (percent)			Technology Saturation (units/home)			Hour Adjustment for Lighting (hours/year)		
Segment	Measure #	Measure Description	Single Family	Multifamily	Low Income	Single Family	Multifamily	Low Income	Single Family	Multifamily	Low Income	Single Family	Multifamily	Low Income
Existing	100	Base Split-System Air Conditioner (13 SEER)	0.00%	0.00%	0.00%	84.62%	84.62%	84.62%	1.0	0.8	0.8			
Existing	101	15 SEER (12.72 EER) Split-System Air Conditioner w/ quality install	37.80%	37.80%	37.80%	84.62%	84.62%	84.62%	1.0	0.8	0.8			
Existing	102	17 SEER (12.28 EER) Split-System Air Conditioner w/ quality install	43.12%	43.12%	43.12%	84.62%	84.62%	84.62%	1.0	0.8	0.8			
Existing	103	AC Maintenance (Indoor Coil Cleaning)	6.30%	6.30%	6.30%	84.62%	84.62%	84.62%	1.0	1.0	1.0			
Existing	104	AC Maintenance (Outdoor Coil Cleaning)	6.30%	6.30%	6.30%	84.62%	84.62%	84.62%	1.0	1.0	1.0			
Existing	105	AC Maintenance and/or tune-up	4.00%	4.00%	4.00%	84.62%	84.62%	84.62%	1.0	1.0	1.0			
Existing	106	Ceiling Fans (base split-system)	5.00%	5.00%	5.00%	84.62%	84.62%	84.62%	2.5	1.9	2.1			
Existing	107	Ceiling R-0 to R-38 Insulation (base split-system)	22.87%	22.87%	22.87%	84.62%	84.62%	84.62%	1,221	1,180	964			
Existing	108	Ceiling R-0 to R-49 Insulation (base split-system)	22.87%	22.87%	22.87%	84.62%	84.62%	84.62%	1,221	1,180	964			
Existing	109	Ceiling R-11 to R-38 Insulation (base split-system)	8.97%	8.97%	8.97%	84.62%	84.62%	84.62%	1,221	1,180	964			
Existing	110	Ceiling R-11 to R-49 Insulation (base split-system)	8.97%	8.97%	8.97%	84.62%	84.62%	84.62%	1,221	1,180	964			
Existing	111	Ceiling R-19 to R-38 Insulation (base split-system)	4.77%	4.77%	4.77%	84.62%	84.62%	84.62%	1,221	1,180	964			
Existing	112	Ceiling R-19 to R-49 Insulation (base split-system)	4.77%	4.77%	4.77%	84.62%	84.62%	84.62%	1,221	1,180	964			
Existing	113	Comprehensive Shell Air Sealing - Inf. Reduction (base split-system)	7.60%	7.60%	7.60%	84.62%	84.62%	84.62%	2,206	1,380	1,218			
Existing	114	Duct Insulation	4.00%	4.00%	4.00%	84.62%	84.62%	84.62%	79	87	57			
Existing	115	Duct Repair	7.75%	7.75%	7.75%	84.62%	84.62%	84.62%	1.0	1.0	1.0			
Existing	116	Programmable Thermostat (base split-system)	2.00%	2.00%	2.00%	84.62%	84.62%	84.62%	1.0	1.0	1.0			
Existing	117	Proper Refrigerant Charging and Air Flow	12.60%	10.90%	11.78%	84.62%	84.62%	84.62%	3.0	2.0	2.5			
Existing	118	Proper Sizing and Quality Install	31.00%	31.00%	31.00%	84.62%	84.62%	84.62%	2.0	2.0	2.0			
Existing	119	Sealed Attic w/Sprayed Foam Insulated Roof Deck (base split-system)	9.00%	9.00%	9.00%	84.62%	84.62%	84.62%	1,026	642	566			
Existing	120	Self Install Weatherization (base split-system)	2.00%	2.00%	2.00%	84.62%	84.62%	84.62%	1.0	1.0	1.0			
Existing	121	Wall Blow-in R-0 to R-13 Insulation (base split-system)	7.60%	7.60%	7.60%	84.62%	84.62%	84.62%	1,875	870	972			
Existing	122	Single Pane Windows to Double Pane with Gas (base split-system)	1.93%	1.93%	1.93%	84.62%	84.62%	84.62%	161	94	42			
Existing	123	Double Pane with Glazing to Energy Star (base split-system)	6.00%	6.00%	6.00%	84.62%	84.62%	84.62%	228	139	121			
Existing	130	Base Early Replacement Split-System Air Conditioner (13 SEER)	0.00%	0.00%	0.00%	100.00%	100.00%	100.00%	1.0	0.8	0.8			
Existing	131	15 SEER (12.72 EER) Split-System Air Conditioner--early replacement	20.22%	20.22%	20.22%	100.00%	100.00%	100.00%	1.0	0.8	0.8			
Existing	140	Base Room Air Conditioner - EER 9.7	0.00%	0.00%	0.00%	100.00%	100.00%	100.00%	1.4	1.3	1.2			
Existing	141	HE Room Air Conditioner - Energy star EER 10.8	10.19%	10.19%	10.19%	100.00%	100.00%	100.00%	1.4	1.3	1.2			
Existing	142	HE Room Air Conditioner - CEE Tier 1 EER 11.3	14.16%	14.16%	14.16%	100.00%	100.00%	100.00%	1.4	1.3	1.2			
Existing	143	Ceiling Fans (base RAC)	5.00%	5.00%	5.00%	100.00%	100.00%	100.00%	2.5	1.7	1.9			
Existing	144	Single Pane Windows to Double Pane with Gas (base RAC)	1.93%	1.93%	1.93%	100.00%	100.00%	100.00%	88	96	55			
Existing	145	Double Pane with Glazing to Energy Star (base RAC)	6.00%	6.00%	6.00%	100.00%	100.00%	100.00%	168	61	103			
Existing	146	Ceiling R-0 to R-38 Insulation (base RAC)	22.87%	22.87%	22.87%	100.00%	100.00%	100.00%	1,007	729	909			
Existing	147	Ceiling R-0 to R-49 Insulation (base RAC)	22.87%	22.87%	22.87%	100.00%	100.00%	100.00%	1,007	729	909			
Existing	148	Ceiling R-11 to R-38 Insulation (base RAC)	8.97%	8.97%	8.97%	100.00%	100.00%	100.00%	1,007	729	909			
Existing	149	Ceiling R-11 to R-49 Insulation (base RAC)	8.97%	8.97%	8.97%	100.00%	100.00%	100.00%	1,007	729	909			
Existing	150	Ceiling R-19 to R-38 Insulation (base RAC)	4.77%	4.77%	4.77%	100.00%	100.00%	100.00%	1,007	729	909			
Existing	151	Ceiling R-19 to R-49 Insulation (base RAC)	4.77%	4.77%	4.77%	100.00%	100.00%	100.00%	1,007	729	909			
Existing	152	Wall 2x4 R-0 to Blow-In R-13 Insulation (base RAC)	7.60%	7.60%	7.60%	100.00%	100.00%	100.00%	1,581	681	736			
Existing	153	Self Install Weatherization (base RAC)	2.00%	2.00%	2.00%	100.00%	100.00%	100.00%	1.0	1.0	1.0			
Existing	154	Infiltration Reduction (base RAC)	7.60%	7.60%	7.60%	100.00%	100.00%	100.00%	1,624	949	1,063			
Existing	155	Ductless Split Heat Pump	31.67%	31.67%	31.67%	100.00%	100.00%	100.00%	1.0	0.7	0.8			
Existing	160	Base Early Replacement Room Air Conditioner- EER 9.7	0.00%	0.00%	0.00%	100.00%	100.00%	100.00%	1.4	1.3	1.2			
Existing	161	EER 8.5 AC Early Replacement, CEE Tier 1 EER 11.3	18.20%	18.20%	18.20%	100.00%	100.00%	100.00%	1.4	1.3	1.2			
Existing	170	Base Dehumidifier - New Federal Standard	0.00%	0.00%	0.00%	80.00%	80.00%	80.00%	1.0	1.0	1.0			
Existing	171	Energy Star Dehumidifier (ROB)	20.00%	20.00%	20.00%	80.00%	80.00%	80.00%	1.0	1.0	1.0			
Existing	180	Base Furnace Fans	0.00%	0.00%	0.00%	100.00%	100.00%	100.00%	1.0	1.0	1.0			
Existing	181	Variable speed furnace fans	56.18%	56.18%	56.18%	100.00%	100.00%	100.00%	1.0	1.0	1.0			
Existing	200	Base Resistance Space Heating (Primary)	0.00%	0.00%	0.00%	100.00%	100.00%	100.00%	1.0	1.0	1.0			
Existing	201	Ceiling R-0 to R-38 Insulation (base space heating)	29.05%	29.05%	29.05%	100.00%	100.00%	100.00%	1,124	1,163	1,128			
Existing	202	Ceiling R-0 to R-49 Insulation (base space heating)	29.95%	29.95%	29.95%	100.00%	100.00%	100.00%	1,124	1,163	1,128			
Existing	203	Ceiling R-11 to R-38 Insulation (base space heating)	10.82%	10.82%	10.82%	100.00%	100.00%	100.00%	1,124	1,163	1,128			
Existing	204	Ceiling R-11 to R-49 Insulation (base space heating)	11.94%	11.94%	11.94%	100.00%	100.00%	100.00%	1,124	1,163	1,128			
Existing	205	Ceiling R-19 to R-38 Insulation (base space heating)	5.08%	5.08%	5.08%	100.00%	100.00%	100.00%	1,124	1,163	1,128			
Existing	206	Ceiling R-19 to R-49 Insulation (base space heating)	6.28%	6.28%	6.28%	100.00%	100.00%	100.00%	1,124	1,163	1,128			
Existing	207	Wall Blow-in R-0 to R-13 Insulation (base space heating)	15.20%	15.20%	15.20%	100.00%	100.00%	100.00%	2,096	400	805			
Existing	208	Basement insulation R-11 (base space heating)	21.34%	21.34%	21.34%	100.00%	100.00%	100.00%	426	77	215			
Existing	209	Floor R-0 to R-19 Insulation-Batts (base space heating)	1.01%	1.01%	1.01%	100.00%	100.00%	100.00%	1,676	707	1,127			

Residential Electric Measure Inputs			Energy Savings (percent)			Standards Adjustment Factor (percent)			Technology Saturation (units/home)			Hour Adjustment for Lighting (hours/year)		
Segment	Measure #	Measure Description	Single Family	Multifamily	Low Income	Single Family	Multifamily	Low Income	Single Family	Multifamily	Low Income	Single Family	Multifamily	Low Income
Existing	210	Comprehensive Shell Air Sealing - Inf. Reduction (base space heating)	14.43%	14.43%	14.43%	100.00%	100.00%	100.00%	2,088	827	1,367			
Existing	211	Self Install Weatherization (base space heating)	2.00%	2.00%	2.00%	100.00%	100.00%	100.00%	1.0	1.0	1.0			
Existing	212	Single Pane Windows to Double Pane with Gas (base space heating)	32.00%	32.00%	32.00%	100.00%	100.00%	100.00%	224	37	13			
Existing	213	Double Pane with Glazing to Energy Star (base space heating)	6.00%	6.00%	6.00%	100.00%	100.00%	1	193	60	143			
Existing	214	Single Pane- Add storm windows (base space heating)	5.34%	5.34%	5.34%	100.00%	100.00%	100.00%	224	37	13			
Existing	215	Double Pane- Add storm windows (base space heating)	13.34%	13.34%	13.34%	100.00%	100.00%	100.00%	193	60	143			
Existing	216	Programmable Thermostat (base space heating)	7.00%	7.00%	7.00%	100.00%	100.00%	100.00%	1.0	1.0	1.0			
Existing	300	Base High-Efficiency Incandescent Lighting,<1.15 hrs/day	0.00%	0.00%	0.00%	70.00%	70.00%	70.00%	9.4	5.3	4.9	219	219	219
Existing	301	CFL 15W (base HE incandescent<1.15 hrs/day)	75.00%	75.00%	75.00%	70.00%	70.00%	70.00%	9.4	5.3	4.9	219	219	219
Existing	302	CFL 15W - Specialty (base HE incandescent<1.15 hrs/day)	75.00%	75.00%	75.00%	70.00%	70.00%	70.00%	9.4	5.3	4.9	219	219	219
Existing	303	LEDs (base HE incandescent<1.15 hrs/day)	90.00%	90.00%	90.00%	70.00%	70.00%	70.00%	9.4	5.3	4.9	219	219	219
Existing	310	Base High-Efficiency Incandescent Lighting,1.15-2.15 hrs/day	0.00%	0.00%	0.00%	70.00%	70.00%	70.00%	14.8	8.3	7.7	602	602	602
Existing	311	CFL 15W (base HE incandescent 1.15-2.15 hrs/day)	75.00%	75.00%	75.00%	70.00%	70.00%	70.00%	14.8	8.3	7.7	602	602	602
Existing	312	CFL 15W - Specialty (base HE incandescent 1.15-2.15 hrs/day)	75.00%	75.00%	75.00%	70.00%	70.00%	70.00%	14.8	8.3	7.7	602	602	602
Existing	313	LEDs (base HE incandescent 1.15-2.15 hrs/day)	90.00%	90.00%	90.00%	70.00%	70.00%	70.00%	14.8	8.3	7.7	602	602	602
Existing	320	Base High-Efficiency Incandescent Lighting,2.15-5 hrs/day	0.00%	0.00%	0.00%	70.00%	70.00%	70.00%	3.0	1.7	1.6	1,278	1,278	1,278
Existing	321	CFL 15W (base HE incandescent 2.15-5 hrs/day)	75.00%	75.00%	75.00%	70.00%	70.00%	70.00%	3.0	1.7	1.6	1,278	1,278	1,278
Existing	322	CFL 15W - Specialty (base HE incandescent 2.15-5 hrs/day)	75.00%	75.00%	75.00%	70.00%	70.00%	70.00%	3.0	1.7	1.6	1,278	1,278	1,278
Existing	323	LEDs (base HE incandescent 2.15-5 hrs/day)	90.00%	90.00%	90.00%	70.00%	70.00%	70.00%	3.0	1.7	1.6	1,278	1,278	1,278
Existing	330	Base High-Efficiency Incandescent Lighting,>5 hrs/day	0.00%	0.00%	0.00%	70.00%	70.00%	70.00%	1.6	0.9	0.8	3,650	3,650	3,650
Existing	331	CFL 15W (base HE incandescent >5 hrs/day)	75.00%	75.00%	75.00%	70.00%	70.00%	70.00%	1.6	0.9	0.8	3,650	3,650	3,650
Existing	332	CFL 15W - Specialty (base HE incandescent >5 hrs/day)	75.00%	75.00%	75.00%	70.00%	70.00%	70.00%	1.6	0.9	0.8	3,650	3,650	3,650
Existing	333	LEDs (base HE incandescent >5 hrs/day)	90.00%	90.00%	90.00%	70.00%	70.00%	70.00%	1.6	0.9	0.8	3,650	3,650	3,650
Existing	340	Base Lighting 15 Watt CFL, <1.15 hrs/day	0.00%	0.00%	0.00%	100.00%	100.00%	100.00%	1.8	0.9	1.1	219	219	219
Existing	341	LEDs (base CFL < 1.15 hrs/day)	60.00%	60.00%	60.00%	100.00%	100.00%	100.00%	1.8	0.9	1.1	219	219	219
Existing	342	Photocell/timerlock (outdoor) (base CFL < 1.15 hrs/day)	15.00%	15.00%	15.00%	100.00%	100.00%	100.00%	1.8	0.9	1.1	219	219	219
Existing	350	Base Lighting 15 Watt CFL, 1.15-2.15 hrs/day	0.00%	0.00%	0.00%	100.00%	100.00%	100.00%	5.3	2.6	3.2	602	602	602
Existing	351	LEDs (base CFL 1.15-2.15 hrs/day)	60.00%	60.00%	60.00%	100.00%	100.00%	100.00%	5.3	2.6	3.2	602	602	602
Existing	352	Photocell/timerlock (outdoor) (base CFL 1.15-2.15 hrs/day)	15.00%	15.00%	15.00%	100.00%	100.00%	100.00%	5.3	2.6	3.2	602	602	602
Existing	360	Base Lighting 15 Watt CFL, 2.15-5 hrs/day	0.00%	0.00%	0.00%	100.00%	100.00%	100.00%	2.2	1.1	1.3	1,278	1,278	1,278
Existing	361	LEDs (base CFL 2.15-5 hrs/day)	60.00%	60.00%	60.00%	100.00%	100.00%	100.00%	2.2	1.1	1.3	1,278	1,278	1,278
Existing	362	Photocell/timerlock (outdoor) (base CFL 2.15-5 hrs/day)	15.00%	15.00%	15.00%	100.00%	100.00%	100.00%	2.2	1.1	1.3	1,278	1,278	1,278
Existing	370	Base Lighting 15 Watt CFL, >5 hrs/day	0.00%	0.00%	0.00%	100.00%	100.00%	100.00%	1.1	0.6	0.7	3,650	3,650	3,650
Existing	371	LEDs (base CFL >5 hrs/day)	60.00%	60.00%	60.00%	100.00%	100.00%	100.00%	1.1	0.6	0.7	3,650	3,650	3,650
Existing	372	Photocell/timerlock (outdoor) (base CFL >5 hrs/day)	15.00%	15.00%	15.00%	100.00%	100.00%	100.00%	1.1	0.6	0.7	3,650	3,650	3,650
Existing	380	Base Fluorescent Fixture, 2L4T8, 1.8 hrs/day	0.00%	0.00%	0.00%	96.00%	100.00%	100.00%	4.2	1.4	1.7	657	657	657
Existing	381	ROB 2L4' Premium T8	17.10%	17.10%	17.10%	96.00%	100.00%	100.00%	4.2	1.4	1.7	657	657	657
Existing	400	Base Refrigerator	0.00%	0.00%	0.00%	86.00%	86.00%	86.00%	1.2	1.3	1.3			
Existing	401	HE Refrigerator (CEE Tier 2)	25.00%	25.00%	25.00%	86.00%	86.00%	86.00%	1.2	1.3	1.3			
Existing	402	HE Refrigerator (Energy Star)	15.00%	15.00%	15.00%	86.00%	86.00%	86.00%	1.2	1.3	1.3			
Existing	410	Base Early Replacement Refrigerator	0.00%	0.00%	0.00%	100.00%	100.00%	100.00%	1.2	1.3	1.3			
Existing	411	Refrigerator - Early Replacement (Energy Star)	27.63%	27.63%	27.63%	100.00%	100.00%	100.00%	1.2	1.3	1.3			
Existing	420	Base Second Refrigerator	0.00%	0.00%	0.00%	100.00%	100.00%	100.00%	1.3	1.0	1.1			
Existing	421	Refrigerator Recycling - second refrigerator	99.90%	99.90%	99.90%	100.00%	100.00%	100.00%	1.3	1.0	1.1			
Existing	430	Base Freezer	0.00%	0.00%	0.00%	100.00%	100.00%	100.00%	1.1	1.1	1.0			
Existing	431	Freezer (Energy Star)	15.00%	15.00%	15.00%	100.00%	100.00%	100.00%	1.1	1.1	1.0			
Existing	440	Base Early Replacement Freezer	0.00%	0.00%	0.00%	100.00%	100.00%	100.00%	1.1	1.1	1.0			
Existing	441	Freezer - Early Replacement (Energy Star)	15.20%	15.20%	15.20%	100.00%	100.00%	100.00%	1.1	1.1	1.0			
Existing	500	Base 40 gal. Water Heating (EF=0.88)	0.00%	0.00%	0.00%	100.00%	100.00%	100.00%	1.0	1.0	1.0			
Existing	501	Drain Water Heat Recovery (GFX)	37.59%	37.59%	37.59%	100.00%	100.00%	100.00%	1.0	1.0	1.0			
Existing	502	Faucet Aerators (1.5 GPM)	2.92%	2.92%	2.92%	100.00%	1	1	4.3	2.7	2.9			
Existing	503	HE Water Heater (EF=0.93)	5.40%	5.40%	5.40%	100.00%	100.00%	100.00%	1.0	1.0	1.0			
Existing	504	Heat Pump Water Heater - Energy Star	64.80%	64.80%	64.80%	100.00%	100.00%	100.00%	1.0	1.0	1.0			
Existing	505	Low Flow Showerhead 1.5 Gal/Min	5.58%	5.58%	5.58%	100.00%	1	100.00%	2.0	1.4	1.3			
Existing	506	Pipe Wrap	3.00%	3.00%	3.00%	100.00%	100.00%	100.00%	8.0	8.0	8.0			
Existing	507	Solar Domestic Water Heating	50.00%	50.00%	50.00%	100.00%	100.00%	100.00%	1.0	1.0	1.0			
Existing	508	Tankless Water Heater	28.83%	28.83%	28.83%	100.00%	100.00%	100.00%	1.0	1.0	1.0			
Existing	509	Energy Star CW CEE Tier 2 (MEF=2.0) (base WH)	3.12%	4.09%	3.59%	100.00%	100.00%	100.00%	1.0	1.0	1.0			

Residential Electric Measure Inputs			Energy Savings (percent)			Standards Adjustment Factor (percent)			Technology Saturation (units/home)			Hour Adjustment for Lighting (hours/year)		
Segment	Measure #	Measure Description	Single Family	Multifamily	Low Income	Single Family	Multifamily	Low Income	Single Family	Multifamily	Low Income	Single Family	Multifamily	Low Income
Existing	510	Tier 3 CW (MEF=2.20) (base WH)	3.26%	4.28%	3.75%	100.00%	100.00%	100.00%	1.0	1.0	1.0			
Existing	511	Energy Star Dishwasher (EF=0.72) (base WH)	2.14%	2.14%	2.14%	100.00%	100.00%	100.00%	1.0	1.0	1.0			
Existing	550	Base Early Replacement Water Heating to Heat Pump Water Heater	0.00%	0.00%	0.00%	100.00%	100.00%	100.00%	1.0	1.0	1.0			
Existing	551	Early Replacement Water Heating to Heat Pump Water Heater	63.58%	63.58%	63.58%	100.00%	100.00%	100.00%	1.0	1.0	1.0			
Existing	600	Base Clotheswasher (MEF=1.26)	0.00%	0.00%	0.00%	100.00%	100.00%	100.00%	1.0	1.0	1.0			
Existing	601	Energy Star CW CEE Tier 2 (MEF=2.0) (base CW)	29.49%	29.49%	29.49%	100.00%	100.00%	100.00%	1.0	1.0	1.0			
Existing	602	Tier 3 CW (MEF=2.20) (base CW)	31.76%	31.76%	31.76%	100.00%	100.00%	100.00%	1.0	1.0	1.0			
Existing	610	Base Clothes Dryer (EF=3.01)	0.00%	0.00%	0.00%	100.00%	100.00%	100.00%	1.0	1.0	1.0			
Existing	611	Heat Pump Dryer	60.00%	60.00%	60.00%	100.00%	100.00%	100.00%	1.0	1.0	1.0			
Existing	612	High Efficiency CD (EF=3.01 w/moisture sensor)	15.00%	15.00%	15.00%	100.00%	100.00%	100.00%	1.0	1.0	1.0			
Existing	700	Base Dishwasher (EF=0.65)	0.00%	0.00%	0.00%	100.00%	100.00%	100.00%	1.0	1.0	1.0			
Existing	701	Energy Star Dishwasher (EF=0.72) (base DW)	1.24%	1.24%	1.24%	100.00%	100.00%	100.00%	1.0	1.0	1.0			
Existing	800	Base Single Speed Pool Pump (RET)	0.00%	0.00%	0.00%	100.00%	100.00%	100.00%	1.0	1.0	1.0			
Existing	801	Variable Speed Pool Pump (1.5 hp)	90.00%	90.00%	90.00%	100.00%	100.00%	100.00%	1.0	1.0	1.0			
Existing	810	Base Two Speed Pool Pump (1.5 hp) (ROB)	0.00%	0.00%	0.00%	100.00%	100.00%	100.00%	1.0	1.0	1.0			
Existing	811	Variable Speed Pool Pump (1.5 hp)	33.00%	33.00%	33.00%	100.00%	100.00%	100.00%	1.0	1.0	1.0			
Existing	900	Base Plasma TV	0.00%	0.00%	0.00%	100.00%	100.00%	100.00%	1.1	1.1	1.2			
Existing	901	Energy Star Plasma TV	30.00%	30.00%	30.00%	100.00%	100.00%	100.00%	1.1	1.1	1.2			
Existing	910	Base LCD TV	0.00%	0.00%	0.00%	100.00%	100.00%	100.00%	1.6	1.4	1.5			
Existing	911	Energy Star LCD TV	30.00%	30.00%	30.00%	100.00%	100.00%	100.00%	1.6	1.4	1.5			
Existing	920	Base CRT TV	0.00%	0.00%	0.00%	100.00%	100.00%	100.00%	2.2	1.4	2.2			
Existing	921	Energy Star LCD TV	40.00%	40.00%	40.00%	100.00%	100.00%	100.00%	2.2	1.4	2.2			
Existing	930	Base Set-Top Box	0.00%	0.00%	0.00%	100.00%	100.00%	100.00%	1.8	1.5	1.8			
Existing	931	Energy Star Set-Top Box	39.56%	39.56%	39.56%	100.00%	100.00%	100.00%	1.8	1.5	1.8			
Existing	940	Base DVD Player	0.00%	0.00%	0.00%	100.00%	100.00%	100.00%	1.7	1.4	1.8			
Existing	941	Energy Star DVD Player	54.94%	54.94%	54.94%	100.00%	100.00%	100.00%	1.7	1.4	1.8			
Existing	950	Base Desktop PC	0.00%	0.00%	0.00%	100.00%	100.00%	100.00%	1.3	1.1	1.2			
Existing	951	Energy Star Desktop PC	17.90%	17.90%	17.90%	100.00%	100.00%	100.00%	1.3	1.1	1.2			
Existing	960	Base Laptop PC	0.00%	0.00%	0.00%	100.00%	100.00%	100.00%	1.6	1.7	1.4			
Existing	961	Energy Star Laptop PC	13.40%	13.40%	13.40%	100.00%	100.00%	100.00%	1.6	1.7	1.4			
Existing	970	Base Cooking	0.00%	0.00%	0.00%	100.00%	100.00%	100.00%	1.0	1.0	1.0			
Existing	980	Base Miscellaneous	0.00%	0.00%	0.00%	100.00%	100.00%	100.00%	1.0	1.0	1.0			
Existing	981	Plug Load Controls - Smart Power Strip	2.00%	2.00%	2.00%	100.00%	100.00%	100.00%	1.0	1.0	1.0			
Existing	982	Energy Star Ventilating Fans	1.40%	1.40%	1.40%	100.00%	100.00%	100.00%	1.0	1.0	1.0			
Existing	990	Base House Practices	0.00%	0.00%	0.00%	100.00%	100.00%	100.00%	1.0	1.0	1.0			
Existing	991	Indirect feedback	2.00%	2.00%	2.00%	100.00%	100.00%	100.00%	1.0	1.0	1.0			
New	100	Base Code Home - 2011 Energy Star	0.0%	0.0%	0.0%	100.00%	100.00%	100.00%	1.0	0.5	0.6			
New	101	2011 ENERGY STAR Home	31.4%	31.4%	31.4%	100.00%	100.00%	100.00%	1.0	0.5	0.6			

Commercial Electric Measure Inputs			BASE TECHNOLOGY EUIs (kWh/square foot)											
Segment	Measure #	Measure Description	Office- Small	Office- Large	Restau- rant	Retail- Small	Retail- Large	Food Store	Ware- house	School	College	Health	Lodging	Miscel- laneous
Existing	100	Base Fluorescent Fixture, 4L4'T8	7.99	7.78	6.79	3.72	3.35	7.50	1.55	3.24	8.53	5.64	1.78	2.63
Existing	110	Base Fluorescent Fixture, 2L4'T8, 1 EB	4.60	4.60	3.03	2.17	3.07	6.24	1.45	2.20	5.27	2.71	1.30	2.08
Existing	120	Base Other Fluorescent Fixture	3.65	1.75		1.03			2.12	0.42	2.21	2.12	0.57	0.51
Existing	130	Base High-Efficiency Incandescent Flood, 53W to Screw-in Replacement	24.29	6.79	3.00	3.86	10.38	5.11		0.15	4.32	2.65	3.60	3.15
Existing	140	Base High-Efficiency Incandescent Flood, 53W to Hardwired Replacement	24.29		3.00	3.86		5.11	2.83	0.15	4.32	2.65	3.60	3.15
Existing	150	Base CFL	1.40	2.28	0.77	0.62		6.30	0.70	1.33	1.30	0.86	0.63	0.57
Existing	160	Base High Bay Metal Halide, 400W		4.65	0.07		3.25	10.96	1.22	3.27	13.50		1.96	1.07
Existing	180	Base Parking Garage Metal Halide, 250 W		2.99							0.11	0.42		
Existing	185	Base Fluorescent Parking Garage Lighting	0.16	0.21									0.37	0.66
Existing	190	Base Exit Sign	0.01	0.01	0.06	0.01	0.01	0.01	0.00	0.01	0.02	0.03	0.02	0.00
Existing	200	Base Outdoor High Pressure Sodium 250W Lamp	1.04	0.16	3.60	1.21	0.54	0.43	0.56	0.78	0.74	0.38	0.37	0.39
Existing	210	Base Streetlighting High Pressure Sodium												0.66
Existing	300	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	2.85	2.85	3.85	2.32	0.90	1.69	0.96	0.86	1.70	3.06	0.93	0.91
Existing	320	Base DX Packaged System, EER=10.3, 10 tons	4.95	4.95	6.67	4.01	1.56	2.93	1.66	1.50	2.94	5.31	1.61	1.57
Existing	340	Base PTAC, EER=8.3, 1 ton								1.58	2.92		1.85	1.44
Existing	400	Base Fan Motor, 5hp, 1800rpm, 87.5%	2.37	3.15	6.06	4.05	1.89	1.05	0.67	0.62	1.02	2.05	2.74	0.60
Existing	410	Base Fan Motor, 15hp, 1800rpm, 91.0%	2.20	2.92	5.62	3.76	1.75	0.98	0.62	0.57	0.94	1.90	2.54	0.56
Existing	420	Base Fan Motor, 40hp, 1800rpm, 93.0%	2.16	2.87	5.53	3.69	1.72	0.96	0.61	0.56	0.93	1.87	2.50	0.55
Existing	500	Base Built-Up Refrigeration System	13.00	0.40	7.00	8.00	1.62	16.20	18.00	0.30	0.51	0.71	0.75	2.00
Existing	520	Base Self-Contained Refrigeration	0.15	0.06	4.53	3.14	2.98	2.41	0.06	0.18	0.19	0.22	0.21	0.14
Existing	600	Base Desktop PC	1.16	1.78	0.26	0.07	0.06	0.05	0.19	0.24	0.08	0.69	0.04	0.08
Existing	610	Base Monitor, CRT	0.01	0.04	0.02	0.00	0.01	0.01	0.01	0.00	0.01	0.04	0.00	
Existing	620	Base Monitor, LCD	0.45	0.53	0.09	0.03	0.02	0.02	0.06	0.06	0.02	0.20	0.01	0.02
Existing	630	Base Copier	0.04	0.07	0.05	0.02	0.01	0.02	0.02	0.00	0.00	0.06	0.00	0.01
Existing	640	Base Laser Printer	0.16	0.08	0.02	0.03	0.02	0.01	0.03	0.01	0.01	0.08	0.01	0.01
Existing	650	Base Data Center/Server Room	236.00	236.00	265.82	282.22	282.22	407.48	25.90	94.65	75.18	118.33	194.85	116.19
Existing	660	Base Water Heating	0.41	0.24	2.22	0.25	0.25	0.51	0.07	0.21	0.24	0.36	1.00	0.35
Existing	670	Base Vending Machines	0.06	0.09	0.14	0.10	0.14	0.16	0.09	0.13	0.12	0.06	0.12	0.04
Existing	700	Base Cooking	0.11	0.12	10.44	0.26	0.26	1.58	0.02	0.18	0.32	0.44	0.72	0.30
Existing	800	Base Heating	0.44	1.63	0.73	11.13	0.36	0.55	10.16	0.20	10.40	0.98	1.54	9.96
Existing	900	Base Miscellaneous	0.99	0.65	1.39	0.80	0.80	0.74	0.44	0.26	0.50	2.54	1.12	1.08
New	100	Base Bldg Design - 15%	13.39	14.59	31.79	8.33	8.53	19.68	3.40	5.41	8.71	15.08	6.70	5.59
New	200	Base Bldg Design - 30%	13.39	14.59	31.79	8.33	8.53	19.68	3.40	5.41	8.71	15.08	6.70	5.59
New	300	Base Bldg Design - 50%	13.39	14.59	31.79	8.33	8.53	19.68	3.40	5.41	8.71	15.08	6.70	5.59
New	400	Base Bldg Design - 70%	13.39	14.59	31.79	8.33	8.53	19.68	3.40	5.41	8.71	15.08	6.70	5.59

MEASURE COSTS		Measure Description	Savings Units	Cost Units	Unit Equipment Cost	Unit Labor Cost	NPV of Lifetime O & M Cost	Implementation Cost Factor	Service Life	Full = 1 Incr. = 0 Initial Cost	Replace Cost	Full Unit Cost	Relative Energy Reduction Factors					End Use	Implementation Type 1=1 time 2=ROB	
Segment	Measure #												SS	SON	SMD	SOFF	WON	WOFF		
Existing	100	Base Fluorescent Fixture, 4L4T8	sqft	fixture	\$0.00	\$0.00		\$0.00	18	1	1	\$0.00	1.00	1.00	1.00	1.00	1.00	1.00	1	2
Existing	101	ROB 4L4' Premium T8	sqft	fixture	\$16.00	\$0.00		\$16.00	25,000	1	1	\$16.00	1.00	1.00	1.00	1.00	1.00	1.00	1	2
Existing	102	Delamping 3L4' F32T8	sqft	fixture	\$62.00	\$0.00		\$62.00	18	1	1	\$62.00	1.00	1.00	1.00	1.00	1.00	1.00	1	2
Existing	103	LED Troffer (Base 4L4T8)	sqft	fixture	\$394.20	\$0.00		\$394.20	50,000	1	1	\$394.20	1.00	1.00	1.00	1.00	1.00	1.00	1	1
Existing	104	Lighting Control Tuneup	sqft	sqft	\$0.00	\$0.03		\$0.03	6	1	1	\$0.03	0.25	0.50	3.15	3.15	0.50	3.15	1	1
Existing	105	Occupancy Sensor, 4L4' Fluorescent Fixtures	sqft	sqft	\$0.14	\$0.00		\$0.14	18	1	1	\$0.14	0.25	0.50	3.15	3.15	0.50	3.15	1	1
Existing	106	Continuous Dimming, 4L4' Fluorescent Fixtures	sqft	sqft	\$0.75	\$0.00		\$0.75	10	1	1	\$0.75	0.25	0.50	3.15	3.15	0.50	3.15	1	1
Existing	107	High Performance Lighting R/R - 25% Savings, Base 4L4T8	sqft	sqft	\$0.40	\$0.00		\$0.40	20	1	1	\$0.40	0.50	0.75	2.15	2.15	0.75	2.15	1	1
Existing	110	Base Fluorescent Fixture, 2L4T8, 1 EB	sqft	fixture	\$0.00	\$0.00		\$0.00	18	1	1	\$0.00	1.00	1.00	1.00	1.00	1.00	1.00	1	2
Existing	111	ROB 2L4' Premium T8	sqft	fixture	\$8.00	\$0.00		\$8.00	25,000	1	1	\$8.00	1.00	1.00	1.00	1.00	1.00	1.00	1	2
Existing	112	Delamping 1L4' F32T8	sqft	fixture	\$62.00	\$0.00		\$62.00	18	1	1	\$62.00	1.00	1.00	1.00	1.00	1.00	1.00	1	2
Existing	113	LED Troffer (Base 2L4T8)	sqft	fixture	\$250.00	\$0.00		\$250.00	50,000	1	1	\$250.00	1.00	1.00	1.00	1.00	1.00	1.00	1	1
Existing	114	Lighting Control Tuneup	sqft	sqft	\$0.00	\$0.01		\$0.01	6	1	1	\$0.01	0.25	0.50	3.15	3.15	0.50	3.15	1	1
Existing	115	Occupancy Sensor, 2L4' Fluorescent Fixtures	sqft	sqft	\$0.14	\$0.00		\$0.14	18	1	1	\$0.14	0.25	0.50	3.15	3.15	0.50	3.15	1	1
Existing	116	Continuous Dimming, 2L4' Fluorescent Fixtures	sqft	sqft	\$0.75	\$0.00		\$0.75	10	1	1	\$0.75	0.25	0.50	3.15	3.15	0.50	3.15	1	1
Existing	117	High Performance Lighting R/R - 25% Savings, Base 2L4T8	sqft	sqft	\$0.40	\$0.00		\$0.40	20	1	1	\$0.40	0.50	0.75	2.15	2.15	0.75	2.15	1	1
Existing	120	Base Other Fluorescent Fixture	sqft	fixture	\$0.00	\$0.00		\$0.00	18	1	1	\$0.00	1.00	1.00	1.00	1.00	1.00	1.00	1	2
Existing	121	ROB Premium T8 (base other fluorescent)	sqft	fixture	\$8.00	\$0.00		\$8.00	25,000	1	1	\$8.00	1.00	1.00	1.00	1.00	1.00	1.00	1	2
Existing	122	Lighting Control Tuneup	sqft	sqft	\$0.00	\$0.03		\$0.03	6	1	1	\$0.03	0.25	0.50	3.15	3.15	0.50	3.15	1	1
Existing	123	Occupancy Sensor, 4L8' Fluorescent Fixtures	sqft	sqft	\$0.14	\$0.00		\$0.14	18	1	1	\$0.14	0.25	0.50	3.15	3.15	0.50	3.15	1	1
Existing	124	Continuous Dimming, 4L8' Fluorescent Fixtures	sqft	sqft	\$0.75	\$0.00		\$0.75	10	1	1	\$0.75	0.25	0.50	3.15	3.15	0.50	3.15	1	1
Existing	125	High Performance Lighting R/R - 25% Savings, Base Other Fluorescer	sqft	sqft	\$0.40	\$0.00		\$0.40	20	1	1	\$0.40	0.50	0.75	2.15	2.15	0.75	2.15	1	1
Existing	130	Base High-Efficiency Incandescent Flood, 53W to Screw-in Replacer	sqft	fixture	\$0.68	\$4.91		\$5.59	1,000	0	0	\$5.59	1.00	1.00	1.00	1.00	1.00	1.00	1	2
Existing	131	CFL Screw-in 18W	sqft	fixture	\$7.97	\$4.91		\$12.88	10,000	0	0	\$12.88	1.00	1.00	1.00	1.00	1.00	1.00	1	2
Existing	132	Cold Cathode Lamps	sqft	fixture	\$22.00	\$4.91		\$26.91	25,000	0	0	\$26.91	1.00	1.00	1.00	1.00	1.00	1.00	1	2
Existing	133	LED screw-in PAR replacement (base incandescent)	sqft	fixture	\$75.00	\$4.91		\$79.91	50,000	0	0	\$79.91	1.00	1.00	1.00	1.00	1.00	1.00	1	2
Existing	140	Base High-Efficiency Incandescent Flood, 53W to Hardwired Replacer	sqft	fixture	\$0.00	\$0.00		\$0.00	18	1	1	\$0.00	1.00	1.00	1.00	1.00	1.00	1.00	1	2
Existing	141	CFL Hardwired, Modular 18W	sqft	fixture	\$19.61	\$30.77		\$50.38	18	1	1	\$50.38	1.00	1.00	1.00	1.00	1.00	1.00	1	1
Existing	142	Ceramic Metal Halide	sqft	fixture	\$90.00	\$30.77		\$120.77	18	1	1	\$120.77	1.00	1.00	1.00	1.00	1.00	1.00	1	1
Existing	143	LED fixture replacement (base incandescent flood)	sqft	fixture	\$94.61	\$30.77	(\$32.62)	\$92.76	50,000	1	1	\$92.76	1.00	1.00	1.00	1.00	1.00	1.00	1	1
Existing	150	Base CFL to screw-in replacement	sqft	fixture	\$7.97	\$4.91		\$12.88	10,000	0	0	\$12.88	1.00	1.00	1.00	1.00	1.00	1.00	1	2
Existing	151	LED screw-in replacement (base CFL)	sqft	fixture	\$75.00	\$4.91		\$79.91	50,000	0	0	\$79.91	1.00	1.00	1.00	1.00	1.00	1.00	1	2
Existing	160	Base High Bay Metal Halide, 400W	sqft	fixture	\$200.00	\$60.00		\$260.00	18	1	1	\$260.00	1.00	1.00	1.00	1.00	1.00	1.00	1	2
Existing	161	High Bay T5	sqft	fixture	\$290.00	\$60.00		\$350.00	18	0	0	\$350.00	1.00	1.00	1.00	1.00	1.00	1.00	1	2
Existing	162	Induction High Bay Lighting	sqft	fixture	\$480.00	\$60.00		\$540.00	32	0	0	\$540.00	1.00	1.00	1.00	1.00	1.00	1.00	1	2
Existing	163	PSMH + electronic ballast	sqft	fixture	\$413.60	\$60.00		\$473.60	45,000	0	0	\$473.60	1.00	1.00	1.00	1.00	1.00	1.00	1	2
Existing	165	Occupancy Sensor, High Bay T5	sqft	sq ft	\$0.14	\$0.00		\$0.14	18	1	1	\$0.14	0.25	0.50	3.15	3.15	0.50	3.15	1	1
Existing	180	Base Parking Garage Metal Halide, 250 W	sqft	fixture	\$0.00	\$0.00		\$0.00	18	1	1	\$0.00	1.00	1.00	1.00	1.00	1.00	1.00	11	1
Existing	181	High-efficiency fluorescent parking garage fixture (Base MH)	sqft	fixture	\$305.00	\$0.00		\$305.00	18	1	1	\$305.00	1.00	1.00	1.00	1.00	1.00	1.00	11	1
Existing	182	Bi-Level LED Parking Garage Fixtures (Base MH)	sqft	fixture	\$702.62		(\$126.21)	\$576.41	40,000	1	1	\$576.41	1.00	0.87	1.50	1.50	0.87	1.50	11	1
Existing	185	Base Fluorescent Parking Garage Lighting	sqft	fixture	\$0.00	\$0.00		\$0.00	18	1	1	\$0.00	1.00	1.00	1.00	1.00	1.00	1.00	11	1
Existing	186	Parking Garage Low Wattage T8 Lamps replacing 32W lamps	sqft	fixture	\$4.00	\$0.00		\$4.00	25,000	1	1	\$4.00	1.00	1.00	1.00	1.00	1.00	1.00	11	1
Existing	187	Bi-Level LED Parking Garage Fixtures (Base Fluorescent)	sqft	fixture	\$702.62		(\$126.21)	\$576.41	40,000	1	1	\$576.41	1.00	0.87	1.50	1.50	0.87	1.50	11	1
Existing	190	Base Exit Sign	sqft	fixture	\$0.00	\$0.00		\$0.00	18	1	1	\$0.00	1.00	1.00	1.00	1.00	1.00	1.00	11	1
Existing	191	LED Exit Sign	sqft	fixture	\$50.00	\$0.00		\$50.00	18	1	1	\$50.00	1.00	1.00	1.00	1.00	1.00	1.00	11	1
Existing	200	Base Outdoor High Pressure Sodium 250W Lamp	sqft	fixture	\$89.00	\$60.00		\$149.00	18	1	1	\$149.00	1.00	1.00	1.00	1.00	1.00	1.00	2	1
Existing	201	Outdoor Lighting Controls (Photocell/Timeclock)	sqft	fixture	\$51.00	\$57.00		\$108.00	18	1	1	\$108.00	1.70	1.50	0.57	0.57	1.50	0.57	2	1
Existing	202	LED Outdoor Area Lighting	sqft	fixture	\$400.00	\$57.00	(\$126.21)	\$330.79	40,000	1	1	\$330.79	1.00	1.00	1.00	1.00	1.00	1.00	2	1
Existing	203	Bi-Level LED Outdoor Lighting	sqft	fixture	\$1,300.00	\$57.00	(\$126.21)	\$1,230.79	40,000	1	1	\$1,230.79	1.00	0.80	1.17	1.17	0.80	1.17	2	1
Existing	210	Base Streetlighting High Pressure Sodium	sqft	fixture	\$118.00	\$150.00		\$268.00	18,000	1	1	\$268.00	1.00	1.00	1.00	1.00	1.00	1.00	2	1
Existing	211	Induction Streetlighting	sqft	fixture	\$400.00	\$150.00		\$550.00	40,000	1	1	\$550.00	1.00	1.00	1.00	1.00	1.00	1.00	2	1
Existing	212	LED Streetlighting	sqft	fixture	\$400.00	\$150.00	(\$126.21)	\$423.79	40,000	1	1	\$423.79	1.00	1.00	1.00	1.00	1.00	1.00	2	1
Existing	300	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	sqft	ton	\$600.00			\$600.00	20	1	1	\$600.00	1.00	1.00	1.00	1.00	1.00	1.00	3	2
Existing	301	Centrifugal Chiller, 0.51 kW/ton, 500 tons	sqft	ton	\$675.00			\$675.00	20	0	0	\$675.00	1.00	1.00	1.00	1.00	1.00	1.00	3	2
Existing	302	Window Film (Standard) - Chiller	sqft	sf-window	\$2.06	\$0.64	\$0.13	\$2.84	10	1	1	\$2.84	1.00	1.00	1.00	1.00	1.00	1.00	3	1
Existing	303	EMS - Chiller	sqft	ton	\$60.00	\$0.00		\$60.00	15	1	1	\$60.00	1.00	1.00	1.00	1.00	1.00	1.00	3	1
Existing	304	Cool Roof - Chiller	sqft	sf-roof	\$0.35	\$0.00	\$0.13	\$0.48	10	1	1	\$0.48	1.00	1.00	1.00	1.00	1.00	1.00	3	1
Existing	305	Chiller Tune Up/Diagnostics	sqft	sqft	\$0.00	\$0.00	\$0.10	\$0.10	10	1	1	\$0.10	0.50	0.50	1.07	1.07	1.07	1.07	3	1
Existing	306	VSD for Chiller Pumps and Towers	sqft	ton	\$32.00	\$10.00		\$42.00	15	1	1	\$42.00	1.00	1.00	1.00	1.00	1.00	1.00	3	1
Existing	307	EMS Optimization - Chiller	sqft	sqft	\$0.00	\$0.00	\$0.03	\$0.03	5	1	1	\$0.03	0.25	0.50	1.09	1.09	1.09	1.09	3	1
Existing	308	Economizer - Chiller	sqft	ton	\$126.76	\$43.34		\$170.10	15	1	1	\$170.10	0.25	0.50	1.09	1.09	1.09	1.09	3	1
Existing	309	Ceiling/roof Insulation - Chiller	sqft	sf-ceiling	\$0.55	\$0.00		\$0.55	20	1	1	\$0.55	1.00	1.00	1.00	1.00	1.00	1.00	3	1
Existing	310	Duct/Pipe Insulation - Chiller	sqft	ft-insulati	\$3.08	\$0.00		\$3.08	10	1	1	\$3.08	1.00	1.00	1.00	1.00	1.00	1.00	3	1
Existing	311	High Efficiency Chiller Motors	sqft	ton	\$19.49	\$0.00		\$19.49	20	1	1	\$19.49	1.00	1.00	1.00	1.00	1.00	1.00	3	1
Existing	312	Thermal Energy Storage (TES) - Chiller	sqft	ton	\$376.29	\$0.00		\$376.29	20	1	1	\$376.29	-10.00	-3.00	2.70	2.70	-0.05	-0.05	3	1
Existing	320	Base DX Packaged System, EER=10.3, 10 tons	sqft	ton	\$1,588.24			\$1,588.24	20	1	1	\$1,588.24	1.00	1.00	1.00	1.00	1.00	1.00	3	2
Existing	321	DX Tune Up/ Advanced Diagnostics	sqft	sqft	\$0.00	\$0.00	\$0.13	\$0.13	10	1	1	\$0.13	0.50	0.50	1.07	1.07	1.07	1.07	3	1

MEASURE COSTS																					Implementation Type	
Segment	Measure #	Measure Description	Savings Units	Cost Units	Unit Equipment Cost	Unit Labor Cost	NPV of Lifetime O & M Cost	Implementation Cost Factor	Service Life	Full = 1 Incr. = 0 Initial Cost	Replace Cost	Full Unit Cost	Relative SS	Energy SON	Reduction SMD	Factors SOFF	WON	WOFF	End Use	1=1 time	2=ROB	
Existing	330	Optimize Controls - DX	sqft	sqft	\$0.00	\$0.00	\$0.04	\$0.04	5	1	1	\$0.04	0.25	0.50	1.09	1.09	1.09	1.09	3	1		
Existing	331	Economizer - DX	sqft	ton	\$126.76	\$43.34		\$170.10	15	1	1	\$170.10	0.25	0.50	1.09	1.09	1.09	1.09	3	1		
Existing	332	Aerosol Duct Sealing - DX	sqft	ton	\$16.67	\$91.24	(\$90.05)	\$17.86	15	1	1	\$17.86	1.00	1.00	1.00	1.00	1.00	1.00	3	1		
Existing	333	Ceiling/roof Insulation - DX	sqft	sf-ceiling	\$0.15	\$0.09		\$0.24	20	1	1	\$0.24	1.00	1.00	1.00	1.00	1.00	1.00	3	1		
Existing	334	Duct/Pipe Insulation - DX	sqft	ft-insulati	\$0.68	\$2.40	(\$0.48)	\$2.60	10	1	1	\$2.60	1.00	1.00	1.00	1.00	1.00	1.00	3	1		
Existing	335	DX Coil Cleaning	sqft	ton	\$13.16	\$0.00		\$13.16	5	1	1	\$13.16	1.00	1.00	1.00	1.00	1.00	1.00	3	1		
Existing	337	Geothermal Heat Pump, EER=13, 10 tons - DX	sqft	ton	\$800.00	\$0.00		\$800.00	15	1	1	\$800.00	1.00	1.00	1.00	1.00	1.00	1.00	3	2		
Existing	340	Base PTAC, EER=8.3, 1 ton	sqft	ton	\$1,125.00	\$0.00		\$1,125.00	20	1	1	\$1,125.00	1.00	1.00	1.00	1.00	1.00	1.00	3	2		
Existing	341	HE PTAC, EER=9.6, 1 ton	sqft	ton	\$1,313.00	\$0.00		\$1,313.00	20	0	0	\$1,313.00	1.00	1.00	1.00	1.00	1.00	1.00	3	2		
Existing	342	Hotel Room Controllers	sqft	\$/room	\$300.00	\$0.00		\$300.00	10	1	1	\$300.00	1.00	1.00	1.00	1.00	1.00	1.00	3	1		
Existing	400	Base Fan Motor, 5hp, 1800rpm, 87.5%	sqft	HP	\$52.00			\$52.00	20	1	1	\$52.00	1.00	1.00	1.00	1.00	1.00	1.00	4	2		
Existing	401	Fan Motor, 5hp, 1800rpm, 89.5%	sqft	HP	\$72.00			\$72.00	20	0	0	\$72.00	1.00	1.00	1.00	1.00	1.00	1.00	4	2		
Existing	402	Variable Speed Drive Control, 5 HP	sqft	HP	\$214.00	\$171.00		\$385.00	15	1	1	\$385.00	0.25	0.50	1.20	1.20	1.20	1.20	4	1		
Existing	410	Base Fan Motor, 15hp, 1800rpm, 91.0%	sqft	HP	\$43.00			\$43.00	20	1	1	\$43.00	1.00	1.00	1.00	1.00	1.00	1.00	4	1		
Existing	411	Fan Motor, 15hp, 1800rpm, 92.4%	sqft	HP	\$54.00			\$54.00	20	0	0	\$54.00	1.00	1.00	1.00	1.00	1.00	1.00	4	2		
Existing	412	Variable Speed Drive Control, 15 HP	sqft	HP	\$129.00	\$102.00		\$231.00	20	1	1	\$231.00	0.25	0.50	1.20	1.20	1.20	1.20	4	1		
Existing	413	Electronically Commutated Motors (ECM) on an Air Handler Unit	sqft	ton	\$27.76	\$0.00		\$27.76	15	1	1	\$27.76	0.25	0.50	1.20	1.20	1.20	1.20	4	2		
Existing	414	Energy Recovery Ventilation (ERV)	sqft	ton	\$130.95	\$0.00		\$130.95	20	1	1	\$130.95	1.00	1.00	1.00	1.00	1.00	1.00	4	1		
Existing	415	Separate Makeup Air / Exhaust Hoods AC	sqft	HP	\$3.00	\$0.00		\$3.00	15	1	1	\$3.00	1.00	1.00	1.00	1.00	1.00	1.00	4	1		
Existing	420	Base Fan Motor, 40hp, 1800rpm, 93.0%	sqft	HP	\$37.00			\$37.00	20	1	1	\$37.00	1.00	1.00	1.00	1.00	1.00	1.00	4	1		
Existing	421	Fan Motor, 40hp, 1800rpm, 94.1%	sqft	HP	\$47.00			\$47.00	20	0	0	\$47.00	1.00	1.00	1.00	1.00	1.00	1.00	4	2		
Existing	422	Variable Speed Drive Control, 40 HP	sqft	HP	\$120.00	\$37.00		\$157.00	20	1	1	\$157.00	0.25	0.50	1.20	1.20	1.20	1.20	4	1		
Existing	423	Air Handler Tuneups	sqft	sqft	\$0.00	\$0.00	\$0.05	\$0.05	8	1	1	\$0.05	0.50	0.50	1.18	1.18	1.18	1.18	4	1		
Existing	424	Demand Controlled Ventilation	sqft	sqft	\$0.48	\$0.00	(\$0.36)	\$0.12	15	1	1	\$0.12	0.25	0.50	1.20	1.20	1.20	1.20	4	1		
Existing	500	Base Built-Up Refrigeration System	sqft	sqft	\$0.00	\$0.00		\$0.00	10	1	1	\$0.00	1.00	1.00	1.00	1.00	1.00	1.00	5	1		
Existing	501	High-efficiency fan motors	sqft	100 sqft s	\$46,429.20	\$0.00		\$46,429.20	20	1	1	\$46,429.20	1.00	1.00	1.00	1.00	1.00	1.00	5	2		
Existing	502	Strip curtains for walk-ins	sqft	100 sqft s	\$1,995.00	\$0.00		\$1,995.00	4	1	1	\$1,995.00	1.00	1.00	1.00	1.00	1.00	1.00	5	1		
Existing	503	Night covers for display cases (built-up systems)	sqft	100 sqft s	\$9.25	\$0.00		\$9.25	4.8	1	1	\$9.25	0.00	0.25	2.60	2.60	0.25	2.60	5	1		
Existing	504	Efficient compressor motor retrofit	sqft	100 sqft s	\$3,510.00	\$0.00		\$3,510.00	10	1	1	\$3,510.00	1.00	1.00	1.00	1.00	1.00	1.00	5	2		
Existing	505	Compressor VSD retrofit	sqft	100 sqft s	\$16,200.00	\$0.00		\$16,200.00	13	1	1	\$16,200.00	0.25	0.50	1.15	1.15	1.15	1.15	5	1		
Existing	506	Floating head pressure controls	sqft	100 sqft s	\$4,995.00	\$0.00		\$4,995.00	14	1	1	\$4,995.00	0.00	0.25	2.60	2.60	0.25	2.60	5	1		
Existing	507	Refrigeration Commissioning	sqft	on of Loa	\$113.00	\$0.00		\$113.00	3	1	1	\$113.00	1.00	1.00	1.00	1.00	1.00	1.00	5	1		
Existing	508	Demand Hot Gas Defrost	sqft	HP	\$25.00	\$0.00		\$25.00	10	1	1	\$25.00	1.00	1.00	1.00	1.00	1.00	1.00	5	1		
Existing	509	Demand Defrost Electric	sqft	HP	\$25.00	\$0.00		\$25.00	10	1	1	\$25.00	1.00	1.00	1.00	1.00	1.00	1.00	5	1		
Existing	510	Anti-sweat (humidistat) controls	sqft	100 sqft s	\$6,450.40	\$0.00		\$6,450.40	12	1	1	\$6,450.40	0.50	0.50	1.14	1.14	1.14	1.14	5	1		
Existing	511	Freezer-Cooler Replacement Gaskets (built-up systems)	sqft	in ft door:	\$5.00	\$0.00		\$5.00	4	1	1	\$5.00	1.00	1.00	1.00	1.00	1.00	1.00	5	1		
Existing	512	High R-Value Glass Doors	sqft	t glass dc	\$100.28	\$0.00		\$100.28	10	1	1	\$100.28	1.00	1.00	1.00	1.00	1.00	1.00	5	1		
Existing	513	Bi-level LED Case Lighting (built-up systems)	sqft	t glass dc	\$100.00	\$0.00		\$100.00	10	1	1	\$100.00	0.76	0.76	1.50	1.50	0.76	1.50	5	1		
Existing	514	Fiber Optic Case Lighting (built-up systems)	sqft	t glass dc	\$114.08	\$0.00		\$114.08	1	1	1	\$114.08	1.00	1.00	1.00	1.00	1.00	1.00	5	1		
Existing	516	Multiplex Compressor System	sqft	tons	\$1,750.00	\$0.00		\$1,750.00	14	1	1	\$1,750.00	1.00	1.00	1.00	1.00	1.00	1.00	5	2		
Existing	517	Oversized Air Cooled Condenser	sqft	tons	\$400.00	\$0.00		\$400.00	16	1	1	\$400.00	1.00	1.00	1.00	1.00	1.00	1.00	5	1		
Existing	520	Base Self-Contained Refrigeration	sqft	sqft	\$0.00	\$0.00		\$0.00	10	1	1	\$0.00	1.00	1.00	1.00	1.00	1.00	1.00	5	1		
Existing	521	Strip curtains for walk-ins	sqft	100 sqft s	\$1,995.00			\$1,995.00	4	1	1	\$1,995.00	1.00	1.00	1.00	1.00	1.00	1.00	5	1		
Existing	522	Night covers for display cases (self-contained)	sqft	100 sqft s	\$9.25			\$9.25	5	1	1	\$9.25	0.00	0.25	2.60	2.60	0.25	2.60	5	1		
Existing	523	Freezer-Cooler Replacement Gaskets (self-contained)	sqft	in ft door:	\$5.00			\$5.00	4	1	1	\$5.00	1.00	1.00	1.00	1.00	1.00	1.00	5	1		
Existing	524	Bi-level LED Case Lighting (self-contained units)	sqft	t glass dc	\$100.00			\$100.00	10	1	1	\$100.00	0.76	0.76	1.50	1.50	0.76	1.50	5	1		
Existing	526	Energy-Star Refrigerator, solid door	sqft	refrigerato	\$60.00	\$0.00	\$0.00	\$60.00	10	1	1	\$60.00	1.00	1.00	1.00	1.00	1.00	1.00	5	2		
Existing	527	Energy-Star Freezer, solid door	sqft	freezer	\$250.00	\$0.00	\$0.00	\$250.00	10	1	1	\$250.00	1.00	1.00	1.00	1.00	1.00	1.00	5	2		
Existing	528	Energy-Star Refrigerator, glass door	sqft	refrigerato	\$1.00	\$0.00	\$0.00	\$1.00	10	1	1	\$1.00	1.00	1.00	1.00	1.00	1.00	1.00	5	2		
Existing	529	Energy-Star Freezer, glass door	sqft	freezer	\$30.00	\$0.00	\$0.00	\$30.00	10	1	1	\$30.00	1.00	1.00	1.00	1.00	1.00	1.00	5	2		
Existing	530	Energy Star Ice Machines	sqft	machine	\$10.00	\$0.00	\$0.00	\$10.00	10	1	1	\$10.00	1.00	1.00	1.00	1.00	1.00	1.00	5	2		
Existing	600	Base Desktop PC	sqft	PC	\$0.00	\$0.00		\$0.00	4	1	1	\$0.00	1.00	1.00	1.00	1.00	1.00	1.00	6	2		
Existing	601	PC Manual Power Management Enabling	sqft	PC		\$15.00		\$15.00	4	1	1	\$15.00	0.66	0.80	1.71	1.71	0.73	1.71	6	1		
Existing	602	PC Network Power Management Enabling	sqft	PC		\$15.00		\$15.00	4	1	1	\$15.00	0.66	0.80	1.71	1.71	0.73	1.71	6	1		
Existing	603	Energy Star or Better PC	sqft	PC	\$9.00			\$9.00	4	1	1	\$9.00	0.75	0.90	1.50	1.50	0.80	1.50	6	2		
Existing	610	Base Monitor, CRT	sqft	Monitor	\$0.00	\$0.00		\$0.00	4	1	1	\$0.00	1.00	1.00	1.00	1.00	1.00	1.00	6	2		
Existing	611	Energy Star or Better Monitor-CRT	sqft	Monitor	\$9.00			\$9.00	4	1	1	\$9.00	0.75	0.90	1.50	1.50	0.80	1.50	6	2		
Existing	612	Monitor Power Management Enabling--CRT	sqft	Monitor		15.00		\$15.00	4	1	1	\$15.00	0.66	0.80	1.71	1.71	0.73	1.71	6	1		
Existing	620	Base Monitor, LCD	sqft	Monitor	-	\$0.00		\$0.00	4	1	1	\$0.00	1.00	1.00	1.00	1.00	1.00	1.00	6	2		
Existing	621	Energy Star or Better Monitor--LCD	sqft	Monitor	\$9.00			\$9.00	4	1	1	\$9.00	0.75	0.90	1.50	1.50	0.80	1.50	6	2		
Existing	622	Monitor Power Management Enabling--LCD	sqft	Monitor		15.00		\$15.00	4	1	1	\$15.00	0.66	0.80	1.71	1.71	0.73	1.71	6	1		
Existing	630	Base Copier	sqft	Copier	\$0.00	\$0.00		\$0.00	6	1	1	\$0.00	1.00	1.00	1.00	1.00	1.00	1.00	6	1		
Existing	631	Energy Star or Better Copier	sqft	Copier	\$9.00			\$9.00	6	1	1	\$9.00	0.75	0.90	1.50	1.50	0.80	1.50	6	2		
Existing	632	Copier Power Management Enabling	sqft	Copier		\$45.00		\$45.00	6	1	1	\$45.00	0.66	0.80	1.71	1.71	0.73	1.71	6	1		
Existing	640	Base Laser Printer	sqft	Printer	\$0.00	\$0.00		\$0.00	5	1	1	\$0.00	1.00	1.00	1.00	1.00	1.00	1.00	6	1		
Existing	641	Printer Power Management Enabling	sqft	Printer		\$45.00		\$45.00	5	1	1	\$45.00	0.66	0.80	1.71	1.71	0.73	1.71	6	1		
Existing	650	Base Data Center/Server Room	sqft	sqft	\$0.00	\$0.00		\$0.00	10	1	1	\$0.00	1.00	1.00								

MEASURE COSTS																			Implementation Type	
Segment	Measure #	Measure Description	Savings Units	Cost Units	Unit Equipment Cost	Unit Labor Cost	NPV of Lifetime O & M Cost	Implementation Cost Factor	Service Life	Full = 1 Incr. = 0 Initial Cost	Replace Cost	Full Unit Cost	Relative SS	Energy Reduction SON	Reduction Factors SMD	SOFF	WON	WOFF	End Use	1=1 time 2=ROB
Existing	663	Hot Water Pipe Insulation	sqft	in Ft Pipe	\$1.59	\$3.63		\$5.22	15	1	1	\$5.22	1.00	1.00	1.00	1.00	1.00	1.00	7	1
Existing	664	Tankless Water Heater	sqft	kBtu/hr	\$6.73	\$4.54		\$11.27	20	1	1	\$11.27	1.00	1.00	1.00	1.00	1.00	1.00	7	2
Existing	665	Heat Pump Water Heater (air source)	sqft	kBtu/hr	\$30.22			\$30.22	15	1	1	\$30.22	1.00	1.00	1.00	1.00	1.00	1.00	7	2
Existing	666	Heat Recovery Unit	sqft	sqft	\$0.08			\$0.08	10	1	1	\$0.08	1.00	1.00	1.00	1.00	1.00	1.00	7	1
Existing	667	Heat Trap	sqft	kBtu/hr	\$0.36	\$2.00		\$2.36	10	1	1	\$2.36	1.00	1.00	1.00	1.00	1.00	1.00	7	1
Existing	668	Solar Water Heater	sqft	kBtu/hr	\$94.50			\$94.50	20	1	1	\$94.50	1.00	1.00	1.00	1.00	1.00	1.00	7	1
Existing	670	Base Vending Machines	sqft	machine	\$0.00	\$0.00		\$0.00	10	1	1	\$0.00	1.00	1.00	1.00	1.00	1.00	1.00	8	1
Existing	671	Vending Misers	sqft	machine	\$179.00	\$35.50		\$214.50	5	1	1	\$214.50	0.66	0.80	1.85	1.85	0.73	1.85	8	1
Existing	700	Base Cooking	sqft		\$0.00	\$0.00		\$0.00	10	1	1	\$0.00	1.00	1.00	1.00	1.00	1.00	1.00	9	1
Existing	701	Convection Oven	sqft	ingle ove	\$750.00			\$750.00	10	1	1	\$750.00	1.00	1.00	1.00	1.00	1.00	1.00	9	2
Existing	702	Efficient Fryer	sqft	unit	\$260.00			\$260.00	10	1	1	\$260.00	1.00	1.00	1.00	1.00	1.00	1.00	9	2
Existing	703	Efficient Steamer	sqft	unit	\$1,500.00			\$1,500.00	10	1	1	\$1,500	1.00	1.00	1.00	1.00	1.00	1.00	9	2
Existing	704	Energy Star Hot Food Holding Cabinets	sqft	unit	\$1,200.00			\$1,200.00	10	1	1	\$1,200	1.00	1.00	1.00	1.00	1.00	1.00	9	2
Existing	900	Base Heating	sqft	sqft	\$0.00	\$0.00		\$0.00	10	1	1	\$0.00	1.00	1.00	1.00	1.00	1.00	1.00	10	1
Existing	900	Base Miscellaneous	sqft		\$0.00	\$0.00		\$0.00	10	1	1	\$0.00	1.00	1.00	1.00	1.00	1.00	1.00	11	1
Existing	901	XMisc	sqft	sqft	\$0.00	\$0.00		\$0.00	10	1	1	\$0.00	1.00	1.00	1.00	1.00	1.00	1.00	11	1
New	100	Base Bldg Design - 15%	sqft	sqft	\$0.00		\$0.00	\$0.00	20	1	1	\$0.00	1.00	1.00	1.00	1.00	1.00	1.00	12	2
New	101	High Performance Building/Int Design - Tier 1 15% - Small Office	sqft	sqft	\$2.33		\$0.00	\$2.33	20	1	1	\$2.33	1.00	1.00	1.00	1.00	1.00	1.00	12	2
New	102	High Performance Building/Int Design - Tier 1 15% - Large Office	sqft	sqft	\$2.15		\$0.00	\$2.15	20	1	1	\$2.15	1.00	1.00	1.00	1.00	1.00	1.00	12	2
New	103	High Performance Building/Int Design - Tier 1 15% - Restaurant	sqft	sqft	\$2.75		\$0.00	\$2.75	20	1	1	\$2.75	1.00	1.00	1.00	1.00	1.00	1.00	12	2
New	104	High Performance Building/Int Design - Tier 1 15% - Small Retail	sqft	sqft	\$1.54		\$0.00	\$1.54	20	1	1	\$1.54	1.00	1.00	1.00	1.00	1.00	1.00	12	2
New	105	High Performance Building/Int Design - Tier 1 15% - Large Retail	sqft	sqft	\$1.80		\$0.00	\$1.80	20	1	1	\$1.80	1.00	1.00	1.00	1.00	1.00	1.00	12	2
New	106	High Performance Building/Int Design - Tier 1 15% - Grocery	sqft	sqft	\$1.42		\$0.00	\$1.42	20	1	1	\$1.42	1.00	1.00	1.00	1.00	1.00	1.00	12	2
New	107	High Performance Building/Int Design - Tier 1 15% - Warehouse	sqft	sqft	\$1.22		\$0.00	\$1.22	20	1	1	\$1.22	1.00	1.00	1.00	1.00	1.00	1.00	12	2
New	108	High Performance Building/Int Design - Tier 1 15% - School	sqft	sqft	\$2.19		\$0.00	\$2.19	20	1	1	\$2.19	1.00	1.00	1.00	1.00	1.00	1.00	12	2
New	109	High Performance Building/Int Design - Tier 1 15% - College	sqft	sqft	\$2.42		\$0.00	\$2.42	20	1	1	\$2.42	1.00	1.00	1.00	1.00	1.00	1.00	12	2
New	110	High Performance Building/Int Design - Tier 1 15% - Health	sqft	sqft	\$3.98		\$0.00	\$3.98	20	1	1	\$3.98	1.00	1.00	1.00	1.00	1.00	1.00	12	2
New	111	High Performance Building/Int Design - Tier 1 15% - Lodging	sqft	sqft	\$2.22		\$0.00	\$2.22	20	1	1	\$2.22	1.00	1.00	1.00	1.00	1.00	1.00	12	2
New	112	High Performance Building/Int Design - Tier 1 15% - Miscellaneous	sqft	sqft	\$2.18		\$0.00	\$2.18	20	1	1	\$2.18	1.00	1.00	1.00	1.00	1.00	1.00	12	2
New	200	Base Bldg Design - 30%	sqft	sqft	\$0.00		\$0.00	\$0.00	20	1	1	\$0.00	1.00	1.00	1.00	1.00	1.00	1.00	12	2
New	201	High Performance Building/Int Design - Tier 2 30% - Small Office	sqft	sqft	\$3.32		\$0.00	\$3.32	20	1	1	\$3.32	1.00	1.00	1.00	1.00	1.00	1.00	12	2
New	202	High Performance Building/Int Design - Tier 2 30% - Large Office	sqft	sqft	\$3.08		\$0.00	\$3.08	20	1	1	\$3.08	1.00	1.00	1.00	1.00	1.00	1.00	12	2
New	203	High Performance Building/Int Design - Tier 2 30% - Restaurant	sqft	sqft	\$3.92		\$0.00	\$3.92	20	1	1	\$3.92	1.00	1.00	1.00	1.00	1.00	1.00	12	2
New	204	High Performance Building/Int Design - Tier 2 30% - Small Retail	sqft	sqft	\$2.21		\$0.00	\$2.21	20	1	1	\$2.21	1.00	1.00	1.00	1.00	1.00	1.00	12	2
New	205	High Performance Building/Int Design - Tier 2 30% - Large Retail	sqft	sqft	\$2.58		\$0.00	\$2.58	20	1	1	\$2.58	1.00	1.00	1.00	1.00	1.00	1.00	12	2
New	206	High Performance Building/Int Design - Tier 2 30% - Grocery	sqft	sqft	\$2.04		\$0.00	\$2.04	20	1	1	\$2.04	1.00	1.00	1.00	1.00	1.00	1.00	12	2
New	207	High Performance Building/Int Design - Tier 2 30% - Warehouse	sqft	sqft	\$1.74		\$0.00	\$1.74	20	1	1	\$1.74	1.00	1.00	1.00	1.00	1.00	1.00	12	2
New	208	High Performance Building/Int Design - Tier 2 30% - School	sqft	sqft	\$3.13		\$0.00	\$3.13	20	1	1	\$3.13	1.00	1.00	1.00	1.00	1.00	1.00	12	2
New	209	High Performance Building/Int Design - Tier 2 30% - College	sqft	sqft	\$3.46		\$0.00	\$3.46	20	1	1	\$3.46	1.00	1.00	1.00	1.00	1.00	1.00	12	2
New	210	High Performance Building/Int Design - Tier 2 30% - Health	sqft	sqft	\$5.68		\$0.00	\$5.68	20	1	1	\$5.68	1.00	1.00	1.00	1.00	1.00	1.00	12	2
New	211	High Performance Building/Int Design - Tier 2 30% - Lodging	sqft	sqft	\$3.17		\$0.00	\$3.17	20	1	1	\$3.17	1.00	1.00	1.00	1.00	1.00	1.00	12	2
New	212	High Performance Building/Int Design - Tier 2 30% - Miscellaneous	sqft	sqft	\$3.12		\$0.00	\$3.12	20	1	1	\$3.12	1.00	1.00	1.00	1.00	1.00	1.00	12	2
New	300	Base Bldg Design - 50%	sqft	sqft	\$0.00		\$0.00	\$0.00	20	1	1	\$0.00	1.00	1.00	1.00	1.00	1.00	1.00	12	2
New	301	High Performance Building/Int Design - Tier 3 50% - Small Office	sqft	sqft	\$5.82		\$0.00	\$5.82	20	1	1	\$5.82	1.00	1.00	1.00	1.00	1.00	1.00	12	2
New	302	High Performance Building/Int Design - Tier 3 50% - Large Office	sqft	sqft	\$5.38		\$0.00	\$5.38	20	1	1	\$5.38	1.00	1.00	1.00	1.00	1.00	1.00	12	2
New	303	High Performance Building/Int Design - Tier 3 50% - Restaurant	sqft	sqft	\$6.87		\$0.00	\$6.87	20	1	1	\$6.87	1.00	1.00	1.00	1.00	1.00	1.00	12	2
New	304	High Performance Building/Int Design - Tier 3 50% - Small Retail	sqft	sqft	\$3.86		\$0.00	\$3.86	20	1	1	\$3.86	1.00	1.00	1.00	1.00	1.00	1.00	12	2
New	305	High Performance Building/Int Design - Tier 3 50% - Large Retail	sqft	sqft	\$4.51		\$0.00	\$4.51	20	1	1	\$4.51	1.00	1.00	1.00	1.00	1.00	1.00	12	2
New	306	High Performance Building/Int Design - Tier 3 50% - Grocery	sqft	sqft	\$3.56		\$0.00	\$3.56	20	1	1	\$3.56	1.00	1.00	1.00	1.00	1.00	1.00	12	2
New	307	High Performance Building/Int Design - Tier 3 50% - Warehouse	sqft	sqft	\$3.05		\$0.00	\$3.05	20	1	1	\$3.05	1.00	1.00	1.00	1.00	1.00	1.00	12	2
New	308	High Performance Building/Int Design - Tier 3 50% - School	sqft	sqft	\$5.48		\$0.00	\$5.48	20	1	1	\$5.48	1.00	1.00	1.00	1.00	1.00	1.00	12	2
New	309	High Performance Building/Int Design - Tier 3 50% - College	sqft	sqft	\$6.05		\$0.00	\$6.05	20	1	1	\$6.05	1.00	1.00	1.00	1.00	1.00	1.00	12	2
New	310	High Performance Building/Int Design - Tier 3 50% - Health	sqft	sqft	\$9.94		\$0.00	\$9.94	20	1	1	\$9.94	1.00	1.00	1.00	1.00	1.00	1.00	12	2
New	311	High Performance Building/Int Design - Tier 3 50% - Lodging	sqft	sqft	\$5.54		\$0.00	\$5.54	20	1	1	\$5.54	1.00	1.00	1.00	1.00	1.00	1.00	12	2
New	312	High Performance Building/Int Design - Tier 3 50% - Miscellaneous	sqft	sqft	\$5.46		\$0.00	\$5.46	20	1	1	\$5.46	1.00	1.00	1.00	1.00	1.00	1.00	12	2
New	400	Base Bldg Design - 70%	sqft	sqft	\$0.00		\$0.00	\$0.00	20	1	1	\$0.00	1.00	1.00	1.00	1.00	1.00	1.00	12	2
New	401	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-7 sqft	sqft		\$9.14		\$0.00	\$9.14	20	1	1	\$9.14	1.00	1.00	1.00	1.00	1.00	1.00	12	2
New	402	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-7 sqft	sqft		\$8.46		\$0.00	\$8.46	20	1	1	\$8.46	1.00	1.00	1.00	1.00	1.00	1.00	12	2
New	403	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-7 sqft	sqft		\$10.79		\$0.00	\$10.79	20	1	1	\$10.79	1.00	1.00	1.00	1.00	1.00	1.00	12	2
New	404	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-7 sqft	sqft		\$6.07		\$0.00	\$6.07	20	1	1	\$6.07	1.00	1.00	1.00	1.00	1.00	1.00	12	2
New	405	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-7 sqft	sqft		\$7.09		\$0.00	\$7.09	20	1	1	\$7.09	1.00	1.00	1.00	1.00	1.00	1.00	12	2
New	406	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-7 sqft	sqft		\$5.60		\$0.00	\$5.60	20	1	1	\$5.60	1.00	1.00	1.00	1.00	1.00	1.00	12	2
New	407	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-7 sqft	sqft		\$4.79		\$0.00	\$4.79	20	1	1	\$4.79	1.00	1.00	1.00	1.00	1.00	1.00	12	2
New	408	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-7 sqft	sqft		\$8.61		\$0.00	\$8.61	20	1	1	\$8.61	1.00	1.00	1.00	1.00	1.00	1.00	12	2
New	409	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-7 sqft	sqft		\$9.51		\$0.00	\$9.51	20	1	1	\$9.51	1.00	1.00	1.00	1.00	1.00	1.00	12	2
New	410	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-7 sqft	sqft		\$15.62		\$0.00	\$15.62	20	1	1	\$15.62	1.00	1.00	1.00	1.00	1.00	1.00	12	2
New	411	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-7 sqft	sqft		\$8.71		\$0.00	\$8.71	20	1	1	\$8.71	1.00	1.00	1.00	1.00	1.00	1.00	12	2
New	412	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-7 sqft	sqft		\$8.58		\$0.00	\$8.58	20	1	1</									

Commercial Elec Measure Inputs			APPLICABILITY FACTOR (percent)											
Segment	Measure #	Measure Description	Office- Small	Office- Large	Restau- rant	Retail- Small	Retail- Large	Food Store	Ware- house	School	College	Health	Lodging	Miscel- laneous
Existing	100	Base Fluorescent Fixture, 4L4'T8	61.12%	56.77%	5.61%	34.99%	34.33%	85.12%	70.44%	39.37%	14.94%	48.67%	1.51%	23.83%
Existing	101	ROB 4L4' Premium T8, 1EB	61.12%	56.77%	5.61%	34.99%	34.33%	85.12%	70.44%	39.37%	14.94%	5.93%	1.51%	23.83%
Existing	102	Delamping 3L4' F32T8	61.12%	56.77%	5.61%	34.99%	34.33%	85.12%	70.44%	39.37%	14.94%	5.93%	1.51%	23.83%
Existing	103	LED Troffer (Base 4L4'T8)	61.12%	56.77%	5.61%	34.99%	34.33%	85.12%	70.44%	39.37%	14.94%	5.93%	1.51%	23.83%
Existing	104	Lighting Control Tuneup	61.12%	56.77%	5.61%	34.99%	34.33%	85.12%	70.44%	39.37%	14.94%	5.93%	1.51%	23.83%
Existing	105	Occupancy Sensor, 4L4' Fluorescent Fixtures	61.12%	56.77%	5.61%	34.99%	34.33%	85.12%	70.44%	39.37%	14.94%	5.93%	1.51%	23.83%
Existing	106	Continuous Dimming, 4L4' Fluorescent Fixtures	61.12%	56.77%	5.61%	34.99%	34.33%	85.12%	70.44%	39.37%	14.94%	5.93%	1.51%	23.83%
Existing	107	High Performance Lighting R/R - 25% Savings, Base 4L4'T8	61.12%	56.77%	5.61%	34.99%	34.33%	85.12%	70.44%	39.37%	14.94%	5.93%	1.51%	23.83%
Existing	110	Base Fluorescent Fixture, 2L4'T8, 1 EB	1.78%	0.58%	69.61%	11.92%	0.35%	0.36%	0.50%	3.63%	22.56%	12.38%	8.51%	22.44%
Existing	111	ROB 2L4' Premium T8, 1EB	1.78%	0.58%	69.61%	11.92%	0.35%	0.36%	0.50%	3.63%	22.56%	12.38%	8.51%	22.44%
Existing	112	Delamping 1L4' F32T8	1.78%	0.58%	69.61%	11.92%	0.35%	0.36%	0.50%	3.63%	22.56%	12.38%	8.51%	22.44%
Existing	113	LED Troffer (Base 2L4'T8)	1.78%	0.58%	69.61%	11.92%	0.35%	0.36%	0.50%	3.63%	22.56%	12.38%	8.51%	22.44%
Existing	114	Lighting Control Tuneup	1.78%	0.58%	69.61%	11.92%	0.35%	0.36%	0.50%	3.63%	22.56%	12.38%	8.51%	22.44%
Existing	115	Occupancy Sensor, 2L4' Fluorescent Fixtures	1.78%	0.58%	69.61%	11.92%	0.35%	0.36%	0.50%	3.63%	22.56%	12.38%	8.51%	22.44%
Existing	116	Continuous Dimming, 2L4' Fluorescent Fixtures	1.78%	0.58%	69.61%	11.92%	0.35%	0.36%	0.50%	3.63%	22.56%	12.38%	8.51%	22.44%
Existing	117	High Performance Lighting R/R - 25% Savings, Base 2L4'T8	1.78%	0.58%	69.61%	11.92%	0.35%	0.36%	0.50%	3.63%	22.56%	12.38%	8.51%	22.44%
Existing	120	Base Other Fluorescent Fixture	4.78%	0.60%	0.00%	0.18%	0.00%	0.00%	0.05%	1.49%	2.65%	4.18%	0.37%	1.17%
Existing	121	ROB Premium T8, 1EB	4.78%	0.60%	0.00%	0.18%	0.00%	0.00%	0.05%	1.49%	2.65%	4.18%	0.37%	1.17%
Existing	122	Lighting Control Tuneup	4.78%	0.60%	0.00%	0.18%	0.00%	0.00%	0.05%	1.49%	2.65%	4.18%	0.37%	1.17%
Existing	123	Occupancy Sensor, 4L8' Fluorescent Fixtures	4.78%	0.60%	0.00%	0.18%	0.00%	0.00%	0.05%	1.49%	2.65%	4.18%	0.37%	1.17%
Existing	124	Continuous Dimming, 4L8' Fluorescent Fixtures	4.78%	0.60%	0.00%	0.18%	0.00%	0.00%	0.05%	1.49%	2.65%	4.18%	0.37%	1.17%
Existing	125	High Performance Lighting R/R - 25% Savings, Base Other Fluorescent	4.78%	0.60%	0.00%	0.18%	0.00%	0.00%	0.05%	1.49%	2.65%	4.18%	0.37%	1.17%
Existing	130	Base High-Efficiency Incandescent Flood, 53W to Screw-in Replacement	1.21%	0.58%	15.19%	9.90%	0.35%	0.09%	0.00%	2.43%	16.44%	1.31%	1.66%	1.77%
Existing	131	CFL Screw-in 18W	1.09%	0.52%	13.67%	8.91%	0.31%	0.08%	0.00%	2.18%	14.80%	1.17%	1.49%	1.60%
Existing	132	Cold Cathode Lamps	0.12%	0.06%	1.52%	0.99%	0.03%	0.01%	0.00%	0.24%	1.64%	0.13%	0.17%	0.18%
Existing	133	LED screw-in PAR replacement (base incandescent)	1.21%	0.58%	15.19%	9.90%	0.35%	0.09%	0.00%	2.43%	16.44%	0.03%	1.66%	1.77%
Existing	140	Base High-Efficiency Incandescent Flood, 53W to Hardwired Replacement	0.57%	0.00%	54.42%	2.03%	0.00%	0.27%	0.50%	1.21%	6.11%	11.08%	6.85%	20.66%
Existing	141	CFL Hardwired, Modular 18W	0.57%	0.00%	54.42%	2.03%	0.00%	0.27%	0.50%	1.21%	6.11%	11.08%	6.85%	20.66%
Existing	142	Ceramic Metal Halide	0.57%	0.00%	54.42%	2.03%	0.00%	0.27%	0.50%	1.21%	6.11%	11.08%	6.85%	20.66%
Existing	143	LED fixture replacement (base incandescent flood)	0.57%	0.00%	54.42%	2.03%	0.00%	0.27%	0.50%	1.21%	6.11%	11.08%	6.85%	20.66%
Existing	150	Base CFL to screw-in replacement	2.69%	8.26%	6.80%	9.37%	0.00%	0.23%	0.03%	4.07%	9.86%	9.45%	63.66%	9.20%
Existing	151	LED screw-in replacement (base CFL)	2.69%	8.26%	6.80%	9.37%	0.00%	0.23%	0.03%	4.07%	9.86%	9.45%	63.66%	9.20%
Existing	160	Base High Bay Metal Halide, 400W	0.00%	0.21%	15.77%	0.00%	24.28%	3.90%	1.97%	2.96%	0.13%	1.19%	2.35%	9.55%
Existing	161	High Bay T5	0.00%	0.21%	15.77%	0.00%	24.28%	3.90%	1.97%	2.96%	0.13%	0.00%	2.35%	9.55%
Existing	162	Induction High Bay Lighting	0.00%	0.21%	15.77%	0.00%	24.28%	3.90%	1.97%	2.96%	0.13%	0.00%	2.35%	9.55%
Existing	163	PSMH + electronic ballast	0.00%	0.21%	15.77%	0.00%	24.28%	3.90%	1.97%	2.96%	0.13%	0.00%	2.35%	9.55%
Existing	165	Occupancy Sensor, High Bay T5	0.00%	0.21%	15.77%	0.00%	24.28%	3.90%	1.97%	2.96%	0.13%	0.00%	2.35%	9.55%
Existing	180	Base Parking Garage Metal Halide, 250 W	0.00%	44.23%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	18.28%	6.92%	0.00%	0.00%
Existing	181	High-efficiency fluorescent parking garage fixture (Base MH)	0.00%	44.23%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	18.28%	6.92%	0.00%	0.00%
Existing	182	Bi-Level LED Parking Garage Fixtures (Base MH)	0.00%	44.23%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	18.28%	6.92%	0.00%	0.00%
Existing	185	Base Fluorescent Parking Garage Lighting	10.24%	31.84%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	2.03%	6.53%
Existing	186	Parking Garage Low Wattage T8 Lamps replacing 32W lamps	10.24%	31.84%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	2.03%	6.53%
Existing	187	Bi-Level LED Parking Garage Fixtures (Base Fluorescent)	10.24%	31.84%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	2.03%	6.53%
Existing	190	Base Exit Sign	82.46%	100.00%	79.17%	42.31%	100.00%	98.72%	100.00%	100.00%	100.00%	99.85%	100.00%	98.32%
Existing	191	LED Exit Sign	82.46%	100.00%	79.17%	42.31%	100.00%	98.72%	100.00%	100.00%	100.00%	99.85%	100.00%	98.32%
Existing	200	Base Outdoor High Pressure Sodium 250W Lamp	41.75%	34.94%	100.00%	44.58%	100.00%	98.65%	42.94%	93.40%	51.50%	92.69%	73.51%	86.52%
Existing	201	Outdoor Lighting Controls (Photocell/Timeclock)	41.75%	34.94%	100.00%	44.58%	100.00%	98.65%	42.94%	93.40%	51.50%	92.69%	73.51%	86.52%
Existing	202	LED Outdoor Area Lighting	41.75%	34.94%	100.00%	44.58%	100.00%	98.65%	42.94%	93.40%	51.50%	92.69%	73.51%	86.52%
Existing	203	Bi-Level LED Outdoor Lighting	41.75%	34.94%	100.00%	44.58%	100.00%	98.65%	42.94%	93.40%	51.50%	92.69%	73.51%	86.52%
Existing	210	Base Streetlighting High Pressure Sodium	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
Existing	211	Induction Streetlighting	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
Existing	212	LED Streetlighting	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%

Commercial Elec Measure Inputs			APPLICABILITY FACTOR (percent)											
Segment	Measure #	Measure Description	Office- Small	Office- Large	Restau- rant	Retail- Small	Retail- Large	Food Store	Ware- house	School	College	Health	Lodging	Miscel- laneous
Existing	300	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	0.00%	66.53%	0.00%	7.37%	0.00%	41.89%	0.20%	29.82%	22.57%	29.61%	38.72%	11.14%
Existing	301	Centrifugal Chiller, 0.51 kW/ton, 500 tons	0.00%	66.53%	0.00%	7.37%	0.00%	41.89%	0.20%	29.82%	22.57%	29.61%	38.72%	11.14%
Existing	302	Window Film (Standard) - Chiller	0.00%	66.53%	0.00%	7.37%	0.00%	41.89%	0.20%	29.82%	22.57%	29.61%	38.72%	11.14%
Existing	303	EMS - Chiller	0.00%	66.53%	0.00%	7.37%	0.00%	41.89%	0.20%	29.82%	22.57%	29.61%	38.72%	11.14%
Existing	304	Cool Roof - Chiller	0.00%	66.53%	0.00%	7.37%	0.00%	41.89%	0.20%	29.82%	22.57%	29.61%	38.72%	11.14%
Existing	305	Chiller Tune Up/Diagnostics	0.00%	66.53%	0.00%	7.37%	0.00%	41.89%	0.20%	29.82%	22.57%	29.61%	38.72%	11.14%
Existing	306	VSD for Chiller Pumps and Towers	0.00%	66.53%	0.00%	7.37%	0.00%	41.89%	0.20%	29.82%	22.57%	29.61%	38.72%	11.14%
Existing	307	EMS Optimization - Chiller	0.00%	66.53%	0.00%	7.37%	0.00%	41.89%	0.20%	29.82%	22.57%	29.61%	38.72%	11.14%
Existing	308	Economizer - Chiller	0.00%	66.53%	0.00%	7.37%	0.00%	41.89%	0.20%	29.82%	22.57%	29.61%	38.72%	11.14%
Existing	309	Ceiling/roof Insulation - Chiller	0.00%	66.53%	0.00%	7.37%	0.00%	41.89%	0.20%	29.82%	22.57%	29.61%	38.72%	11.14%
Existing	310	Duct/Pipe Insulation - Chiller	0.00%	66.53%	0.00%	7.37%	0.00%	41.89%	0.20%	29.82%	22.57%	29.61%	38.72%	11.14%
Existing	311	High Efficiency Chiller Motors	0.00%	66.53%	0.00%	7.37%	0.00%	41.89%	0.20%	29.82%	22.57%	29.61%	38.72%	11.14%
Existing	312	Thermal Energy Storage (TES) - Chiller	0.00%	66.53%	0.00%	7.37%	0.00%	41.89%	0.20%	29.82%	22.57%	29.61%	38.72%	11.14%
Existing	320	Base DX Packaged System, EER=10.3, 10 tons	38.84%	17.72%	84.81%	46.50%	134.68%	54.45%	19.40%	56.65%	44.12%	61.81%	18.66%	47.83%
Existing	321	DX Tune Up/ Advanced Diagnostics	38.84%	17.72%	84.81%	46.50%	134.68%	54.45%	19.40%	56.65%	44.12%	61.81%	18.66%	47.83%
Existing	322	Automated Fault Detection and Diagnostics	38.84%	17.72%	84.81%	46.50%	134.68%	54.45%	19.40%	56.65%	44.12%	61.81%	18.66%	47.83%
Existing	323	DX Packaged System, EER=10.9, 10 tons	38.84%	17.72%	84.81%	46.50%	134.68%	54.45%	19.40%	56.65%	44.12%	61.81%	18.66%	47.83%
Existing	324	DX Packaged System, EER=13.4, 10 tons	38.84%	17.72%	84.81%	46.50%	134.68%	54.45%	19.40%	56.65%	44.12%	61.81%	18.66%	47.83%
Existing	325	Window Film (Standard) - DX	38.84%	17.72%	84.81%	46.50%	134.68%	54.45%	19.40%	56.65%	44.12%	61.81%	18.66%	47.83%
Existing	326	Prog. Thermostat - DX	38.84%	17.72%	84.81%	46.50%	134.68%	54.45%	19.40%	56.65%	44.12%	61.81%	18.66%	47.83%
Existing	329	Cool Roof - DX	38.84%	17.72%	84.81%	46.50%	134.68%	54.45%	19.40%	56.65%	44.12%	61.81%	18.66%	47.83%
Existing	330	Optimize Controls - DX	38.84%	17.72%	84.81%	46.50%	134.68%	54.45%	19.40%	56.65%	44.12%	61.81%	18.66%	47.83%
Existing	331	Economizer - DX	38.84%	17.72%	84.81%	46.50%	134.68%	54.45%	19.40%	56.65%	44.12%	61.81%	18.66%	47.83%
Existing	332	Aerosol Duct Sealing - DX	38.84%	17.72%	84.81%	46.50%	134.68%	54.45%	19.40%	56.65%	44.12%	61.81%	18.66%	47.83%
Existing	333	Ceiling/roof Insulation - DX	38.84%	17.72%	84.81%	46.50%	134.68%	54.45%	19.40%	56.65%	44.12%	61.81%	18.66%	47.83%
Existing	334	Duct/Pipe Insulation - DX	38.84%	17.72%	84.81%	46.50%	134.68%	54.45%	19.40%	56.65%	44.12%	61.81%	18.66%	47.83%
Existing	335	DX Coil Cleaning	38.84%	17.72%	84.81%	46.50%	134.68%	54.45%	19.40%	56.65%	44.12%	61.81%	18.66%	47.83%
Existing	337	Geothermal Heat Pump, EER=13, 10 tons - DX	38.84%	17.72%	84.81%	46.50%	134.68%	54.45%	19.40%	56.65%	44.12%	61.81%	18.66%	47.83%
Existing	340	Base PTAC, EER=8.3, 1 ton	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.32%	0.27%	0.33%	24.52%	16.14%	0.00%
Existing	341	HE PTAC, EER=9.6, 1 ton	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.32%	0.27%	0.33%	24.52%	16.14%
Existing	342	Hotel Room Controllers	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	18.66%	0.00%
Existing	400	Base Fan Motor, 5hp, 1800rpm, 87.5%	42.48%	47.77%	50.41%	43.33%	100.00%	96.66%	30.15%	33.42%	81.73%	18.81%	65.42%	53.59%
Existing	401	Fan Motor, 5hp, 1800rpm, 89.5%	42.48%	47.77%	50.41%	43.33%	100.00%	96.66%	30.15%	33.42%	81.73%	18.81%	65.42%	53.59%
Existing	402	Variable Speed Drive Control, 5 HP	42.48%	47.77%	50.41%	43.33%	100.00%	96.66%	30.15%	33.42%	81.73%	18.81%	65.42%	53.59%
Existing	410	Base Fan Motor, 15hp, 1800rpm, 91.0%	7.36%	20.54%	0.00%	1.51%	0.00%	0.00%	0.00%	89.46%	68.91%	93.24%	0.00%	42.72%
Existing	411	Fan Motor, 15hp, 1800rpm, 92.4%	7.36%	20.54%	0.00%	1.51%	0.00%	0.00%	0.00%	89.46%	68.91%	93.24%	0.00%	42.72%
Existing	412	Variable Speed Drive Control, 15 HP	7.36%	20.54%	0.00%	1.51%	0.00%	0.00%	0.00%	89.46%	68.91%	93.24%	0.00%	42.72%
Existing	413	Electronically Commutated Motors (ECM) on an Air Handler Unit	7.36%	20.54%	0.00%	1.51%	0.00%	0.00%	0.00%	89.46%	68.91%	93.24%	0.00%	42.72%
Existing	414	Energy Recovery Ventilation (ERV)	7.36%	20.54%	0.00%	1.51%	0.00%	0.00%	0.00%	89.46%	68.91%	93.24%	0.00%	42.72%
Existing	415	Separate Makeup Air / Exhaust Hoods AC	7.36%	20.54%	0.00%	1.51%	0.00%	0.00%	0.00%	89.46%	68.91%	93.24%	0.00%	42.72%
Existing	420	Base Fan Motor, 40hp, 1800rpm, 93.0%	4.64%	35.68%	0.00%	1.51%	0.00%	95.57%	10.00%	37.29%	68.91%	96.27%	11.31%	33.90%
Existing	421	Fan Motor, 40hp, 1800rpm, 94.1%	4.64%	35.68%	0.00%	1.51%	0.00%	95.57%	10.00%	37.29%	68.91%	96.27%	11.31%	33.90%
Existing	422	Variable Speed Drive Control, 40 HP	4.64%	35.68%	0.00%	1.51%	0.00%	95.57%	10.00%	37.29%	68.91%	96.27%	11.31%	33.90%
Existing	423	Air Handler Tuneups	4.64%	35.68%	0.00%	1.51%	0.00%	95.57%	10.00%	37.29%	68.91%	96.27%	11.31%	33.90%
Existing	424	Demand Controlled Ventilation	4.64%	35.68%	0.00%	1.51%	0.00%	95.57%	10.00%	37.29%	68.91%	96.27%	11.31%	33.90%
Existing	500	Base Built-Up Refrigeration System	0.11%	1.16%	38.30%	0.49%	10.00%	10.66%	2.96%	7.69%	0.87%	1.10%	2.17%	0.06%
Existing	501	High-efficiency fan motors	0.11%	1.16%	38.30%	0.49%	10.00%	10.66%	2.96%	7.69%	0.87%	1.10%	2.17%	0.06%
Existing	502	Strip curtains for walk-ins	0.11%	1.16%	38.30%	0.49%	10.00%	10.66%	2.96%	7.69%	0.87%	1.10%	2.17%	0.06%
Existing	503	Night covers for display cases (built-up systems)	0.11%	1.16%	38.30%	0.49%	10.00%	10.66%	2.96%	7.69%	0.87%	1.10%	2.17%	0.06%
Existing	504	Efficient compressor motor retrofit	0.11%	1.16%	38.30%	0.49%	10.00%	10.66%	2.96%	7.69%	0.87%	1.10%	2.17%	0.06%
Existing	505	Compressor VSD retrofit	0.11%	1.16%	38.30%	0.49%	10.00%	10.66%	2.96%	7.69%	0.87%	1.10%	2.17%	0.06%
Existing	506	Floating head pressure controls	0.11%	1.16%	38.30%	0.49%	10.00%	10.66%	2.96%	7.69%	0.87%	1.10%	2.17%	0.06%

Commercial Elec Measure Inputs			APPLICABILITY FACTOR (percent)											
Segment	Measure #	Measure Description	Office- Small	Office- Large	Restau- rant	Retail- Small	Retail- Large	Food Store	Ware- house	School	College	Health	Lodging	Miscel- laneous
Existing	507	Refrigeration Commissioning	0.11%	1.16%	38.30%	0.49%	10.00%	10.66%	2.96%	7.69%	0.87%	1.10%	2.17%	0.06%
Existing	508	Demand Hot Gas Defrost	0.11%	1.16%	38.30%	0.49%	10.00%	10.66%	2.96%	7.69%	0.87%	1.10%	2.17%	0.06%
Existing	509	Demand Defrost Electric	0.11%	1.16%	38.30%	0.49%	10.00%	10.66%	2.96%	7.69%	0.87%	1.10%	2.17%	0.06%
Existing	510	Anti-sweat (humidistat) controls	0.11%	1.16%	38.30%	0.49%	10.00%	10.66%	2.96%	7.69%	0.87%	1.10%	2.17%	0.06%
Existing	511	Freezer-Cooler Replacement Gaskets (built-up systems)	0.11%	1.16%	38.30%	0.49%	10.00%	10.66%	2.96%	7.69%	0.87%	1.10%	2.17%	0.06%
Existing	512	High R-Value Glass Doors	0.11%	1.16%	38.30%	0.49%	10.00%	10.66%	2.96%	7.69%	0.87%	1.10%	2.17%	0.06%
Existing	513	Bi-level LED Case Lighting (built-up systems)	0.11%	1.16%	38.30%	0.49%	10.00%	10.66%	2.96%	7.69%	0.87%	1.10%	2.17%	0.06%
Existing	514	Fiber Optic Case Lighting (built-up systems)	0.11%	1.16%	38.30%	0.49%	10.00%	10.66%	2.96%	7.69%	0.87%	1.10%	2.17%	0.06%
Existing	516	Multiplex Compressor System	0.11%	1.16%	38.30%	0.49%	10.00%	10.66%	2.96%	7.69%	0.87%	1.10%	2.17%	0.06%
Existing	517	Oversized Air Cooled Condenser	0.11%	1.16%	38.30%	0.49%	10.00%	10.66%	2.96%	7.69%	0.87%	1.10%	2.17%	0.06%
Existing	520	Base Self-Contained Refrigeration	2.25%	0.00%	40.18%	5.35%	100.00%	99.69%	0.00%	57.36%	0.00%	5.24%	41.36%	0.96%
Existing	521	Strip curtains for walk-ins	2.25%	0.00%	40.18%	5.35%	100.00%	99.69%	0.00%	57.36%	0.00%	5.24%	41.36%	0.96%
Existing	522	Night covers for display cases (self-contained)	2.25%	0.00%	40.18%	5.35%	100.00%	99.69%	0.00%	57.36%	0.00%	5.24%	41.36%	0.96%
Existing	523	Freezer-Cooler Replacement Gaskets (self-contained)	2.25%	0.00%	40.18%	5.35%	100.00%	99.69%	0.00%	57.36%	0.00%	5.24%	41.36%	0.96%
Existing	524	Bi-level LED Case Lighting (self-contained units)	2.25%	0.00%	40.18%	5.35%	100.00%	99.69%	0.00%	57.36%	0.00%	5.24%	41.36%	0.96%
Existing	526	Energy-Star Refrigerator, solid door	2.25%	0.00%	40.18%	5.35%	100.00%	99.69%	0.00%	57.36%	0.00%	5.24%	41.36%	0.96%
Existing	527	Energy-Star Freezer, solid door	2.25%	0.00%	40.18%	5.35%	100.00%	99.69%	0.00%	57.36%	0.00%	5.24%	41.36%	0.96%
Existing	528	Energy-Star Refrigerator, glass door	2.25%	0.00%	40.18%	5.35%	100.00%	99.69%	0.00%	57.36%	0.00%	5.24%	41.36%	0.96%
Existing	529	Energy-Star Freezer, glass door	2.25%	0.00%	40.18%	5.35%	100.00%	99.69%	0.00%	57.36%	0.00%	5.24%	41.36%	0.96%
Existing	530	Energy Star Ice Machines	2.25%	0.00%	40.18%	5.35%	100.00%	99.69%	0.00%	57.36%	0.00%	5.24%	41.36%	0.96%
Existing	600	Base Desktop PC	100.00%	84.25%	94.79%	61.72%	100.00%	96.58%	100.00%	92.94%	99.27%	91.94%	100.00%	96.11%
Existing	601	PC Manual Power Management Enabling	100.00%	84.25%	94.79%	61.72%	100.00%	96.58%	100.00%	92.94%	99.27%	91.94%	100.00%	96.11%
Existing	602	PC Network Power Management Enabling	100.00%	84.25%	94.79%	61.72%	100.00%	96.58%	100.00%	92.94%	99.27%	91.94%	100.00%	96.11%
Existing	603	Energy Star or Better PC	100.00%	84.25%	94.79%	61.72%	100.00%	96.58%	100.00%	92.94%	99.27%	91.94%	100.00%	96.11%
Existing	610	Base Monitor, CRT	23.94%	0.00%	27.13%	29.09%	40.55%	1.98%	91.84%	74.76%	36.09%	66.53%	26.51%	37.95%
Existing	611	Energy Star or Better Monitor-CRT	23.94%	0.00%	27.13%	29.09%	40.55%	1.98%	91.84%	74.76%	36.09%	66.53%	26.51%	37.95%
Existing	612	Monitor Power Management Enabling--CRT	23.94%	0.00%	27.13%	29.09%	40.55%	1.98%	91.84%	74.76%	36.09%	66.53%	26.51%	37.95%
Existing	620	Base Monitor, LCD	100.00%	56.96%	94.79%	61.72%	100.00%	96.58%	100.00%	92.94%	99.27%	91.94%	100.00%	99.85%
Existing	621	Energy Star or Better Monitor--LCD	100.00%	56.96%	94.79%	61.72%	100.00%	96.58%	100.00%	92.94%	99.27%	91.94%	100.00%	99.85%
Existing	622	Monitor Power Management Enabling--LCD	100.00%	56.96%	94.79%	61.72%	100.00%	96.58%	100.00%	92.94%	99.27%	91.94%	100.00%	99.85%
Existing	630	Base Copier	86.55%	56.96%	70.21%	52.60%	100.00%	96.58%	98.55%	91.51%	67.60%	88.09%	94.90%	88.10%
Existing	631	Energy Star or Better Copier	86.55%	56.96%	70.21%	52.60%	100.00%	96.58%	98.55%	91.51%	67.60%	88.09%	94.90%	88.10%
Existing	632	Copier Power Management Enabling	86.55%	56.96%	70.21%	52.60%	100.00%	96.58%	98.55%	91.51%	67.60%	88.09%	94.90%	88.10%
Existing	640	Base Laser Printer	83.55%	25.40%	24.56%	28.92%	100.00%	2.03%	94.62%	87.65%	50.99%	91.94%	100.00%	85.69%
Existing	641	Printer Power Management Enabling	83.55%	25.40%	24.56%	28.92%	100.00%	2.03%	94.62%	87.65%	50.99%	91.94%	100.00%	85.69%
Existing	650	Base Data Center/Server Room	0.33%	0.06%	0.02%	0.02%	0.04%	0.07%	0.02%	0.01%	0.07%	0.21%	0.02%	0.00%
Existing	651	Data Center Improved Operations	0.33%	0.06%	0.02%	0.02%	0.04%	0.07%	0.02%	0.01%	0.07%	0.21%	0.02%	0.00%
Existing	652	Data Center Best Practices	0.33%	0.06%	0.02%	0.02%	0.04%	0.07%	0.02%	0.01%	0.07%	0.21%	0.02%	0.00%
Existing	653	Data Center State of the Art practices	0.33%	0.06%	0.02%	0.02%	0.04%	0.07%	0.02%	0.01%	0.07%	0.21%	0.02%	0.00%
Existing	660	Base Water Heating	51.00%	65.00%	17.00%	34.00%	0.00%	5.00%	63.00%	11.00%	3.00%	0.00%	0.00%	32.00%
Existing	661	Demand controlled circulating systems	51.00%	65.00%	17.00%	34.00%	0.00%	5.00%	63.00%	11.00%	3.00%	0.00%	0.00%	32.00%
Existing	662	High Efficiency Water Heater (electric)	51.00%	65.00%	17.00%	34.00%	0.00%	5.00%	63.00%	11.00%	3.00%	0.00%	0.00%	32.00%
Existing	663	Hot Water Pipe Insulation	51.00%	65.00%	17.00%	34.00%	0.00%	5.00%	63.00%	11.00%	3.00%	0.00%	0.00%	32.00%
Existing	664	Tankless Water Heater	51.00%	65.00%	17.00%	34.00%	0.00%	5.00%	63.00%	11.00%	3.00%	0.00%	0.00%	32.00%
Existing	665	Heat Pump Water Heater (air source)	51.00%	65.00%	17.00%	34.00%	0.00%	5.00%	63.00%	11.00%	3.00%	0.00%	0.00%	32.00%
Existing	666	Heat Recovery Unit	51.00%	65.00%	17.00%	34.00%	0.00%	5.00%	63.00%	11.00%	3.00%	0.00%	0.00%	32.00%
Existing	667	Heat Trap	51.00%	65.00%	17.00%	34.00%	0.00%	5.00%	63.00%	11.00%	3.00%	0.00%	0.00%	32.00%
Existing	668	Solar Water Heater	51.00%	65.00%	17.00%	34.00%	0.00%	5.00%	63.00%	11.00%	3.00%	0.00%	0.00%	32.00%
Existing	670	Base Vending Machines	99.90%	69.33%	23.87%	99.81%	100.00%	99.90%	73.32%	82.57%	37.12%	88.15%	17.63%	69.13%
Existing	671	Vending Misers	99.90%	69.33%	23.87%	99.81%	100.00%	99.90%	73.32%	82.57%	37.12%	88.15%	17.63%	69.13%
Existing	700	Base Cooking	2.25%	31.20%	67.26%	7.41%	75.22%	96.58%	0.00%	89.85%	30.30%	21.58%	33.08%	5.56%
Existing	701	Convection Oven	2.25%	31.20%	67.26%	7.41%	75.22%	96.58%	0.00%	89.85%	30.30%	21.58%	33.08%	5.56%

Commercial Elec Measure Inputs			APPLICABILITY FACTOR (percent)												
Segment	Measure #	Measure Description	Office-Small	Office-Large	Restau-rant	Retail-Small	Retail-Large	Food Store	Ware-house	School	College	Health	Lodging	Miscel-laneous	
Existing	702	Efficient Fryer	2.25%	31.20%	67.26%	7.41%	75.22%	96.58%	0.00%	89.85%	30.30%	21.58%	33.08%	5.56%	
Existing	703	Efficient Steamer	2.25%	31.20%	67.26%	7.41%	75.22%	96.58%	0.00%	89.85%	30.30%	21.58%	33.08%	5.56%	
Existing	704	Energy Star Hot Food Holding Cabinets	2.25%	31.20%	67.26%	7.41%	75.22%	96.58%	0.00%	89.85%	30.30%	21.58%	33.08%	5.56%	
Existing	800	Base Heating	0.00%	31.95%	7.12%	1.70%	0.00%	0.00%	0.37%	0.00%	0.23%	0.00%	32.51%	0.53%	
Existing	900	Base Miscellaneous	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	
Existing	901	XMisc	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	
New	100	Base Bldg Design - 15%	50.00%	50.00%	50.00%	50.00%	50.00%	50.00%	50.00%	50.00%	50.00%	50.00%	50.00%	50.00%	
New	101	High Performance Building/Int Design - Tier 1 15% - Small Office	50.00%												
New	102	High Performance Building/Int Design - Tier 1 15% - Large Office		50.00%											
New	103	High Performance Building/Int Design - Tier 1 15% - Restaurant			50.00%										
New	104	High Performance Building/Int Design - Tier 1 15% - Small Retail				50.00%									
New	105	High Performance Building/Int Design - Tier 1 15% - Large Retail					50.00%								
New	106	High Performance Building/Int Design - Tier 1 15% - Grocery						50.00%							
New	107	High Performance Building/Int Design - Tier 1 15% - Warehouse							50.00%						
New	108	High Performance Building/Int Design - Tier 1 15% - School								50.00%					
New	109	High Performance Building/Int Design - Tier 1 15% - College									50.00%				
New	110	High Performance Building/Int Design - Tier 1 15% - Health										50.00%			
New	111	High Performance Building/Int Design - Tier 1 15% - Lodging											50.00%		
New	112	High Performance Building/Int Design - Tier 1 15% - Miscellaneous												50.00%	
New	200	Base Bldg Design - 30%	40.00%	40.00%	40.00%	40.00%	40.00%	40.00%	40.00%	40.00%	40.00%	40.00%	40.00%	40.00%	
New	201	High Performance Building/Int Design - Tier 2 30% - Small Office	40.00%												
New	202	High Performance Building/Int Design - Tier 2 30% - Large Office		40.00%											
New	203	High Performance Building/Int Design - Tier 2 30% - Restaurant			40.00%										
New	204	High Performance Building/Int Design - Tier 2 30% - Small Retail				40.00%									
New	205	High Performance Building/Int Design - Tier 2 30% - Large Retail					40.00%								
New	206	High Performance Building/Int Design - Tier 2 30% - Grocery						40.00%							
New	207	High Performance Building/Int Design - Tier 2 30% - Warehouse							40.00%						
New	208	High Performance Building/Int Design - Tier 2 30% - School								40.00%					
New	209	High Performance Building/Int Design - Tier 2 30% - College									40.00%				
New	210	High Performance Building/Int Design - Tier 2 30% - Health										40.00%			
New	211	High Performance Building/Int Design - Tier 2 30% - Lodging											40.00%		
New	212	High Performance Building/Int Design - Tier 2 30% - Miscellaneous												40.00%	
New	300	Base Bldg Design - 50%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	
New	301	High Performance Building/Int Design - Tier 3 50% - Small Office	9.00%												
New	302	High Performance Building/Int Design - Tier 3 50% - Large Office		9.00%											
New	303	High Performance Building/Int Design - Tier 3 50% - Restaurant			9.00%										
New	304	High Performance Building/Int Design - Tier 3 50% - Small Retail				9.00%									
New	305	High Performance Building/Int Design - Tier 3 50% - Large Retail					9.00%								
New	306	High Performance Building/Int Design - Tier 3 50% - Grocery						9.00%							
New	307	High Performance Building/Int Design - Tier 3 50% - Warehouse							9.00%						
New	308	High Performance Building/Int Design - Tier 3 50% - School								9.00%					
New	309	High Performance Building/Int Design - Tier 3 50% - College									9.00%				
New	310	High Performance Building/Int Design - Tier 3 50% - Health										9.00%			
New	311	High Performance Building/Int Design - Tier 3 50% - Lodging											9.00%		
New	312	High Performance Building/Int Design - Tier 3 50% - Miscellaneous												9.00%	
New	400	Base Bldg Design - 70%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	
New	401	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Small Office	1.00%												
New	402	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Large Office		1.00%											
New	403	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Restaurant			1.00%										
New	404	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Small Retail				1.00%									
New	405	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Large Retail					1.00%								
New	406	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Grocery						1.00%							

Commercial Elec Measure Inputs			APPLICABILITY FACTOR (percent)											
Segment	Measure #	Measure Description	Office- Small	Office- Large	Restau- rant	Retail- Small	Retail- Large	Food Store	Ware- house	School	College	Health	Lodging	Miscel- laneous
New	407	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Warehouse							1.00%					
New	408	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - School								1.00%				
New	409	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - College									1.00%			
New	410	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Health										1.00%		
New	411	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Lodging											1.00%	
New	412	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Miscellaneous												1.00%

Commercial Elec Measure Inputs			ENERGY SAVINGS (percent)											
Segment	Measure #	Measure Description	Office- Small	Office- Large	Restau- rant	Retail- Small	Retail- Large	Food Store	Ware- house	School	College	Health	Lodging	Miscel- laneous
Existing	100	Base Fluorescent Fixture, 4L4'T8	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Existing	101	ROB 4L4' Premium T8, 1EB	17.1%	17.1%	17.1%	17.1%	17.1%	17.1%	17.1%	17.1%	17.1%	17.1%	17.1%	17.1%
Existing	102	Delamping 3L4' F32T8	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%
Existing	103	LED Troffer (Base 4L4'T8)	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%
Existing	104	Lighting Control Tuneup	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Existing	105	Occupancy Sensor, 4L4' Fluorescent Fixtures	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%
Existing	106	Continuous Dimming, 4L4' Fluorescent Fixtures	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%
Existing	107	High Performance Lighting R/R - 25% Savings, Base 4L4'T8	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
Existing	110	Base Fluorescent Fixture, 2L4'T8, 1 EB	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Existing	111	ROB 2L4' Premium T8, 1EB	17.1%	17.1%	17.1%	17.1%	17.1%	17.1%	17.1%	17.1%	17.1%	17.1%	17.1%	17.1%
Existing	112	Delamping 1L4' F32T8	47.9%	47.9%	47.9%	47.9%	47.9%	47.9%	47.9%	47.9%	47.9%	47.9%	47.9%	47.9%
Existing	113	LED Troffer (Base 2L4'T8)	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%
Existing	114	Lighting Control Tuneup	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Existing	115	Occupancy Sensor, 2L4' Fluorescent Fixtures	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%
Existing	116	Continuous Dimming, 2L4' Fluorescent Fixtures	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%
Existing	117	High Performance Lighting R/R - 25% Savings, Base 2L4'T8	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
Existing	120	Base Other Fluorescent Fixture	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Existing	121	ROB Premium T8, 1EB	17.1%	17.1%	17.1%	17.1%	17.1%	17.1%	17.1%	17.1%	17.1%	17.1%	17.1%	17.1%
Existing	122	Lighting Control Tuneup	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Existing	123	Occupancy Sensor, 4L8' Fluorescent Fixtures	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%
Existing	124	Continuous Dimming, 4L8' Fluorescent Fixtures	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%
Existing	125	High Performance Lighting R/R - 25% Savings, Base Other Fluorescent	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
Existing	130	Base High-Efficiency Incandescent Flood, 53W to Screw-in Replacement	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Existing	131	CFL Screw-in 18W	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
Existing	132	Cold Cathode Lamps	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
Existing	133	LED screw-in PAR replacement (base incandescent)	89.5%	89.5%	89.5%	89.5%	89.5%	89.5%	89.5%	89.5%	89.5%	89.5%	89.5%	89.5%
Existing	140	Base High-Efficiency Incandescent Flood, 53W to Hardwired Replacement	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Existing	141	CFL Hardwired, Modular 18W	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
Existing	142	Cermaic Metal Halide	37%	37%	37%	37%	37%	37%	37%	37%	37%	37%	37%	37%
Existing	143	LED fixture replacement (base incandescent flood)	89.5%	89.5%	89.5%	89.5%	89.5%	89.5%	89.5%	89.5%	89.5%	89.5%	89.5%	89.5%
Existing	150	Base CFL to screw-in replacement	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Existing	151	LED screw-in replacement (base CFL)	68%	68%	68%	68%	68%	68%	68%	68%	68%	68%	68%	68%
Existing	160	Base High Bay Metal Halide, 400W	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Existing	161	High Bay T5	48.6%	48.6%	48.6%	48.6%	48.6%	48.6%	48.6%	48.6%	48.6%	48.6%	48.6%	48.6%
Existing	162	Induction High Bay Lighting	37.4%	37.4%	37.4%	37.4%	37.4%	37.4%	37.4%	37.4%	37.4%	37.4%	37.4%	37.4%
Existing	163	PSMH + electronic ballast	37%	37%	37%	37%	37%	37%	37%	37%	37%	37%	37%	37%
Existing	165	Occupancy Sensor, High Bay T5	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%
Existing	180	Base Parking Garage Metal Halide, 250 W	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Existing	181	High-efficiency fluorescent parking garage fixture (Base MH)	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%
Existing	182	Bi-Level LED Parking Garage Fixtures (Base MH)	62.9%	62.9%	62.9%	62.9%	62.9%	62.9%	62.9%	62.9%	62.9%	62.9%	62.9%	62.9%
Existing	185	Base Fluorescent Parking Garage Lighting	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Existing	186	Parking Garage Low Wattage T8 Lamps replacing 32W lamps	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%
Existing	187	Bi-Level LED Parking Garage Fixtures (Base Fluorescent)	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%
Existing	190	Base Exit Sign	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Existing	191	LED Exit Sign	81%	81%	81%	81%	81%	81%	81%	81%	81%	81%	81%	81%
Existing	200	Base Outdoor High Pressure Sodium 250W Lamp	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Existing	201	Outdoor Lighting Controls (Photocell/Timeclock)	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%
Existing	202	LED Outdoor Area Lighting	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%
Existing	203	Bi-Level LED Outdoor Lighting	69.6%	69.6%	69.6%	69.6%	69.6%	69.6%	69.6%	69.6%	69.6%	69.6%	69.6%	69.6%
Existing	210	Base Streetlighting High Pressure Sodium	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Existing	211	Induction Streetlighting	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
Existing	212	LED Streetlighting	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%
Existing	300	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Commercial Elec Measure Inputs			ENERGY SAVINGS (percent)											
Segment	Measure #	Measure Description	Office- Small	Office- Large	Restau- rant	Retail- Small	Retail- Large	Food Store	Ware- house	School	College	Health	Lodging	Miscel- laneous
Existing	301	Centrifugal Chiller, 0.51 kW/ton, 500 tons	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%
Existing	302	Window Film (Standard) - Chiller	4.2%	4.2%	4.7%	1.1%	1.1%	1.1%	4.2%	1.8%	1.1%	1.1%	3.2%	1.1%
Existing	303	EMS - Chiller	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Existing	304	Cool Roof - Chiller	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Existing	305	Chiller Tune Up/Diagnostics	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
Existing	306	VSD for Chiller Pumps and Towers	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Existing	307	EMS Optimization - Chiller	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%
Existing	308	Economizer - Chiller	27%	27%	0%	21%	21%	21%	27%	12%	21%	21%	43%	0%
Existing	309	Ceiling/roof Insulation - Chiller	12.1%	12.1%	12.1%	12.1%	12.1%	12.1%	12.1%	12.1%	12.1%	12.1%	12.1%	12.1%
Existing	310	Duct/Pipe Insulation - Chiller	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Existing	311	High Efficiency Chiller Motors	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Existing	312	Thermal Energy Storage (TES) - Chiller	-6.6%	-6.6%	-6.6%	-6.6%	-6.6%	-6.6%	-6.6%	-6.6%	-6.6%	-6.6%	-6.6%	-6.6%
Existing	320	Base DX Packaged System, EER=10.3, 10 tons	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Existing	321	DX Tune Up/ Advanced Diagnostics	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Existing	322	Automated Fault Detection and Diagnostics	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Existing	323	DX Packaged System, EER=10.9, 10 tons	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%
Existing	324	DX Packaged System, EER=13.4, 10 tons	23%	23%	23%	23%	23%	23%	23%	23%	23%	23%	23%	23%
Existing	325	Window Film (Standard) - DX	4.2%	4.2%	4.7%	1.1%	1.1%	1.1%	4.2%	1.8%	1.1%	1.1%	3.2%	1.1%
Existing	326	Prog. Thermostat - DX	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Existing	329	Cool Roof - DX	2%	2%	7%	13%	13%	13%	2%	6%	13%	13%	0%	13%
Existing	330	Optimize Controls - DX	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Existing	331	Economizer - DX	21.0%	21.0%	8.0%	17.0%	17.0%	1.0%	0.0%	10.0%	10.0%	10.0%	8.0%	8.0%
Existing	332	Aerosol Duct Sealing - DX	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%
Existing	333	Ceiling/roof Insulation - DX	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%
Existing	334	Duct/Pipe Insulation - DX	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Existing	335	DX Coil Cleaning	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Existing	337	Geothermal Heat Pump, EER=13, 10 tons - DX	37.0%	37.0%	37.0%	37.0%	37.0%	37.0%	37.0%	37.0%	37.0%	37.0%	37.0%	37.0%
Existing	340	Base PTAC, EER=8.3, 1 ton	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Existing	341	HE PTAC, EER=9.6, 1 ton	13.5%	13.5%	13.5%	13.5%	13.5%	13.5%	13.5%	13.5%	13.5%	13.5%	13.5%	13.5%
Existing	342	Hotel Room Controllers	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%
Existing	400	Base Fan Motor, 5hp, 1800rpm, 87.5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Existing	401	Fan Motor, 5hp, 1800rpm, 89.5%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Existing	402	Variable Speed Drive Control, 5 HP	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%
Existing	410	Base Fan Motor, 15hp, 1800rpm, 91.0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Existing	411	Fan Motor, 15hp, 1800rpm, 92.4%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Existing	412	Variable Speed Drive Control, 15 HP	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%
Existing	413	Electronically Commutated Motors (ECM) on an Air Handler Unit	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%
Existing	414	Energy Recovery Ventilation (ERV)	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%
Existing	415	Separate Makeup Air / Exhaust Hoods AC	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
Existing	420	Base Fan Motor, 40hp, 1800rpm, 93.0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Existing	421	Fan Motor, 40hp, 1800rpm, 94.1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Existing	422	Variable Speed Drive Control, 40 HP	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%
Existing	423	Air Handler Tuneups	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%
Existing	424	Demand Controlled Ventilation	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%
Existing	500	Base Built-Up Refrigeration System	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Existing	501	High-efficiency fan motors	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%
Existing	502	Strip curtains for walk-ins	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Existing	503	Night covers for display cases (built-up systems)	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%
Existing	504	Efficient compressor motor retrofit	6.8%	6.8%	6.8%	6.8%	6.8%	6.8%	6.8%	6.8%	6.8%	6.8%	6.8%	6.8%
Existing	505	Compressor VSD retrofit	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%
Existing	506	Floating head pressure controls	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%
Existing	507	Refrigeration Commissioning	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Existing	508	Demand Hot Gas Defrost	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%

Commercial Elec Measure Inputs			ENERGY SAVINGS (percent)											
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Existing	509	Demand Defrost Electric	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
Existing	510	Anti-sweat (humidistat) controls	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Existing	511	Freezer-Cooler Replacement Gaskets (built-up systems)	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%
Existing	512	High R-Value Glass Doors	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Existing	513	Bi-level LED Case Lighting (built-up systems)	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%
Existing	514	Fiber Optic Case Lighting (built-up systems)	24.5%	24.5%	24.5%	24.5%	24.5%	24.5%	24.5%	24.5%	24.5%	24.5%	24.5%	24.5%
Existing	516	Multiplex Compressor System	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%
Existing	517	Oversized Air Cooled Condenser	8.1%	8.1%	8.1%	8.1%	8.1%	8.1%	8.1%	8.1%	8.1%	8.1%	8.1%	8.1%
Existing	520	Base Self-Contained Refrigeration	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Existing	521	Strip curtains for walk-ins	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.21%	0.00%	0.00%	0.00%	0.00%
Existing	522	Night covers for display cases (self-contained)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.7%	0.0%	0.0%	0.0%
Existing	523	Freezer-Cooler Replacement Gaskets (self-contained)	0.0%	0.0%	0.0%	3.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Existing	524	Bi-level LED Case Lighting (self-contained units)	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%
Existing	526	Energy-Star Refrigerator, solid door	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	10.1%	0.0%	0.0%
Existing	527	Energy-Star Freezer, solid door	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	5.4%	0.0%
Existing	528	Energy-Star Refrigerator, glass door	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	7.5%
Existing	529	Energy-Star Freezer, glass door	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Existing	530	Energy Star Ice Machines	4.95%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Existing	600	Base Desktop PC	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Existing	601	PC Manual Power Management Enabling	68%	68%	68%	68%	68%	68%	68%	68%	68%	68%	68%	68%
Existing	602	PC Network Power Management Enabling	68%	68%	68%	68%	68%	68%	68%	68%	68%	68%	68%	68%
Existing	603	Energy Star or Better PC	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%
Existing	610	Base Monitor, CRT	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Existing	611	Energy Star or Better Monitor-CRT	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%
Existing	612	Monitor Power Management Enabling--CRT	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%
Existing	620	Base Monitor, LCD	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Existing	621	Energy Star or Better Monitor--LCD	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%
Existing	622	Monitor Power Management Enabling--LCD	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%
Existing	630	Base Copier	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Existing	631	Energy Star or Better Copier	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%
Existing	632	Copier Power Management Enabling	19%	19%	19%	19%	19%	19%	19%	19%	19%	19%	19%	19%
Existing	640	Base Laser Printer	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Existing	641	Printer Power Management Enabling	49%	49%	49%	49%	49%	49%	49%	49%	49%	49%	49%	49%
Existing	650	Base Data Center/Server Room	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Existing	651	Data Center Improved Operations	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%
Existing	652	Data Center Best Practices	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%
Existing	653	Data Center State of the Art practices	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%
Existing	660	Base Water Heating	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Existing	661	Demand controlled circulating systems	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Existing	662	High Efficiency Water Heater (electric)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Existing	663	Hot Water Pipe Insulation	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Existing	664	Tankless Water Heater	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Existing	665	Heat Pump Water Heater (air source)	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%
Existing	666	Heat Recovery Unit	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%
Existing	667	Heat Trap	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%
Existing	668	Solar Water Heater	70%	70%	70%	70%	70%	70%	70%	70%	70%	70%	70%	70%
Existing	670	Base Vending Machines	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Existing	671	Vending Misers	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%
Existing	700	Base Cooking	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Existing	701	Convection Oven	0%	0%	0%	0%	0%	0%	2%	0%	0%	0%	0%	0%
Existing	702	Efficient Fryer	0%	0%	0%	0.0%	0.0%	0%	0%	1%	0%	0%	0%	0%
Existing	703	Efficient Steamer	0%	0%	0%	0.0%	0.0%	0%	0%	0%	13%	0%	0%	0%
Existing	704	Energy Star Hot Food Holding Cabinets	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Existing	800	Base Heating	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Existing	900	Base Miscellaneous	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Commercial Elec Measure Inputs			ENERGY SAVINGS (percent)											
Segment	Measure #	Measure Description	Office- Small	Office- Large	Restau- rant	Retail- Small	Retail- Large	Food Store	Ware- house	School	College	Health	Lodging	Miscel- laneous
Existing	901	XMisc	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
New	100	Base Bldg Design - 15%												
New	101	High Performance Building/Int Design - Tier 1 15% - Small Office	15.0%											
New	102	High Performance Building/Int Design - Tier 1 15% - Large Office		15.0%										
New	103	High Performance Building/Int Design - Tier 1 15% - Restaurant			15.0%									
New	104	High Performance Building/Int Design - Tier 1 15% - Small Retail				15.0%								
New	105	High Performance Building/Int Design - Tier 1 15% - Large Retail					15.0%							
New	106	High Performance Building/Int Design - Tier 1 15% - Grocery						15.0%						
New	107	High Performance Building/Int Design - Tier 1 15% - Warehouse							15.0%					
New	108	High Performance Building/Int Design - Tier 1 15% - School								15.0%				
New	109	High Performance Building/Int Design - Tier 1 15% - College									15.0%			
New	110	High Performance Building/Int Design - Tier 1 15% - Health										15.0%		
New	111	High Performance Building/Int Design - Tier 1 15% - Lodging											15.0%	
New	112	High Performance Building/Int Design - Tier 1 15% - Miscellaneous												15.0%
New	200	Base Bldg Design - 30%												
New	201	High Performance Building/Int Design - Tier 2 30% - Small Office	30.0%											
New	202	High Performance Building/Int Design - Tier 2 30% - Large Office		30.0%										
New	203	High Performance Building/Int Design - Tier 2 30% - Restaurant			30.0%									
New	204	High Performance Building/Int Design - Tier 2 30% - Small Retail				30.0%								
New	205	High Performance Building/Int Design - Tier 2 30% - Large Retail					30.0%							
New	206	High Performance Building/Int Design - Tier 2 30% - Grocery						30.0%						
New	207	High Performance Building/Int Design - Tier 2 30% - Warehouse							30.0%					
New	208	High Performance Building/Int Design - Tier 2 30% - School								30.0%				
New	209	High Performance Building/Int Design - Tier 2 30% - College									30.0%			
New	210	High Performance Building/Int Design - Tier 2 30% - Health										30.0%		
New	211	High Performance Building/Int Design - Tier 2 30% - Lodging											30.0%	
New	212	High Performance Building/Int Design - Tier 2 30% - Miscellaneous												30.0%
New	300	Base Bldg Design - 50%												
New	301	High Performance Building/Int Design - Tier 3 50% - Small Office	50%											
New	302	High Performance Building/Int Design - Tier 3 50% - Large Office		50%										
New	303	High Performance Building/Int Design - Tier 3 50% - Restaurant			50%									
New	304	High Performance Building/Int Design - Tier 3 50% - Small Retail				50%								
New	305	High Performance Building/Int Design - Tier 3 50% - Large Retail					50%							
New	306	High Performance Building/Int Design - Tier 3 50% - Grocery						50%						
New	307	High Performance Building/Int Design - Tier 3 50% - Warehouse							50%					
New	308	High Performance Building/Int Design - Tier 3 50% - School								50%				
New	309	High Performance Building/Int Design - Tier 3 50% - College									50%			
New	310	High Performance Building/Int Design - Tier 3 50% - Health										50%		
New	311	High Performance Building/Int Design - Tier 3 50% - Lodging											50%	
New	312	High Performance Building/Int Design - Tier 3 50% - Miscellaneous												50%
New	400	Base Bldg Design - 70%												
New	401	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Small Office	70.0%											
New	402	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Large Office		70.0%										
New	403	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Restaurant			70.0%									
New	404	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Small Retail				70.0%								
New	405	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Large Retail					70.0%							
New	406	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Grocery						70.0%						
New	407	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Warehouse							70.0%					
New	408	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - School								70.0%				
New	409	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - College									70.0%			
New	410	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Health										70.0%		
New	411	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Lodging											70.0%	
New	412	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Miscellaneous												70.0%

Commercial Elec Measure Inputs			Standards Adjustment Factor (percent)											
Segment	Measure #	Measure Description	Office-Small	Office-Large	Restau- rant	Retail- Small	Retail- Large	Food Store	Ware- house	School	College	Health	Lodging	Miscel- laneous
Existing	100	Base Fluorescent Fixture, 4L4'T8	94.81%	100.00%	91.21%	92.17%	100.00%	100.04%	90.23%	99.60%	97.27%	99.91%	100.00%	95.95%
Existing	101	ROB 4L4' Premium T8, 1EB	94.81%	100.00%	91.21%	92.17%	100.00%	100.04%	90.23%	99.60%	97.27%	99.91%	100.00%	95.95%
Existing	102	Delamping 3L4' F32T8	94.81%	100.00%	91.21%	92.17%	100.00%	100.04%	90.23%	99.60%	97.27%	99.91%	100.00%	95.95%
Existing	103	LED Troffer (Base 4L4'T8)	94.81%	100.00%	91.21%	92.17%	100.00%	100.04%	90.23%	99.60%	97.27%	99.91%	100.00%	95.95%
Existing	104	Lighting Control Tuneup	94.81%	100.00%	91.21%	92.17%	100.00%	100.04%	90.23%	99.60%	97.27%	99.91%	100.00%	95.95%
Existing	105	Occupancy Sensor, 4L4' Fluorescent Fixtures	94.81%	100.00%	91.21%	92.17%	100.00%	100.04%	90.23%	99.60%	97.27%	99.91%	100.00%	95.95%
Existing	106	Continuous Dimming, 4L4' Fluorescent Fixtures	94.81%	100.00%	91.21%	92.17%	100.00%	100.04%	90.23%	99.60%	97.27%	99.91%	100.00%	95.95%
Existing	107	High Performance Lighting R/R - 25% Savings, Base 4L4'T8	94.81%	100.00%	91.21%	92.17%	100.00%	100.04%	90.23%	99.60%	97.27%	99.91%	100.00%	95.95%
Existing	110	Base Fluorescent Fixture, 2L4'T8, 1 EB	95.88%	100.00%	97.99%	92.38%	100.00%	100.51%	93.22%	99.90%	101.01%	98.48%	98.42%	98.64%
Existing	111	ROB 2L4' Premium T8, 1EB	95.88%	100.00%	97.99%	92.38%	100.00%	100.51%	93.22%	99.90%	101.01%	98.48%	98.42%	98.64%
Existing	112	Delamping 1L4' F32T8	95.88%	100.00%	97.99%	92.38%	100.00%	100.51%	93.22%	99.90%	101.01%	98.48%	98.42%	98.64%
Existing	113	LED Troffer (Base 2L4'T8)	95.88%	100.00%	97.99%	92.38%	100.00%	100.51%	93.22%	99.90%	101.01%	98.48%	98.42%	98.64%
Existing	114	Lighting Control Tuneup	95.88%	100.00%	97.99%	92.38%	100.00%	100.51%	93.22%	99.90%	101.01%	98.48%	98.42%	98.64%
Existing	115	Occupancy Sensor, 2L4' Fluorescent Fixtures	95.88%	100.00%	97.99%	92.38%	100.00%	100.51%	93.22%	99.90%	101.01%	98.48%	98.42%	98.64%
Existing	116	Continuous Dimming, 2L4' Fluorescent Fixtures	95.88%	100.00%	97.99%	92.38%	100.00%	100.51%	93.22%	99.90%	101.01%	98.48%	98.42%	98.64%
Existing	117	High Performance Lighting R/R - 25% Savings, Base 2L4'T8	95.88%	100.00%	97.99%	92.38%	100.00%	100.51%	93.22%	99.90%	101.01%	98.48%	98.42%	98.64%
Existing	120	Base Other Fluorescent Fixture	97.39%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	97.14%	118.82%	100.00%	100.00%	100.00%
Existing	121	ROB Premium T8, 1EB	97.39%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	97.14%	118.82%	100.00%	100.00%	100.00%
Existing	122	Lighting Control Tuneup	97.39%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	97.14%	118.82%	100.00%	100.00%	100.00%
Existing	123	Occupancy Sensor, 4L8' Fluorescent Fixtures	97.39%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	97.14%	118.82%	100.00%	100.00%	100.00%
Existing	124	Continuous Dimming, 4L8' Fluorescent Fixtures	97.39%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	97.14%	118.82%	100.00%	100.00%	100.00%
Existing	125	High Performance Lighting R/R - 25% Savings, Base Other Fluorescent	97.39%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	97.14%	118.82%	100.00%	100.00%	100.00%
Existing	130	Base High-Efficiency Incandescent Flood, 53W to Screw-in Replacement	70.00%	70.00%	70.00%	70.00%	70.00%	70.00%	70.00%	70.00%	70.00%	70.00%	70.00%	70.00%
Existing	131	CFL Screw-in 18W	70.00%	70.00%	70.00%	70.00%	70.00%	70.00%	70.00%	70.00%	70.00%	70.00%	70.00%	70.00%
Existing	132	Cold Cathode Lamps	70.00%	70.00%	70.00%	70.00%	70.00%	70.00%	70.00%	70.00%	70.00%	70.00%	70.00%	70.00%
Existing	133	LED screw-in PAR replacement (base incandescent)	70.00%	70.00%	70.00%	70.00%	70.00%	70.00%	70.00%	70.00%	70.00%	70.00%	70.00%	70.00%
Existing	140	Base High-Efficiency Incandescent Flood, 53W to Hardwired Replacement	70.00%	70.00%	70.00%	70.00%	70.00%	70.00%	70.00%	70.00%	70.00%	70.00%	70.00%	70.00%
Existing	141	CFL Hardwired, Modular 18W	70.00%	70.00%	70.00%	70.00%	70.00%	70.00%	70.00%	70.00%	70.00%	70.00%	70.00%	70.00%
Existing	142	Ceramic Metal Halide	70.00%	70.00%	70.00%	70.00%	70.00%	70.00%	70.00%	70.00%	70.00%	70.00%	70.00%	70.00%
Existing	143	LED fixture replacement (base incandescent flood)	70.00%	70.00%	70.00%	70.00%	70.00%	70.00%	70.00%	70.00%	70.00%	70.00%	70.00%	70.00%
Existing	150	Base CFL to screw-in replacement	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	151	LED screw-in replacement (base CFL)	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	160	Base High Bay Metal Halide, 400W	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	161	High Bay T5	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	162	Induction High Bay Lighting	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	163	PSMH + electronic ballast	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	165	Occupancy Sensor, High Bay T5	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	180	Base Parking Garage Metal Halide, 250 W	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	181	High-efficiency fluorescent parking garage fixture (Base MH)	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	182	Bi-Level LED Parking Garage Fixtures (Base MH)	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	185	Base Fluorescent Parking Garage Lighting	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	186	Parking Garage Low Wattage T8 Lamps replacing 32W lamps	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	187	Bi-Level LED Parking Garage Fixtures (Base Fluorescent)	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	190	Base Exit Sign	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	191	LED Exit Sign	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	200	Base Outdoor High Pressure Sodium 250W Lamp	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	201	Outdoor Lighting Controls (Photocell/Timeclock)	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	202	LED Outdoor Area Lighting	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	203	Bi-Level LED Outdoor Lighting	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	210	Base Streetlighting High Pressure Sodium	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	211	Induction Streetlighting	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	212	LED Streetlighting	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	300	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Commercial Elec Measure Inputs			Standards Adjustment Factor (percent)											
Segment	Measure #	Measure Description	Office-Small	Office-Large	Restau- rant	Retail- Small	Retail- Large	Food Store	Ware- house	School	College	Health	Lodging	Miscel- laneous
Existing	301	Centrifugal Chiller, 0.51 kW/ton, 500 tons	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	302	Window Film (Standard) - Chiller	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	303	EMS - Chiller	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	304	Cool Roof - Chiller	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	305	Chiller Tune Up/Diagnostics	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	306	VSD for Chiller Pumps and Towers	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	307	EMS Optimization - Chiller	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	308	Economizer - Chiller	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	309	Ceiling/roof Insulation - Chiller	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	310	Duct/Pipe Insulation - Chiller	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	311	High Efficiency Chiller Motors	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	312	Thermal Energy Storage (TES) - Chiller	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	320	Base DX Packaged System, EER=10.3, 10 tons	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	321	DX Tune Up/ Advanced Diagnostics	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	322	Automated Fault Detection and Diagnostics	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	323	DX Packaged System, EER=10.9, 10 tons	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	324	DX Packaged System, EER=13.4, 10 tons	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	325	Window Film (Standard) - DX	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	326	Prog. Thermostat - DX	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	329	Cool Roof - DX	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	330	Optimize Controls - DX	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	331	Economizer - DX	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	332	Aerosol Duct Sealing - DX	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	333	Ceiling/roof Insulation - DX	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	334	Duct/Pipe Insulation - DX	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	335	DX Coil Cleaning	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	337	Geothermal Heat Pump, EER=13, 10 tons - DX	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	340	Base PTAC, EER=8.3, 1 ton	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	341	HE PTAC, EER=9.6, 1 ton	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	342	Hotel Room Controllers	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	400	Base Fan Motor, 5hp, 1800rpm, 87.5%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	401	Fan Motor, 5hp, 1800rpm, 89.5%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	402	Variable Speed Drive Control, 5 HP	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	410	Base Fan Motor, 15hp, 1800rpm, 91.0%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	411	Fan Motor, 15hp, 1800rpm, 92.4%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	412	Variable Speed Drive Control, 15 HP	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	413	Electronically Commutated Motors (ECM) on an Air Handler Unit	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	414	Energy Recovery Ventilation (ERV)	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	415	Separate Makeup Air / Exhaust Hoods AC	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	420	Base Fan Motor, 40hp, 1800rpm, 93.0%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	421	Fan Motor, 40hp, 1800rpm, 94.1%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	422	Variable Speed Drive Control, 40 HP	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	423	Air Handler Tuneups	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	424	Demand Controlled Ventilation	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	500	Base Built-Up Refrigeration System	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	501	High-efficiency fan motors	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	502	Strip curtains for walk-ins	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	503	Night covers for display cases (built-up systems)	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	504	Efficient compressor motor retrofit	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	505	Compressor VSD retrofit	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	506	Floating head pressure controls	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	507	Refrigeration Commissioning	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	508	Demand Hot Gas Defrost	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Commercial Elec Measure Inputs			Standards Adjustment Factor (percent)											
Segment	Measure #	Measure Description	Office-Small	Office-Large	Restau- rant	Retail- Small	Retail- Large	Food Store	Ware- house	School	College	Health	Lodging	Miscel- laneous
Existing	509	Demand Defrost Electric	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	510	Anti-sweat (humidistat) controls	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	511	Freezer-Cooler Replacement Gaskets (built-up systems)	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	512	High R-Value Glass Doors	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	513	Bi-level LED Case Lighting (built-up systems)	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	514	Fiber Optic Case Lighting (built-up systems)	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	516	Multiplex Compressor System	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	517	Oversized Air Cooled Condenser	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	520	Base Self-Contained Refrigeration	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	521	Strip curtains for walk-ins	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	522	Night covers for display cases (self-contained)	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	523	Freezer-Cooler Replacement Gaskets (self-contained)	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	524	Bi-level LED Case Lighting (self-contained units)	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	526	Energy-Star Refrigerator, solid door	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	527	Energy-Star Freezer, solid door	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	528	Energy-Star Refrigerator, glass door	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	529	Energy-Star Freezer, glass door	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	530	Energy Star Ice Machines	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	600	Base Desktop PC	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	601	PC Manual Power Management Enabling	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	602	PC Network Power Management Enabling	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	603	Energy Star or Better PC	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	610	Base Monitor, CRT	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	611	Energy Star or Better Monitor-CRT	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	612	Monitor Power Management Enabling--CRT	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	620	Base Monitor, LCD	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	621	Energy Star or Better Monitor--LCD	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	622	Monitor Power Management Enabling--LCD	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	630	Base Copier	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	631	Energy Star or Better Copier	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	632	Copier Power Management Enabling	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	640	Base Laser Printer	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	641	Printer Power Management Enabling	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	650	Base Data Center/Server Room	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	651	Data Center Improved Operations	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	652	Data Center Best Practices	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	653	Data Center State of the Art practices	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	660	Base Water Heating	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	661	Demand controlled circulating systems	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	662	High Efficiency Water Heater (electric)	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	663	Hot Water Pipe Insulation	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	664	Tankless Water Heater	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	665	Heat Pump Water Heater (air source)	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	666	Heat Recovery Unit	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	667	Heat Trap	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	668	Solar Water Heater	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	670	Base Vending Machines	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	671	Vending Misers	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	700	Base Cooking	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	701	Convection Oven	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	702	Efficient Fryer	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	703	Efficient Steamer	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	704	Energy Star Hot Food Holding Cabinets	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Commercial Elec Measure Inputs			Standards Adjustment Factor (percent)											
Segment	Measure #	Measure Description	Office-Small	Office-Large	Restau-rant	Retail-Small	Retail-Large	Food Store	Ware-house	School	College	Health	Lodging	Miscel-laneous
Existing	800	Base Heating	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	900	Base Miscellaneous	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	901	XMisc	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
New	100	Base Bldg Design - 15%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
New	101	High Performance Building/Int Design - Tier 1 15% - Small Office	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
New	102	High Performance Building/Int Design - Tier 1 15% - Large Office												
New	103	High Performance Building/Int Design - Tier 1 15% - Restaurant			100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
New	104	High Performance Building/Int Design - Tier 1 15% - Small Retail												
New	105	High Performance Building/Int Design - Tier 1 15% - Large Retail					100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
New	106	High Performance Building/Int Design - Tier 1 15% - Grocery												
New	107	High Performance Building/Int Design - Tier 1 15% - Warehouse							100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
New	108	High Performance Building/Int Design - Tier 1 15% - School												
New	109	High Performance Building/Int Design - Tier 1 15% - College									100.0%	100.0%	100.0%	100.0%
New	110	High Performance Building/Int Design - Tier 1 15% - Health												
New	111	High Performance Building/Int Design - Tier 1 15% - Lodging											100.0%	100.0%
New	112	High Performance Building/Int Design - Tier 1 15% - Miscellaneous												
New	200	Base Bldg Design - 30%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
New	201	High Performance Building/Int Design - Tier 2 30% - Small Office	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
New	202	High Performance Building/Int Design - Tier 2 30% - Large Office												
New	203	High Performance Building/Int Design - Tier 2 30% - Restaurant			100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
New	204	High Performance Building/Int Design - Tier 2 30% - Small Retail												
New	205	High Performance Building/Int Design - Tier 2 30% - Large Retail					100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
New	206	High Performance Building/Int Design - Tier 2 30% - Grocery												
New	207	High Performance Building/Int Design - Tier 2 30% - Warehouse							100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
New	208	High Performance Building/Int Design - Tier 2 30% - School												
New	209	High Performance Building/Int Design - Tier 2 30% - College									100.0%	100.0%	100.0%	100.0%
New	210	High Performance Building/Int Design - Tier 2 30% - Health												
New	211	High Performance Building/Int Design - Tier 2 30% - Lodging											100.0%	100.0%
New	212	High Performance Building/Int Design - Tier 2 30% - Miscellaneous												
New	300	Base Bldg Design - 50%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
New	301	High Performance Building/Int Design - Tier 3 50% - Small Office	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
New	302	High Performance Building/Int Design - Tier 3 50% - Large Office												
New	303	High Performance Building/Int Design - Tier 3 50% - Restaurant			100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
New	304	High Performance Building/Int Design - Tier 3 50% - Small Retail												
New	305	High Performance Building/Int Design - Tier 3 50% - Large Retail					100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
New	306	High Performance Building/Int Design - Tier 3 50% - Grocery												
New	307	High Performance Building/Int Design - Tier 3 50% - Warehouse							100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
New	308	High Performance Building/Int Design - Tier 3 50% - School												
New	309	High Performance Building/Int Design - Tier 3 50% - College									100.0%	100.0%	100.0%	100.0%
New	310	High Performance Building/Int Design - Tier 3 50% - Health												
New	311	High Performance Building/Int Design - Tier 3 50% - Lodging											100.0%	100.0%
New	312	High Performance Building/Int Design - Tier 3 50% - Miscellaneous												
New	400	Base Bldg Design - 70%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
New	401	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Small Office	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
New	402	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Large Office												
New	403	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Restaurant			100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
New	404	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Small Retail												
New	405	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Large Retail					100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
New	406	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Grocery												
New	407	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Warehouse							100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
New	408	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - School												
New	409	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - College									100.0%	100.0%	100.0%	100.0%
New	410	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Health												

Commercial Elec Measure Inputs			Standards Adjustment Factor (percent)											
Segment	Measure #	Measure Description	Office-Small	Office-Large	Restau-rant	Retail-Small	Retail-Large	Food Store	Ware-house	School	College	Health	Lodging	Miscel-laneous
New	411	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Lodging											100.0%	
New	412	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Miscellaneous												100.0%

Commercial Elec Measure Inputs			FEASIBILITY FACTOR (percent)											
Segment	Measure #	Measure Description	Office- Small	Office- Large	Restau- rant	Retail- Small	Retail- Large	Food Store	Ware- house	School	College	Health	Lodging	Miscel- laneous
Existing	100	Base Fluorescent Fixture, 4L4'T8	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	101	ROB 4L4' Premium T8, 1EB	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	102	Delamping 3L4' F32T8	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%
Existing	103	LED Troffer (Base 4L4'T8)	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%
Existing	104	Lighting Control Tuneup	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%
Existing	105	Occupancy Sensor, 4L4' Fluorescent Fixtures	28.0%	28.0%	7.0%	7.0%	7.0%	7.0%	14.0%	35.0%	35.0%	35.0%	14.0%	14.0%
Existing	106	Continuous Dimming, 4L4' Fluorescent Fixtures	28.0%	28.0%	35.0%	8.4%	8.4%	18.2%	28.0%	21.0%	21.0%	7.0%	21.0%	21.0%
Existing	107	High Performance Lighting R/R - 25% Savings, Base 4L4'T8	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%
Existing	110	Base Fluorescent Fixture, 2L4'T8, 1 EB	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	111	ROB 2L4' Premium T8, 1EB	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	112	Delamping 1L4' F32T8	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%
Existing	113	LED Troffer (Base 2L4'T8)	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%
Existing	114	Lighting Control Tuneup	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%
Existing	115	Occupancy Sensor, 2L4' Fluorescent Fixtures	28.0%	28.0%	7.0%	7.0%	7.0%	7.0%	14.0%	35.0%	35.0%	35.0%	14.0%	14.0%
Existing	116	Continuous Dimming, 2L4' Fluorescent Fixtures	28.0%	28.0%	35.0%	8.4%	8.4%	18.2%	28.0%	21.0%	21.0%	7.0%	21.0%	21.0%
Existing	117	High Performance Lighting R/R - 25% Savings, Base 2L4'T8	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%
Existing	120	Base Other Fluorescent Fixture	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	121	ROB Premium T8, 1EB	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	122	Lighting Control Tuneup	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%
Existing	123	Occupancy Sensor, 4L8' Fluorescent Fixtures	28.0%	28.0%	7.0%	7.0%	7.0%	7.0%	14.0%	35.0%	35.0%	35.0%	14.0%	14.0%
Existing	124	Continuous Dimming, 4L8' Fluorescent Fixtures	28.0%	28.0%	35.0%	8.4%	8.4%	18.2%	28.0%	21.0%	21.0%	7.0%	21.0%	21.0%
Existing	125	High Performance Lighting R/R - 25% Savings, Base Other Fluorescent	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%
Existing	130	Base High-Efficiency Incandescent Flood, 53W to Screw-in Replacement	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	131	CFL Screw-in 18W	90.0%	90.0%	50.0%	50.0%	50.0%	90.0%	90.0%	90.0%	90.0%	90.0%	70.0%	90.0%
Existing	132	Cold Cathode Lamps	90.0%	90.0%	50.0%	50.0%	50.0%	90.0%	90.0%	90.0%	90.0%	90.0%	70.0%	90.0%
Existing	133	LED screw-in PAR replacement (base incandescent)	90.0%	90.0%	50.0%	50.0%	50.0%	90.0%	90.0%	90.0%	90.0%	90.0%	70.0%	90.0%
Existing	140	Base High-Efficiency Incandescent Flood, 53W to Hardwired Replacement	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	141	CFL Hardwired, Modular 18W	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	142	Ceramic Metal Halide	50.0%	50.0%	50.0%	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%	5.0%	50.0%
Existing	143	LED fixture replacement (base incandescent flood)	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	150	Base CFL to screw-in replacement	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	151	LED screw-in replacement (base CFL)	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	160	Base High Bay Metal Halide, 400W	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	161	High Bay T5	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%
Existing	162	Induction High Bay Lighting	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%
Existing	163	PSMH + electronic ballast	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%
Existing	165	Occupancy Sensor, High Bay T5	18.5%	18.5%	18.5%	18.5%	18.5%	18.5%	18.5%	18.5%	18.5%	18.5%	18.5%	18.5%
Existing	180	Base Parking Garage Metal Halide, 250 W	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	181	High-efficiency fluorescent parking garage fixture (Base MH)	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%
Existing	182	Bi-Level LED Parking Garage Fixtures (Base MH)	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
Existing	185	Base Fluorescent Parking Garage Lighting	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	186	Parking Garage Low Wattage T8 Lamps replacing 32W lamps	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	187	Bi-Level LED Parking Garage Fixtures (Base Fluorescent)	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
Existing	190	Base Exit Sign	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	191	LED Exit Sign	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	200	Base Outdoor High Pressure Sodium 250W Lamp	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	201	Outdoor Lighting Controls (Photocell/Timeclock)	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%
Existing	202	LED Outdoor Area Lighting	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	203	Bi-Level LED Outdoor Lighting	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
Existing	210	Base Streetlighting High Pressure Sodium	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	211	Induction Streetlighting	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	212	LED Streetlighting	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	300	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Commercial Elec Measure Inputs			FEASIBILITY FACTOR (percent)											
Segment	Measure #	Measure Description	Office- Small	Office- Large	Restau- rant	Retail- Small	Retail- Large	Food Store	Ware- house	School	College	Health	Lodging	Miscel- laneous
Existing	301	Centrifugal Chiller, 0.51 kW/ton, 500 tons	100.0%	100.0%	0.0%	100.0%	100.0%	0.0%	100.0%	100.0%	100.0%	100.0%	0.0%	100.0%
Existing	302	Window Film (Standard) - Chiller	75.0%	75.0%	75.0%	50.0%	50.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%
Existing	303	EMS - Chiller	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	304	Cool Roof - Chiller	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
Existing	305	Chiller Tune Up/Diagnostics	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%
Existing	306	VSD for Chiller Pumps and Towers	0.0%	32.0%	0.0%	0.0%	0.0%	100.0%	0.0%	33.1%	0.0%	14.7%	3.8%	61.6%
Existing	307	EMS Optimization - Chiller	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%
Existing	308	Economizer - Chiller	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
Existing	309	Ceiling/roof Insulation - Chiller	22.0%	22.0%	100.0%	43.0%	43.0%	100.0%	3.0%	100.0%	100.0%	100.0%	100.0%	49.0%
Existing	310	Duct/Pipe Insulation - Chiller	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%
Existing	311	High Efficiency Chiller Motors	0.0%	57.0%	0.0%	0.0%	0.0%	100.0%	0.0%	12.8%	0.0%	18.6%	3.8%	4.3%
Existing	312	Thermal Energy Storage (TES) - Chiller	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
Existing	320	Base DX Packaged System, EER=10.3, 10 tons	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	321	DX Tune Up/ Advanced Diagnostics	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%
Existing	322	Automated Fault Detection and Diagnostics	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%
Existing	323	DX Packaged System, EER=10.9, 10 tons	86.2%	86.2%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	98.7%
Existing	324	DX Packaged System, EER=13.4, 10 tons	86.2%	86.2%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	98.7%
Existing	325	Window Film (Standard) - DX	75.0%	75.0%	75.0%	50.0%	50.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%
Existing	326	Prog. Thermostat - DX	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	329	Cool Roof - DX	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
Existing	330	Optimize Controls - DX	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%
Existing	331	Economizer - DX	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	89.5%
Existing	332	Aerosol Duct Sealing - DX	32.0%	32.0%	32.0%	32.0%	32.0%	32.0%	32.0%	32.0%	32.0%	32.0%	32.0%	32.0%
Existing	333	Ceiling/roof Insulation - DX	22.0%	22.0%	43.0%	100.0%	100.0%	100.0%	3.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	334	Duct/Pipe Insulation - DX	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%
Existing	335	DX Coil Cleaning	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%
Existing	337	Geothermal Heat Pump, EER=13, 10 tons - DX	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Existing	340	Base PTAC, EER=8.3, 1 ton	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	341	HE PTAC, EER=9.6, 1 ton	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	342	Hotel Room Controllers	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	75.0%	0.0%
Existing	400	Base Fan Motor, 5hp, 1800rpm, 87.5%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	401	Fan Motor, 5hp, 1800rpm, 89.5%	94.4%	94.4%	100.0%	91.8%	91.8%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	402	Variable Speed Drive Control, 5 HP	82.6%	82.6%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	0.0%	100.0%
Existing	410	Base Fan Motor, 15hp, 1800rpm, 91.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	411	Fan Motor, 15hp, 1800rpm, 92.4%	94.4%	94.4%	100.0%	91.8%	91.8%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	412	Variable Speed Drive Control, 15 HP	82.6%	82.6%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	0.0%	100.0%
Existing	413	Electronically Commutated Motors (ECM) on an Air Handler Unit	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	81.8%	0.0%	100.0%	100.0%	81.4%
Existing	414	Energy Recovery Ventilation (ERV)	55.2%	55.2%	100.0%	100.0%	100.0%	100.0%	100.0%	69.3%	100.0%	100.0%	100.0%	87.6%
Existing	415	Separate Makeup Air / Exhaust Hoods AC	0.0%	0.0%	100.0%	0.0%	0.0%	10.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Existing	420	Base Fan Motor, 40hp, 1800rpm, 93.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	421	Fan Motor, 40hp, 1800rpm, 94.1%	94.4%	94.4%	100.0%	91.8%	91.8%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	422	Variable Speed Drive Control, 40 HP	82.6%	82.6%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	0.0%	100.0%
Existing	423	Air Handler Tuneups	51.0%	51.0%	24.2%	37.2%	37.2%	17.7%	24.4%	65.7%	37.1%	27.9%	58.8%	91.4%
Existing	424	Demand Controlled Ventilation	78.6%	78.6%	92.2%	70.0%	70.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	91.2%
Existing	500	Base Built-Up Refrigeration System	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	501	High-efficiency fan motors	64.0%	64.0%	56.0%	59.0%	59.0%	49.0%	50.0%	0.0%	100.0%	100.0%	0.0%	34.0%
Existing	502	Strip curtains for walk-ins	0%	0%	100%	0%	0%	0%	0%	100%	0%	0%	0%	100%
Existing	503	Night covers for display cases (built-up systems)	0%	0%	0%	100%	100%	100%	0%	0%	0%	0%	0%	0%
Existing	504	Efficient compressor motor retrofit	100%	0%	100%	100%	100%	100%	0%	100%	0%	0%	100%	100%
Existing	505	Compressor VSD retrofit	100%	0%	100%	100%	100%	100%	0%	100%	0%	100%	100%	100%
Existing	506	Floating head pressure controls	100%	0%	100%	77%	88%	94%	0%	100%	0%	0%	100%	100%
Existing	507	Refrigeration Commissioning	20.0%	20.0%	20.0%	100.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%
Existing	508	Demand Hot Gas Defrost	100%	0%	100%	100%	100%	100%	0%	100%	0%	100%	100%	100%

Commercial Elec Measure Inputs			FEASIBILITY FACTOR (percent)											
Segment	Measure #	Measure Description	Office- Small	Office- Large	Restau- rant	Retail- Small	Retail- Large	Food Store	Ware- house	School	College	Health	Lodging	Miscel- laneous
Existing	509	Demand Defrost Electric	100%	0%	100%	100%	100%	100%	0%	100%	0%	100%	100%	100%
Existing	510	Anti-sweat (humidistat) controls	100%	0%	100%	100%	100%	62%	0%	100%	0%	100%	100%	100%
Existing	511	Freezer-Cooler Replacement Gaskets (built-up systems)	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	512	High R-Value Glass Doors	0%	0%	0%	100%	100%	100%	0%	0%	0%	0%	100%	100%
Existing	513	Bi-level LED Case Lighting (built-up systems)	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	514	Fiber Optic Case Lighting (built-up systems)	75.0%	75.0%	75.0%	75.0%	75.0%	39.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%
Existing	516	Multiplex Compressor System	100%	0%	100%	68%	83%	87%	0%	100%	0%	100%	100%	100%
Existing	517	Oversized Air Cooled Condenser	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	520	Base Self-Contained Refrigeration	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	521	Strip curtains for walk-ins	0%	100%	100%	100%	0%	0%	0%	100%	0%	0%	0%	100%
Existing	522	Night covers for display cases (self-contained)	0%	0%	100%	100%	100%	100%	0%	100%	0%	100%	0%	100%
Existing	523	Freezer-Cooler Replacement Gaskets (self-contained)	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	524	Bi-level LED Case Lighting (self-contained units)	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
Existing	526	Energy-Star Refrigerator, solid door	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	527	Energy-Star Freezer, solid door	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	528	Energy-Star Refrigerator, glass door	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	529	Energy-Star Freezer, glass door	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	530	Energy Star Ice Machines	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	600	Base Desktop PC	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	601	PC Manual Power Management Enabling	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%
Existing	602	PC Network Power Management Enabling	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%
Existing	603	Energy Star or Better PC	75.0%	75.0%	100.0%	75.00%	75.00%	100.00%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	610	Base Monitor, CRT	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	611	Energy Star or Better Monitor-CRT	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	612	Monitor Power Management Enabling--CRT	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	620	Base Monitor, LCD	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	621	Energy Star or Better Monitor--LCD	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	622	Monitor Power Management Enabling--LCD	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%
Existing	630	Base Copier	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	631	Energy Star or Better Copier	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	632	Copier Power Management Enabling	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%
Existing	640	Base Laser Printer	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	641	Printer Power Management Enabling	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%
Existing	650	Base Data Center/Server Room	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	651	Data Center Improved Operations	60.0%	60.0%	60.0%	60.0%	60.0%	60.0%	60.0%	60.0%	60.0%	60.0%	60.0%	60.0%
Existing	652	Data Center Best Practices	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%
Existing	653	Data Center State of the Art practices	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%
Existing	660	Base Water Heating	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	661	Demand controlled circulating systems	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%
Existing	662	High Efficiency Water Heater (electric)	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	663	Hot Water Pipe Insulation	70.0%	46.0%	100.0%	64.3%	100.0%	100.0%	99.3%	9.1%	100.0%	100.0%	100.0%	99.6%
Existing	664	Tankless Water Heater	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%
Existing	665	Heat Pump Water Heater (air source)	80.0%	80.0%	80.0%	80.0%	80.0%	80.0%	80.0%	80.0%	80.0%	80.0%	80.0%	80.0%
Existing	666	Heat Recovery Unit	10.0%	10.0%	80.0%	5.0%	5.0%	80.0%	10.0%	15.0%	15.0%	80.0%	20.0%	5.0%
Existing	667	Heat Trap	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%
Existing	668	Solar Water Heater	76.0%	76.0%	20.0%	4.0%	4.0%	20.0%	49.0%	20.0%	0.0%	20.0%	20.0%	0.0%
Existing	670	Base Vending Machines	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	671	Vending Misers	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%
Existing	700	Base Cooking	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	701	Convection Oven	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	702	Efficient Fryer	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	703	Efficient Steamer	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	704	Energy Star Hot Food Holding Cabinets	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Commercial Elec Measure Inputs			FEASIBILITY FACTOR (percent)												
Segment	Measure #	Measure Description	Office- Small	Office- Large	Restau- rant	Retail- Small	Retail- Large	Food Store	Ware- house	School	College	Health	Lodging	Miscel- laneous	
Existing	800	Base Heating	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.00%	100.00%	
Existing	900	Base Miscellaneous	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.00%	100.00%	
Existing	901	XMisc	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	
New	100	Base Bldg Design - 15%	100.0%	100.0%											
New	101	High Performance Building/Int Design - Tier 1 15% - Small Office	100.0%												
New	102	High Performance Building/Int Design - Tier 1 15% - Large Office		100.0%											
New	103	High Performance Building/Int Design - Tier 1 15% - Restaurant			100.0%										
New	104	High Performance Building/Int Design - Tier 1 15% - Small Retail				100.0%									
New	105	High Performance Building/Int Design - Tier 1 15% - Large Retail					100.0%								
New	106	High Performance Building/Int Design - Tier 1 15% - Grocery						100.0%							
New	107	High Performance Building/Int Design - Tier 1 15% - Warehouse							100.0%						
New	108	High Performance Building/Int Design - Tier 1 15% - School								100.0%					
New	109	High Performance Building/Int Design - Tier 1 15% - College									100.0%				
New	110	High Performance Building/Int Design - Tier 1 15% - Health										100.0%			
New	111	High Performance Building/Int Design - Tier 1 15% - Lodging											100.0%		
New	112	High Performance Building/Int Design - Tier 1 15% - Miscellaneous												100.0%	
New	200	Base Bldg Design - 30%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	
New	201	High Performance Building/Int Design - Tier 2 30% - Small Office	100.0%												
New	202	High Performance Building/Int Design - Tier 2 30% - Large Office		100.0%											
New	203	High Performance Building/Int Design - Tier 2 30% - Restaurant			100.0%										
New	204	High Performance Building/Int Design - Tier 2 30% - Small Retail				100.0%									
New	205	High Performance Building/Int Design - Tier 2 30% - Large Retail					100.0%								
New	206	High Performance Building/Int Design - Tier 2 30% - Grocery						100.0%							
New	207	High Performance Building/Int Design - Tier 2 30% - Warehouse							100.0%						
New	208	High Performance Building/Int Design - Tier 2 30% - School								100.0%					
New	209	High Performance Building/Int Design - Tier 2 30% - College									100.0%				
New	210	High Performance Building/Int Design - Tier 2 30% - Health										100.0%			
New	211	High Performance Building/Int Design - Tier 2 30% - Lodging											100.0%		
New	212	High Performance Building/Int Design - Tier 2 30% - Miscellaneous												100.0%	
New	300	Base Bldg Design - 50%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	
New	301	High Performance Building/Int Design - Tier 3 50% - Small Office	100.0%												
New	302	High Performance Building/Int Design - Tier 3 50% - Large Office		100.0%											
New	303	High Performance Building/Int Design - Tier 3 50% - Restaurant			100.0%										
New	304	High Performance Building/Int Design - Tier 3 50% - Small Retail				100.0%									
New	305	High Performance Building/Int Design - Tier 3 50% - Large Retail					100.0%								
New	306	High Performance Building/Int Design - Tier 3 50% - Grocery						100.0%							
New	307	High Performance Building/Int Design - Tier 3 50% - Warehouse							100.0%						
New	308	High Performance Building/Int Design - Tier 3 50% - School								100.0%					
New	309	High Performance Building/Int Design - Tier 3 50% - College									100.0%				
New	310	High Performance Building/Int Design - Tier 3 50% - Health										100.0%			
New	311	High Performance Building/Int Design - Tier 3 50% - Lodging											100.0%		
New	312	High Performance Building/Int Design - Tier 3 50% - Miscellaneous												100.0%	
New	400	Base Bldg Design - 70%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	
New	401	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Small Office	100.0%												
New	402	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Large Office		100.0%											
New	403	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Restaurant			100.0%										
New	404	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Small Retail				100.0%									
New	405	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Large Retail					100.0%								
New	406	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Grocery						100.0%							
New	407	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Warehouse							100.0%						
New	408	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - School								100.0%					
New	409	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - College									100.0%				
New	410	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Health										100.0%			

Commercial Elec Measure Inputs			FEASIBILITY FACTOR (percent)											
Segment	Measure #	Measure Description	Office- Small	Office- Large	Restau- rant	Retail- Small	Retail- Large	Food Store	Ware- house	School	College	Health	Lodging	Miscel- laneous
New	411	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Lodging											100.0%	
New	412	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Miscellaneous												100.0%

Commercial Elec Measure Inputs			INCOMPLETE FACTOR (percent)											
Segment	Measure #	Measure Description	Office-Small	Office-Large	Restau-rant	Retail-Small	Retail-Large	Food Store	Ware-house	School	College	Health	Lodging	Miscel-laneous
Existing	100	Base Fluorescent Fixture, 4L4'T8	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	101	ROB 4L4' Premium T8, 1EB	96.0%	100.0%	100.0%	100.0%	100.0%	98.3%	78.2%	98.2%	100.0%	100.0%	100.0%	99.6%
Existing	102	Delamping 3L4' F32T8	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	103	LED Troffer (Base 4L4'T8)	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	104	Lighting Control Tuneup	100.0%	93.7%	92.6%	100.0%	100.0%	98.4%	100.0%	81.8%	99.0%	99.4%	100.0%	99.2%
Existing	105	Occupancy Sensor, 4L4' Fluorescent Fixtures	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	106	Continuous Dimming, 4L4' Fluorescent Fixtures	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	107	High Performance Lighting R/R - 25% Savings, Base 4L4'T8	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	110	Base Fluorescent Fixture, 2L4'T8, 1 EB	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	111	ROB 2L4' Premium T8, 1EB	100.0%	100.0%	100.0%	100.0%	100.0%	94.6%	99.1%	100.0%	92.2%	100.0%	100.0%	89.9%
Existing	112	Delamping 1L4' F32T8	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	113	LED Troffer (Base 2L4'T8)	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	114	Lighting Control Tuneup	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	115	Occupancy Sensor, 2L4' Fluorescent Fixtures	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	116	Continuous Dimming, 2L4' Fluorescent Fixtures	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	117	High Performance Lighting R/R - 25% Savings, Base 2L4'T8	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	120	Base Other Fluorescent Fixture	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	121	ROB Premium T8, 1EB	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	21.8%	100.0%	100.0%	70.6%
Existing	122	Lighting Control Tuneup	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	66.7%	97.6%	49.6%	100.0%
Existing	123	Occupancy Sensor, 4L8' Fluorescent Fixtures	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	124	Continuous Dimming, 4L8' Fluorescent Fixtures	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	125	High Performance Lighting R/R - 25% Savings, Base Other Fluorescent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	130	Base High-Efficiency Incandescent Flood, 53W to Screw-in Replacement	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	131	CFL Screw-in 18W	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	132	Cold Cathode Lamps	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	133	LED screw-in PAR replacement (base incandescent)	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	140	Base High-Efficiency Incandescent Flood, 53W to Hardwired Replacement	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	141	CFL Hardwired, Modular 18W	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	142	Cermaic Metal Halide	99.0%	99.0%	99.0%	99.0%	99.0%	99.0%	99.0%	99.0%	99.0%	99.0%	99.0%	99.0%
Existing	143	LED fixture replacement (base incandescent flood)	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	150	Base CFL to screw-in replacement	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	151	LED screw-in replacement (base CFL)	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	160	Base High Bay Metal Halide, 400W	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	161	High Bay T5	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	162	Induction High Bay Lighting	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	163	PSMH + electronic ballast	100.0%	100.0%	100.0%	100.0%	100.0%	97.0%	100.0%	33.8%	100.0%	100.0%	99.1%	99.2%
Existing	165	Occupancy Sensor, High Bay T5	82.0%	82.0%	82.0%	82.0%	82.0%	82.0%	82.0%	82.0%	82.0%	82.0%	82.0%	82.0%
Existing	180	Base Parking Garage Metal Halide, 250 W	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	181	High-efficiency fluorescent parking garage fixture (Base MH)	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	182	Bi-Level LED Parking Garage Fixtures (Base MH)	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%
Existing	185	Base Fluorescent Parking Garage Lighting	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	186	Parking Garage Low Wattage T8 Lamps replacing 32W lamps	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%
Existing	187	Bi-Level LED Parking Garage Fixtures (Base Fluorescent)	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%
Existing	190	Base Exit Sign	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	191	LED Exit Sign	51.0%	14.0%	64.0%	64.0%	35.0%	1.0%	100.0%	59.0%	45.0%	6.0%	35.0%	39.0%
Existing	200	Base Outdoor High Pressure Sodium 250W Lamp	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	201	Outdoor Lighting Controls (Photocell/Timeclock)	60.0%	60.0%	60.0%	60.0%	60.0%	60.0%	60.0%	60.0%	60.0%	60.0%	60.0%	60.0%
Existing	202	LED Outdoor Area Lighting	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	203	Bi-Level LED Outdoor Lighting	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	210	Base Streetlighting High Pressure Sodium	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	211	Induction Streetlighting	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Existing	212	LED Streetlighting	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	99.0%

Commercial Elec Measure Inputs			INCOMPLETE FACTOR (percent)											
Segment	Measure #	Measure Description	Office- Small	Office-Large	Restau- rant	Retail- Small	Retail-Large	Food Store	Ware- house	School	College	Health	Lodging	Miscel- laneous
Existing	300	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	301	Centrifugal Chiller, 0.51 kW/ton, 500 tons	68.0%	68.0%	68.0%	68.0%	68.0%	68.0%	68.0%	68.0%	68.0%	68.0%	68.0%	68.0%
Existing	302	Window Film (Standard) - Chiller	0.0%	1.0%	0.0%	0.0%	0.0%	99.0%	0.0%	22.0%	0.0%	17.0%	67.0%	85.0%
Existing	303	EMS - Chiller	0.0%	0.0%	0.0%	0.0%	0.0%	2.5%	0.0%	23.0%	100.0%	6.9%	68.2%	9.3%
Existing	304	Cool Roof - Chiller	0.0%	80.2%	0.0%	0.0%	0.0%	100.0%	0.0%	48.7%	100.0%	87.8%	100.0%	100.0%
Existing	305	Chiller Tune Up/Diagnostics	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	2.8%	60.5%
Existing	306	VSD for Chiller Pumps and Towers	0.0%	91.4%	0.0%	0.0%	0.0%	100.0%	0.0%	13.8%	0.0%	13.4%	100.0%	61.8%
Existing	307	EMS Optimization - Chiller	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Existing	308	Economizer - Chiller	0.0%	44.3%	0.0%	0.0%	0.0%	2.5%	0.0%	65.1%	100.0%	53.6%	68.2%	94.8%
Existing	309	Ceiling/roof Insulation - Chiller	15.0%	15.0%	57.0%	15.0%	15.0%	0.0%	33.0%	0.0%	0.0%	0.0%	0.0%	19.0%
Existing	310	Duct/Pipe Insulation - Chiller	0.0%	48.0%	0.0%	0.0%	0.0%	100.0%	0.0%	52.0%	0.0%	75.0%	33.0%	89.0%
Existing	311	High Efficiency Chiller Motors	0.0%	46.1%	0.0%	0.0%	0.0%	100.0%	0.0%	65.1%	0.0%	54.9%	3.8%	61.8%
Existing	312	Thermal Energy Storage (TES) - Chiller	95.0%	95.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	320	Base DX Packaged System, EER=10.3, 10 tons	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	321	DX Tune Up/ Advanced Diagnostics	12.8%	0.0%	13.9%	48.3%	0.0%	0.2%	33.7%	26.4%	9.0%	19.0%	12.7%	32.0%
Existing	322	Automated Fault Detection and Diagnostics	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	323	DX Packaged System, EER=10.9, 10 tons	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	324	DX Packaged System, EER=13.4, 10 tons	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	325	Window Film (Standard) - DX	48.0%	0.0%	93.0%	30.0%	26.0%	99.0%	43.0%	16.0%	75.0%	61.0%	97.0%	44.0%
Existing	326	Prog. Thermostat - DX	22.5%	0.0%	31.3%	78.3%	0.0%	2.8%	63.6%	75.4%	12.7%	27.3%	33.0%	8.5%
Existing	329	Cool Roof - DX	90.2%	100.0%	90.9%	82.5%	0.0%	100.0%	77.5%	93.7%	100.0%	100.0%	100.0%	99.9%
Existing	330	Optimize Controls - DX	33.0%	33.0%	33.0%	33.0%	33.0%	33.0%	33.0%	33.0%	33.0%	33.0%	33.0%	33.0%
Existing	331	Economizer - DX	55.3%	96.0%	30.5%	73.4%	0.0%	1.0%	34.5%	20.7%	31.8%	86.5%	75.9%	49.6%
Existing	332	Aerosol Duct Sealing - DX	100.0%	100.0%	91.6%	100.0%	100.0%	100.0%	97.4%	100.0%	37.1%	100.0%	100.0%	96.0%
Existing	333	Ceiling/roof Insulation - DX	0.0%	0.0%	0.5%	0.0%	0.0%	0.9%	35.0%	1.1%	0.0%	0.0%	0.0%	0.0%
Existing	334	Duct/Pipe Insulation - DX	1.0%	100.0%	81.0%	61.0%	0.0%	100.0%	13.0%	96.0%	27.0%	73.0%	72.0%	42.0%
Existing	335	DX Coil Cleaning	79.0%	79.0%	47.3%	51.9%	51.9%	10.6%	92.9%	55.1%	29.8%	0.0%	37.5%	57.4%
Existing	337	Geothermal Heat Pump, EER=13, 10 tons - DX	99.0%	99.0%	99.0%	99.0%	99.0%	99.0%	99.0%	99.0%	99.0%	99.0%	99.0%	99.0%
Existing	340	Base PTAC, EER=8.3, 1 ton	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	341	HE PTAC, EER=9.6, 1 ton	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	342	Hotel Room Controllers	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	400	Base Fan Motor, 5hp, 1800rpm, 87.5%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	401	Fan Motor, 5hp, 1800rpm, 89.5%	78.0%	78.0%	78.0%	78.0%	78.0%	78.0%	78.0%	78.0%	78.0%	78.0%	78.0%	78.0%
Existing	402	Variable Speed Drive Control, 5 HP	69.4%	96.6%	100.0%	100.0%	100.0%	100.0%	34.5%	76.9%	90.1%	100.0%	100.0%	80.2%
Existing	410	Base Fan Motor, 15hp, 1800rpm, 91.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	411	Fan Motor, 15hp, 1800rpm, 92.4%	0.0%	100.0%	100.0%	0.0%	100.0%	100.0%	100.0%	84.7%	0.0%	15.3%	100.0%	99.5%
Existing	412	Variable Speed Drive Control, 15 HP	0.0%	0.0%	100.0%	100.0%	100.0%	100.0%	100.0%	90.3%	0.0%	21.3%	100.0%	70.9%
Existing	413	Electronically Commutated Motors (ECM) on an Air Handler Unit	0.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	98.2%	96.6%	100.0%	100.0%	100.0%
Existing	414	Energy Recovery Ventilation (ERV)	58.7%	58.7%	100.0%	97.8%	97.8%	100.0%	100.0%	100.0%	26.2%	100.0%	100.0%	19.9%
Existing	415	Separate Makeup Air / Exhaust Hoods AC	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	420	Base Fan Motor, 40hp, 1800rpm, 93.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	421	Fan Motor, 40hp, 1800rpm, 94.1%	0.0%	100.0%	100.0%	0.0%	100.0%	100.0%	0.0%	16.4%	28.6%	0.0%	0.0%	35.8%
Existing	422	Variable Speed Drive Control, 40 HP	0.0%	80.3%	100.0%	100.0%	100.0%	100.0%	7.1%	81.5%	0.0%	0.0%	100.0%	1.6%
Existing	423	Air Handler Tuneups	91.6%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	0.0%	100.0%	66.0%
Existing	424	Demand Controlled Ventilation	0.0%	100.0%	100.0%	100.0%	100.0%	100.0%	7.1%	90.2%	100.0%	65.2%	100.0%	12.6%
Existing	500	Base Built-Up Refrigeration System	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	501	High-efficiency fan motors	64.0%	64.0%	100.0%	48.0%	48.0%	57.0%	48.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	502	Strip curtains for walk-ins	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%
Existing	503	Night covers for display cases (built-up systems)	0%	0%	0%	100%	100%	100%	0%	0%	0%	0%	0%	0%
Existing	504	Efficient compressor motor retrofit	0%	0%	0%	0%	0%	3%	0%	0%	0%	0%	0%	0%
Existing	505	Compressor VSD retrofit	100%	0%	100%	100%	100%	100%	0%	100%	0%	100%	100%	100%
Existing	506	Floating head pressure controls	0%	0%	0%	0%	0%	3%	0%	0%	0%	0%	0%	0%

Commercial Elec Measure Inputs			INCOMPLETE FACTOR (percent)											
Segment	Measure #	Measure Description	Office-Small	Office-Large	Restau-rant	Retail-Small	Retail-Large	Food Store	Ware-house	School	College	Health	Lodging	Miscel-laneous
Existing	507	Refrigeration Commissioning	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
Existing	508	Demand Hot Gas Defrost	100%	0%	100%	100%	100%	100%	0%	100%	0%	100%	100%	100%
Existing	509	Demand Defrost Electric	0%	0%	0%	16%	33%	0%	0%	0%	0%	0%	0%	0%
Existing	510	Anti-sweat (humidistat) controls	0%	0%	0%	0%	0%	27%	0%	0%	0%	0%	0%	0%
Existing	511	Freezer-Cooler Replacement Gaskets (built-up systems)	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
Existing	512	High R-Value Glass Doors	0%	0%	0%	100%	100%	95%	0%	0%	0%	0%	0%	100%
Existing	513	Bi-level LED Case Lighting (built-up systems)	95.0%	95.0%	95.0%	95.0%	95.0%	95.0%	95.0%	95.0%	95.0%	95.0%	95.0%	95.0%
Existing	514	Fiber Optic Case Lighting (built-up systems)	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	516	Multiplex Compressor System	0%	0%	0%	0%	0%	11%	0%	0%	0%	0%	0%	0%
Existing	517	Oversized Air Cooled Condenser	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
Existing	520	Base Self-Contained Refrigeration	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	521	Strip curtains for walk-ins	0%	100%	100%	100%	0%	0%	0%	100%	0%	0%	0%	100%
Existing	522	Night covers for display cases (self-contained)	0%	0%	100%	100%	100%	100%	0%	100%	0%	100%	0%	100%
Existing	523	Freezer-Cooler Replacement Gaskets (self-contained)	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
Existing	524	Bi-level LED Case Lighting (self-contained units)	95.0%	95.0%	95.0%	95.0%	95.0%	95.0%	95.0%	95.0%	95.0%	95.0%	95.0%	95.0%
Existing	526	Energy-Star Refrigerator, solid door	64.0%	64.0%	64.0%	64.0%	64.0%	64.0%	64.0%	64.0%	64.0%	64.0%	64.0%	64.0%
Existing	527	Energy-Star Freezer, solid door	66.0%	66.0%	66.0%	66.0%	66.0%	66.0%	66.0%	66.0%	66.0%	66.0%	66.0%	66.0%
Existing	528	Energy-Star Refrigerator, glass door	64.0%	64.0%	64.0%	64.0%	64.0%	64.0%	64.0%	64.0%	64.0%	64.0%	64.0%	64.0%
Existing	529	Energy-Star Freezer, glass door	64.0%	64.0%	64.0%	64.0%	64.0%	64.0%	64.0%	64.0%	64.0%	64.0%	64.0%	64.0%
Existing	530	Energy Star Ice Machines	64.0%	64.0%	64.0%	64.0%	64.0%	64.0%	64.0%	64.0%	64.0%	64.0%	64.0%	64.0%
Existing	600	Base Desktop PC	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	601	PC Manual Power Management Enabling	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%
Existing	602	PC Network Power Management Enabling	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%
Existing	603	Energy Star or Better PC	85.5%	85.7%	99.0%	45.7%	73.4%	97.9%	99.1%	84.1%	79.7%	94.3%	53.9%	91.9%
Existing	610	Base Monitor, CRT	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	611	Energy Star or Better Monitor-CRT	100.0%	0.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	95.4%	100.0%	99.8%
Existing	612	Monitor Power Management Enabling--CRT	32.7%	0.0%	44.4%	31.4%	0.0%	100.0%	69.7%	38.5%	100.0%	66.1%	40.9%	46.27%
Existing	620	Base Monitor, LCD	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	621	Energy Star or Better Monitor--LCD	46.2%	74.8%	97.3%	65.5%	50.0%	97.9%	98.6%	84.5%	80.8%	94.3%	43.0%	84.9%
Existing	622	Monitor Power Management Enabling--LCD	35.1%	60.7%	55.4%	29.3%	0.0%	94.9%	6.7%	11.3%	22.8%	29.5%	74.0%	20.5%
Existing	630	Base Copier	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	631	Energy Star or Better Copier	29.1%	61.5%	67.0%	81.4%	0.0%	98.9%	52.6%	17.0%	43.9%	78.4%	41.6%	59.87%
Existing	632	Copier Power Management Enabling	8.6%	48.3%	60.0%	36.3%	0.0%	95.8%	20.6%	21.0%	35.7%	38.4%	23.7%	29.92%
Existing	640	Base Laser Printer	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	641	Printer Power Management Enabling	20.35%	50.70%	100.00%	31.27%	0.00%	63.10%	16.67%	23.78%	70.17%	24.80%	33.34%	29.92%
Existing	650	Base Data Center/Server Room	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	651	Data Center Improved Operations	80.0%	80.0%	80.0%	80.0%	80.0%	80.0%	80.0%	80.0%	80.0%	80.0%	80.0%	80.0%
Existing	652	Data Center Best Practices	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%
Existing	653	Data Center State of the Art practices	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	660	Base Water Heating	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	661	Demand controlled circulating systems	100.0%	50.0%	100.0%	24.3%	100.0%	97.1%	50.6%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	662	High Efficiency Water Heater (electric)	100.0%	100.0%	100.0%	100.0%	92.8%	100.0%	100.0%	100.0%	88.5%	100.0%	100.0%	100.0%
Existing	663	Hot Water Pipe Insulation	48.0%	0.0%	0.0%	100.0%	100.0%	97.1%	99.0%	9.1%	94.6%	100.0%	100.0%	79.1%
Existing	664	Tankless Water Heater	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Existing	665	Heat Pump Water Heater (air source)	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Existing	666	Heat Recovery Unit	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Existing	667	Heat Trap	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%
Existing	668	Solar Water Heater	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	670	Base Vending Machines	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	671	Vending Misers	83%	0%	0%	0%	0%	100%	75%	53%	0%	50%	0%	100%
Existing	700	Base Cooking	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	701	Convection Oven	0.0%	0.0%	100.0%	100.0%	100.0%	0.0%	0.0%	100.0%	100.0%	0.0%	0.0%	0.0%

Commercial Elec Measure Inputs			INCOMPLETE FACTOR (percent)											
Segment	Measure #	Measure Description	Office-Small	Office-Large	Restau-rant	Retail-Small	Retail-Large	Food Store	Ware-house	School	College	Health	Lodging	Miscel-laneous
Existing	702	Efficient Fryer	0.0%	0.0%	100.0%	100.0%	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Existing	703	Efficient Steamer	0.0%	0.0%	100.0%	100.0%	0.0%	100.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
Existing	704	Energy Star Hot Food Holding Cabinets	0.0%	71.0%	100.0%	100.0%	100.0%	100.0%	0.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	800	Base Heating	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	900	Base Miscellaneous	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Existing	901	XMisc	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.0%	100.00%	100.00%	100.00%	100.00%
New	100	Base Bldg Design - 15%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.00%	100.00%
New	101	High Performance Building/Int Design - Tier 1 15% - Small Office	100.0%											
New	10200.0%	High Performance Building/Int Design - Tier 1 15% - Large Office		100.0%										
New	10300.0%	High Performance Building/Int Design - Tier 1 15% - Restaurant			100.0%									
New	10400.0%	High Performance Building/Int Design - Tier 1 15% - Small Retail				100.0%								
New	10500.0%	High Performance Building/Int Design - Tier 1 15% - Large Retail					100.0%							
New	10600.0%	High Performance Building/Int Design - Tier 1 15% - Grocery						100.0%						
New	10700.0%	High Performance Building/Int Design - Tier 1 15% - Warehouse							100.0%					
New	108	High Performance Building/Int Design - Tier 1 15% - School								100.0%				
New	109	High Performance Building/Int Design - Tier 1 15% - College									100.0%			
New	110	High Performance Building/Int Design - Tier 1 15% - Health										100.0%		
New	111	High Performance Building/Int Design - Tier 1 15% - Lodging											100.00%	
New	112	High Performance Building/Int Design - Tier 1 15% - Miscellaneous												100.00%
New	200	Base Bldg Design - 30%	100.0%	1	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.00%	100.00%
New	201	High Performance Building/Int Design - Tier 2 30% - Small Office	100.0%											
New	202	High Performance Building/Int Design - Tier 2 30% - Large Office		1										
New	203	High Performance Building/Int Design - Tier 2 30% - Restaurant			100.0%									
New	204	High Performance Building/Int Design - Tier 2 30% - Small Retail				100.0%								
New	205	High Performance Building/Int Design - Tier 2 30% - Large Retail					100.0%							
New	206	High Performance Building/Int Design - Tier 2 30% - Grocery						100.0%						
New	207	High Performance Building/Int Design - Tier 2 30% - Warehouse							100.0%					
New	208	High Performance Building/Int Design - Tier 2 30% - School								100.0%				
New	209	High Performance Building/Int Design - Tier 2 30% - College									100.0%			
New	210	High Performance Building/Int Design - Tier 2 30% - Health										100.0%		
New	211	High Performance Building/Int Design - Tier 2 30% - Lodging											100.00%	
New	212	High Performance Building/Int Design - Tier 2 30% - Miscellaneous												100.00%
New	300	Base Bldg Design - 50%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.00%	100.00%
New	301	High Performance Building/Int Design - Tier 3 50% - Small Office	100.0%											
New	302	High Performance Building/Int Design - Tier 3 50% - Large Office		100.0%										
New	303	High Performance Building/Int Design - Tier 3 50% - Restaurant			100.0%									
New	304	High Performance Building/Int Design - Tier 3 50% - Small Retail				100.0%								
New	305	High Performance Building/Int Design - Tier 3 50% - Large Retail					100.0%							
New	306	High Performance Building/Int Design - Tier 3 50% - Grocery						100.0%						
New	307	High Performance Building/Int Design - Tier 3 50% - Warehouse							100.0%					
New	308	High Performance Building/Int Design - Tier 3 50% - School								100.0%				
New	309	High Performance Building/Int Design - Tier 3 50% - College									100.0%			
New	310	High Performance Building/Int Design - Tier 3 50% - Health										100.0%		
New	311	High Performance Building/Int Design - Tier 3 50% - Lodging											100.00%	
New	312	High Performance Building/Int Design - Tier 3 50% - Miscellaneous												100.00%
New	400	Base Bldg Design - 70%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.00%	100.00%
New	401	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Small Office	100.00%											
New	402	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Large Office		100.00%										
New	403	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Restaurant			100.00%									
New	404	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Small Retail				100.00%								
New	405	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Large Retail					100.00%							
New	406	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Grocery						100.00%						

Commercial Elec Measure Inputs			INCOMPLETE FACTOR (percent)											
Segment	Measure #	Measure Description	Office- Small	Office-Large	Restau- rant	Retail- Small	Retail-Large	Food Store	Ware- house	School	College	Health	Lodging	Miscel- laneous
New	407	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Warehouse							100.00%					
New	408	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - School								100.0%				
New	409	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - College									100.00%			
New	410	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Health										100.00%		
New	411	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Lodging											100.00%	
New	412	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Miscellaneous												100.00%

Commercial Elec Measure Inputs			TECHNOLOGY SATURATION (units/square foot)											
Segment	Measure #	Measure Description	Office- Small	Office- Large	Restau- rant	Retail- Small	Retail- Large	Food Store	Ware- house	School	College	Health	Lodging	Miscel- laneous
Existing	100	Base Fluorescent Fixture, 4L4'T8	0.0114	0.0118	0.0179	0.0094	0.0092	0.0123	0.0036	0.0093	0.0172	0.0071	0.0046	0.0066
Existing	101	ROB 4L4' Premium T8, 1EB	0.0114	0.0118	0.0179	0.0094	0.0092	0.0123	0.0036	0.0093	0.0172	0.0071	0.0046	0.0066
Existing	102	Delamping 3L4' F32T8	0.0114	0.0118	0.0179	0.0094	0.0092	0.0123	0.0036	0.0093	0.0172	0.0071	0.0046	0.0066
Existing	103	LED Troffer (Base 4L4'T8)	0.0114	0.0118	0.0179	0.0094	0.0092	0.0123	0.0036	0.0093	0.0172	0.0071	0.0046	0.0066
Existing	104	Lighting Control Tuneup	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Existing	105	Occupancy Sensor, 4L4' Fluorescent Fixtures	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Existing	106	Continuous Dimming, 4L4' Fluorescent Fixtures	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Existing	107	High Performance Lighting R/R - 25% Savings, Base 4L4'T8	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Existing	110	Base Fluorescent Fixture, 2L4'T8, 1 EB	0.0118	0.0123	0.0152	0.0097	0.0148	0.0183	0.0061	0.0112	0.0196	0.0060	0.0059	0.0096
Existing	111	ROB 2L4' Premium T8, 1EB	0.0118	0.0123	0.0152	0.0097	0.0148	0.0183	0.0061	0.0112	0.0196	0.0060	0.0059	0.0096
Existing	112	Delamping 1L4' F32T8	0.0118	0.0123	0.0152	0.0097	0.0148	0.0183	0.0061	0.0112	0.0196	0.0060	0.0059	0.0096
Existing	113	LED Troffer (Base 2L4'T8)	0.0118	0.0123	0.0152	0.0097	0.0148	0.0183	0.0061	0.0112	0.0196	0.0060	0.0059	0.0096
Existing	114	Lighting Control Tuneup	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Existing	115	Occupancy Sensor, 2L4' Fluorescent Fixtures	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Existing	116	Continuous Dimming, 2L4' Fluorescent Fixtures	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Existing	117	High Performance Lighting R/R - 25% Savings, Base 2L4'T8	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Existing	120	Base Other Fluorescent Fixture	0.0190	0.0094	0.0000	0.0100	0.0100	0.0000	0.0192	0.0042	0.0193	0.0095	0.0052	0.0050
Existing	121	ROB Premium T8, 1EB	0.0190	0.0094	0.0000	0.0100	0.0100	0.0000	0.0192	0.0042	0.0193	0.0095	0.0052	0.0050
Existing	122	Lighting Control Tuneup	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Existing	123	Occupancy Sensor, 4L8' Fluorescent Fixtures	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Existing	124	Continuous Dimming, 4L8' Fluorescent Fixtures	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Existing	125	High Performance Lighting R/R - 25% Savings, Base Other Fluorescent	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Existing	130	Base High-Efficiency Incandescent Flood, 53W to Screw-in Replacement	0.0684	0.0191	0.0162	0.0197	0.0529	0.0157	0.0000	0.0008	0.0167	0.0063	0.0175	0.0155
Existing	131	CFL Screw-in 18W	0.0684	0.0191	0.0162	0.0197	0.0529	0.0157	0.0000	0.0008	0.0167	0.0063	0.0175	0.0155
Existing	132	Cold Cathode Lamps	0.0684	0.0191	0.0162	0.0197	0.0529	0.0157	0.0000	0.0008	0.0167	0.0063	0.0175	0.0155
Existing	133	LED screw-in PAR replacement (base incandescent)	0.0684	0.0191	0.0162	0.0197	0.0529	0.0157	0.0000	0.0008	0.0167	0.0063	0.0175	0.0155
Existing	140	Base High-Efficiency Incandescent Flood, 53W to Hardwired Replacement	0.0684	0.0684	0.0162	0.0197	0.0197	0.0157	0.0135	0.0008	0.0167	0.0063	0.0175	0.0155
Existing	141	CFL Hardwired, Modular 18W	0.0684	0.0684	0.0162	0.0197	0.0197	0.0157	0.0135	0.0008	0.0167	0.0063	0.0175	0.0155
Existing	142	Cermaic Metal Halide	0.0684	0.0684	0.0162	0.0197	0.0197	0.0157	0.0135	0.0008	0.0167	0.0063	0.0175	0.0155
Existing	143	LED fixture replacement (base incandescent flood)	0.0684	0.0684	0.0162	0.0197	0.0197	0.0157	0.0135	0.0008	0.0167	0.0063	0.0175	0.0155
Existing	150	Base CFL to screw-in replacement	0.0157	0.0256	0.0166	0.0127	0.0127	0.0774	0.0132	0.0286	0.0202	0.0081	0.0123	0.0111
Existing	151	LED screw-in replacement (base CFL)	0.0157	0.0256	0.0166	0.0127	0.0127	0.0774	0.0132	0.0286	0.0202	0.0081	0.0123	0.0111
Existing	160	Base High Bay Metal Halide, 400W	0.0033	0.0033	0.0001	0.0042	0.0042	0.0086	0.0015	0.0045	0.0133	0.0000	0.0024	0.0013
Existing	161	High Bay T5	0.0033	0.0033	0.0001	0.0042	0.0042	0.0086	0.0015	0.0045	0.0133	0.0000	0.0024	0.0013
Existing	162	Induction High Bay Lighting	0.0033	0.0033	0.0001	0.0042	0.0042	0.0086	0.0015	0.0045	0.0133	0.0000	0.0024	0.0013
Existing	163	PSMH + electronic ballast	0.0033	0.0033	0.0001	0.0042	0.0042	0.0086	0.0015	0.0045	0.0133	0.0000	0.0024	0.0013
Existing	165	Occupancy Sensor, High Bay T5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Existing	180	Base Parking Garage Metal Halide, 250 W	0.0000	0.0014	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001	0.0002	0.0000	0.0000
Existing	181	High-efficiency fluorescent parking garage fixture (Base MH)	0.0000	0.0014	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001	0.0002	0.0000	0.0000
Existing	182	Bi-Level LED Parking Garage Fixtures (Base MH)	0.0000	0.0014	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001	0.0002	0.0000	0.0000
Existing	185	Base Fluorescent Parking Garage Lighting	0.0002	0.0003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0005	0.0009
Existing	186	Parking Garage Low Wattage T8 Lamps replacing 32W lamps	0.0002	0.0003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0005	0.0009
Existing	187	Bi-Level LED Parking Garage Fixtures (Base Fluorescent)	0.0002	0.0003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0005	0.0009
Existing	190	Base Exit Sign	0.0003	0.0003	0.0005	0.0002	0.0002	0.0001	0.0004	0.0001	0.0002	0.0005	0.0003	0.0001
Existing	191	LED Exit Sign	0.0003	0.0003	0.0005	0.0002	0.0002	0.0001	0.0004	0.0001	0.0002	0.0005	0.0003	0.0001
Existing	200	Base Outdoor High Pressure Sodium 250W Lamp	0.0008	0.0001	0.0028	0.0009	0.0004	0.0003	0.0004	0.0006	0.0006	0.0003	0.0003	0.0003
Existing	201	Outdoor Lighting Controls (Photocell/Timeclock)	0.0003	0.0003	0.0007	0.0002	0.0002	0.0003	0.0004	0.0002	0.0000	0.0001	0.0001	0.0002
Existing	202	LED Outdoor Area Lighting	0.0011	0.0011	0.0027	0.0008	0.0008	0.0014	0.0015	0.0008	0.0002	0.0003	0.0004	0.0007
Existing	203	Bi-Level LED Outdoor Lighting	0.0011	0.0011	0.0027	0.0008	0.0008	0.0014	0.0015	0.0008	0.0002	0.0003	0.0004	0.0007

Commercial Elec Measure Inputs			TECHNOLOGY SATURATION (units/square foot)											
Segment	Measure #	Measure Description	Office- Small	Office- Large	Restau- rant	Retail- Small	Retail- Large	Food Store	Ware- house	School	College	Health	Lodging	Miscel- laneous
Existing	210	Base Streetlighting High Pressure Sodium												0.0006
Existing	211	Induction Streetlighting												0.0006
Existing	212	LED Streetlighting												0.0006
Existing	300	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	0.0030	0.0030	0.0030	0.0030	0.0030	0.0025	0.0189	0.0025	0.0026	0.0025	0.0035	0.0020
Existing	301	Centrifugal Chiller, 0.51 kW/ton, 500 tons	0.0030	0.0030	0.0030	0.0030	0.0030	0.0025	0.0189	0.0025	0.0026	0.0025	0.0035	0.0020
Existing	302	Window Film (Standard) - Chiller	0.0877	0.0877	0.0284	0.0409	0.0409	0.0460	1.0172	0.0242	0.0625	0.0171	0.0171	0.0284
Existing	303	EMS - Chiller	0.0030	0.0030	0.0030	0.0030	0.0030	0.0025	0.0189	0.0025	0.0026	0.0025	0.0035	0.0020
Existing	304	Cool Roof - Chiller	0.5000	0.1000	1.0000	1.0000	0.5000	1.0000	1.0000	0.5000	0.4333	0.2500	0.2500	0.5000
Existing	305	Chiller Tune Up/Diagnostics	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Existing	306	VSD for Chiller Pumps and Towers	0.0030	0.0030	0.0030	0.0030	0.0030	0.0025	0.0189	0.0025	0.0026	0.0025	0.0035	0.0020
Existing	307	EMS Optimization - Chiller	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Existing	308	Economizer - Chiller	0.0030	0.0030	0.0030	0.0030	0.0030	0.0025	0.0189	0.0025	0.0026	0.0025	0.0035	0.0020
Existing	309	Ceiling/roof Insulation - Chiller	0.5000	0.1000	1.0000	1.0000	0.5000	1.0000	1.0000	0.5000	0.4333	0.2500	0.2500	0.5000
Existing	310	Duct/Pipe Insulation - Chiller	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500
Existing	311	High Efficiency Chiller Motors	0.0024	0.0024	0.0034	0.0021	0.0021	0.0025	0.0018	0.0033	0.0026	0.0035	0.0028	0.0039
Existing	312	Thermal Energy Storage (TES) - Chiller	0.0024	0.0024	0.0034	0.0021	0.0021	0.0025	0.0018	0.0033	0.0026	0.0035	0.0028	0.0039
Existing	320	Base DX Packaged System, EER=10.3, 10 tons	0.0030	0.0030	0.0030	0.0030	0.0030	0.0025	0.0189	0.0025	0.0026	0.0025	0.0035	0.0020
Existing	321	DX Tune Up/ Advanced Diagnostics	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Existing	322	Automated Fault Detection and Diagnostics	0.0030	0.0030	0.0030	0.0030	0.0030	0.0025	0.0189	0.0025	0.0026	0.0025	0.0035	0.0020
Existing	323	DX Packaged System, EER=10.9, 10 tons	0.0030	0.0030	0.0030	0.0030	0.0030	0.0025	0.0189	0.0025	0.0026	0.0025	0.0035	0.0020
Existing	324	DX Packaged System, EER=13.4, 10 tons	0.0030	0.0030	0.0030	0.0030	0.0030	0.0025	0.0189	0.0025	0.0026	0.0025	0.0035	0.0020
Existing	325	Window Film (Standard) - DX	0.0877	0.0877	0.0284	0.0409	0.0409	0.0460	1.0172	0.0242	0.0625	0.0171	0.0171	0.0284
Existing	326	Prog. Thermostat - DX	0.0030	0.0030	0.0030	0.0030	0.0030	0.0025	0.0189	0.0025	0.0026	0.0025	0.0035	0.0020
Existing	329	Cool Roof - DX	0.5000	0.1000	1.0000	1.0000	0.5000	1.0000	1.0000	0.5000	0.4333	0.2500	0.2500	0.5000
Existing	330	Optimize Controls - DX	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Existing	331	Economizer - DX	0.0030	0.0030	0.0030	0.0030	0.0030	0.0025	0.0189	0.0025	0.0026	0.0025	0.0035	0.0020
Existing	332	Aerosol Duct Sealing - DX	0.0030	0.0030	0.0030	0.0030	0.0030	0.0025	0.0189	0.0025	0.0026	0.0025	0.0035	0.0020
Existing	333	Ceiling/roof Insulation - DX	0.5000	0.1000	1.0000	1.0000	0.5000	1.0000	1.0000	0.5000	0.4333	0.2500	0.2500	0.5000
Existing	334	Duct/Pipe Insulation - DX	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500
Existing	335	DX Coil Cleaning	0.0030	0.0030	0.0030	0.0030	0.0030	0.0025	0.0189	0.0025	0.0026	0.0025	0.0035	0.0020
Existing	337	Geothermal Heat Pump, EER=13, 10 tons - DX	0.0024	0.0024	0.0034	0.0021	0.0021	0.0025	0.0018	0.0033	0.0026	0.0035	0.0028	0.0039
Existing	340	Base PTAC, EER=8.3, 1 ton	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0020	0.0037	0.0000	0.0024	0.0018
Existing	341	HE PTAC, EER=9.6, 1 ton	0.0024	0.0024	0.0034	0.0021	0.0021	0.0025	0.0018	0.0033	0.0026	0.0035	0.0028	0.0039
Existing	342	Hotel Room Controllers	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00333	0.00000
Existing	400	Base Fan Motor, 5hp, 1800rpm, 87.5%	0.0003	0.0003	0.0018	0.0003	0.0003	0.0005	0.0003	0.0004	0.0001	0.0003	0.0003	0.0005
Existing	401	Fan Motor, 5hp, 1800rpm, 89.5%	0.0003	0.0003	0.0018	0.0003	0.0003	0.0005	0.0003	0.0004	0.0001	0.0003	0.0003	0.0005
Existing	402	Variable Speed Drive Control, 5 HP	0.0003	0.0003	0.0018	0.0003	0.0003	0.0005	0.0003	0.0004	0.0001	0.0003	0.0003	0.0005
Existing	410	Base Fan Motor, 15hp, 1800rpm, 91.0%	0.0002	0.0002	0.0010	0.0013	0.0013	0.0000	0.0000	0.0007	0.0003	0.0002	0.0000	0.0009
Existing	411	Fan Motor, 15hp, 1800rpm, 92.4%	0.0002	0.0002	0.0010	0.0013	0.0013	0.0000	0.0000	0.0007	0.0003	0.0002	0.0000	0.0009
Existing	412	Variable Speed Drive Control, 15 HP	0.0002	0.0002	0.0010	0.0013	0.0013	0.0000	0.0000	0.0007	0.0003	0.0002	0.0000	0.0009
Existing	413	Electronically Commutated Motors (ECM) on an Air Handler Unit	0.0024	0.0024	0.0037	0.0016	0.0016	0.0035	0.0004	0.0026	0.0020	0.0042	0.0017	0.0014
Existing	414	Energy Recovery Ventilation (ERV)	0.0024	0.0024	0.0037	0.0016	0.0016	0.0035	0.0004	0.0026	0.0020	0.0042	0.0017	0.0014
Existing	415	Separate Makeup Air / Exhaust Hoods AC	0.0002	0.0002	0.0010	0.0013	0.0013	0.0000	0.0000	0.0007	0.0003	0.0002	0.0000	0.0009
Existing	420	Base Fan Motor, 40hp, 1800rpm, 93.0%	0.0012	0.0012	0.0000	0.0019	0.0019	0.0000	0.0004	0.0000	0.0005	0.0000	0.0000	0.0024
Existing	421	Fan Motor, 40hp, 1800rpm, 94.1%	0.0012	0.0012	0.0000	0.0019	0.0019	0.0000	0.0004	0.0000	0.0005	0.0000	0.0000	0.0024
Existing	422	Variable Speed Drive Control, 40 HP	0.0012	0.0012	0.0000	0.0019	0.0019	0.0000	0.0004	0.0000	0.0005	0.0000	0.0000	0.0024
Existing	423	Air Handler Tuneups	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Existing	424	Demand Controlled Ventilation	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Existing	500	Base Built-Up Refrigeration System	0.00004	0.00000	0.00093	0.01311	0.00504	0.01454	0.00000	0.00009	0.00000	0.00005	0.00018	0.00007

Commercial Elec Measure Inputs			TECHNOLOGY SATURATION (units/square foot)											
Segment	Measure #	Measure Description	Office- Small	Office- Large	Restau- rant	Retail- Small	Retail- Large	Food Store	Ware- house	School	College	Health	Lodging	Miscel- laneous
Existing	501	High-efficiency fan motors	0.00000	0.00000	0.00001	0.00000	0.00000	0.00003	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Existing	502	Strip curtains for walk-ins	0.00000	0.00000	0.00001	0.00000	0.00000	0.00003	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Existing	503	Night covers for display cases (built-up systems)	0.00124	0.00002	0.00274	0.00056	0.00063	0.01454	0.00000	0.00016	0.00026	0.00026	0.00020	0.00024
Existing	504	Efficient compressor motor retrofit	0.00000	0.00000	0.00001	0.00000	0.00000	0.00003	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Existing	505	Compressor VSD retrofit	0.00000	0.00000	0.00001	0.00000	0.00000	0.00003	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Existing	506	Floating head pressure controls	0.00000	0.00000	0.00001	0.00000	0.00000	0.00003	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Existing	507	Refrigeration Commissioning	0.00002	0.00002	0.00078	0.00016	0.00016	0.00155	0.00016	0.00016	0.00002	0.00003	0.00002	0.00016
Existing	508	Demand Hot Gas Defrost	0.00002	0.00002	0.00065	0.00013	0.00013	0.00130	0.00013	0.00013	0.00002	0.00002	0.00002	0.00013
Existing	509	Demand Defrost Electric	0.00002	0.00002	0.00065	0.00013	0.00013	0.00130	0.00013	0.00013	0.00002	0.00002	0.00002	0.00013
Existing	510	Anti-sweat (humidistat) controls	0.00000	0.00000	0.00001	0.00000	0.00000	0.00003	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Existing	511	Freezer-Cooler Replacement Gaskets (built-up systems)	0.00124	0.00002	0.00274	0.00056	0.00063	0.01454	0.00000	0.00016	0.00026	0.00026	0.00020	0.00024
Existing	512	High R-Value Glass Doors	0.00124	0.00002	0.00274	0.00056	0.00063	0.01454	0.00000	0.00016	0.00026	0.00026	0.00020	0.00024
Existing	513	Bi-level LED Case Lighting (built-up systems)	0.00124	0.00002	0.00274	0.00056	0.00063	0.01454	0.00000	0.00016	0.00026	0.00026	0.00020	0.00024
Existing	514	Fiber Optic Case Lighting (built-up systems)	0.00124	0.00002	0.00274	0.00056	0.00063	0.01454	0.00000	0.00016	0.00026	0.00026	0.00020	0.00024
Existing	516	Multiplex Compressor System	0.00002	0.00002	0.00078	0.00016	0.00016	0.00155	0.00016	0.00016	0.00002	0.00003	0.00002	0.00016
Existing	517	Oversized Air Cooled Condenser	0.00002	0.00002	0.00078	0.00016	0.00016	0.00155	0.00016	0.00016	0.00002	0.00003	0.00002	0.00016
Existing	520	Base Self-Contained Refrigeration	0.0000	0.0000	0.0011	0.0009	0.0009	0.0003	0.0000	0.0000	0.0001	0.0001	0.0000	0.0000
Existing	521	Strip curtains for walk-ins	0.0000	0.0000	0.0001	0.0000	0.0000	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Existing	522	Night covers for display cases (self-contained)	0.0000	0.0000	0.0003	0.0001	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Existing	523	Freezer-Cooler Replacement Gaskets (self-contained)	0.0000	0.0000	0.0005	0.0007	0.0007	0.0002	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Existing	524	Bi-level LED Case Lighting (self-contained units)	0.0000	0.0000	0.0004	0.0007	0.0006	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Existing	526	Energy-Star Refrigerator, solid door	0.0000	0.0000	0.0003	0.0001	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Existing	527	Energy-Star Freezer, solid door	0.0000	0.0000	0.0001	0.0000	0.0000	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Existing	528	Energy-Star Refrigerator, glass door	0.0000	0.0000	0.0001	0.0005	0.0005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Existing	529	Energy-Star Freezer, glass door	0.0000	0.0000	0.0001	0.0000	0.0000	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Existing	530	Energy Star Ice Machines	0.0000	0.0000	0.0003	0.0001	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Existing	600	Base Desktop PC	0.0022	0.0033	0.0005	0.0001	0.0001	0.0001	0.0004	0.0004	0.0002	0.0012	0.0001	0.0001
Existing	601	PC Manual Power Management Enabling	0.0022	0.0033	0.0005	0.0001	0.0001	0.0001	0.0004	0.0004	0.0002	0.0012	0.0001	0.0001
Existing	602	PC Network Power Management Enabling	0.0022	0.0033	0.0005	0.0001	0.0001	0.0001	0.0004	0.0004	0.0002	0.0012	0.0001	0.0001
Existing	603	Energy Star or Better PC	0.0022	0.0033	0.0005	0.0001	0.0001	0.0001	0.0004	0.0004	0.0002	0.0012	0.0001	0.0001
Existing	610	Base Monitor, CRT	0.00002	0.0000	0.00010	0.00005	0.00001	0.00003	0.00003	0.00003	0.00001	0.00005	0.00000	0.00001
Existing	611	Energy Star or Better Monitor-CRT	0.00002	0.0000	0.00010	0.00005	0.00001	0.00003	0.00003	0.00003	0.00001	0.00005	0.00000	0.00001
Existing	612	Monitor Power Management Enabling--CRT	0.00002	0.0000	0.00010	0.00005	0.00001	0.00003	0.00003	0.00003	0.00001	0.00005	0.00000	0.00001
Existing	620	Base Monitor, LCD	0.0030	0.0035	0.0006	0.0002	0.0001	0.0001	0.0004	0.0004	0.0001	0.0013	0.0001	0.0001
Existing	621	Energy Star or Better Monitor--LCD	0.0030	0.0035	0.0006	0.0002	0.0001	0.0001	0.0004	0.0004	0.0001	0.0013	0.0001	0.0001
Existing	622	Monitor Power Management Enabling--LCD	0.0030	0.0035	0.0006	0.0002	0.0001	0.0001	0.0004	0.0004	0.0001	0.0013	0.0001	0.0001
Existing	630	Base Copier	0.0001	0.0001	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001	0.0000	0.0000
Existing	631	Energy Star or Better Copier	0.0001	0.0001	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001	0.0000	0.0000
Existing	632	Copier Power Management Enabling	0.0001	0.0001	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001	0.0000	0.0000
Existing	640	Base Laser Printer	0.0004	0.0002	0.0001	0.0001	0.0000	0.0000	0.0001	0.0000	0.0000	0.0002	0.0000	0.0000
Existing	641	Printer Power Management Enabling	0.0004	0.0002	0.0001	0.0001	0.0000	0.0000	0.0001	0.0000	0.0000	0.0002	0.0000	0.0000
Existing	650	Base Data Center/Server Room	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Existing	651	Data Center Improved Operations	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Existing	652	Data Center Best Practices	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Existing	653	Data Center State of the Art practices	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Existing	660	Base Water Heating	0.0015	0.0015	0.0027	0.0013	0.0013	0.0021	0.0080	0.0025	0.0025	0.0026	0.0038	0.0016
Existing	661	Demand controlled circulating systems	0.0001	0.0001	0.0002	0.0001	0.0001	0.0001	0.0002	0.0001	0.0000	0.0000	0.0001	0.0001
Existing	662	High Efficiency Water Heater (electric)	0.0015	0.0015	0.0027	0.0013	0.0013	0.0021	0.0080	0.0025	0.0025	0.0026	0.0038	0.0016
Existing	663	Hot Water Pipe Insulation	0.0011	0.0011	0.0021	0.0010	0.0010	0.0016	0.0061	0.0019	0.0019	0.0020	0.0029	0.0012

Commercial Elec Measure Inputs			TECHNOLOGY SATURATION (units/square foot)											
Segment	Measure #	Measure Description	Office- Small	Office- Large	Restau- rant	Retail- Small	Retail- Large	Food Store	Ware- house	School	College	Health	Lodging	Miscel- laneous
Existing	664	Tankless Water Heater	0.0015	0.0015	0.0027	0.0013	0.0013	0.0021	0.0080	0.0025	0.0025	0.0026	0.0038	0.0016
Existing	665	Heat Pump Water Heater (air source)	0.0015	0.0015	0.0027	0.0013	0.0013	0.0021	0.0080	0.0025	0.0025	0.0026	0.0038	0.0016
Existing	666	Heat Recovery Unit	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Existing	667	Heat Trap	0.0015	0.0015	0.0027	0.0013	0.0013	0.0021	0.0080	0.0025	0.0025	0.0026	0.0038	0.0016
Existing	668	Solar Water Heater	0.0015	0.0015	0.0027	0.0013	0.0013	0.0021	0.0080	0.0025	0.0025	0.0026	0.0038	0.0016
Existing	670	Base Vending Machines	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Existing	671	Vending Misers	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Existing	700	Base Cooking	0.0002	0.0002	0.0006	0.0005	0.0005	0.0025	0.0008	0.0001	0.0002	0.0002	0.0004	0.0005
Existing	701	Convection Oven	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0005	0.0000	0.0001	0.0000	0.0000	0.0001
Existing	702	Efficient Fryer	0.0001	0.0001	0.0001	0.0001	0.0001	0.0002	0.0001	0.0000	0.0000	0.0000	0.0001	0.0001
Existing	703	Efficient Steamer	0.0000	0.0000	0.0001	0.0001	0.0001	0.0001	0.0001	0.0000	0.0000	0.0000	0.0000	0.0001
Existing	704	Energy Star Hot Food Holding Cabinets	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0005	0.0000	0.0001	0.0000	0.0000	0.0001
Existing	800	Base Heating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Existing	900	Base Miscellaneous	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Existing	901	XMisc	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
New	100	Base Bldg Design - 15%	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
New	101	High Performance Building/Int Design - Tier 1 15% - Small Office	1.0000											
New	102	High Performance Building/Int Design - Tier 1 15% - Large Office		1.0000										
New	103	High Performance Building/Int Design - Tier 1 15% - Restaurant			1.0000									
New	104	High Performance Building/Int Design - Tier 1 15% - Small Retail				1.0000								
New	105	High Performance Building/Int Design - Tier 1 15% - Large Retail					1.0000							
New	106	High Performance Building/Int Design - Tier 1 15% - Grocery						1.0000						
New	107	High Performance Building/Int Design - Tier 1 15% - Warehouse							1.0000					
New	108	High Performance Building/Int Design - Tier 1 15% - School								1.0000				
New	109	High Performance Building/Int Design - Tier 1 15% - College									1.0000			
New	110	High Performance Building/Int Design - Tier 1 15% - Health										1.0000		
New	111	High Performance Building/Int Design - Tier 1 15% - Lodging											1.0000	
New	112	High Performance Building/Int Design - Tier 1 15% - Miscellaneous												1.0000
New	200	Base Bldg Design - 30%	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
New	201	High Performance Building/Int Design - Tier 2 30% - Small Office	1.0000											
New	202	High Performance Building/Int Design - Tier 2 30% - Large Office		1.0000										
New	203	High Performance Building/Int Design - Tier 2 30% - Restaurant			1.0000									
New	204	High Performance Building/Int Design - Tier 2 30% - Small Retail				1.0000								
New	205	High Performance Building/Int Design - Tier 2 30% - Large Retail					1.0000							
New	206	High Performance Building/Int Design - Tier 2 30% - Grocery						1.0000						
New	207	High Performance Building/Int Design - Tier 2 30% - Warehouse							1.0000					
New	208	High Performance Building/Int Design - Tier 2 30% - School								1.0000				
New	209	High Performance Building/Int Design - Tier 2 30% - College									1.0000			
New	210	High Performance Building/Int Design - Tier 2 30% - Health										1.0000		
New	211	High Performance Building/Int Design - Tier 2 30% - Lodging											1.0000	
New	212	High Performance Building/Int Design - Tier 2 30% - Miscellaneous												1.0000
New	300	Base Bldg Design - 50%	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
New	301	High Performance Building/Int Design - Tier 3 50% - Small Office	1.0000											
New	302	High Performance Building/Int Design - Tier 3 50% - Large Office		1.0000										
New	303	High Performance Building/Int Design - Tier 3 50% - Restaurant			1.0000									
New	304	High Performance Building/Int Design - Tier 3 50% - Small Retail				1.0000								
New	305	High Performance Building/Int Design - Tier 3 50% - Large Retail					1.0000							
New	306	High Performance Building/Int Design - Tier 3 50% - Grocery						1.0000						
New	307	High Performance Building/Int Design - Tier 3 50% - Warehouse							1.0000					

Commercial Elec Measure Inputs			TECHNOLOGY SATURATION (units/square foot)											
Segment	Measure #	Measure Description	Office- Small	Office- Large	Restau- rant	Retail- Small	Retail- Large	Food Store	Ware- house	School	College	Health	Lodging	Miscel- laneous
New	308	High Performance Building/Int Design - Tier 3 50% - School								1.0000				
New	309	High Performance Building/Int Design - Tier 3 50% - College									1.0000			
New	310	High Performance Building/Int Design - Tier 3 50% - Health										1.0000		
New	311	High Performance Building/Int Design - Tier 3 50% - Lodging											1.0000	
New	312	High Performance Building/Int Design - Tier 3 50% - Miscellaneous												1.0000
New	400	Base Bldg Design - 70%	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
New	401	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Small Office	1.0000											
New	402	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Large Office		1.0000										
New	403	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Restaurant			1.0000									
New	404	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Small Retail				1.0000								
New	405	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Large Retail					1.0000							
New	406	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Grocery						1.0000						
New	407	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Warehouse							1.0000					
New	408	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - School								1.0000				
New	409	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - College									1.0000			
New	410	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Health										1.0000		
New	411	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Lodging											1.0000	
New	412	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Miscellaneous												1.0000

Commercial Elec Measure Inputs			Hour Adjustment For Lighting (Hours/year)											
Segment	Measure #	Measure Description	Office- Small	Office- Large	Restau- rant	Retail- Small	Retail- Large	Food Store	Ware- house	School	College	Health	Lodging	Miscel- laneous
Existing	100	Base Fluorescent Fixture, 4L4'T8	4,732	4,732	2,477	2,615	2,615	4,346	2,799	2,484	3,449	5,638	2,743	2,716
Existing	101	ROB 4L4' Premium T8, 1EB	4,732	4,732	2,477	2,615	2,615	4,346	2,799	2,484	3,449	5,638	2,743	2,716
Existing	102	Delamping 3L4' F32T8	4,732	4,732	2,477	2,615	2,615	4,346	2,799	2,484	3,449	5,638	2,743	2,716
Existing	103	LED Troffer (Base 4L4'T8)	4,732	4,732	2,477	2,615	2,615	4,346	2,799	2,484	3,449	5,638	2,743	2,716
Existing	104	Lighting Control Tuneup	4,732	4,732	2,477	2,615	2,615	4,346	2,799	2,484	3,449	5,638	2,743	2,716
Existing	105	Occupancy Sensor, 4L4' Fluorescent Fixtures	4,732	4,732	2,477	2,615	2,615	4,346	2,799	2,484	3,449	5,638	2,743	2,716
Existing	106	Continuous Dimming, 4L4' Fluorescent Fixtures	4,732	4,732	2,477	2,615	2,615	4,346	2,799	2,484	3,449	5,638	2,743	2,716
Existing	107	High Performance Lighting R/R - 25% Savings, Base 4L4'T8	4,732	4,732	2,477	2,615	2,615	4,346	2,799	2,484	3,449	5,638	2,743	2,716
Existing	110	Base Fluorescent Fixture, 2L4'T8, 1 EB	4,732	4,732	2,477	2,615	2,615	4,346	2,799	2,484	3,449	5,638	2,743	2,716
Existing	111	ROB 2L4' Premium T8, 1EB	4,732	4,732	2,477	2,615	2,615	4,346	2,799	2,484	3,449	5,638	2,743	2,716
Existing	112	Delamping 1L4' F32T8	4,732	4,732	2,477	2,615	2,615	4,346	2,799	2,484	3,449	5,638	2,743	2,716
Existing	113	LED Troffer (Base 2L4'T8)	4,732	4,732	2,477	2,615	2,615	4,346	2,799	2,484	3,449	5,638	2,743	2,716
Existing	114	Lighting Control Tuneup	4,732	4,732	2,477	2,615	2,615	4,346	2,799	2,484	3,449	5,638	2,743	2,716
Existing	115	Occupancy Sensor, 2L4' Fluorescent Fixtures	4,732	4,732	2,477	2,615	2,615	4,346	2,799	2,484	3,449	5,638	2,743	2,716
Existing	116	Continuous Dimming, 2L4' Fluorescent Fixtures	4,732	4,732	2,477	2,615	2,615	4,346	2,799	2,484	3,449	5,638	2,743	2,716
Existing	117	High Performance Lighting R/R - 25% Savings, Base 2L4'T8	4,732	4,732	2,477	2,615	2,615	4,346	2,799	2,484	3,449	5,638	2,743	2,716
Existing	120	Base Other Fluorescent Fixture	4,732	4,732	2,477	2,615	2,615	4,346	2,799	2,484	3,449	5,638	2,743	2,716
Existing	121	ROB Premium T8, 1EB	4,732	4,732	2,477	2,615	2,615	4,346	2,799	2,484	3,449	5,638	2,743	2,716
Existing	122	Lighting Control Tuneup	4,732	4,732	2,477	2,615	2,615	4,346	2,799	2,484	3,449	5,638	2,743	2,716
Existing	123	Occupancy Sensor, 4L8' Fluorescent Fixtures	4,732	4,732	2,477	2,615	2,615	4,346	2,799	2,484	3,449	5,638	2,743	2,716
Existing	124	Continuous Dimming, 4L8' Fluorescent Fixtures	4,732	4,732	2,477	2,615	2,615	4,346	2,799	2,484	3,449	5,638	2,743	2,716
Existing	125	High Performance Lighting R/R - 25% Savings, Base Other Fluorescent	4,732	4,732	2,477	2,615	2,615	4,346	2,799	2,484	3,449	5,638	2,743	2,716
Existing	130	Base High-Efficiency Incandescent Flood, 53W to Screw-in Replacement	4,732	4,732	2,477	2,615	2,615	4,346	2,799	2,484	3,449	5,638	2,743	2,716
Existing	131	CFL Screw-in 18W	4,732	4,732	2,477	2,615	2,615	4,346	2,799	2,484	3,449	5,638	2,743	2,716
Existing	132	Cold Cathode Lamps	4,732	4,732	2,477	2,615	2,615	4,346	2,799	2,484	3,449	5,638	2,743	2,716
Existing	133	LED screw-in PAR replacement (base incandescent)	4,732	4,732	2,477	2,615	2,615	4,346	2,799	2,484	3,449	5,638	2,743	2,716
Existing	140	Base High-Efficiency Incandescent Flood, 53W to Hardwired Replacement	4,732	4,732	2,477	2,615	2,615	4,346	2,799	2,484	3,449	5,638	2,743	2,716
Existing	141	CFL Hardwired, Modular 18W	4,732	4,732	2,477	2,615	2,615	4,346	2,799	2,484	3,449	5,638	2,743	2,716
Existing	142	Ceramic Metal Halide	4,732	4,732	2,477	2,615	2,615	4,346	2,799	2,484	3,449	5,638	2,743	2,716
Existing	143	LED fixture replacement (base incandescent flood)	4,732	4,732	2,477	2,615	2,615	4,346	2,799	2,484	3,449	5,638	2,743	2,716
Existing	150	Base CFL to screw-in replacement	4,732	4,732	2,477	2,615	2,615	4,346	2,799	2,484	3,449	5,638	2,743	2,716
Existing	151	LED screw-in replacement (base CFL)	4,732	4,732	2,477	2,615	2,615	4,346	2,799	2,484	3,449	5,638	2,743	2,716
Existing	160	Base High Bay Metal Halide, 400W	4,732	4,732	2,477	2,615	2,615	4,346	2,799	2,484	3,449	5,638	2,743	2,716
Existing	161	High Bay T5	4,732	4,732	2,477	2,615	2,615	4,346	2,799	2,484	3,449	5,638	2,743	2,716
Existing	162	Induction High Bay Lighting	4,732	4,732	2,477	2,615	2,615	4,346	2,799	2,484	3,449	5,638	2,743	2,716
Existing	163	PSMH + electronic ballast	4,732	4,732	2,477	2,615	2,615	4,346	2,799	2,484	3,449	5,638	2,743	2,716
Existing	165	Occupancy Sensor, High Bay T5	4,732	4,732	2,477	2,615	2,615	4,346	2,799	2,484	3,449	5,638	2,743	2,716
Existing	180	Base Parking Garage Metal Halide, 250 W	8,760	8,760	8,760	8,760	8,760	8,760	8,760	8,760	8,760	8,760	8,760	8,760
Existing	181	High-efficiency fluorescent parking garage fixture (Base MH)	8,760	8,760	8,760	8,760	8,760	8,760	8,760	8,760	8,760	8,760	8,760	8,760
Existing	182	Bi-Level LED Parking Garage Fixtures (Base MH)	8,760	8,760	8,760	8,760	8,760	8,760	8,760	8,760	8,760	8,760	8,760	8,760
Existing	185	Base Fluorescent Parking Garage Lighting	8,760	8,760	8,760	8,760	8,760	8,760	8,760	8,760	8,760	8,760	8,760	8,760
Existing	186	Parking Garage Low Wattage T8 Lamps replacing 32W lamps	8,760	8,760	8,760	8,760	8,760	8,760	8,760	8,760	8,760	8,760	8,760	8,760
Existing	187	Bi-Level LED Parking Garage Fixtures (Base Fluorescent)	8,760	8,760	8,760	8,760	8,760	8,760	8,760	8,760	8,760	8,760	8,760	8,760
Existing	190	Base Exit Sign	8,760	8,760	8,760	8,760	8,760	8,760	8,760	8,760	8,760	8,760	8,760	8,760
Existing	191	LED Exit Sign	8,760	8,760	8,760	8,760	8,760	8,760	8,760	8,760	8,760	8,760	8,760	8,760
Existing	200	Base Outdoor High Pressure Sodium 250W Lamp	4,380	4,380	4,380	4,380	4,380	4,380	4,380	4,380	4,380	4,380	4,380	4,380
Existing	201	Outdoor Lighting Controls (Photocell/Timeclock)	4,380	4,380	4,380	4,380	4,380	4,380	4,380	4,380	4,380	4,380	4,380	4,380

Commercial Elec Measure Inputs			Hour Adjustment For Lighting (Hours/year)											
Segment	Measure #	Measure Description	Office- Small	Office- Large	Restau- rant	Retail- Small	Retail- Large	Food Store	Ware- house	School	College	Health	Lodging	Miscel- laneous
Existing	202	LED Outdoor Area Lighting	4,380	4,380	4,380	4,380	4,380	4,380	4,380	4,380	4,380	4,380	4,380	4,380
Existing	203	Bi-Level LED Outdoor Lighting	4,380	4,380	4,380	4,380	4,380	4,380	4,380	4,380	4,380	4,380	4,380	4,380
Existing	210	Base Streetlighting High Pressure Sodium	4,380	4,380	4,380	4,380	4,380	4,380	4,380	4,380	4,380	4,380	4,380	4,380
Existing	211	Induction Streetlighting	4,380	4,380	4,380	4,380	4,380	4,380	4,380	4,380	4,380	4,380	4,380	4,380
Existing	212	LED Streetlighting	4,380	4,380	4,380	4,380	4,380	4,380	4,380	4,380	4,380	4,380	4,380	4,380

Industrial Elec Measure Inputs			MEASURE COSTS			NPV of		Implementation		Full = 1		Relative Energy Reduction Factors		Implementation						
Segment	Measure #	Measure Description	Savings	Cost	Unit	Unit	Lifetime	Implementation	Service	Initial	Replace	Full	SP	SPP	SOP	WP	WPP	WOP	End Use	Type
			Units	Units	Equipment	Labor	O & M	Cost	Life	Cost	Cost	Unit								1=1 time
					Cost	Cost	Cost	Factor				Cost								2=ROB
Existing	100	Base Compressed Air	\$/kWh	\$/kWh	\$0.00	\$0.00	\$0.00	\$0.00	14.5	1	1	\$0.00	1.00	1.00	1.00	1.00	1.00	1.00	1	1
Existing	101	Compressed Air-O&M	\$/kWh	\$/kWh	\$0.01	\$0.0013	\$0.00	\$0.01	2	1	1	\$0.01	1.00	1.00	1.00	1.00	1.00	1.00	1	1
Existing	102	Compressed Air - Controls	\$/kWh	\$/kWh	\$0.02	\$0.0018	\$0.00	\$0.02	10	1	1	\$0.02	1.00	1.00	1.00	1.00	1.00	1.00	1	2
Existing	103	Compressed Air - System Optimization	\$/kWh	\$/kWh	\$0.02	\$0.0020	\$0.00	\$0.02	10	1	1	\$0.02	1.00	1.00	1.00	1.00	1.00	1.00	1	1
Existing	104	Compressed Air- Sizing	\$/kWh	\$/kWh	\$0.00	\$0.0005	\$0.00	\$0.00	10	1	1	\$0.00	1.00	1.00	1.00	1.00	1.00	1.00	1	2
Existing	105	Comp Air - Replace 1-5 HP motor	\$/kWh	\$/kWh	\$0.05	\$0.0056	\$0.00	\$0.05	17	1	1	\$0.05	1.00	1.00	1.00	1.00	1.00	1.00	1	2
Existing	106	Comp Air - ASD (1-5 hp)	\$/kWh	\$/kWh	\$0.08	\$0.0097	\$0.00	\$0.09	17	1	1	\$0.09	0.09	1.00	1.00	1.00	1.00	1.00	1	1
Existing	107	Comp Air - Motor practices-1 (1-5 HP)	\$/kWh	\$/kWh	\$0.02	\$0.0022	\$0.00	\$0.02	17	1	1	\$0.02	1.00	1.00	1.00	1.00	1.00	1.00	1	1
Existing	108	Comp Air - Replace 6-100 HP motor	\$/kWh	\$/kWh	\$0.03	\$0.0031	\$0.00	\$0.03	20	1	1	\$0.03	1.00	1.00	1.00	1.00	1.00	1.00	1	2
Existing	109	Comp Air - ASD (6-100 hp)	\$/kWh	\$/kWh	\$0.00	\$0.0003	\$0.00	\$0.00	20	1	1	\$0.00	0.09	1.00	1.00	1.00	1.00	1.00	1	2
Existing	110	Comp Air - Motor practices-1 (6-100 HP)	\$/kWh	\$/kWh	\$0.01	\$0.0007	\$0.00	\$0.01	20	1	1	\$0.01	1.00	1.00	1.00	1.00	1.00	1.00	1	1
Existing	111	Comp Air - Replace 100+ HP motor	\$/kWh	\$/kWh	\$0.01	\$0.0009	\$0.00	\$0.01	20	1	1	\$0.01	1.00	1.00	1.00	1.00	1.00	1.00	1	2
Existing	112	Comp Air - ASD (100+ hp)	\$/kWh	\$/kWh	\$0.01	\$0.0007	\$0.00	\$0.01	20	1	1	\$0.01	0.09	1.00	1.00	1.00	1.00	1.00	1	1
Existing	113	Comp Air - Motor practices-1 (100+ HP)	\$/kWh	\$/kWh	\$0.00	\$0.0003	\$0.00	\$0.00	20	1	1	\$0.00	1.00	1.00	1.00	1.00	1.00	1.00	1	1
Existing	114	Power recovery	\$/kWh	\$/kWh	\$0.00	\$0.0003	\$0.00	\$0.00	10	1	1	\$0.00	1.00	1.00	1.00	1.00	1.00	1.00	1	1
Existing	200	Base Fans	\$/kWh	\$/kWh	\$0.00	\$0.0000	\$0.00	\$0.00	14.5	1	1	\$0.00	1.00	1.00	1.00	1.00	1.00	1.00	2	1
Existing	201	Fans - O&M	\$/kWh	\$/kWh	\$0.00	\$0.0001	\$0.00	\$0.00	2	1	1	\$0.00	1.00	1.00	1.00	1.00	1.00	1.00	2	1
Existing	202	Fans - Controls	\$/kWh	\$/kWh	\$0.084	\$0.0097	\$0.00	\$0.09	10	1	1	\$0.09	1.00	1.00	1.00	1.00	1.00	1.00	2	2
Existing	203	Fans - System Optimization	\$/kWh	\$/kWh	\$0.055	\$0.0063	\$0.00	\$0.06	10	1	1	\$0.06	0.47	1.00	1.00	1.00	1.00	1.00	2	1
Existing	204	Fans - Improve components	\$/kWh	\$/kWh	\$0.005	\$0.0005	\$0.00	\$0.01	10	1	1	\$0.01	1.00	1.00	1.00	1.00	1.00	1.00	2	2
Existing	205	Fans - Replace 1-5 HP motor	\$/kWh	\$/kWh	\$0.048	\$0.0056	\$0.00	\$0.05	17	1	1	\$0.05	1.00	1.00	1.00	1.00	1.00	1.00	2	2
Existing	206	Fans - ASD (1-5 hp)	\$/kWh	\$/kWh	\$0.08	\$0.0097	\$0.00	\$0.09	17	1	1	\$0.09	0.09	1.00	1.00	1.00	1.00	1.00	2	1
Existing	207	Fans - Motor practices-1 (1-5 HP)	\$/kWh	\$/kWh	\$0.02	\$0.0022	\$0.00	\$0.02	17	1	1	\$0.02	1.00	1.00	1.00	1.00	1.00	1.00	2	1
Existing	208	Fans - Replace 6-100 HP motor	\$/kWh	\$/kWh	\$0.03	\$0.0031	\$0.00	\$0.03	20	1	1	\$0.03	1.00	1.00	0.50	1.00	1.00	0.50	2	2
Existing	209	Fans - ASD (6-100 hp)	\$/kWh	\$/kWh	\$0.00	\$0.0003	\$0.00	\$0.00	20	1	1	\$0.00	0.09	0.50	0.00	1.00	0.75	0.00	2	2
Existing	210	Fans - Motor practices-1 (6-100 HP)	\$/kWh	\$/kWh	\$0.01	\$0.0007	\$0.00	\$0.01	20	1	1	\$0.01	1.00	1.00	1.00	1.00	1.00	1.00	2	1
Existing	211	Fans - Replace 100+ HP motor	\$/kWh	\$/kWh	\$0.01	\$0.0009	\$0.00	\$0.01	20	1	1	\$0.01	1.00	1.00	1.00	1.00	1.00	1.00	2	2
Existing	212	Fans - ASD (100+ hp)	\$/kWh	\$/kWh	\$0.01	\$0.0007	\$0.00	\$0.01	20	1	1	\$0.01	0.09	1.00	0.50	1.00	1.00	0.50	2	1
Existing	213	Fans - Motor practices-1 (100+ HP)	\$/kWh	\$/kWh	\$0.00	\$0.0003	\$0.00	\$0.00	20	1	1	\$0.00	1.00	0.50	0.00	1.00	0.75	0.00	2	1
Existing	214	Optimize drying process	\$/kWh	\$/kWh	\$0.05	\$0.0063	\$0.00	\$0.06	10	1	1	\$0.06	1.00	1.00	1.00	1.00	1.00	1.00	2	1
Existing	300	Base Pumps	\$/kWh	\$/kWh	\$0.00	\$0.0000	\$0.00	\$0.00	14.5	1	1	\$0.00	1.00	1.00	1.00	1.00	1.00	1.00	3	1
Existing	301	Pumps - O&M	\$/kWh	\$/kWh	\$0.01	\$0.0006	\$0.00	\$0.01	2	1	1	\$0.01	1.00	1.00	1.00	1.00	1.00	1.00	3	1
Existing	302	Pumps - Controls	\$/kWh	\$/kWh	\$0.02	\$0.0028	\$0.00	\$0.03	10	1	1	\$0.03	1.00	1.00	1.00	1.00	1.00	1.00	3	2
Existing	303	Pumps - System Optimization	\$/kWh	\$/kWh	\$0.07	\$0.0084	\$0.00	\$0.08	10	1	1	\$0.08	1.00	1.00	1.00	1.00	1.00	1.00	3	1
Existing	304	Pumps - Sizing	\$/kWh	\$/kWh	\$0.02	\$0.0021	\$0.00	\$0.02	10	1	1	\$0.02	1.00	1.00	1.00	1.00	1.00	1.00	3	2
Existing	305	Pumps - Replace 1-5 HP motor	\$/kWh	\$/kWh	\$0.05	\$0.0056	\$0.00	\$0.05	17	1	1	\$0.05	1.00	1.00	1.00	1.00	1.00	1.00	3	2
Existing	306	Pumps - ASD (1-5 hp)	\$/kWh	\$/kWh	\$0.08	\$0.0097	\$0.00	\$0.09	17	1	1	\$0.09	0.09	1.00	1.00	1.00	1.00	1.00	3	1
Existing	307	Pumps - Motor practices-1 (1-5 HP)	\$/kWh	\$/kWh	\$0.02	\$0.0022	\$0.00	\$0.02	17	1	1	\$0.02	1.00	1.00	1.00	1.00	1.00	1.00	3	1
Existing	308	Pumps - Replace 6-100 HP motor	\$/kWh	\$/kWh	\$0.03	\$0.0031	\$0.00	\$0.03	20	1	1	\$0.03	1.00	1.00	1.00	1.00	1.00	1.00	3	2
Existing	309	Pumps - ASD (6-100 hp)	\$/kWh	\$/kWh	\$0.00	\$0.0003	\$0.00	\$0.00	20	1	1	\$0.00	0.09	1.00	1.00	1.00	1.00	1.00	3	1
Existing	310	Pumps - Motor practices-1 (6-100 HP)	\$/kWh	\$/kWh	\$0.01	\$0.0007	\$0.00	\$0.01	20	1	1	\$0.01	1.00	1.00	1.00	1.00	1.00	1.00	3	1
Existing	311	Pumps - Replace 100+ HP motor	\$/kWh	\$/kWh	\$0.01	\$0.0009	\$0.00	\$0.01	20	1	1	\$0.01	1.00	1.00	1.00	1.00	1.00	1.00	3	2
Existing	312	Pumps - ASD (100+ hp)	\$/kWh	\$/kWh	\$0.01	\$0.0007	\$0.00	\$0.01	20	1	1	\$0.01	0.09	1.00	1.00	1.00	1.00	1.00	3	1
Existing	313	Pumps - Motor practices-1 (100+ HP)	\$/kWh	\$/kWh	\$0.00	\$0.0003	\$0.00	\$0.00	20	1	1	\$0.00	1.00	1.00	1.00	1.00	1.00	1.00	3	1
Existing	400	Base Drives	\$/kWh	\$/kWh	\$0.00	\$0.0000	\$0.00	\$0.00	20	1	1	\$0.00	1.00	1.00	1.00	1.00	1.00	1.00	4	1
Existing	401	Bakery - Process (Mixing) - O&M	\$/kWh	\$/kWh	\$0.01	\$0.0006	\$0.00	\$0.01	10	1	1	\$0.01	1.00	1.00	1.00	1.00	1.00	1.00	4	1
Existing	402	O&M/drives spinning machines	\$/kWh	\$/kWh	\$0.03	\$0.0041	\$0.00	\$0.04	10	1	1	\$0.04	1.00	1.00	1.00	1.00	1.00	1.00	4	1
Existing	403	Air conveying systems	\$/kWh	\$/kWh	\$0.03	\$0.0040	\$0.00	\$0.04	14	1	1	\$0.04	0.24	1.00	1.00	1.00	1.00	1.00	4	2
Existing	405	Drives - EE motor	\$/kWh	\$/kWh	\$0.01	\$0.0007	\$0.00	\$0.01	10	1	1	\$0.01	1.00	1.00	1.00	1.00	1.00	1.00	4	2
Existing	406	Gap Forming papermachine	\$/kWh	\$/kWh	\$0.01	\$0.0008	\$0.00	\$0.01	20	1	1	\$0.01	1.00	1.00	1.00	1.00	1.00	1.00	4	2
Existing	407	High Consistency forming	\$/kWh	\$/kWh	\$0.01	\$0.0008	\$0.00	\$0.01	20	1	1	\$0.01	1.00	1.00	1.00	1.00	1.00	1.00	4	2
Existing	408	Optimization control PM	\$/kWh	\$/kWh	\$0.01	\$0.0016	\$0.00	\$0.02	10	1	1	\$0.02	1.00	1.00	1.00	1.00	1.00	1.00	4	1
Existing	409	Efficient practices printing press	\$/kWh	\$/kWh	\$0.01	\$0.0013	\$0.00	\$0.01	20	1	1	\$0.01	1.00	1.00	1.00	1.00	1.00	1.00	4	1
Existing	410	Efficient Printing press (fewer cylinders)	\$/kWh	\$/kWh	\$0.05	\$0.0063	\$0.00	\$0.06	10	1	1	\$0.06	1.00	1.00	1.00	1.00	1.00	1.00	4	2
Existing	411	Light cylinders	\$/kWh	\$/kWh	\$0.06	\$0.0074	\$0.00	\$0.07	10	1	1	\$0.07	1.00	1.00	1.00	1.00	1.00	1.00	4	2
Existing	412	Efficient drives	\$/kWh	\$/kWh	\$0.01	\$0.0006	\$0.00	\$0.01	10	1	1	\$0.01	1.00	1.00	1.00	1.00	1.00	1.00	4	2
Existing	413	Clean Room - Controls	\$/kWh	\$/kWh	\$0.02	\$0.0023	\$0.00	\$0.02	10	1	1	\$0.02	1.00	1.00	1.00	1.00	1.00	1.00	4	2
Existing	414	Clean Room - New Designs	\$/kWh	\$/kWh	\$0.12	\$0.0139	\$0.00	\$0.13	10	1	1	\$0.13	1.00	1.00	1.00	1.00	1.00	1.00	4	2
Existing	415	Drives - Process Controls (batch + site)	\$/kWh	\$/kWh	\$0.02	\$0.0025	\$0.00	\$0.02	10	1	1	\$0.02	1.00	1.00	1.00	1.00	1.00	1.00	4	2
Existing	416	Process Drives - ASD	\$/kWh	\$/kWh	\$0.00	\$0.0002	\$0.00	\$0.00	10	1	1	\$0.00	1.00	1.00	1.00	1.00	1.00	1.00	4	1
Existing	417	O&M - Extruders/Injection Moulding	\$/kWh	\$/kWh	\$0.00	\$0.0005	\$0.00	\$0.01	12	1	1	\$0.01	1.00	1.00	1.00	1.00	1.00	1.00	4	2
Existing	418	Extruders/injection Moulding-multipump	\$/kWh	\$/kWh	\$0.09	\$0.0104	\$0.00	\$0.10	12	1	1	\$0.10	1.00	1.00	1.00	1.00	1.00	1.00	4	2
Existing	419	Direct drive Extruders	\$/kWh	\$/kWh	\$0.28	\$0.0325	\$0.00	\$0.31	12	1	1	\$0.31	1.00	1.00	1.00	1.00	1.00	1.00	4	2
Existing	420	Injection Moulding - Impulse Cooling	\$/kWh	\$/kWh	\$0.06	\$0.0073	\$0.00	\$0.07	12	1	1	\$0.07	1.00	1.00	1.00	1.00	1.00	1.00	4	2
Existing	421	Injection Moulding - Direct drive	\$/kWh	\$/kWh	\$0.09	\$0.0102	\$0.00	\$0.10	12	1	1	\$0.10	1.00	1.00	1.00	1.00	1.00	1.00	4	2
Existing	422	Efficient grinding	\$/kWh	\$/kWh	\$0.21	\$														

Industrial Elec Measure Inputs			MEASURE COSTS			NPV of			Full = 1			Implementation			Relative Energy Reduction Factors			Implementation		
Segment	Measure #	Measure Description	Savings	Cost	Unit	Unit	Lifetime	Implementation	Full = 1	Initial	Replace	Full	Relative Energy Reduction Factors			WP	WPP	WOP	End Use	Type
			Units	Units	Equipment	Labor	O & M	Cost	Service	Cost	Cost	Cost	SP	SPP	SOP					1=1 time
					Cost	Cost	Cost	Factor	Life	Cost	Cost	Cost								2=ROB
Existing	423	Process control	\$/kWh	\$/kWh	\$0.00	\$0.0002	\$0.00	\$0.00	10	1	1	\$0.00	1.00	1.00	1.00	1.00	1.00	1.00	4	2
Existing	424	Process optimization	\$/kWh	\$/kWh	\$0.03	\$0.0038	\$0.00	\$0.04	10	1	1	\$0.04	1.00	1.00	1.00	1.00	1.00	1.00	4	1
Existing	425	Drives - Process Control	\$/kWh	\$/kWh	\$0.01	\$0.0016	\$0.00	\$0.02	15	1	1	\$0.02	1.00	1.00	1.00	1.00	1.00	1.00	4	2
Existing	426	Efficient drives - rolling	\$/kWh	\$/kWh	\$0.01	\$0.0010	\$0.00	\$0.01	10	1	1	\$0.01	1.00	1.00	1.00	1.00	1.00	1.00	4	2
Existing	427	Drives - Optimization process (M&T)	\$/kWh	\$/kWh	\$0.01	\$0.0010	\$0.00	\$0.01	10	1	1	\$0.01	1.00	1.00	1.00	1.00	1.00	1.00	4	1
Existing	428	Drives - Scheduling	\$/kWh	\$/kWh	\$0.01	\$0.0013	\$0.00	\$0.01	10	1	1	\$0.01	0.18	1.00	1.00	1.00	1.00	1.00	4	1
Existing	429	Machinery	\$/kWh	\$/kWh	\$0.01	\$0.0013	\$0.00	\$0.01	10	1	1	\$0.01	1.00	1.00	1.00	1.00	1.00	1.00	4	2
Existing	430	Efficient Machinery	\$/kWh	\$/kWh	\$0.01	\$0.0007	\$0.00	\$0.01	10	1	1	\$0.01	1.00	1.00	1.00	1.00	1.00	1.00	4	2
Existing	431	Custom Measures--Drives	\$/kWh	\$/kWh	\$0.02	\$0.0000	\$0.00	\$0.02	15	1	1	\$0.02	1.00	1.00	1.00	1.00	1.00	1.00	4	1
Existing	500	Base Process Heating	\$/kWh	\$/kWh	\$0.00	\$0.0000	\$0.00	\$0.00	20	1	1	\$0.00	1.00	1.00	1.00	1.00	1.00	1.00	5	1
Existing	501	Bakery - Process	\$/kWh	\$/kWh	\$0.05	\$0.0053	\$0.00	\$0.05	15	1	1	\$0.05	1.00	1.00	1.00	1.00	1.00	1.00	5	2
Existing	502	Drying (UV/IR)	\$/kWh	\$/kWh	\$0.07	\$0.0079	\$0.00	\$0.08	8	1	1	\$0.08	0.57	1.00	1.00	1.00	1.00	1.00	5	2
Existing	503	Heat Pumps - Drying	\$/kWh	\$/kWh	\$0.16	\$0.0186	\$0.00	\$0.18	15	1	1	\$0.18	1.00	1.00	1.00	1.00	1.00	1.00	5	2
Existing	504	Top-heating (glass)	\$/kWh	\$/kWh	\$0.00	\$0.0004	\$0.00	\$0.00	8	1	1	\$0.00	1.00	1.00	1.00	1.00	1.00	1.00	5	2
Existing	505	Efficient electric melting	\$/kWh	\$/kWh	\$0.03	\$0.0035	\$0.00	\$0.03	20	1	1	\$0.03	1.00	1.00	1.00	1.00	1.00	1.00	5	2
Existing	506	Intelligent extruder (DOE)	\$/kWh	\$/kWh	\$0.01	\$0.0017	\$0.00	\$0.02	10	1	1	\$0.02	1.00	1.00	1.00	1.00	1.00	1.00	5	2
Existing	507	Near Net Shape Casting	\$/kWh	\$/kWh	\$0.01	\$0.0013	\$0.00	\$0.01	15	1	1	\$0.01	1.00	1.00	1.00	1.00	1.00	1.00	5	2
Existing	508	Heating - Process Control	\$/kWh	\$/kWh	\$0.01	\$0.0016	\$0.00	\$0.02	15	1	1	\$0.02	1.00	1.00	1.00	1.00	1.00	1.00	5	2
Existing	509	Efficient Curing ovens	\$/kWh	\$/kWh	\$0.07	\$0.0084	\$0.00	\$0.08	15	1	1	\$0.08	1.00	1.00	1.00	1.00	1.00	1.00	5	2
Existing	510	Heating - Optimization process (M&T)	\$/kWh	\$/kWh	\$0.01	\$0.0010	\$0.00	\$0.01	10	1	1	\$0.01	1.00	1.00	1.00	1.00	1.00	1.00	5	1
Existing	511	Heating - Scheduling	\$/kWh	\$/kWh	\$0.01	\$0.0013	\$0.00	\$0.01	10	1	1	\$0.01	0.18	1.00	1.00	1.00	1.00	1.00	5	1
Existing	512	Custom Measures--Process Heating	\$/kWh	\$/kWh	\$0.02	\$0.0000	\$0.00	\$0.02	15	1	1	\$0.02	1.00	1.00	1.00	1.00	1.00	1.00	5	1
Existing	550	Base Process Cooling	\$/kWh	\$/kWh	\$0.00	\$0.0000	\$0.00	\$0.00	20	1	1	\$0.00	1.00	1.00	1.00	1.00	1.00	1.00	6	1
Existing	551	Efficient Refrigeration - Operations	\$/kWh	\$/kWh	\$0.01	\$0.0008	\$0.00	\$0.01	10	1	1	\$0.01	1.00	1.00	1.00	1.00	1.00	1.00	6	2
Existing	552	Optimization Refrigeration	\$/kWh	\$/kWh	\$0.10	\$0.0115	\$0.00	\$0.11	15	1	1	\$0.11	1.00	1.00	1.00	1.00	1.00	1.00	6	1
Existing	553	Custom Measures--Process Cooling	\$/kWh	\$/kWh	\$0.02	\$0.0000	\$0.00	\$0.02	15	1	1	\$0.02	1.00	1.00	1.00	1.00	1.00	1.00	6	1
Existing	600	Base Other Process	\$/kWh	\$/kWh	\$0.00	\$0.0000	\$0.00	\$0.00	15	1	1	\$0.00	1.00	1.00	1.00	1.00	1.00	1.00	7	1
Existing	601	Other Process Controls (batch + site)	\$/kWh	\$/kWh	\$0.02	\$0.0025	\$0.00	\$0.02	10	1	1	\$0.02	1.00	1.00	1.00	1.00	1.00	1.00	7	2
Existing	602	Efficient desalter	\$/kWh	\$/kWh	\$0.04	\$0.0042	\$0.00	\$0.04	10	1	1	\$0.04	1.00	1.00	1.00	1.00	1.00	1.00	7	2
Existing	603	New transformers welding	\$/kWh	\$/kWh	\$0.05	\$0.0053	\$0.00	\$0.05	15	1	1	\$0.05	1.00	1.00	1.00	1.00	1.00	1.00	7	2
Existing	604	Efficient processes (welding, etc.)	\$/kWh	\$/kWh	\$0.05	\$0.0053	\$0.00	\$0.05	15	1	1	\$0.05	1.00	1.00	1.00	1.00	1.00	1.00	7	2
Existing	605	Custom Measures--Other Process	\$/kWh	\$/kWh	\$0.02	\$0.0000	\$0.00	\$0.02	15	1	1	\$0.02	1.00	1.00	1.00	1.00	1.00	1.00	7	1
Existing	700	Base Space Cooling Centrifugal Chiller, 0.5	\$/kWh	\$/ton	\$0.00	\$0.0000	\$0.00	\$0.00	20	1	1	\$0.00	1.00	1.00	1.00	1.00	1.00	1.00	8	2
Existing	701	Centrifugal Chiller, 0.51 kW/ton, 500 tons	\$/kWh	\$/ton	\$21.14	\$2.4502	\$0.00	\$23.59	20	1	1	\$23.59	1.00	1.00	1.00	1.00	1.00	1.00	8	2
Existing	702	Window Film - Chiller	\$/kWh	\$/sf-window	\$3.07	\$0.3558	\$0.00	\$3.43	10	1	1	\$3.43	1.00	1.00	1.00	1.00	1.00	1.00	8	1
Existing	703	EMS - Chiller	\$/kWh	\$/ton	\$72.00	\$8.3449	\$0.00	\$80.34	10	1	1	\$80.34	1.00	1.00	1.00	1.00	1.00	1.00	8	1
Existing	704	Cool Roof - Chiller	\$/kWh	\$/sf-roof	\$0.56	\$0.0654	\$0.00	\$0.63	10	1	1	\$0.63	1.00	1.00	1.00	1.00	1.00	1.00	8	1
Existing	705	Chiller Tune Up/Diagnostics	\$/kWh	\$/ton	\$16.67	\$1.9317	\$20.91	\$39.51	10	1	1	\$39.51	1.00	1.00	1.00	1.00	1.00	1.00	8	1
Existing	706	Cooling Circ. Pumps - VSD	\$/kWh	\$/ton	\$78.05	\$9.0459	\$0.00	\$87.09	15	1	1	\$87.09	1.00	1.00	1.00	1.00	1.00	1.00	8	1
Existing	710	Base Space Cooling DX Packaged System,	\$/kWh	\$/ton	\$0.00	\$0.0000	\$0.00	\$0.00	15	1	1	\$0.00	1.00	1.00	1.00	1.00	1.00	1.00	8	2
Existing	711	DX Tune Up/ Advanced Diagnostics	\$/kWh	\$/ton	\$93.60	\$10.8484	\$0.00	\$104.45	3	1	1	\$104.45	1.00	1.00	1.00	1.00	1.00	1.00	8	1
Existing	712	DX Packaged System, EER=10.9, 10 tons	\$/kWh	\$/ton	\$51.60	\$5.9805	\$0.00	\$57.58	15	1	1	\$57.58	1.00	1.00	1.00	1.00	1.00	1.00	8	2
Existing	713	Window Film - DX	\$/kWh	\$/sf-window	\$3.07	\$0.3558	\$0.00	\$3.43	10	1	1	\$3.43	1.00	1.00	1.00	1.00	1.00	1.00	8	1
Existing	715	Prog. Thermostat - DX	\$/kWh	\$/ton	\$6.60	\$0.7649	\$0.00	\$7.36	10	1	1	\$7.36	0.25	1.00	1.00	1.00	1.00	1.00	8	1
Existing	716	Cool Roof - DX	\$/kWh	\$/sf-roof	\$0.56	\$0.0654	\$0.00	\$0.63	10	1	1	\$0.63	1.00	1.00	1.00	1.00	1.00	1.00	8	1
Existing	800	Base Lighting	\$/kWh	fixture	\$0.00	\$0.0000	\$0.00	\$0.00	10	1	1	\$0.00	1.00	1.00	1.00	1.00	1.00	1.00	9	1
Existing	801	RET 2L4' Premium T8, 1EB	\$/kWh	fixture	\$30.00	\$3.4770	\$0.00	\$33.48	15	1	1	\$33.48	1.00	1.00	1.00	1.00	1.00	1.00	9	1
Existing	802	CFL Hardwired, Modular 36W	\$/kWh	fixture	\$41.70	\$4.8331	(\$8.41)	\$38.12	4	1	1	\$38.12	1.00	1.00	1.00	1.00	1.00	1.00	9	1
Existing	803	Metal Halide, 50W	\$/kWh	fixture	\$269.64	\$31.2517	\$0.00	\$300.89	5	1	1	\$300.89	1.00	1.00	1.00	1.00	1.00	1.00	9	1
Existing	804	Occupancy Sensor, 4L4' Fluorescent Fixtur	\$/kWh	fixture	\$12.25	\$1.4198	\$0.00	\$13.67	9	1	1	\$13.67	1.00	1.00	0.50	1.00	1.00	0.50	9	1
Existing	900	Base Other	\$/kWh	\$/kWh	\$0.00	\$0.0000	\$0.00	\$0.00	15	1	1	\$0.00	1.00	1.00	1.00	1.00	1.00	1.00	10	1
Existing	901	Replace V-belts	\$/kWh	\$/kWh	\$0.00	\$0.0000	\$0.00	\$0.00	5	1	1	\$0.00	1.00	1.00	1.00	1.00	1.00	1.00	10	2
Existing	902	Membranes for wastewater	\$/kWh	\$/kWh	\$0.03	\$0.0037	\$0.00	\$0.04	15	1	1	\$0.04	1.00	1.00	1.00	1.00	1.00	1.00	10	2

Industrial Elec Measure Inputs			APPLICABILITY FACTOR (percent)																
Segment	Measure #	Measure Description	Food	Textiles,Apprelumber,Furnitur	Paper	Printing	Chemicals	Petroleum	Rubber,Plasticstone,Clay,Glas	Prim Metals	Fab Metals	Ind Mach	Electronics	Transp Equip	Misc.	Water/WW			
Existing	100	Base Compressed Air	6.9%	10.5%	3.5%	2.6%	11.1%	7.7%	12.3%	10.3%	4.5%	8.8%	29.5%	36.4%	28.2%	31.7%	14.9%	0.2%	
Existing	101	Compressed Air-O&M	7%	10%	4%	3%	11%	8%	12%	10%	4%	9%	29%	36%	28%	32%	15%	0%	
Existing	102	Compressed Air - Controls	7%	10%	4%	3%	11%	8%	12%	10%	4%	9%	29%	36%	28%	32%	15%	0%	
Existing	103	Compressed Air - System Optimization	7%	10%	4%	3%	11%	8%	12%	10%	4%	9%	29%	36%	28%	32%	15%	0%	
Existing	104	Compressed Air- Sizing	7%	10%	4%	3%	11%	8%	12%	10%	4%	9%	29%	36%	28%	32%	15%	0%	
Existing	105	Comp Air - Replace 1-5 HP motor	7%	10%	4%	3%	11%	8%	12%	10%	4%	9%	29%	36%	28%	32%	15%	0%	
Existing	106	Comp Air - ASD (1-5 hp)	7%	10%	4%	3%	11%	8%	12%	10%	4%	9%	29%	36%	28%	32%	15%	0%	
Existing	107	Comp Air - Motor practices-1 (1-5 HP)	7%	10%	4%	3%	11%	8%	12%	10%	4%	9%	29%	36%	28%	32%	15%	0%	
Existing	108	Comp Air - Replace 6-100 HP motor	7%	10%	4%	3%	11%	8%	12%	10%	4%	9%	29%	36%	28%	32%	15%	0%	
Existing	109	Comp Air - ASD (6-100 hp)	7%	10%	4%	3%	11%	8%	12%	10%	4%	9%	29%	36%	28%	32%	15%	0%	
Existing	110	Comp Air - Motor practices-1 (6-100 HP)	7%	10%	4%	3%	11%	8%	12%	10%	4%	9%	29%	36%	28%	32%	15%	0%	
Existing	111	Comp Air - Replace 100+ HP motor	7%	10%	4%	3%	11%	8%	12%	10%	4%	9%	29%	36%	28%	32%	15%	0%	
Existing	112	Comp Air - ASD (100+ hp)	7%	10%	4%	3%	11%	8%	12%	10%	4%	9%	29%	36%	28%	32%	15%	0%	
Existing	113	Comp Air - Motor practices-1 (100+ HP)	7%	10%	4%	3%	11%	8%	12%	10%	4%	9%	29%	36%	28%	32%	15%	0%	
Existing	114	Power recovery	0%	0%	0%	0%	0%	0%	12%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Existing	200	Base Fans	25.5%	9.4%	22.6%	36.3%	9.9%	9.3%	24.9%	9.2%	35.7%	9.8%	7.8%	6.2%	4.0%	6.7%	9.8%	41.2%	
Existing	201	Fans - O&M	26%	9%	23%	36%	10%	9%	25%	9%	36%	10%	8%	6%	4%	7%	10%	41%	
Existing	202	Fans - Controls	26%	9%	23%	36%	10%	9%	25%	9%	36%	10%	8%	6%	4%	7%	10%	41%	
Existing	203	Fans - System Optimization	26%	9%	23%	36%	10%	9%	25%	9%	36%	10%	8%	6%	4%	7%	10%	41%	
Existing	204	Fans- Improve components	26%	9%	23%	36%	10%	9%	25%	9%	36%	10%	8%	6%	4%	7%	10%	41%	
Existing	205	Fans - Replace 1-5 HP motor	26%	9%	23%	36%	10%	9%	25%	9%	36%	10%	8%	6%	4%	7%	10%	41%	
Existing	206	Fans - ASD (1-5 hp)	26%	9%	23%	36%	10%	9%	25%	9%	36%	10%	8%	6%	4%	7%	10%	41%	
Existing	207	Fans - Motor practices-1 (1-5 HP)	26%	9%	23%	36%	10%	9%	25%	9%	36%	10%	8%	6%	4%	7%	10%	41%	
Existing	208	Fans - Replace 6-100 HP motor	26%	9%	23%	36%	10%	9%	25%	9%	36%	10%	8%	6%	4%	7%	10%	41%	
Existing	209	Fans - ASD (6-100 hp)	26%	9%	23%	36%	10%	9%	25%	9%	36%	10%	8%	6%	4%	7%	10%	41%	
Existing	210	Fans - Motor practices-1 (6-100 HP)	26%	9%	23%	36%	10%	9%	25%	9%	36%	10%	8%	6%	4%	7%	10%	41%	
Existing	211	Fans - Replace 100+ HP motor	26%	9%	23%	36%	10%	9%	25%	9%	36%	10%	8%	6%	4%	7%	10%	41%	
Existing	212	Fans - ASD (100+ hp)	26%	9%	23%	36%	10%	9%	25%	9%	36%	10%	8%	6%	4%	7%	10%	41%	
Existing	213	Fans - Motor practices-1 (100+ HP)	26%	9%	23%	36%	10%	9%	25%	9%	36%	10%	8%	6%	4%	7%	10%	41%	
Existing	214	Optimize drying process	0%	0%	23%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Existing	300	Base Pumps	8.0%	7.0%	5.3%	10.8%	7.2%	20.9%	29.6%	6.7%	8.1%	6.9%	5.6%	4.5%	2.9%	4.9%	8.6%	57.2%	
Existing	301	Pumps - O&M	8%	7%	5%	11%	7%	21%	30%	7%	8%	7%	6%	5%	3%	5%	9%	57%	
Existing	302	Pumps - Controls	8%	7%	5%	11%	7%	21%	30%	7%	8%	7%	6%	5%	3%	5%	9%	57%	
Existing	303	Pumps - System Optimization	8%	7%	5%	11%	7%	21%	30%	7%	8%	7%	6%	5%	3%	5%	9%	57%	
Existing	304	Pumps - Sizing	8%	7%	5%	11%	7%	21%	30%	7%	8%	7%	6%	5%	3%	5%	9%	57%	
Existing	305	Pumps - Replace 1-5 HP motor	8%	7%	5%	11%	7%	21%	30%	7%	8%	7%	6%	5%	3%	5%	9%	57%	
Existing	306	Pumps - ASD (1-5 hp)	8%	7%	5%	11%	7%	21%	30%	7%	8%	7%	6%	5%	3%	5%	9%	57%	
Existing	307	Pumps - Motor practices-1 (1-5 HP)	8%	7%	5%	11%	7%	21%	30%	7%	8%	7%	6%	5%	3%	5%	9%	57%	
Existing	308	Pumps - Replace 6-100 HP motor	8%	7%	5%	11%	7%	21%	30%	7%	8%	7%	6%	5%	3%	5%	9%	57%	
Existing	309	Pumps - ASD (6-100 hp)	8%	7%	5%	11%	7%	21%	30%	7%	8%	7%	6%	5%	3%	5%	9%	57%	
Existing	310	Pumps - Motor practices-1 (6-100 HP)	8%	7%	5%	11%	7%	21%	30%	7%	8%	7%	6%	5%	3%	5%	9%	57%	
Existing	311	Pumps - Replace 100+ HP motor	8%	7%	5%	11%	7%	21%	30%	7%	8%	7%	6%	5%	3%	5%	9%	57%	
Existing	312	Pumps - ASD (100+ hp)	8%	7%	5%	11%	7%	21%	30%	7%	8%	7%	6%	5%	3%	5%	9%	57%	
Existing	313	Pumps - Motor practices-1 (100+ HP)	8%	7%	5%	11%	7%	21%	30%	7%	8%	7%	6%	5%	3%	5%	9%	57%	
Existing	400	Base Drives	17.6%	30.1%	43.4%	32.4%	32.8%	21.1%	18.1%	30.6%	21.0%	9.9%	18.1%	15.3%	7.9%	10.1%	42.1%	0.0%	
Existing	401	Bakery - Process (Mxing) - O&M	18%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Existing	402	O&M/drives spinning machines	0%	30%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Existing	403	Air conveying systems	0%	0%	43%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Existing	405	Drives - EE motor	0%	0%	43%	32%	0%	0%	0%	21%	0%	0%	0%	0%	0%	0%	0%	0%	
Existing	406	Gap Forming papermachine	0%	0%	0%	32%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Existing	407	High Consistency forming	0%	0%	0%	32%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Existing	408	Optimization control PM	0%	0%	0%	32%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Existing	409	Efficient practices printing press	0%	0%	0%	0%	33%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Existing	410	Efficient Printing press (fewer cylinders)	0%	0%	0%	0%	33%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Existing	411	Light cylinders	0%	0%	0%	0%	33%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Existing	412	Efficient drives	0%	0%	0%	0%	33%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Existing	413	Clean Room - Controls	0%	0%	0%	0%	0%	21%	0%	0%	0%	0%	0%	0%	8%	0%	0%	0%	
Existing	414	Clean Room - New Designs	0%	0%	0%	0%	0%	21%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Existing	415	Drives - Process Controls (batch + site)	0%	0%	0%	0%	0%	21%	0%	0%	21%	10%	0%	0%	0%	0%	0%	0%	
Existing	416	Process Drives - ASD	0%	0%	0%	0%	0%	21%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Existing	417	O&M - Extruders/Injection Moulding	0%	0%	0%	0%	0%	0%	31%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Existing	418	Extruders/Injection Moulding-multipump	0%	0%	0%	0%	0%	0%	31%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Existing	419	Direct drive Extruders	0%	0%	0%	0%	0%	0%	31%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Existing	420	Injection Moulding - Impulse Cooling	0%	0%	0%	0%	0%	0%	31%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Existing	421	Injection Moulding - Direct drive	0%	0%	0%	0%	0%	0%	31%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Existing	422	Efficient grinding	0%	0%	0%	0%	0%	0%	0%	21%	0%	0%	0%	0%	0%	0%	0%	0%	

Industrial Elec Measure Inputs			APPLICABILITY FACTOR (percent)																
Segment	Measure #	Measure Description	Food	Textiles,Apparel	Lumber,Furnitur	Paper	Printing	Chemicals	Petroleum	Rubber,Plastic	stone,Clay,Glas	Prim Metals	Fab Metals	Ind Mach	Electronics	Transp Equip	Misc.	Water/WW	
Existing	423	Process control	0%	0%	0%	0%	0%	0%	0%	0%	21%	0%	0%	0%	0%	0%	0%	0%	
Existing	424	Process optimization	0%	0%	0%	0%	0%	0%	0%	0%	21%	0%	0%	0%	0%	0%	0%	0%	
Existing	425	Drives - Process Control	0%	0%	0%	0%	0%	0%	0%	0%	0%	10%	0%	0%	0%	0%	0%	0%	
Existing	426	Efficient drives - rolling	0%	0%	0%	0%	0%	0%	0%	0%	0%	10%	0%	0%	0%	0%	0%	0%	
Existing	427	Drives - Optimization process (M&T)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	18%	15%	0%	10%	42%	0%	
Existing	428	Drives - Scheduling	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	18%	15%	8%	10%	42%	0%	
Existing	429	Machinery	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	18%	15%	8%	10%	42%	0%	
Existing	430	Efficient Machinery	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	42%	0%	
Existing	431	Custom Measures--Drives	18%	30%	43%	32%	33%	21%	18%	31%	21%	10%	18%	15%	8%	10%	42%	0%	
Existing	500	Base Process Heating	8.3%	10.6%	8.0%	9.6%	3.8%	9.6%	5.6%	16.0%	18.5%	26.9%	16.9%	6.0%	14.5%	12.7%	8.9%	0.5%	
Existing	501	Bakery - Process	8%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Existing	502	Drying (UV/IR)	0%	11%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Existing	503	Heat Pumps - Drying	0%	0%	8%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Existing	504	Top-heating (glass)	0%	0%	0%	0%	0%	0%	0%	0%	18%	0%	0%	0%	0%	0%	0%	0%	
Existing	505	Efficient electric melting	0%	0%	0%	0%	0%	0%	0%	0%	0%	27%	0%	0%	0%	0%	0%	0%	
Existing	506	Intelligent extruder (DOE)	0%	0%	0%	0%	0%	0%	0%	0%	0%	27%	0%	0%	0%	0%	0%	0%	
Existing	507	Near Net Shape Casting	0%	0%	0%	0%	0%	0%	0%	0%	0%	27%	0%	0%	0%	0%	0%	0%	
Existing	508	Heating - Process Control	0%	0%	0%	0%	0%	0%	0%	0%	0%	27%	0%	0%	0%	0%	0%	0%	
Existing	509	Efficient Curing ovens	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	17%	6%	15%	13%	9%	0%	
Existing	510	Heating - Optimization process (M&T)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	17%	6%	0%	13%	0%	0%	
Existing	511	Heating - Scheduling	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	17%	6%	0%	0%	0%	0%	
Existing	512	Custom Measures--Process Heating	8%	11%	8%	10%	4%	10%	6%	16%	18%	27%	17%	6%	15%	13%	9%	1%	
Existing	550	Base Process Cooling	20.2%	9.8%	0.9%	1.0%	5.1%	6.8%	4.6%	7.4%	1.8%	0.7%	2.5%	2.0%	6.8%	4.5%	6.2%	0.1%	
Existing	551	Efficient Refrigeration - Operations	20%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Existing	552	Optimization Refrigeration	20%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Existing	553	Custom Measures--Process Cooling	20%	10%	1%	1%	5%	7%	5%	7%	2%	1%	2%	2%	7%	5%	6%	0%	
Existing	600	Base Other Process	1.1%	1.6%	0.8%	1.9%	0.8%	15.4%	0.7%	1.8%	3.2%	30.7%	4.2%	2.2%	7.7%	3.1%	0.0%	0.0%	
Existing	601	Other Process Controls (batch + site)	0%	0%	0%	0%	0%	15%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Existing	602	Efficient desalter	0%	0%	0%	0%	0%	0%	0.7%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Existing	603	New transformers welding	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	4%	2%	0%	3%	0.0%	0%	
Existing	604	Efficient processes (welding, etc.)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	8%	0%	0%	0%	
Existing	605	Custom Measures--Other Process	1%	2%	1%	2%	1%	15%	1%	2%	3%	31%	4%	2%	8%	3%	0%	0%	
Existing	700	Base Space Cooling Centrifugal Chiller, 0.58 kv	0.0%	0.3%	0.0%	0.0%	0.4%	0.1%	0.0%	0.2%	0.0%	0.1%	0.2%	0.4%	0.5%	0.4%	0.1%	0.0%	
Existing	701	Centrifugal Chiller, 0.51 kW/ton, 500 tons	0.0%	0.3%	0.0%	0.0%	0.4%	0.1%	0.0%	0.2%	0.0%	0.1%	0.2%	0.4%	0.5%	0.4%	0.1%	0.0%	
Existing	702	Window Film - Chiller	0.0%	0.3%	0.0%	0.0%	0.4%	0.1%	0.0%	0.2%	0.0%	0.1%	0.2%	0.4%	0.5%	0.4%	0.1%	0.0%	
Existing	703	EMS - Chiller	0.0%	0.3%	0.0%	0.0%	0.4%	0.1%	0.0%	0.2%	0.0%	0.1%	0.2%	0.4%	0.5%	0.4%	0.1%	0.0%	
Existing	704	Cool Roof - Chiller	0.0%	0.3%	0.0%	0.0%	0.4%	0.1%	0.0%	0.2%	0.0%	0.1%	0.2%	0.4%	0.5%	0.4%	0.1%	0.0%	
Existing	705	Chiller Tune Up/Diagnostics	0.0%	0.3%	0.0%	0.0%	0.4%	0.1%	0.0%	0.2%	0.0%	0.1%	0.2%	0.4%	0.5%	0.4%	0.1%	0.0%	
Existing	706	Cooling Circ. Pumps - VSD	0.0%	0.3%	0.0%	0.0%	0.4%	0.1%	0.0%	0.2%	0.0%	0.1%	0.2%	0.4%	0.5%	0.4%	0.1%	0.0%	
Existing	710	Base Space Cooling DX Packaged System, EE	2.0%	4.7%	1.3%	0.8%	6.6%	2.1%	0.9%	3.6%	1.2%	1.1%	2.9%	6.5%	7.7%	5.7%	4.3%	0.2%	
Existing	711	DX Tune Up/ Advanced Diagnostics	2.0%	4.7%	1.3%	0.8%	6.6%	2.1%	0.9%	3.6%	1.2%	1.1%	2.9%	6.5%	7.7%	5.7%	4.3%	0.2%	
Existing	712	DX Packaged System, EER=10.9, 10 tons	2.0%	4.7%	1.3%	0.8%	6.6%	2.1%	0.9%	3.6%	1.2%	1.1%	2.9%	6.5%	7.7%	5.7%	4.3%	0.2%	
Existing	713	Window Film - DX	2.0%	4.7%	1.3%	0.8%	6.6%	2.1%	0.9%	3.6%	1.2%	1.1%	2.9%	6.5%	7.7%	5.7%	4.3%	0.2%	
Existing	715	Prog. Thermostat - DX	2.0%	4.7%	1.3%	0.8%	6.6%	2.1%	0.9%	3.6%	1.2%	1.1%	2.9%	6.5%	7.7%	5.7%	4.3%	0.2%	
Existing	716	Cool Roof - DX	2.0%	4.7%	1.3%	0.8%	6.6%	2.1%	0.9%	3.6%	1.2%	1.1%	2.9%	6.5%	7.7%	5.7%	4.3%	0.2%	
Existing	800	Base Lighting	5.0%	13.7%	4.9%	2.2%	16.2%	4.9%	1.7%	11.0%	2.9%	4.2%	10.2%	16.1%	14.2%	16.5%	5.1%	0.6%	
Existing	801	RET 2L4' Premium T8, 1EB	3%	7%	3%	1%	8%	3%	1%	6%	2%	2%	5%	8%	7%	9%	3%	0%	
Existing	802	CFL Hardwired, Modular 36W	0.03%	0.10%	0.03%	0.02%	0.11%	0.03%	0.01%	0.08%	0.02%	0.03%	0.07%	0.11%	0.10%	0.12%	0.04%	0.00%	
Existing	803	Metal Halide, 50W	2%	5%	2%	1%	6%	2%	1%	4%	1%	2%	4%	6%	6%	7%	2%	0%	
Existing	804	Occupancy Sensor, 4L4' Fluorescent Fixtures	3%	8%	3%	1%	9%	3%	1%	6%	2%	2%	6%	9%	8%	9%	3%	0%	
Existing	900	Base Other	5.4%	2.5%	9.3%	2.3%	5.9%	2.1%	1.6%	3.1%	3.2%	0.9%	2.2%	4.3%	5.5%	3.8%	0.0%	0.0%	
Existing	901	Replace V-belts	5%	2%	9%	2%	6%	2%	2%	3%	3%	1%	2%	4%	6%	4%	0%	0%	
Existing	902	Membranes for wastewater	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	

Industrial Elec Measure Inputs			ENERGY SAVINGS (percent)																
Segment	Measure #	Measure Description	Food	Textiles,Apprel	lumber,Furnitur	Paper	Printing	Chemicals	Petroleum	Rubber,Plastic	stone,Clay,Glas	Prim Metals	Fab Metals	Ind Mach	Electronics	Transp Equip	Misc.	Water/VWV	
Existing	100	Base Compressed Air	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Existing	101	Compressed Air-O&M	16.8%	16.8%	16.8%	16.8%	16.8%	16.8%	16.8%	16.8%	16.8%	16.8%	16.8%	16.8%	16.8%	16.8%	16.8%	16.8%	
Existing	102	Compressed Air - Controls	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%	
Existing	103	Compressed Air - System Optimization	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	
Existing	104	Compressed Air- Sizing	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	
Existing	105	Comp Air - Replace 1-5 HP motor	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	
Existing	106	Comp Air - ASD (1-5 hp)	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	
Existing	107	Comp Air - Motor practices-1 (1-5 HP)	4.8%	4.8%	4.8%	4.8%	4.8%	4.8%	4.8%	4.8%	4.8%	4.8%	4.8%	4.8%	4.8%	4.8%	4.8%	4.8%	
Existing	108	Comp Air - Replace 6-100 HP motor	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	
Existing	109	Comp Air - ASD (6-100 hp)	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	
Existing	110	Comp Air - Motor practices-1 (6-100 HP)	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	
Existing	111	Comp Air - Replace 100+ HP motor	3.1%	3.1%	3.1%	3.1%	3.1%	3.1%	3.1%	3.1%	3.1%	3.1%	3.1%	3.1%	3.1%	3.1%	3.1%	3.1%	
Existing	112	Comp Air - ASD (100+ hp)	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	
Existing	113	Comp Air - Motor practices-1 (100+ HP)	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	
Existing	114	Power recovery	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Existing	200	Base Fans	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Existing	201	Fans - O&M	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	
Existing	202	Fans - Controls	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	
Existing	203	Fans - System Optimization	21.2%	21.2%	21.2%	21.2%	21.2%	21.2%	21.2%	21.2%	21.2%	21.2%	21.2%	21.2%	21.2%	21.2%	21.2%	21.2%	
Existing	204	Fans- Improve components	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	
Existing	205	Fans - Replace 1-5 HP motor	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	
Existing	206	Fans - ASD (1-5 hp)	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	
Existing	207	Fans - Motor practices-1 (1-5 HP)	4.8%	4.8%	4.8%	4.8%	4.8%	4.8%	4.8%	4.8%	4.8%	4.8%	4.8%	4.8%	4.8%	4.8%	4.8%	4.8%	
Existing	208	Fans - Replace 6-100 HP motor	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	
Existing	209	Fans - ASD (6-100 hp)	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	
Existing	210	Fans - Motor practices-1 (6-100 HP)	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	
Existing	211	Fans - Replace 100+ HP motor	3.1%	3.1%	3.1%	3.1%	3.1%	3.1%	3.1%	3.1%	3.1%	3.1%	3.1%	3.1%	3.1%	3.1%	3.1%	3.1%	
Existing	212	Fans - ASD (100+ hp)	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	
Existing	213	Fans - Motor practices-1 (100+ HP)	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	
Existing	214	Optimize drying process	0.0%	0.0%	20.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Existing	300	Base Pumps	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Existing	301	Pumps - O&M	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	
Existing	302	Pumps - Controls	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	
Existing	303	Pumps - System Optimization	33.0%	33.0%	33.0%	33.0%	33.0%	33.0%	33.0%	33.0%	33.0%	33.0%	33.0%	33.0%	33.0%	33.0%	33.0%	33.0%	
Existing	304	Pumps - Sizing	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	
Existing	305	Pumps - Replace 1-5 HP motor	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	
Existing	306	Pumps - ASD (1-5 hp)	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	
Existing	307	Pumps - Motor practices-1 (1-5 HP)	4.8%	4.8%	4.8%	4.8%	4.8%	4.8%	4.8%	4.8%	4.8%	4.8%	4.8%	4.8%	4.8%	4.8%	4.8%	4.8%	
Existing	308	Pumps - Replace 6-100 HP motor	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	
Existing	309	Pumps - ASD (6-100 hp)	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	
Existing	310	Pumps - Motor practices-1 (6-100 HP)	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	
Existing	311	Pumps - Replace 100+ HP motor	3.1%	3.1%	3.1%	3.1%	3.1%	3.1%	3.1%	3.1%	3.1%	3.1%	3.1%	3.1%	3.1%	3.1%	3.1%	3.1%	
Existing	312	Pumps - ASD (100+ hp)	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	
Existing	313	Pumps - Motor practices-1 (100+ HP)	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	
Existing	400	Base Drives	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Existing	401	Bakery - Process (Mixing) - O&M	10.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Existing	402	O&M/drives spinning machines	0.0%	16.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Existing	403	Air conveying systems	0.0%	0.0%	41.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Existing	405	Drives - EE motor	0.0%	0.0%	3.5%	3.1%	0.0%	0.0%	0.0%	0.0%	3.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Existing	406	Gap Forming papermachine	0.0%	0.0%	0.0%	7.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Existing	407	High Consistency forming	0.0%	0.0%	0.0%	7.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Existing	408	Optimization control PM	0.0%	0.0%	0.0%	5.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Existing	409	Efficient practices printing press	0.0%	0.0%	0.0%	0.0%	10.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Existing	410	Efficient Printing press (fewer cylinders)	0.0%	0.0%	0.0%	0.0%	20.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Existing	411	Light cylinders	0.0%	0.0%	0.0%	0.0%	10.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Existing	412	Efficient drives	0.0%	0.0%	0.0%	0.0%	3.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Existing	413	Clean Room - Controls	0.0%	0.0%	0.0%	0.0%	0.0%	10.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	10.0%	0.0%	0.0%	0.0%	
Existing	414	Clean Room - New Designs	0.0%	0.0%	0.0%	0.0%	0.0%	30.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Existing	415	Drives - Process Controls (batch + site)	0.0%	0.0%	0.0%	0.0%	0.0%	8.0%	0.0%	0.0%	2.0%	5.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Existing	416	Process Drives - ASD	0.0%	0.0%	0.0%	0.0%	0.0%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.6%	0.0%	
Existing	417	O&M - Extruders/Injection Moulding	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	10.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Existing	418	Extruders/injection Moulding-multipump	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	30.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Existing	419	Direct drive Extruders	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	50.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Existing	420	Injection Moulding - Impulse Cooling	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	21.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Existing	421	Injection Moulding - Direct drive	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	20.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Existing	422	Efficient grinding	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	21.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

Industrial Elec Measure Inputs			ENERGY SAVINGS (percent)															
Segment	Measure #	Measure Description	Food	Textiles,Apparel	lumber,Furnitur	Paper	Printing	Chemicals	Petroleum	Rubber,Plastic	tone,Clay,Glas	Prim Metals	Fab Metals	Ind Mach	Electronics	Transp Equip	Misc.	Water/WW
Existing	423	Process control	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.0%	5.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Existing	424	Process optimization	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	10.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Existing	425	Drives - Process Control	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	5.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Existing	426	Efficient drives - rolling	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	5.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Existing	427	Drives - Optimization process (M&T)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	10.0%	10.0%	0.0%	10.0%	0.0%	0.0%
Existing	428	Drives - Scheduling	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	5.5%	5.5%	5.0%	5.5%	5.0%	0.0%
Existing	429	Machinery	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	7.0%	7.0%	3.5%	10.8%	0.0%	0.0%
Existing	430	Efficient Machinery	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.5%	3.5%
Existing	431	Custom Measures--Drives	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%
Existing	500	Base Process Heating	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Existing	501	Bakery - Process	37.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Existing	502	Drying (UV/IR)	0.0%	26.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Existing	503	Heat Pumps - Drying	0.0%	0.0%	22.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Existing	504	Top-heating (glass)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	4.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Existing	505	Efficient electric melting	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	10.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Existing	506	Intelligent extruder (DOE)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Existing	507	Near Net Shape Casting	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	12.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Existing	508	Heating - Process Control	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	5.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Existing	509	Efficient Curing ovens	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	0.0%
Existing	510	Heating - Optimization process (M&T)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	10.0%	10.0%	0.0%	10.0%	0.0%	0.0%
Existing	511	Heating - Scheduling	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	5.5%	5.5%	0.0%	0.0%	0.0%	0.0%
Existing	512	Custom Measures--Process Heating	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%
Existing	550	Base Process Cooling	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Existing	551	Efficient Refrigeration - Operations	12.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Existing	552	Optimization Refrigeration	26.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Existing	553	Custom Measures--Process Cooling	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%
Existing	600	Base Other Process	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Existing	601	Other Process Controls (batch + site)	0.0%	0.0%	0.0%	0.0%	0.0%	8.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Existing	602	Efficient desalter	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	20.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Existing	603	New transformers welding	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	25.0%	25.0%	0.0%	25.0%	0.0%	0.0%
Existing	604	Efficient processes (welding, etc.)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	25.0%	0.0%	0.0%	0.0%
Existing	605	Custom Measures--Other Process	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%
Existing	700	Base Space Cooling Centrifugal Chiller, 0.58 kW/ton, 500 tons	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Existing	701	Centrifugal Chiller, 0.51 kW/ton, 500 tons	12.1%	12.1%	12.1%	12.1%	12.1%	12.1%	12.1%	12.1%	12.1%	12.1%	12.1%	12.1%	12.1%	12.1%	12.1%	12.1%
Existing	702	Window Film - Chiller	10.3%	10.3%	10.3%	10.3%	10.3%	10.3%	10.3%	10.3%	10.3%	10.3%	10.3%	10.3%	10.3%	10.3%	10.3%	10.3%
Existing	703	EMS - Chiller	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%
Existing	704	Cool Roof - Chiller	9.6%	9.6%	9.6%	9.6%	9.6%	9.6%	9.6%	9.6%	9.6%	9.6%	9.6%	9.6%	9.6%	9.6%	9.6%	9.6%
Existing	705	Chiller Tune Up/Diagnostics	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%
Existing	706	Cooling Circ. Pumps - VSD	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%
Existing	710	Base Space Cooling DX Packaged System, EER=10.3, 10 ton	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Existing	711	DX Tune Up/ Advanced Diagnostics	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%
Existing	712	DX Packaged System, EER=10.9, 10 tons	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%
Existing	713	Window Film - DX	10.3%	10.3%	10.3%	10.3%	10.3%	10.3%	10.3%	10.3%	10.3%	10.3%	10.3%	10.3%	10.3%	10.3%	10.3%	10.3%
Existing	715	Prog. Thermostat - DX	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%
Existing	716	Cool Roof - DX	9.6%	9.6%	9.6%	9.6%	9.6%	9.6%	9.6%	9.6%	9.6%	9.6%	9.6%	9.6%	9.6%	9.6%	9.6%	9.6%
Existing	800	Base Lighting	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Existing	801	RET 2L4' Premium T8, 1EB	31.4%	31.4%	31.4%	31.4%	31.4%	31.4%	31.4%	31.4%	31.4%	31.4%	31.4%	31.4%	31.4%	31.4%	31.4%	31.4%
Existing	802	CFL Hardwired, Modular 36W	72.0%	72.0%	72.0%	72.0%	72.0%	72.0%	72.0%	72.0%	72.0%	72.0%	72.0%	72.0%	72.0%	72.0%	72.0%	72.0%
Existing	803	Metal Halide, 50W	58.0%	58.0%	58.0%	58.0%	58.0%	58.0%	58.0%	58.0%	58.0%	58.0%	58.0%	58.0%	58.0%	58.0%	58.0%	58.0%
Existing	804	Occupancy Sensor, 4L4' Fluorescent Fixtures	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%
Existing	900	Base Other	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Existing	901	Replace V-belts	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Existing	902	Membranes for wastewater	0.0%	10.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Industrial Elec Measure Inputs			Standards Adjustment Factor (percent)																
Segment	Measure #	Measure Description	Food	Textiles,Apprelumber,Furnitur	Paper	Printing	Chemicals	Petroleum	Rubber,Plasticstone,Clay,Glas	Prim Metals	Fab Metals	Ind Mach	Electronics	Transp Equip	Misc.	Water/WW			
Existing	100	Base Compressed Air	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%			
Existing	101	Compressed Air-O&M	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%			
Existing	102	Compressed Air - Controls	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%			
Existing	103	Compressed Air - System Optimization	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%			
Existing	104	Compressed Air- Sizing	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%			
Existing	105	Comp Air - Replace 1-5 HP motor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%			
Existing	106	Comp Air - ASD (1-5 hp)	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%			
Existing	107	Comp Air - Motor practices-1 (1-5 HP)	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%			
Existing	108	Comp Air - Replace 6-100 HP motor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%			
Existing	109	Comp Air - ASD (6-100 hp)	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%			
Existing	110	Comp Air - Motor practices-1 (6-100 HP)	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%			
Existing	111	Comp Air - Replace 100+ HP motor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%			
Existing	112	Comp Air - ASD (100+ hp)	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%			
Existing	113	Comp Air - Motor practices-1 (100+ HP)	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%			
Existing	114	Power recovery	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%			
Existing	200	Base Fans	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%			
Existing	201	Fans - O&M	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%			
Existing	202	Fans - Controls	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%			
Existing	203	Fans - System Optimization	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%			
Existing	204	Fans- Improve components	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%			
Existing	205	Fans - Replace 1-5 HP motor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%			
Existing	206	Fans - ASD (1-5 hp)	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%			
Existing	207	Fans - Motor practices-1 (1-5 HP)	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%			
Existing	208	Fans - Replace 6-100 HP motor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%			
Existing	209	Fans - ASD (6-100 hp)	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%			
Existing	210	Fans - Motor practices-1 (6-100 HP)	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%			
Existing	211	Fans - Replace 100+ HP motor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%			
Existing	212	Fans - ASD (100+ hp)	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%			
Existing	213	Fans - Motor practices-1 (100+ HP)	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%			
Existing	214	Optimize drying process	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%			
Existing	300	Base Pumps	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%			
Existing	301	Pumps - O&M	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%			
Existing	302	Pumps - Controls	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%			
Existing	303	Pumps - System Optimization	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%			
Existing	304	Pumps - Sizing	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%			
Existing	305	Pumps - Replace 1-5 HP motor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%			
Existing	306	Pumps - ASD (1-5 hp)	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%			
Existing	307	Pumps - Motor practices-1 (1-5 HP)	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%			
Existing	308	Pumps - Replace 6-100 HP motor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%			
Existing	309	Pumps - ASD (6-100 hp)	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%			
Existing	310	Pumps - Motor practices-1 (6-100 HP)	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%			
Existing	311	Pumps - Replace 100+ HP motor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%			
Existing	312	Pumps - ASD (100+ hp)	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%			
Existing	313	Pumps - Motor practices-1 (100+ HP)	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%			
Existing	400	Base Drives	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%			
Existing	401	Bakery - Process (Mxing) - O&M	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%			
Existing	402	O&M/drives spinning machines	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%			
Existing	403	Air conveying systems	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%			
Existing	405	Drives - EE motor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%			
Existing	406	Gap Forming papermachine	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%			
Existing	407	High Consistency forming	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%			
Existing	408	Optimization control PM	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%			
Existing	409	Efficient practices printing press	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%			
Existing	410	Efficient Printing press (fewer cylinders)	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%			
Existing	411	Light cylinders	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%			
Existing	412	Efficient drives	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%			
Existing	413	Clean Room - Controls	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%			
Existing	414	Clean Room - New Designs	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%			
Existing	415	Drives - Process Controls (batch + site)	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%			
Existing	416	Process Drives - ASD	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%			
Existing	417	O&M - Extruders/Injection Moulding	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%			
Existing	418	Extruders/injection Moulding-multipump	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%			
Existing	419	Direct drive Extruders	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%			
Existing	420	Injection Moulding - Impulse Cooling	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%			
Existing	421	Injection Moulding - Direct drive	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%			
Existing	422	Efficient grinding	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%			

Industrial Elec Measure Inputs			Standards Adjustment Factor (percent)																				
Segment	Measure #	Measure Description	Food	Textiles	Apparel	Lumber	Furniture	Paper	Printing	Chemicals	Petroleum	Rubber	Plastic	Stone	Clay	Glas	Prim Metals	Fab Metals	Ind Mach	Electronics	Transp Equip	Misc.	Water/WW
Existing	423	Process control	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Existing	424	Process optimization	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Existing	425	Drives - Process Control	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Existing	426	Efficient drives - rolling	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Existing	427	Drives - Optimization process (M&T)	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Existing	428	Drives - Scheduling	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Existing	429	Machinery	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Existing	430	Efficient Machinery	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Existing	431	Custom Measures--Drives	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Existing	500	Base Process Heating	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Existing	501	Bakery - Process	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Existing	502	Drying (UV/IR)	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Existing	503	Heat Pumps - Drying	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Existing	504	Top-heating (glass)	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Existing	505	Efficient electric melting	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Existing	506	Intelligent extruder (DOE)	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Existing	507	Near Net Shape Casting	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Existing	508	Heating - Process Control	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Existing	509	Efficient Curing ovens	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Existing	510	Heating - Optimization process (M&T)	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Existing	511	Heating - Scheduling	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Existing	512	Custom Measures--Process Heating	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Existing	550	Base Process Cooling	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Existing	551	Efficient Refrigeration - Operations	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Existing	552	Optimization Refrigeration	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Existing	553	Custom Measures--Process Cooling	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Existing	600	Base Other Process	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Existing	601	Other Process Controls (batch + site)	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Existing	602	Efficient desalter	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Existing	603	New transformers welding	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Existing	604	Efficient processes (welding, etc.)	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Existing	605	Custom Measures--Other Process	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Existing	700	Base Space Cooling Centrifugal Chiller, 0.5	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Existing	701	Centrifugal Chiller, 0.51 kW/ton, 500 tons	89%	89%	89%	89%	89%	89%	89%	89%	89%	89%	89%	89%	89%	89%	89%	89%	89%	89%	89%	89%	89%
Existing	702	Window Film - Chiller	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Existing	703	EMS - Chiller	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Existing	704	Cool Roof - Chiller	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Existing	705	Chiller Tune Up/Diagnostics	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Existing	706	Cooling Circ. Pumps - VSD	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Existing	710	Base Space Cooling DX Packaged System,	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Existing	711	DX Tune Up/ Advanced Diagnostics	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Existing	712	DX Packaged System, EER=10.9, 10 tons	86%	86%	86%	86%	86%	86%	86%	86%	86%	86%	86%	86%	86%	86%	86%	86%	86%	86%	86%	86%	86%
Existing	713	Window Film - DX	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Existing	715	Prog. Thermostat - DX	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Existing	716	Cool Roof - DX	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Existing	800	Base Lighting	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Existing	801	RET 2L4' Premium T8, 1EB	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Existing	802	CFL Hardwired, Modular 36W	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Existing	803	Metal Halide, 50W	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Existing	804	Occupancy Sensor, 4L4' Fluorescent Fixture	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Existing	900	Base Other	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Existing	901	Replace V-belts	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Existing	902	Membranes for wastewater	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Industrial Elec Measure Inputs			FEASIBILITY FACTOR (percent)																
Segment	Measure #	Measure Description	Food	Textiles,Apprelumber,Furnitur	Paper	Printing	Chemicals	Petroleum	Rubber,Plasticstone,Clay,Glas	Prim Metals	Fab Metals	Ind Mach	Electronics	Transp Equip	Misc.	Water/WW			
Existing	100	Base Compressed Air	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%			
Existing	101	Compressed Air-O&M	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%			
Existing	102	Compressed Air - Controls	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%			
Existing	103	Compressed Air - System Optimization	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%			
Existing	104	Compressed Air- Sizing	56%	47%	47%	56%	56%	56%	56%	56%	56%	47%	47%	47%	47%	100%			
Existing	105	Comp Air - Replace 1-5 HP motor	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%			
Existing	106	Comp Air - ASD (1-5 hp)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%			
Existing	107	Comp Air - Motor practices-1 (1-5 HP)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%			
Existing	108	Comp Air - Replace 6-100 HP motor	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%			
Existing	109	Comp Air - ASD (6-100 hp)	96%	36%	36%	96%	96%	96%	96%	96%	36%	36%	36%	36%	36%	36%			
Existing	110	Comp Air - Motor practices-1 (6-100 HP)	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%			
Existing	111	Comp Air - Replace 100+ HP motor	59%	59%	59%	59%	59%	59%	59%	59%	59%	59%	59%	59%	59%	59%			
Existing	112	Comp Air - ASD (100+ hp)	87%	100%	100%	87%	87%	87%	87%	87%	100%	100%	100%	100%	100%	59%			
Existing	113	Comp Air - Motor practices-1 (100+ HP)	59%	59%	59%	59%	59%	59%	59%	59%	59%	59%	59%	59%	59%	59%			
Existing	114	Power recovery	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%			
Existing	200	Base Fans	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%			
Existing	201	Fans - O&M	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%			
Existing	202	Fans - Controls	83%	89%	89%	83%	83%	83%	83%	83%	83%	89%	89%	89%	89%	89%			
Existing	203	Fans - System Optimization	83%	87%	87%	83%	83%	83%	83%	83%	87%	87%	87%	87%	87%	100%			
Existing	204	Fans - Improve components	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%			
Existing	205	Fans - Replace 1-5 HP motor	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%			
Existing	206	Fans - ASD (1-5 hp)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%			
Existing	207	Fans - Motor practices-1 (1-5 HP)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%			
Existing	208	Fans - Replace 6-100 HP motor	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%			
Existing	209	Fans - ASD (6-100 hp)	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%			
Existing	210	Fans - Motor practices-1 (6-100 HP)	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%			
Existing	211	Fans - Replace 100+ HP motor	59%	59%	59%	59%	59%	59%	59%	59%	59%	59%	59%	59%	59%	59%			
Existing	212	Fans - ASD (100+ hp)	59%	59%	59%	59%	59%	59%	59%	59%	59%	59%	59%	59%	59%	59%			
Existing	213	Fans - Motor practices-1 (100+ HP)	59%	59%	59%	59%	59%	59%	59%	59%	59%	59%	59%	59%	59%	59%			
Existing	214	Optimize drying process	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%			
Existing	300	Base Pumps	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%			
Existing	301	Pumps - O&M	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%			
Existing	302	Pumps - Controls	100%	79%	79%	100%	100%	100%	100%	100%	100%	79%	79%	79%	79%	79%			
Existing	303	Pumps - System Optimization	99%	77%	77%	99%	99%	99%	99%	99%	77%	77%	77%	77%	77%	100%			
Existing	304	Pumps - Sizing	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%			
Existing	305	Pumps - Replace 1-5 HP motor	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%			
Existing	306	Pumps - ASD (1-5 hp)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%			
Existing	307	Pumps - Motor practices-1 (1-5 HP)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%			
Existing	308	Pumps - Replace 6-100 HP motor	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%			
Existing	309	Pumps - ASD (6-100 hp)	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%			
Existing	310	Pumps - Motor practices-1 (6-100 HP)	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%			
Existing	311	Pumps - Replace 100+ HP motor	59%	59%	59%	59%	59%	59%	59%	59%	59%	59%	59%	59%	59%	59%			
Existing	312	Pumps - ASD (100+ hp)	59%	59%	59%	59%	59%	59%	59%	59%	59%	59%	59%	59%	59%	59%			
Existing	313	Pumps - Motor practices-1 (100+ HP)	59%	59%	59%	59%	59%	59%	59%	59%	59%	59%	59%	59%	59%	59%			
Existing	400	Base Drives	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%			
Existing	401	Bakery - Process (Mixing) - O&M	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%			
Existing	402	O&M/drives spinning machines	0%	60%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%			
Existing	403	Air conveying systems	0%	0%	30%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%			
Existing	405	Drives - EE motor	73%	27%	27%	73%	73%	73%	73%	73%	27%	27%	27%	27%	27%	27%			
Existing	406	Gap Forming papermachine	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%			
Existing	407	High Consistency forming	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%			
Existing	408	Optimization control PM	82%	47%	47%	82%	82%	82%	82%	82%	47%	47%	47%	47%	47%	47%			
Existing	409	Efficient practices printing press	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%			
Existing	410	Efficient Printing press (fewer cylinders)	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%			
Existing	411	Light cylinders	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%			
Existing	412	Efficient drives	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%			
Existing	413	Clean Room - Controls	0%	0%	0%	0%	0%	30%	0%	0%	0%	0%	60%	0%	0%	0%			
Existing	414	Clean Room - New Designs	0%	0%	0%	0%	0%	30%	0%	0%	0%	0%	0%	0%	0%	0%			
Existing	415	Drives - Process Controls (batch + site)	0%	0%	0%	0%	0%	86%	0%	0%	100%	0%	0%	0%	0%	0%			
Existing	416	Process Drives - ASD	0%	0%	0%	0%	0%	70%	0%	0%	0%	0%	0%	0%	0%	40%			
Existing	417	O&M - Extruders/Injection Moulding	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%			
Existing	418	Extruders/injection Moulding-multipump	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%			
Existing	419	Direct drive Extruders	40%	0%	0%	40%	40%	40%	40%	40%	40%	0%	0%	0%	0%	0%			
Existing	420	Injection Moulding - Impulse Cooling	45%	0%	0%	45%	45%	45%	45%	45%	0%	0%	0%	0%	0%	0%			
Existing	421	Injection Moulding - Direct drive	46%	0%	0%	46%	46%	46%	46%	46%	0%	0%	0%	0%	0%	0%			
Existing	422	Efficient grinding	100%	85%	85%	100%	100%	100%	100%	100%	85%	85%	85%	85%	85%	85%			

Industrial Elec Measure Inputs			FEASIBILITY FACTOR (percent)																
Segment	Measure #	Measure Description	Food	Textiles,Apprelumber,Furnitur	Paper	Printing	Chemicals	Petroleum	Rubber,Plasticstone,Clay,Glas	Prim Metals	Fab Metals	Ind Mach	Electronics	Transp Equip	Misc.	Water/WW			
Existing	423	Process control	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Existing	424	Process optimization	0%	0%	0%	0%	0%	0%	0%	25%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Existing	425	Drives - Process Control	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Existing	426	Efficient drives - rolling	95%	0%	0%	95%	95%	95%	95%	95%	95%	0%	0%	0%	0%	0%	0%	0%	0%
Existing	427	Drives - Optimization process (M&T)	0%	0%	0%	0%	0%	0%	0%	0%	40%	40%	0%	40%	0%	0%	0%	0%	0%
Existing	428	Drives - Scheduling	0%	0%	0%	0%	0%	0%	0%	0%	40%	40%	40%	40%	40%	0%	0%	0%	0%
Existing	429	Machinery	0%	0%	0%	0%	0%	0%	0%	0%	50%	50%	50%	50%	0%	0%	0%	0%	0%
Existing	430	Efficient Machinery	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	50%	50%			
Existing	431	Custom Measures--Drives	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Existing	500	Base Process Heating	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Existing	501	Bakery - Process	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Existing	502	Drying (UV/IR)	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Existing	503	Heat Pumps - Drying	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Existing	504	Top-heating (glass)	84%	0%	0%	84%	84%	84%	84%	84%	84%	0%	0%	0%	0%	0%	0%	0%	0%
Existing	505	Efficient electric melting	0%	0%	0%	0%	0%	0%	0%	90%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Existing	506	Intelligent extruder (DOE)	0%	0%	0%	0%	0%	0%	0%	10%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Existing	507	Near Net Shape Casting	0%	0%	0%	0%	0%	0%	0%	20%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Existing	508	Heating - Process Control	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Existing	509	Efficient Curing ovens	84%	0%	0%	84%	84%	84%	84%	84%	70%	50%	50%	50%	50%	50%	50%	50%	50%
Existing	510	Heating - Optimization process (M&T)	0%	0%	0%	0%	0%	0%	0%	0%	40%	40%	0%	40%	0%	0%	0%	0%	0%
Existing	511	Heating - Scheduling	14%	0%	0%	14%	14%	14%	14%	14%	40%	40%	0%	0%	0%	0%	0%	0%	0%
Existing	512	Custom Measures--Process Heating	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Existing	550	Base Process Cooling	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Existing	551	Efficient Refrigeration - Operations	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Existing	552	Optimization Refrigeration	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Existing	553	Custom Measures--Process Cooling	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Existing	600	Base Other Process	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Existing	601	Other Process Controls (batch + site)	0%	0%	0%	0%	86%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Existing	602	Efficient desalter	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Existing	603	New transformers welding	0%	0%	0%	0%	0%	0%	0%	0%	100%	50%	0%	100%	0%	0%	0%	0%	0%
Existing	604	Efficient processes (welding, etc.)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%
Existing	605	Custom Measures--Other Process	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Existing	700	Base Space Cooling Centrifugal Chiller, 0.5	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Existing	701	Centrifugal Chiller, 0.51 kW/ton, 500 tons	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Existing	702	Window Film - Chiller	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%
Existing	703	EMS - Chiller	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Existing	704	Cool Roof - Chiller	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
Existing	705	Chiller Tune Up/Diagnostics	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
Existing	706	Cooling Circ. Pumps - VSD	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%
Existing	710	Base Space Cooling DX Packaged System,	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Existing	711	DX Tune Up/ Advanced Diagnostics	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%
Existing	712	DX Packaged System, EER=10.9, 10 tons	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Existing	713	Window Film - DX	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%
Existing	715	Prog. Thermostat - DX	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%
Existing	716	Cool Roof - DX	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
Existing	800	Base Lighting	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Existing	801	RET 2L4' Premium T8, 1EB	76%	86%	87%	80%	96%	77%	77%	80%	62%	66%	85%	87%	90%	89%	93%	93%	93%
Existing	802	CFL Hardwired, Modular 36W	48%	48%	48%	48%	48%	48%	48%	48%	48%	48%	48%	48%	48%	48%	48%	48%	6%
Existing	803	Metal Halide, 50W	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	0%
Existing	804	Occupancy Sensor, 4L4' Fluorescent Fxtun	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%
Existing	900	Base Other	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Existing	901	Replace V-belts	73%	71%	80%	79%	39%	0%	7%	53%	70%	20%	53%	40%	33%	55%	55%	55%	55%
Existing	902	Membranes for wastewater	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	29%

Industrial Elec Measure Inputs			INCOMPLETE FACTOR (percent)															
Segment	Measure #	Measure Description	Food	Textiles,Appri	Lumber,Furn	Paper	Printing	Chemicals	Petroleum	Rubber,Plast	Stone,Clay,G	Prim Metals	Fab Metals	Ind Mach	Electronics	Transp Equip	Misc.	Water/WW
Existing	100	Base Compressed Air	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	101	Compressed Air-O&M	31.00%	22.00%	22.00%	31.00%	31.00%	31.00%	31.00%	31.00%	31.00%	31.00%	22.00%	22.00%	22.00%	22.00%	22.00%	31.00%
Existing	102	Compressed Air - Controls	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%
Existing	103	Compressed Air - System Optimization	50.00%	50.00%	50.00%	50.00%	50.00%	50.00%	50.00%	50.00%	50.00%	50.00%	50.00%	50.00%	50.00%	50.00%	50.00%	50.00%
Existing	104	Compressed Air- Sizing	17.53%	99.26%	99.26%	17.53%	17.53%	17.53%	17.53%	17.53%	17.53%	17.53%	99.26%	99.26%	99.26%	99.26%	99.26%	17.53%
Existing	105	Comp Air - Replace 1-5 HP motor	87.00%	87.00%	87.00%	87.00%	87.00%	87.00%	87.00%	87.00%	87.00%	87.00%	87.00%	87.00%	87.00%	87.00%	87.00%	87.00%
Existing	106	Comp Air - ASD (1-5 hp)	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	107	Comp Air - Motor practices-1 (1-5 HP)	99.98%	100.00%	100.00%	99.98%	99.98%	99.98%	99.98%	99.98%	99.98%	99.98%	100.00%	100.00%	100.00%	100.00%	100.00%	99.98%
Existing	108	Comp Air - Replace 6-100 HP motor	63.61%	20.84%	20.84%	63.61%	63.61%	63.61%	63.61%	63.61%	63.61%	63.61%	20.84%	20.84%	20.84%	20.84%	20.84%	63.61%
Existing	109	Comp Air - ASD (6-100 hp)	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	110	Comp Air - Motor practices-1 (6-100 HP)	14.03%	100.00%	100.00%	14.03%	14.03%	14.03%	14.03%	14.03%	14.03%	14.03%	100.00%	100.00%	100.00%	100.00%	100.00%	14.03%
Existing	111	Comp Air - Replace 100+ HP motor	26.12%	38.00%	38.00%	26.12%	26.12%	26.12%	26.12%	26.12%	26.12%	26.12%	38.00%	38.00%	38.00%	38.00%	38.00%	26.12%
Existing	112	Comp Air - ASD (100+ hp)	68.02%	100.00%	100.00%	68.02%	68.02%	68.02%	68.02%	68.02%	68.02%	68.02%	100.00%	100.00%	100.00%	100.00%	100.00%	68.02%
Existing	113	Comp Air - Motor practices-1 (100+ HP)	64.18%	39.66%	39.66%	64.18%	64.18%	64.18%	64.18%	64.18%	64.18%	64.18%	39.66%	39.66%	39.66%	39.66%	39.66%	64.18%
Existing	114	Power recovery	86.04%	19.68%	19.68%	86.04%	86.04%	86.04%	86.04%	86.04%	86.04%	86.04%	19.68%	19.68%	19.68%	19.68%	19.68%	86.04%
Existing	200	Base Fans	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	201	Fans - O&M	84.47%	12.87%	12.87%	84.47%	84.47%	84.47%	84.47%	84.47%	84.47%	84.47%	12.87%	12.87%	12.87%	12.87%	12.87%	84.47%
Existing	202	Fans - Controls	72.02%	21.21%	21.21%	72.02%	72.02%	72.02%	72.02%	72.02%	72.02%	72.02%	21.21%	21.21%	21.21%	21.21%	21.21%	72.02%
Existing	203	Fans - System Optimization	85.79%	21.87%	21.87%	85.79%	85.79%	85.79%	85.79%	85.79%	85.79%	85.79%	21.87%	21.87%	21.87%	21.87%	21.87%	85.79%
Existing	204	Fans- Improve components	68.08%	35.69%	35.69%	68.08%	68.08%	68.08%	68.08%	68.08%	68.08%	68.08%	35.69%	35.69%	35.69%	35.69%	35.69%	68.08%
Existing	205	Fans - Replace 1-5 HP motor	98.47%	87.00%	87.00%	98.47%	98.47%	98.47%	98.47%	98.47%	98.47%	98.47%	87.00%	87.00%	87.00%	87.00%	87.00%	98.47%
Existing	206	Fans - ASD (1-5 hp)	99.72%	81.94%	81.94%	99.72%	99.72%	99.72%	99.72%	99.72%	99.72%	99.72%	81.94%	81.94%	81.94%	81.94%	81.94%	99.72%
Existing	207	Fans - Motor practices-1 (1-5 HP)	99.63%	100.00%	100.00%	99.63%	99.63%	99.63%	99.63%	99.63%	99.63%	99.63%	100.00%	100.00%	100.00%	100.00%	100.00%	99.63%
Existing	208	Fans - Replace 6-100 HP motor	89.52%	47.03%	47.03%	89.52%	89.52%	89.52%	89.52%	89.52%	89.52%	89.52%	47.03%	47.03%	47.03%	47.03%	47.03%	89.52%
Existing	209	Fans - ASD (6-100 hp)	92.64%	91.96%	91.96%	92.64%	92.64%	92.64%	92.64%	92.64%	92.64%	92.64%	91.96%	91.96%	91.96%	91.96%	91.96%	92.64%
Existing	210	Fans - Motor practices-1 (6-100 HP)	89.03%	41.35%	41.35%	89.03%	89.03%	89.03%	89.03%	89.03%	89.03%	89.03%	41.35%	41.35%	41.35%	41.35%	41.35%	89.03%
Existing	211	Fans - Replace 100+ HP motor	93.70%	89.94%	89.94%	93.70%	93.70%	93.70%	93.70%	93.70%	93.70%	93.70%	89.94%	89.94%	89.94%	89.94%	89.94%	93.70%
Existing	212	Fans - ASD (100+ hp)	93.70%	10.92%	10.92%	93.70%	93.70%	93.70%	93.70%	93.70%	93.70%	93.70%	10.92%	10.92%	10.92%	10.92%	10.92%	93.70%
Existing	213	Fans - Motor practices-1 (100+ HP)	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	214	Optimize drying process	100.00%	80.13%	80.13%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	80.13%	80.13%	80.13%	80.13%	80.13%	100.00%
Existing	300	Base Pumps	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	301	Pumps - O&M	17.61%	55.31%	55.31%	17.61%	17.61%	17.61%	17.61%	17.61%	17.61%	17.61%	55.31%	55.31%	55.31%	55.31%	55.31%	17.61%
Existing	302	Pumps - Controls	13.55%	24.06%	24.06%	13.55%	13.55%	13.55%	13.55%	13.55%	13.55%	13.55%	24.06%	24.06%	24.06%	24.06%	24.06%	13.55%
Existing	303	Pumps - System Optimization	15.00%	79.30%	79.30%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	79.30%	79.30%	79.30%	79.30%	79.30%	15.00%
Existing	304	Pumps - Sizing	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%
Existing	305	Pumps - Replace 1-5 HP motor	89.37%	92.74%	92.74%	89.37%	89.37%	89.37%	89.37%	89.37%	89.37%	89.37%	92.74%	92.74%	92.74%	92.74%	92.74%	89.37%
Existing	306	Pumps - ASD (1-5 hp)	100.00%	80.42%	80.42%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	80.42%	80.42%	80.42%	80.42%	80.42%	100.00%
Existing	307	Pumps - Motor practices-1 (1-5 HP)	40.42%	53.83%	53.83%	40.42%	40.42%	40.42%	40.42%	40.42%	40.42%	40.42%	53.83%	53.83%	53.83%	53.83%	53.83%	40.42%
Existing	308	Pumps - Replace 6-100 HP motor	96.71%	88.90%	88.90%	96.71%	96.71%	96.71%	96.71%	96.71%	96.71%	96.71%	88.90%	88.90%	88.90%	88.90%	88.90%	96.71%
Existing	309	Pumps - ASD (6-100 hp)	97.88%	46.59%	46.59%	97.88%	97.88%	97.88%	97.88%	97.88%	97.88%	97.88%	46.59%	46.59%	46.59%	46.59%	46.59%	97.88%
Existing	310	Pumps - Motor practices-1 (6-100 HP)	62.84%	80.97%	80.97%	62.84%	62.84%	62.84%	62.84%	62.84%	62.84%	62.84%	80.97%	80.97%	80.97%	80.97%	80.97%	62.84%
Existing	311	Pumps - Replace 100+ HP motor	38.00%	38.00%	38.00%	38.00%	38.00%	38.00%	38.00%	38.00%	38.00%	38.00%	38.00%	38.00%	38.00%	38.00%	38.00%	38.00%
Existing	312	Pumps - ASD (100+ hp)	100.00%	97.76%	97.76%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	97.76%	97.76%	97.76%	97.76%	97.76%	100.00%
Existing	313	Pumps - Motor practices-1 (100+ HP)	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	400	Base Drives	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	401	Bakery - Process (Mixing) - O&M	70.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	402	O&M/drives spinning machines	100.00%	40.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	403	Air conveying systems	100.00%	100.00%	25.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	405	Drives - EE motor	63.25%	14.43%	14.43%	63.25%	63.25%	63.25%	63.25%	63.25%	63.25%	63.25%	14.43%	14.43%	14.43%	14.43%	14.43%	63.25%
Existing	406	Gap Forming papermachine	100.00%	100.00%	100.00%	10.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	407	High Consistency forming	100.00%	100.00%	100.00%	10.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	408	Optimization control PM	56.71%	97.67%	97.67%	56.71%	56.71%	56.71%	56.71%	56.71%	56.71%	56.71%	97.67%	97.67%	97.67%	97.67%	97.67%	56.71%
Existing	409	Efficient practices printing press	100.00%	100.00%	100.00%	100.00%	50.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	410	Efficient Printing press (fewer cylinders)	100.00%	100.00%	100.00%	100.00%	20.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Industrial Elec Measure Inputs			INCOMPLETE FACTOR (percent)															
Segment	Measure #	Measure Description	Food	Textiles,Appi	Lumber,Fum	Paper	Printing	Chemicals	Petroleum	Rubber,Plast	Stone,Clay,G	Prim Metals	Fab Metals	Ind Mach	Electronics	Transp Equip	Misc.	Water/WV
Existing	411	Light cylinders	100.00%	100.00%	100.00%	100.00%	20.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	412	Efficient drives	100.00%	100.00%	100.00%	100.00%	30.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	413	Clean Room - Controls	100.00%	100.00%	100.00%	100.00%	100.00%	50.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	50.00%	100.00%	100.00%	100.00%
Existing	414	Clean Room - New Designs	100.00%	100.00%	100.00%	100.00%	100.00%	20.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	415	Drives - Process Controls (batch + site)	100.00%	100.00%	100.00%	100.00%	100.00%	50.00%	100.00%	100.00%	100.00%	50.00%	50.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	416	Process Drives - ASD	97.67%	65.04%	65.04%	97.67%	97.67%	97.67%	97.67%	97.67%	97.67%	97.67%	65.04%	65.04%	65.04%	65.04%	65.04%	97.67%
Existing	417	O&M - Extruders/Injection Moulding	57.13%	37.55%	37.55%	57.13%	57.13%	57.13%	57.13%	57.13%	57.13%	57.13%	37.55%	37.55%	37.55%	37.55%	37.55%	57.13%
Existing	418	Extruders/injection Moulding-multipump	79.06%	100.00%	100.00%	79.06%	79.06%	79.06%	79.06%	79.06%	79.06%	79.06%	100.00%	100.00%	100.00%	100.00%	100.00%	79.06%
Existing	419	Direct drive Extruders	90.49%	100.00%	100.00%	90.49%	90.49%	90.49%	90.49%	90.49%	90.49%	90.49%	100.00%	100.00%	100.00%	100.00%	100.00%	90.49%
Existing	420	Injection Moulding - Impulse Cooling	83.81%	100.00%	100.00%	83.81%	83.81%	83.81%	83.81%	83.81%	83.81%	83.81%	100.00%	100.00%	100.00%	100.00%	100.00%	83.81%
Existing	421	Injection Moulding - Direct drive	89.89%	100.00%	100.00%	89.89%	89.89%	89.89%	89.89%	89.89%	89.89%	89.89%	100.00%	100.00%	100.00%	100.00%	100.00%	89.89%
Existing	422	Efficient grinding	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	20.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	423	Process control	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	50.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	424	Process optimization	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	25.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	425	Drives - Process Control	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	50.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	426	Efficient drives - rolling	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	50.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	427	Drives - Optimization process (M&T)	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	50.00%	50.00%	100.00%	40.00%	100.00%	100.00%
Existing	428	Drives - Scheduling	72.38%	29.00%	29.00%	72.38%	72.38%	72.38%	72.38%	72.38%	72.38%	72.38%	29.00%	29.00%	29.00%	29.00%	29.00%	72.38%
Existing	429	Machinery	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	25.00%	25.00%	25.00%	20.00%	100.00%	100.00%
Existing	430	Efficient Machinery	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	25.00%	100.00%
Existing	431	Custom Measures--Drives	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	500	Base Process Heating	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	501	Bakery - Process	49.76%	100.00%	100.00%	49.76%	49.76%	49.76%	49.76%	49.76%	49.76%	49.76%	100.00%	100.00%	100.00%	100.00%	100.00%	49.76%
Existing	502	Drying (UV/IR)	100.00%	20.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	503	Heat Pumps - Drying	100.00%	100.00%	20.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	504	Top-heating (glass)	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	50.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	50.00%
Existing	505	Efficient electric melting	99.78%	100.00%	100.00%	99.78%	99.78%	99.78%	99.78%	99.78%	99.78%	99.78%	100.00%	100.00%	100.00%	100.00%	100.00%	99.78%
Existing	506	Intelligent extruder (DOE)	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	25.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	507	Near Net Shape Casting	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	25.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	508	Heating - Process Control	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	50.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	509	Efficient Curing ovens	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	25.00%	25.00%	25.00%	25.00%	25.00%	100.00%
Existing	510	Heating - Optimization process (M&T)	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	50.00%	50.00%	100.00%	40.00%	100.00%	100.00%
Existing	511	Heating - Scheduling	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	30.00%	30.00%	100.00%	100.00%	100.00%	100.00%
Existing	512	Custom Measures--Process Heating	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	550	Base Process Cooling	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	551	Efficient Refrigeration - Operations	83.26%	51.76%	51.76%	83.26%	83.26%	83.26%	83.26%	83.26%	83.26%	83.26%	51.76%	51.76%	51.76%	51.76%	51.76%	83.26%
Existing	552	Optimization Refrigeration	95.06%	44.99%	44.99%	95.06%	95.06%	95.06%	95.06%	95.06%	95.06%	95.06%	44.99%	44.99%	44.99%	44.99%	44.99%	95.06%
Existing	553	Custom Measures--Process Cooling	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	600	Base Other Process	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	601	Other Process Controls (batch + site)	100.00%	100.00%	100.00%	100.00%	100.00%	50.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	602	Efficient desalter	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	50.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	603	New transformers welding	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	50.00%	50.00%	100.00%	50.00%	100.00%	100.00%
Existing	604	Efficient processes (welding, etc.)	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	50.00%	100.00%	100.00%	100.00%
Existing	605	Custom Measures--Other Process	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	700	Base Space Cooling Centrifugal Chiller, 0.5	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	701	Centrifugal Chiller, 0.51 kW/ton, 500 tons	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	702	Window Film - Chiller	50.48%	50.48%	50.48%	50.48%	50.48%	50.48%	50.48%	50.48%	50.48%	50.48%	50.48%	50.48%	50.48%	50.48%	50.48%	50.48%
Existing	703	EMS - Chiller	63.20%	63.20%	63.20%	63.20%	63.20%	63.20%	63.20%	63.20%	63.20%	63.20%	63.20%	63.20%	63.20%	63.20%	63.20%	63.20%
Existing	704	Cool Roof - Chiller	58.65%	58.65%	58.65%	58.65%	58.65%	58.65%	58.65%	58.65%	58.65%	58.65%	58.65%	58.65%	58.65%	58.65%	58.65%	58.65%
Existing	705	Chiller Tune Up/Diagnostics	50.00%	50.00%	50.00%	50.00%	50.00%	50.00%	50.00%	50.00%	50.00%	50.00%	50.00%	50.00%	50.00%	50.00%	50.00%	50.00%
Existing	706	Cooling Circ. Pumps - VSD	75.00%	75.00%	75.00%	75.00%	75.00%	75.00%	75.00%	75.00%	75.00%	75.00%	75.00%	75.00%	75.00%	75.00%	75.00%	75.00%
Existing	710	Base Space Cooling DX Packaged System	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	711	DX Tune Up/ Advanced Diagnostics	50.00%	50.00%	50.00%	50.00%	50.00%	50.00%	50.00%	50.00%	50.00%	50.00%	50.00%	50.00%	50.00%	50.00%	50.00%	50.00%
Existing	712	DX Packaged System, EER=10.9, 10 tons	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Industrial Elec Measure Inputs			INCOMPLETE FACTOR (percent)															
Segment	Measure #	Measure Description	Food	Textiles,App	Lumber,Furn	Paper	Printing	Chemicals	Petroleum	Rubber,Plast	Stone,Clay,C	Prim Metals	Fab Metals	Ind Mach	Electronics	Transp Equip	Misc.	Water/WW
Existing	713	Window Film - DX	30.70%	30.70%	30.70%	30.70%	30.70%	30.70%	30.70%	30.70%	30.70%	30.70%	30.70%	30.70%	30.70%	30.70%	30.70%	30.70%
Existing	715	Prog. Thermostat - DX	45.30%	45.30%	45.30%	45.30%	45.30%	45.30%	45.30%	45.30%	45.30%	45.30%	45.30%	45.30%	45.30%	45.30%	45.30%	45.30%
Existing	716	Cool Roof - DX	61.49%	61.49%	61.49%	61.49%	61.49%	61.49%	61.49%	61.49%	61.49%	61.49%	61.49%	61.49%	61.49%	61.49%	61.49%	61.49%
Existing	800	Base Lighting	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	801	RET 2L4' Premium T8, 1EB	95.88%	95.88%	95.88%	95.88%	95.88%	95.88%	95.88%	95.88%	95.88%	95.88%	95.88%	95.88%	95.88%	95.88%	95.88%	95.88%
Existing	802	CFL Hardwired, Modular 36W	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	200.00%	300.00%
Existing	803	Metal Halide, 50W	73.81%	73.81%	73.81%	73.81%	73.81%	73.81%	73.81%	73.81%	73.81%	73.81%	73.81%	73.81%	73.81%	73.81%	73.81%	73.81%
Existing	804	Occupancy Sensor, 4L4' Fluorescent Fixtur	96.88%	96.88%	96.88%	96.88%	96.88%	96.88%	96.88%	96.88%	96.88%	96.88%	96.88%	96.88%	96.88%	96.88%	96.88%	96.88%
Existing	900	Base Other	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Existing	901	Replace V-belts	50.00%	50.00%	50.00%	50.00%	50.00%	50.00%	50.00%	50.00%	50.00%	50.00%	50.00%	50.00%	50.00%	50.00%	50.00%	50.00%
Existing	902	Membranes for wastewater	100.00%	15.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

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Industrial Elec Measure Inputs			TECHNOLOGY SATURATION (units/square foot)															
Segment	Measure #	Measure Description	Food	Textiles,Apparel	Lumber,Furnitur	Paper	Printing	Chemicals	Petroleum	Rubber,Plastic	stone,Clay,Glas	Prim Metals	Fab Metals	Ind Mach	Electronics	Transp Equip	Misc.	Water/WW
Existing	423	Process control	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Existing	424	Process optimization	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Existing	425	Drives - Process Control	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Existing	426	Efficient drives - rolling	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Existing	427	Drives - Optimization process (M&T)	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Existing	428	Drives - Scheduling	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Existing	429	Machinery	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.5000	1.5430	1.0000	1.0000
Existing	430	Efficient Machinery	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Existing	431	Custom Measures--Drives	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Existing	500	Base Process Heating	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Existing	501	Bakery - Process	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Existing	502	Drying (UV/IR)	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Existing	503	Heat Pumps - Drying	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Existing	504	Top-heating (glass)	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Existing	505	Efficient electric melting	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Existing	506	Intelligent extruder (DOE)	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Existing	507	Near Net Shape Casting	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Existing	508	Heating - Process Control	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Existing	509	Efficient Curing ovens	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Existing	510	Heating - Optimization process (M&T)	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Existing	511	Heating - Scheduling	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Existing	512	Custom Measures--Process Heating	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Existing	550	Base Process Cooling	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Existing	551	Efficient Refrigeration - Operations	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Existing	552	Optimization Refrigeration	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Existing	553	Custom Measures--Process Cooling	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Existing	600	Base Other Process	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Existing	601	Other Process Controls (batch + site)	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Existing	602	Efficient desalter	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Existing	603	New transformers welding	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Existing	604	Efficient processes (welding, etc.)	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Existing	605	Custom Measures--Other Process	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Existing	700	Base Space Cooling Centrifugal Chiller, 0.5	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013
Existing	701	Centrifugal Chiller, 0.51 kW/ton, 500 tons	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013
Existing	702	Window Film - Chiller	0.0170	0.0170	0.0170	0.0170	0.0170	0.0170	0.0170	0.0170	0.0170	0.0170	0.0170	0.0170	0.0170	0.0170	0.0170	0.0170
Existing	703	EMS - Chiller	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013
Existing	704	Cool Roof - Chiller	0.2992	0.2992	0.2992	0.2992	0.2992	0.2992	0.2992	0.2992	0.2992	0.2992	0.2992	0.2992	0.2992	0.2992	0.2992	0.2992
Existing	705	Chiller Tune Up/Diagnostics	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013
Existing	706	Cooling Circ. Pumps - VSD	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013
Existing	710	Base Space Cooling DX Packaged System,	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008
Existing	711	DX Tune Up/ Advanced Diagnostics	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008
Existing	712	DX Packaged System, EER=10.9, 10 tons	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008
Existing	713	Window Film - DX	0.0099	0.0099	0.0099	0.0099	0.0099	0.0099	0.0099	0.0099	0.0099	0.0099	0.0099	0.0099	0.0099	0.0099	0.0099	0.0099
Existing	715	Prog. Thermostat - DX	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008
Existing	716	Cool Roof - DX	0.1745	0.1745	0.1745	0.1745	0.1745	0.1745	0.1745	0.1745	0.1745	0.1745	0.1745	0.1745	0.1745	0.1745	0.1745	0.1745
Existing	800	Base Lighting	0.0037	0.0037	0.0037	0.0037	0.0037	0.0037	0.0037	0.0037	0.0037	0.0037	0.0037	0.0037	0.0037	0.0037	0.0037	0.0037
Existing	801	RET 2L4' Premium T8, 1EB	0.0037	0.0037	0.0037	0.0037	0.0037	0.0037	0.0037	0.0037	0.0037	0.0037	0.0037	0.0037	0.0037	0.0037	0.0037	0.0037
Existing	802	CFL Hardwired, Modular 36W	0.0027	0.0027	0.0027	0.0027	0.0027	0.0027	0.0027	0.0027	0.0027	0.0027	0.0027	0.0027	0.0027	0.0027	0.0027	0.0027
Existing	803	Metal Halide, 50W	0.0027	0.0027	0.0027	0.0027	0.0027	0.0027	0.0027	0.0027	0.0027	0.0027	0.0027	0.0027	0.0027	0.0027	0.0027	0.0027
Existing	804	Occupancy Sensor, 4L4' Fluorescent Fixtur	0.0037	0.0037	0.0037	0.0037	0.0037	0.0037	0.0037	0.0037	0.0037	0.0037	0.0037	0.0037	0.0037	0.0037	0.0037	0.0037
Existing	900	Base Other	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Existing	901	Replace V-belts	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Existing	902	Membranes for wastewater	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

F. Appendix F: Non-Additive Measure Level Results

Residential Electric Existing Construction

DSM ASSYST SUMMARY

Measure Number	Measure	Building Type	Energy Savings Fraction	Peak Reduction Fraction	Total Costs/ Household	Base UEC	UEC	Peak Watts/ Household	Service Life (yrs)	Technical Potential GWH	System Peak Tech. Potential MW	Levelized Cost of Conserved Energy \$/kWH	Levelized Cost of Avoided Peak Capacity \$/kW	Total Resource Cost Test (TRC)	Participant Test	Customer Payback (Years)	Revenue Test
100	Base Split-System Air Conditioner (13 SEER)	Single Family	0%	0%	\$0	1607	1607	1714	14	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
101	15 SEER (12.72 EER) Split-System Air Conditioner w/ quality install	Single Family	38%	38%	\$693	1613	1003	1070	14	320.3	341.8	\$0.134	\$125.2	1.67	0.68	10.87	2.73
102	17 SEER (12.28 EER) Split-System Air Conditioner w/ quality install	Single Family	43%	43%	\$1,285	1614	918	979	14	365.6	390.1	\$0.217	\$203.4	1.03	0.42	17.66	2.73
103	AC Maintenance (Indoor Coil Cleaning)	Single Family	6%	6%	\$100	1627	1525	1627	4	34.8	37.2	\$0.326	\$305.6	0.68	0.36	9.33	2.73
104	AC Maintenance (Outdoor Coil Cleaning)	Single Family	6%	6%	\$60	1648	1544	1648	4	33.1	35.3	\$0.193	\$181.0	1.15	0.61	5.52	2.73
105	AC Maintenance and/or tune-up	Single Family	4%	4%	\$50	1628	1563	1668	4	23.2	24.7	\$0.257	\$240.7	0.87	0.46	7.34	2.73
106	Ceiling Fans (base split-system)	Single Family	5%	5%	\$299	1673	1589	1696	15	9.3	9.9	\$0.401	\$375.9	0.56	0.22	34.17	2.73
107	Ceiling R-0 to R-38 Insulation (base split-system)	Single Family	23%	23%	\$1,257	1607	1239	1322	30	2.7	2.9	\$0.287	\$269.2	0.67	0.24	32.70	2.73
108	Ceiling R-0 to R-49 Insulation (base split-system)	Single Family	23%	23%	\$1,523	1607	1239	1322	30	2.7	2.9	\$0.348	\$326.3	0.55	0.20	39.64	2.73
109	Ceiling R-11 to R-38 Insulation (base split-system)	Single Family	9%	9%	\$945	1607	1462	1561	30	2.5	2.6	\$0.551	\$516.0	0.35	0.13	62.68	2.73
110	Ceiling R-11 to R-49 Insulation (base split-system)	Single Family	9%	9%	\$1,241	1607	1462	1561	30	2.5	2.6	\$0.723	\$677.7	0.27	0.10	82.33	2.73
111	Ceiling R-19 to R-38 Insulation (base split-system)	Single Family	5%	5%	\$810	1607	1530	1633	30	12.0	12.8	\$0.887	\$831.2	0.22	0.08	100.97	2.73
112	Ceiling R-19 to R-49 Insulation (base split-system)	Single Family	5%	5%	\$975	1607	1530	1633	30	7.2	7.7	\$1.069	\$1,001.3	0.18	0.07	121.64	2.73
113	Comprehensive Shell Air Sealing - Inf. Reduction (base split-system)	Single Family	8%	8%	\$191	1651	1525	1628	10	43.2	46.1	\$0.236	\$220.8	0.95	0.42	14.52	2.73
114	Duct Insulation	Single Family	4%	4%	\$243	1620	1555	1660	18	27.3	29.1	\$0.381	\$356.8	0.59	0.22	35.80	2.73
115	Duct Repair	Single Family	8%	8%	\$324	1738	1603	1711	18	1.9	2.1	\$0.245	\$229.5	0.91	0.34	23.03	2.73
116	Programmable Thermostat (base split-system)	Single Family	2%	2%	\$33	1625	1592	1702	15	5.8	5.6	\$0.115	\$120.0	1.78	0.78	9.79	2.51
117	Proper Refrigerant Charging and Air Flow	Single Family	13%	13%	\$127	1676	1465	1563	10	75.1	80.1	\$0.093	\$87.4	2.39	1.07	5.75	2.73
118	Proper Sizing and Quality Install	Single Family	31%	37%	\$220	1901	1312	1280	18	18.4	23.4	\$0.038	\$29.9	6.81	2.21	3.57	3.17
119	Sealed Attic w/Sprayed Foam Insulated Roof Deck (base split-system)	Single Family	9%	9%	\$1,949	1611	1466	1564	30	11.5	12.3	\$1.130	\$1,058.7	0.17	0.06	128.62	2.73
120	Self Install Weatherization (base split-system)	Single Family	2%	2%	\$7	1619	1586	1693	10	10.7	11.4	\$0.031	\$29.3	7.14	3.20	1.93	2.73
121	Wall Blow-in R-0 to R-13 Insulation (base split-system)	Single Family	8%	8%	\$852	1607	1484	1549	30	50.0	53.4	\$0.586	\$549.4	0.33	0.12	66.74	2.73
122	Single Pane Windows to Double Pane with Gas (base split-system)	Single Family	2%	2%	\$390	1619	1588	1695	25	9.9	10.5	\$1.111	\$1,041.1	0.18	0.07	119.28	2.73
123	Double Pane with Glazing to Energy Star (base split-system)	Single Family	6%	6%	\$1,861	1612	1515	1617	25	48.6	51.9	\$1.715	\$1,606.9	0.12	0.04	184.10	2.73
130	Base Early Replacement Split-System Air Conditioner (13 SEER)	Single Family	0%	0%	\$0	2373	2373	2533	7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
131	15 SEER (12.72 EER) Split-System Air Conditioner--early replacement	Single Family	20%	20%	\$514	2378	1897	2025	7	44.6	47.6	\$0.219	\$205.4	1.02	0.49	10.22	2.73
140	Base Room Air Conditioner - EER 9.7	Single Family	0%	0%	\$0	820	820	875	12	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
141	HE Room Air Conditioner - Energy star EER 10.8	Single Family	10%	10%	\$68	829	745	795	12	7.5	8.0	\$0.106	\$98.9	2.11	0.91	7.64	2.73
142	HE Room Air Conditioner - CEE Tier 1 EER 11.3	Single Family	14%	14%	\$72	821	705	752	12	11.4	12.2	\$0.081	\$76.2	2.74	1.18	5.88	2.73
143	Ceiling Fans (base RAC)	Single Family	5%	5%	\$298	854	811	865	15	0.9	1.0	\$0.783	\$733.6	0.28	0.11	66.69	2.73
144	Single Pane Windows to Double Pane with Gas (base RAC)	Single Family	2%	2%	\$213	830	814	869	25	0.6	0.6	\$1.182	\$1,107.8	0.17	0.06	126.92	2.73
145	Double Pane with Glazing to Energy Star (base RAC)	Single Family	6%	6%	\$1,372	822	772	824	25	4.7	5.1	\$2.479	\$2,322.7	0.08	0.03	266.11	2.73
146	Ceiling R-0 to R-38 Insulation (base RAC)	Single Family	23%	23%	\$1,036	820	633	675	30	0.2	0.3	\$0.464	\$434.7	0.41	0.15	52.80	2.73
147	Ceiling R-0 to R-49 Insulation (base RAC)	Single Family	23%	23%	\$1,256	820	633	675	30	0.2	0.3	\$0.562	\$526.9	0.34	0.13	64.01	2.73
148	Ceiling R-11 to R-38 Insulation (base RAC)	Single Family	9%	9%	\$779	820	747	797	30	0.3	0.3	\$0.889	\$833.1	0.22	0.08	101.20	2.73
149	Ceiling R-11 to R-49 Insulation (base RAC)	Single Family	9%	9%	\$1,023	820	747	797	30	0.3	0.3	\$1.168	\$1,094.3	0.16	0.06	132.94	2.73
150	Ceiling R-19 to R-38 Insulation (base RAC)	Single Family	5%	5%	\$667	820	781	833	30	1.2	1.3	\$1.432	\$1,342.0	0.13	0.05	163.03	2.73
151	Ceiling R-19 to R-49 Insulation (base RAC)	Single Family	5%	5%	\$804	820	781	833	30	0.7	0.8	\$1.725	\$1,616.7	0.11	0.04	196.40	2.73
152	Wall 2x4 R-0 to Blow-In R-13 Insulation (base RAC)	Single Family	8%	8%	\$719	881	814	869	30	0.5	0.5	\$0.901	\$844.6	0.21	0.08	102.61	2.73
153	Self Install Weatherization (base RAC)	Single Family	2%	2%	\$7	826	810	864	10	1.0	1.1	\$0.061	\$57.3	3.65	1.63	3.77	2.73
154	Infiltration Reduction (base RAC)	Single Family	8%	8%	\$140	852	787	840	10	3.3	3.5	\$0.336	\$314.9	0.66	0.30	20.72	2.73
155	Ductless Split Heat Pump	Single Family	32%	32%	\$239	823	562	600	18	2.2	2.4	\$0.093	\$87.4	2.39	0.90	8.77	2.73
160	Base Early Replacement Room Air Conditioner- EER 9.7	Single Family	0%	0%	\$0	878	878	936	12	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
161	EER 8.5 AC Early Replacement, CEE Tier 1 EER 11.3	Single Family	18%	18%	\$91	878	718	766	12	2.8	3.0	\$0.076	\$70.8	2.95	1.26	5.47	2.73
170	Base Dehumidifier - New Federal Standard	Single Family	0%	0%	\$0	903	903	99	12	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
171	Energy Star Dehumidifier (ROB)	Single Family	20%	20%	\$10	918	735	81	12	10.0	1.1	\$0.007	\$65.6	9.92	12.46	0.56	0.93
180	Base Furnace Fans	Single Family	0%	0%	\$0	1173	1173	318	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
181	Variable speed furnace fans	Single Family	58%	56%	\$600	1198	506	142	18	232.8	61.4	\$0.088	\$334.7	1.11	0.91	8.73	1.26
200	Base Resistance Space Heating (Primary)	Single Family	0%	0%	\$0	6004	6004	0	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
201	Ceiling R-0 to R-38 Insulation (base space heating)	Single Family	29%	29%	\$785	6004	4260	0	30	1.4	0.0	\$0.038	N/A	1.17	1.70	4.72	0.69
202	Ceiling R-0 to R-49 Insulation (base space heating)	Single Family	30%	30%	\$903	6004	4206	0	30	1.5	0.0	\$0.042	N/A	1.05	1.52	5.27	0.69
203	Ceiling R-11 to R-38 Insulation (base space heating)	Single Family	11%	11%	\$618	6004	5355	0	30	1.6	0.0	\$0.080	N/A	0.55	0.80	9.99	0.69
204	Ceiling R-11 to R-49 Insulation (base space heating)	Single Family	12%	12%	\$799	6004	5287	0	30	1.8	0.0	\$0.094	N/A	0.47	0.68	11.69	0.69
205	Ceiling R-19 to R-38 Insulation (base space heating)	Single Family	5%	5%	\$424	6004	5699	0	30	6.0	0.0	\$0.117	N/A	0.38	0.55	14.58	0.69
206	Ceiling R-19 to R-49 Insulation (base space heating)	Single Family	6%	6%	\$631	6004	5627	0	30	4.4	0.0	\$0.141	N/A	0.31	0.46	17.56	0.69
207	Wall Blow-in R-0 to R-13 Insulation (base space heating)	Single Family	15%	15%	\$1,018	6004	5092	0	30	37.1	0.0	\$0.094	N/A	0.47	0.68	11.71	0.69
208	Basement insulation R-11 (base space heating)	Single Family	21%	21%	\$371	6004	4723	0	30	10.7	0.0	\$0.024	N/A	1.81	2.64	3.04	0.69
209	Floor R-0 to R-19 Insulation-Batts (base space heating)	Single Family	1%	1%	\$1,492	6004	5944	0	30	1.5	0.0	\$2.074	N/A	0.02	0.03	259.11	0.69
210	Comprehensive Shell Air Sealing - Inf. Reduction (base space heating)	Single Family	14%	14%	\$70	6276	5371	0	10	39.8	0.0	\$0.012	N/A	4.26	7.58	0.81	0.69
211	Self Install Weatherization (base space heating)	Single Family	2%	2%	\$3	6050	5929	0	10	4.7	0.0	\$0.004	N/A	11.46	20.41	0.30	0.69
212	Single Pane Windows to Double Pane with Gas (base space heating)	Single Family	32%	32%	\$4,808	7218	4908	0	25	68.9	0.0	\$0.185	N/A	0.25	0.37	21.85	0.69
213	Double Pane with Glazing to Energy Star (base space heating)	Single Family	6%	6%	\$840	6052	5689	0	25	19.8	0.0	\$0.206	N/A	0.23	0.33	24.27	0.69
214	Single Pane- Add storm windows (base space heating)	Single Family	5%	5%	\$5,022	6141	5813	0	25	12.0	0.0	\$1.363	N/A	0.03	0.05	160.63	0.69
215	Double Pane- Add storm windows (base space heating)	Single Family	13%	13%	\$4,321	6148	5328	0	25	42.5	0.0	\$0.469	N/A	0.10	0.14	55.28	0.69
216	Programmable Thermostat (base space heating)	Single Family	7%	7%	\$51	6246	5809	0	10	12.2	0.0	\$0.018	N/A	2.75	5.06	1.22	0.67
300	Base High-Efficiency Incandescent Lighting,<1.15 hrs/day	Single Family	0%	0%	\$9	99	99	9	5	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
301	CFL 15W (base HE incandescent<1.15 hrs/day)	Single Family	75%	75%	\$2	99	25	2	37	43.3	3.9	\$0.003	\$28.3	22.76	24.44	0.33	0.93
302	CFL 15W - Specialty (base HE incandescent<1.15 hrs/day)	Single Family	75%	75%	\$75	99	25	2	37	4.8	0.4	\$0.082	\$904.7	0.71	0.76	10.48	0.93
303	LEDs (base HE incandescent<1.15 hrs/day)	Single Family	90%	90%	\$217	99	10	1	160	64.2	5.8	\$0.181	\$1,990.8	0.30	0.32	24.82	0.93

Residential Electric Existing Construction

DSM ASSYST SUMMARY

Measure Number	Measure	Building Type	Energy Savings Fraction	Peak Reduction Fraction	Total Costs/ Household	Base UEC	UEC	Peak Watts/ Household	Service Life (yrs)	Technical Potential GWH	System Peak Tech. Potential MW	Levelized Cost of Conserved Energy \$/kWh	Levelized Cost of Avoided Peak Capacity \$/kW	Total Resource Cost Test (TRC)	Participant Test	Customer Payback (Years)	Revenue Test
310	Base High-Efficiency Incandescent Lighting,1.15-2.15 hrs/day	Single Family	0%	0%	\$15	427	427	39	2	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
311	CFL 15W (base HE incandescent 1.15-2.15 hrs/day)	Single Family	75%	75%	\$8	427	107	10	13	186.9	17.0	\$0.003	\$31.5	24.97	30.66	0.23	0.93
312	CFL 15W - Specialty (base HE incandescent 1.15-2.15 hrs/day)	Single Family	75%	75%	\$118	427	107	10	13	20.8	1.9	\$0.045	\$493.6	1.59	1.95	3.68	0.93
313	LEDs (base HE incandescent 1.15-2.15 hrs/day)	Single Family	90%	90%	\$340	427	43	4	58	276.9	25.1	\$0.067	\$733.2	0.83	0.89	9.00	0.93
320	Base High-Efficiency Incandescent Lighting,2.15-5 hrs/day	Single Family	0%	0%	\$3	185	185	17	1	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
321	CFL 15W (base HE incandescent 2.15-5 hrs/day)	Single Family	75%	75%	\$2	185	46	4	6	81.0	7.4	\$0.002	\$27.3	28.77	42.04	0.11	0.93
322	CFL 15W - Specialty (base HE incandescent 2.15-5 hrs/day)	Single Family	75%	75%	\$24	185	46	4	6	9.0	0.8	\$0.039	\$428.3	1.83	2.68	1.70	0.93
323	LEDs (base HE incandescent 2.15-5 hrs/day)	Single Family	90%	90%	\$69	185	19	2	27	120.0	10.9	\$0.036	\$392.8	1.78	1.91	4.19	0.93
330	Base High-Efficiency Incandescent Lighting,>5 hrs/day	Single Family	0%	0%	\$2	280	280	25	1	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
331	CFL 15W (base HE incandescent >5 hrs/day)	Single Family	75%	75%	\$1	280	70	6	2	122.5	11.1	\$0.002	\$24.8	31.66	52.22	0.04	0.93
332	CFL 15W - Specialty (base HE incandescent >5 hrs/day)	Single Family	75%	75%	\$13	280	70	6	2	13.6	1.2	\$0.035	\$389.2	2.02	3.33	0.57	0.93
333	LEDs (base HE incandescent >5 hrs/day)	Single Family	90%	90%	\$37	280	28	3	10	181.5	16.5	\$0.024	\$260.1	3.02	3.97	1.55	0.93
340	Base Lighting 15 Watt CFL, <1.15 hrs/day	Single Family	0%	0%	\$3	7	7	1	37	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
341	LEDs (base CFL < 1.15 hrs/day)	Single Family	60%	60%	\$40	7	3	0	160	2.9	0.3	\$0.742	\$8,176.1	0.07	0.08	101.95	0.93
342	Photocell/timerclock (outdoor) (base CFL < 1.15 hrs/day)	Single Family	15%	17%	\$36	7	6	1	320	0.7	0.1	\$2.630	\$25,289.7	0.02	0.02	361.40	0.98
350	Base Lighting 15 Watt CFL, 1.15-2.15 hrs/day	Single Family	0%	0%	\$8	54	54	5	13	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
351	LEDs (base CFL 1.15-2.15 hrs/day)	Single Family	60%	60%	\$118	54	22	2	58	23.5	2.1	\$0.273	\$3,011.2	0.20	0.22	36.96	0.93
352	Photocell/timerclock (outdoor) (base CFL 1.15-2.15 hrs/day)	Single Family	15%	17%	\$105	54	46	4	116	5.9	0.6	\$0.954	\$9,169.8	0.06	0.06	131.01	0.98
360	Base Lighting 15 Watt CFL, 2.15-5 hrs/day	Single Family	0%	0%	\$3	47	47	4	6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
361	LEDs (base CFL 2.15-5 hrs/day)	Single Family	60%	60%	\$49	47	19	2	27	20.4	1.9	\$0.146	\$1,613.3	0.43	0.47	17.20	0.93
362	Photocell/timerclock (outdoor) (base CFL 2.15-5 hrs/day)	Single Family	15%	17%	\$43	47	40	4	55	5.1	0.5	\$0.461	\$4,433.2	0.13	0.13	62.12	0.98
370	Base Lighting 15 Watt CFL, >5 hrs/day	Single Family	0%	0%	\$2	71	71	6	2	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
371	LEDs (base CFL >5 hrs/day)	Single Family	60%	60%	\$26	71	29	3	10	30.9	2.8	\$0.097	\$1,068.4	0.74	0.97	6.37	0.93
372	Photocell/timerclock (outdoor) (base CFL >5 hrs/day)	Single Family	15%	17%	\$23	71	61	5	19	7.8	0.8	\$0.209	\$2,011.3	0.36	0.37	21.46	0.98
380	Base Fluorescent Fixture, 2L4T8, 1.8 hrs/day	Single Family	0%	0%	\$0	246	246	22	38	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
381	ROB 2L4' Premium T8	Single Family	17%	17%	\$17	246	204	19	38	30.4	2.8	\$0.031	\$345.9	1.85	1.99	4.03	0.93
400	Base Refrigerator	Single Family	0%	0%	\$0	721	721	98	12	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
401	HE Refrigerator (CEE Tier 2)	Single Family	25%	25%	\$97	723	542	73	12	109.6	14.8	\$0.071	\$524.7	1.05	1.27	5.45	0.97
402	HE Refrigerator (Energy Star)	Single Family	15%	15%	\$220	732	622	84	12	60.5	8.2	\$0.265	\$1,956.5	0.28	0.34	20.31	0.97
410	Base Early Replacement Refrigerator	Single Family	0%	0%	\$0	839	839	113	12	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
411	Refrigerator - Early Replacement (Energy Star)	Single Family	28%	28%	\$251	839	607	82	5	25.0	3.4	\$0.297	\$2,197.8	0.25	0.36	10.98	0.97
420	Base Second Refrigerator	Single Family	0%	0%	\$0	1136	1136	154	5	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
421	Refrigerator Recycling - second refrigerator	Single Family	100%	100%	\$163	1136	1	0	5	129.6	17.5	\$0.039	\$290.3	1.90	2.75	1.45	0.97
430	Base Freezer	Single Family	0%	0%	\$0	583	583	80	12	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
431	Freezer (Energy Star)	Single Family	15%	15%	\$65	586	498	69	12	20.2	2.8	\$0.097	\$707.8	0.77	0.93	7.47	0.97
440	Base Early Replacement Freezer	Single Family	0%	0%	\$0	583	583	80	12	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
441	Freezer - Early Replacement (Energy Star)	Single Family	15%	15%	\$81	583	494	68	12	3.7	0.5	\$0.121	\$880.8	0.62	0.74	9.30	0.97
500	Base 40 gal. Water Heating (EF=0.88)	Single Family	0%	0%	\$0	4793	4793	478	15	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
501	Drain Water Heat Recovery (GFX)	Single Family	38%	38%	\$670	4793	2991	298	20	8.9	0.9	\$0.036	\$363.9	1.96	2.10	3.80	0.93
502	Faucet Aerators (1.5 GPM)	Single Family	3%	3%	\$34	4826	4685	467	5	5.3	0.5	\$0.067	\$671.5	1.06	1.60	2.49	0.93
503	HE Water Heater (EF=0.93)	Single Family	5%	5%	\$72	4824	4563	455	10	11.3	1.1	\$0.043	\$432.1	1.65	2.17	2.84	0.93
504	Heat Pump Water Heater - Energy Star	Single Family	65%	65%	\$1,411	4824	1698	169	12	38.2	3.8	\$0.060	\$598.3	1.19	1.50	4.62	0.93
505	Low Flow Showerhead 1.5 Gal/Min	Single Family	6%	6%	\$47	4860	4589	457	5	10.0	1.0	\$0.047	\$473.0	1.51	2.27	1.76	0.93
506	Pipe Wrap	Single Family	3%	3%	\$3	4809	4665	465	15	5.4	0.5	\$0.002	\$23.1	30.89	36.18	0.21	0.93
507	Solar Domestic Water Heating	Single Family	50%	50%	\$3,500	4817	2408	240	15	117.8	11.7	\$0.163	\$1,637.3	0.44	0.51	14.86	0.93
508	Tankless Water Heater	Single Family	29%	29%	\$843	4806	3421	341	20	50.8	5.1	\$0.059	\$595.2	1.20	1.29	6.22	0.93
509	Energy Star CW CEE Tier 2 (MEF=2.0) (base WH)	Single Family	3%	3%	\$166	4794	4644	628	11	6.1	0.8	\$0.158	\$1,170.0	0.52	0.58	11.30	1.06
510	Tier 3 CW (MEF=2.20) (base WH)	Single Family	3%	3%	\$393	4832	4675	632	11	4.9	0.7	\$0.355	\$2,627.4	0.23	0.26	25.37	1.06
511	Energy Star Dishwasher (EF=0.72) (base WH)	Single Family	2%	2%	\$143	4838	4735	685	11	2.5	0.4	\$0.197	\$1,363.0	0.42	0.47	14.14	1.09
550	Base Early Replacement Water Heating to Heat Pump Water Heater	Single Family	0%	0%	\$0	4793	4793	478	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
551	Early Replacement Water Heating to Heat Pump Water Heater	Single Family	64%	64%	\$1,374	4793	1745	174	10	1.7	0.2	\$0.070	\$702.2	1.02	1.34	4.61	0.93
600	Base Clotheswasher (MEF=1.26)	Single Family	0%	0%	\$0	86	86	12	11	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
601	Energy Star CW CEE Tier 2 (MEF=2.0) (base CW)	Single Family	29%	29%	\$132	86	61	8	11	15.1	2.0	\$0.740	\$5,474.6	0.11	0.12	52.87	1.06
602	Tier 3 CW (MEF=2.20) (base CW)	Single Family	32%	32%	\$179	92	63	8	11	13.9	1.9	\$0.873	\$6,461.1	0.09	0.11	62.39	1.06
610	Base Clothes Dryer (EF=3.01)	Single Family	0%	0%	\$0	1028	1028	132	12	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
611	Heat Pump Dryer	Single Family	60%	60%	\$1,681	1035	414	53	12	199.8	25.7	\$0.358	\$2,781.8	0.22	0.25	27.63	1.05
612	High Efficiency CD (EF=3.01 w/moisture sensor)	Single Family	15%	15%	\$238	1111	944	121	12	27.3	3.5	\$0.189	\$1,468.3	0.42	0.47	14.58	1.05
700	Base Dishwasher (EF=0.65)	Single Family	0%	0%	\$293	172	172	25	11	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
701	Energy Star Dishwasher (EF=0.72) (base DW)	Single Family	1%	1%	\$93	174	172	25	13	0.2	0.0	\$5.346	\$36,948.5	0.02	0.02	439.65	1.09
800	Base Single Speed Pool Pump (RET)	Single Family	0%	0%	\$630	872	872	94	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
801	Variable Speed Pool Pump (1.5 hp)	Single Family	90%	90%	\$792	990	99	11	10	2.2	0.2	\$0.138	\$1,273.4	0.56	0.68	9.01	1.01
810	Base Two Speed Pool Pump (1.5 hp) (ROB)	Single Family	0%	0%	\$0	445	445	48	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
811	Variable Speed Pool Pump (1.5 hp)	Single Family	33%	33%	\$752	465	312	34	10	0.4	0.0	\$0.760	\$7,018.4	0.10	0.12	49.63	1.01
900	Base Plasma TV	Single Family	0%	0%	\$0	249	249	31	6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
901	Energy Star Plasma TV	Single Family	30%	30%	\$1	265	186	23	6	4.6	0.6	\$0.003	\$25.9	23.82	32.12	0.14	1.01
910	Base LCD TV	Single Family	0%	0%	\$0	168	168	21	6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
911	Energy Star LCD TV	Single Family	30%	30%	\$2	199	140	18	6	13.7	1.7	\$0.006	\$49.0	12.58	16.96	0.27	1.01
920	Base CRT TV	Single Family	0%	0%	\$0	197	197	25	6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
921	Energy Star LCD TV	Single Family	40%	40%	\$2	197	118	15	6	45.1	5.7	\$0.006	\$50.8	12.13	16.36	0.28	1.01

Residential Electric Existing Construction

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Measure Number	Measure	Building Type	Energy Savings Fraction	Peak Reduction Fraction	Total Costs/ Household	Base UEC	UEC	Peak Watts/ Household	Service Life (yrs)	Technical Potential GWH	System Peak Tech. Potential MW	Levelized Cost of Conserved Energy \$/kWh	Levelized Cost of Avoided Peak Capacity \$/kW	Total Resource Cost Test (TRC)	Participant Test	Customer Payback (Years)	Revenue Test
930	Base Set-Top Box	Single Family	0%	0%	\$0	248	248	31	7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
931	Energy Star Set-Top Box	Single Family	40%	40%	\$2	292	177	22	7	37.7	4.7	\$0.003	\$25.1	24.54	32.21	0.16	1.01
940	Base DVD Player	Single Family	0%	0%	\$0	35	35	4	7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
941	Energy Star DVD Player	Single Family	55%	55%	\$2	48	21	3	7	8.3	1.0	\$0.014	\$108.4	5.69	7.46	0.68	1.01
950	Base Desktop PC	Single Family	0%	0%	\$0	774	774	85	4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
951	Energy Star Desktop PC	Single Family	18%	18%	\$1	784	644	71	4	64.3	7.1	\$0.003	\$27.2	23.94	37.04	0.09	0.93
960	Base Laptop PC	Single Family	0%	0%	\$0	204	204	22	4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
961	Energy Star Laptop PC	Single Family	13%	13%	\$2	210	182	20	4	11.0	1.2	\$0.019	\$175.3	3.71	5.74	0.59	0.93
970	Base Cooking	Single Family	0%	0%	\$0	335	335	89	15	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
980	Base Miscellaneous	Single Family	0%	0%	\$0	1913	1913	210	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
981	Plug Load Controls - Smart Power Strip	Single Family	2%	2%	\$25	1914	1875	206	5	27.3	3.0	\$0.179	\$1,635.1	0.40	0.60	6.67	0.93
982	Energy Star Ventilating Fans	Single Family	1%	1%	\$100	1921	1894	208	10	10.0	1.1	\$0.577	\$5,261.0	0.12	0.16	37.95	0.93
990	Base House Practices	Single Family	0%	0%	\$0	10465	10465	2835	1	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
991	Indirect feedback	Single Family	2%	2%	\$7	10465	10256	2778	1	150.8	40.8	\$0.041	\$152.9	2.38	2.97	0.34	1.27
100	Base Split-System Air Conditioner (13 SEER)	Multifamily	0%	0%	\$0	289	289	309	14	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
101	15 SEER (12.72 EER) Split-System Air Conditioner w/ quality install	Multifamily	38%	38%	\$587	291	181	193	14	13.5	14.4	\$0.628	\$588.9	0.35	0.15	51.14	2.73
102	17 SEER (12.28 EER) Split-System Air Conditioner w/ quality install	Multifamily	43%	43%	\$1,089	291	165	176	14	15.4	16.4	\$1.021	\$956.6	0.22	0.09	83.08	2.73
103	AC Maintenance (Indoor Coil Cleaning)	Multifamily	6%	6%	\$100	293	275	293	4	1.5	1.6	\$1.810	\$1,696.4	0.12	0.07	51.76	2.73
104	AC Maintenance (Outdoor Coil Cleaning)	Multifamily	6%	6%	\$60	297	278	297	4	1.4	1.5	\$1.072	\$1,004.9	0.21	0.11	30.66	2.73
105	AC Maintenance and/or tune-up	Multifamily	4%	4%	\$50	294	282	301	4	0.9	1.0	\$1.424	\$1,334.1	0.16	0.08	40.71	2.73
106	Ceiling Fans (base split-system)	Multifamily	5%	5%	\$229	299	284	303	15	0.7	0.8	\$1.724	\$1,615.6	0.13	0.05	146.87	2.73
109	Ceiling R-11 to R-38 Insulation (base split-system)	Multifamily	9%	9%	\$913	289	263	281	30	0.4	0.4	\$2.952	\$2,766.6	0.07	0.02	336.09	2.73
110	Ceiling R-11 to R-49 Insulation (base split-system)	Multifamily	9%	9%	\$1,199	289	263	281	30	0.4	0.4	\$3.878	\$3,634.0	0.05	0.02	441.47	2.73
111	Ceiling R-19 to R-38 Insulation (base split-system)	Multifamily	5%	5%	\$782	289	276	294	30	0.3	0.4	\$4.756	\$4,456.8	0.04	0.01	541.42	2.73
112	Ceiling R-19 to R-49 Insulation (base split-system)	Multifamily	5%	5%	\$942	289	276	294	30	0.2	0.2	\$5.729	\$5,369.0	0.03	0.01	652.23	2.73
113	Comprehensive Shell Air Sealing - Inf. Reduction (base split-system)	Multifamily	8%	8%	\$119	297	275	293	10	1.8	1.9	\$0.818	\$766.6	0.27	0.12	50.43	2.73
114	Duct Insulation	Multifamily	4%	4%	\$267	293	282	300	18	1.0	1.0	\$2.318	\$2,172.3	0.10	0.04	217.99	2.73
115	Duct Repair	Multifamily	8%	8%	\$324	313	289	308	18	0.1	0.1	\$1.360	\$1,274.0	0.16	0.06	127.85	2.73
116	Programmable Thermostat (base split-system)	Multifamily	2%	2%	\$33	292	286	306	15	0.4	0.4	\$0.640	\$668.3	0.32	0.14	54.52	2.51
117	Proper Refrigerant Charging and Air Flow	Multifamily	11%	11%	\$85	300	266	285	10	2.7	2.9	\$0.401	\$376.2	0.56	0.25	24.75	2.73
118	Proper Sizing and Quality Install	Multifamily	31%	37%	\$220	342	236	231	18	1.1	1.4	\$0.211	\$166.0	1.23	0.40	19.82	3.17
119	Sealed Attic w/Sprayed Foam Insulated Roof Deck (base split-system)	Multifamily	9%	9%	\$1,220	290	264	282	30	0.4	0.5	\$3.923	\$3,676.7	0.05	0.02	446.65	2.73
120	Self Install Weatherization (base split-system)	Multifamily	2%	2%	\$7	292	286	305	10	0.4	0.5	\$0.173	\$162.4	1.29	0.58	10.69	2.73
121	Wall Blow-in R-0 to R-13 Insulation (base split-system)	Multifamily	8%	8%	\$395	289	267	285	30	1.1	1.2	\$1.509	\$1,414.4	0.13	0.05	171.82	2.73
122	Single Pane Windows to Double Pane with Gas (base split-system)	Multifamily	2%	2%	\$228	291	285	304	25	0.5	0.5	\$3.614	\$3,386.4	0.06	0.02	387.97	2.73
123	Double Pane with Glazing to Energy Star (base split-system)	Multifamily	6%	6%	\$1,129	291	273	292	25	2.0	2.1	\$5.763	\$5,400.4	0.04	0.01	618.72	2.73
130	Base Early Replacement Split-System Air Conditioner (13 SEER)	Multifamily	0%	0%	\$0	428	428	456	7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
131	15 SEER (12.72 EER) Split-System Air Conditioner--early replacement	Multifamily	20%	20%	\$436	428	342	365	7	1.9	2.0	\$1.031	\$966.0	0.22	0.10	48.09	2.73
140	Base Room Air Conditioner - EER 9.7	Multifamily	0%	0%	\$0	334	334	356	12	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
141	HE Room Air Conditioner - Energy Star EER 10.8	Multifamily	10%	10%	\$64	334	300	320	12	2.7	2.9	\$0.247	\$231.0	0.90	0.39	17.85	2.73
142	HE Room Air Conditioner - CEE Tier 1 EER 11.3	Multifamily	14%	14%	\$67	334	287	306	12	3.7	4.0	\$0.188	\$175.9	1.19	0.51	13.59	2.73
143	Ceiling Fans (base RAC)	Multifamily	5%	5%	\$205	343	326	348	15	0.6	0.7	\$1.343	\$1,258.6	0.17	0.07	114.42	2.73
144	Single Pane Windows to Double Pane with Gas (base RAC)	Multifamily	2%	2%	\$232	335	328	350	25	0.5	0.5	\$3.192	\$2,991.5	0.06	0.02	342.74	2.73
145	Double Pane with Glazing to Energy Star (base RAC)	Multifamily	6%	6%	\$498	336	316	337	25	1.4	1.5	\$2.198	\$2,059.3	0.09	0.03	235.93	2.73
148	Ceiling R-11 to R-38 Insulation (base RAC)	Multifamily	9%	9%	\$564	334	304	324	30	0.2	0.3	\$1.581	\$1,481.1	0.12	0.04	179.92	2.73
149	Ceiling R-11 to R-49 Insulation (base RAC)	Multifamily	9%	9%	\$741	334	304	324	30	0.2	0.3	\$2.076	\$1,945.5	0.09	0.03	236.34	2.73
150	Ceiling R-19 to R-38 Insulation (base RAC)	Multifamily	5%	5%	\$483	334	318	339	30	0.2	0.2	\$2.546	\$2,385.9	0.08	0.03	289.85	2.73
151	Ceiling R-19 to R-49 Insulation (base RAC)	Multifamily	5%	5%	\$582	334	318	339	30	0.1	0.1	\$3.067	\$2,874.3	0.06	0.02	349.17	2.73
152	Wall 2x4 R-0 to Blow-In R-13 Insulation (base RAC)	Multifamily	8%	8%	\$310	358	331	353	30	0.1	0.1	\$0.956	\$895.4	0.20	0.07	108.78	2.73
153	Self Install Weatherization (base RAC)	Multifamily	2%	2%	\$7	337	330	352	10	0.3	0.4	\$0.150	\$140.8	1.48	0.67	9.26	2.73
154	Infiltration Reduction (base RAC)	Multifamily	8%	8%	\$82	347	320	342	10	1.1	1.2	\$0.482	\$452.1	0.46	0.21	29.74	2.73
155	Ductless Split Heat Pump	Multifamily	32%	32%	\$160	335	229	244	18	0.7	0.8	\$0.153	\$143.8	1.45	0.55	14.43	2.73
160	Base Early Replacement Room Air Conditioner- EER 9.7	Multifamily	0%	0%	\$0	357	357	381	12	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
161	EER 8.5 AC Early Replacement, CEE Tier 1 EER 11.3	Multifamily	18%	18%	\$86	357	292	312	12	0.9	1.0	\$0.175	\$163.6	1.28	0.55	12.64	2.73
170	Base Dehumidifier - New Federal Standard	Multifamily	0%	0%	\$0	298	298	33	12	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
171	Energy Star Dehumidifier (ROB)	Multifamily	20%	20%	\$10	302	242	26	12	1.0	0.1	\$0.022	\$199.5	3.26	4.10	1.69	0.93
180	Base Furnace Fans	Multifamily	0%	0%	\$0	352	352	95	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
181	Variable speed furnace fans	Multifamily	58%	56%	\$600	352	149	42	18	9.2	2.4	\$0.300	\$1,137.6	0.33	0.27	29.66	1.26
200	Base Resistance Space Heating (Primary)	Multifamily	0%	0%	\$0	1804	1804	0	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
203	Ceiling R-11 to R-38 Insulation (base space heating)	Multifamily	11%	11%	\$640	1804	1609	0	30	0.5	0.0	\$0.276	N/A	0.16	0.23	34.43	0.69
204	Ceiling R-11 to R-49 Insulation (base space heating)	Multifamily	12%	12%	\$827	1804	1589	0	30	0.5	0.0	\$0.323	N/A	0.14	0.20	40.29	0.69
205	Ceiling R-19 to R-38 Insulation (base space heating)	Multifamily	5%	5%	\$439	1804	1712	0	30	0.3	0.0	\$0.402	N/A	0.11	0.16	50.23	0.69
206	Ceiling R-19 to R-49 Insulation (base space heating)	Multifamily	6%	6%	\$653	1804	1691	0	30	0.2	0.0	\$0.484	N/A	0.09	0.13	60.51	0.69
207	Wall Blow-in R-0 to R-13 Insulation (base space heating)	Multifamily	15%	15%	\$194	1804	1530	0	30	2.8	0.0	\$0.060	N/A	0.74	1.08	7.43	0.69
208	Basement insulation R-11 (base space heating)	Multifamily	21%	21%	\$67	1804	1419	0	30	0.5	0.0	\$0.015	N/A	3.02	4.39	1.82	0.69
209	Floor R-0 to R-19 Insulation-Batts (base space heating)	Multifamily	1%	1%	\$629	1804	1786	0	30	0.1	0.0	\$2.911	N/A	0.02	0.02	363.67	0.69
210	Comprehensive Shell Air Sealing - Inf. Reduction (base space heating)	Multifamily	14%	14%	\$28	1886	1614	0	10	4.4	0.0	\$0.016	N/A	3.23	5.75	1.07	0.69
211	Self Install Weatherization (base space heating)	Multifamily	2%	2%	\$3	1818	1782	0	10	0.5	0.0	\$0.015	N/A	3.44	6.13	1.01	0.69
212	Single Pane Windows to Double Pane with Gas (base space heating)	Multifamily	32%	32%	\$785	1804	1227	0	25	13.3	0.0	\$0.121	N/A	0.39	0.56	14.27	0.69

Residential Electric Existing Construction

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Measure Number	Measure	Building Type	Energy Savings Fraction	Peak Reduction Fraction	Total Costs/ Household	Base UEC	UEC	Peak Watts/ Household	Service Life (yrs)	Technical Potential GWH	System Peak Tech. Potential MW	Levelized Cost of Conserved Energy \$/kWh	Levelized Cost of Avoided Peak Capacity \$/kW	Total Resource Cost Test (TRC)	Participant Test	Customer Payback (Years)	Revenue Test
213	Double Pane with Glazing to Energy Star (base space heating)	Multifamily	6%	6%	\$262	1804	1696	0	25	2.5	0.0	\$0.216	N/A	0.22	0.31	25.43	0.69
214	Single Pane- Add storm windows (base space heating)	Multifamily	5%	5%	\$820	1843	1745	0	25	1.4	0.0	\$0.741	N/A	0.06	0.09	87.36	0.69
215	Double Pane- Add storm windows (base space heating)	Multifamily	13%	13%	\$1,349	1804	1563	0	25	5.5	0.0	\$0.499	N/A	0.09	0.14	58.82	0.69
216	Programmable Thermostat (base space heating)	Multifamily	7%	7%	\$51	1854	1725	0	10	1.8	0.0	\$0.061	N/A	0.82	1.50	4.10	0.67
300	Base High-Efficiency Incandescent Lighting.<1.15 hrs/day	Multifamily	0%	0%	\$5	49	49	4	5	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
301	CFL 15W (base HE incandescent<1.15 hrs/day)	Multifamily	75%	75%	\$1	49	12	1	37	7.9	0.7	\$0.003	\$32.4	19.88	21.34	0.38	0.93
302	CFL 15W - Specialty (base HE incandescent<1.15 hrs/day)	Multifamily	75%	75%	\$43	49	12	1	37	0.9	0.1	\$0.094	\$1,035.9	0.62	0.67	12.00	0.93
303	LEDs (base HE incandescent<1.15 hrs/day)	Multifamily	90%	90%	\$122	49	5	0	160	11.6	1.1	\$0.207	\$2,279.6	0.26	0.28	28.43	0.93
310	Base High-Efficiency Incandescent Lighting,1.15-2.15 hrs/day	Multifamily	0%	0%	\$8	211	211	19	2	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
311	CFL 15W (base HE incandescent 1.15-2.15 hrs/day)	Multifamily	75%	75%	\$4	211	53	5	13	33.9	3.1	\$0.003	\$36.0	21.80	26.78	0.27	0.93
312	CFL 15W - Specialty (base HE incandescent 1.15-2.15 hrs/day)	Multifamily	75%	75%	\$67	211	53	5	13	3.8	0.3	\$0.051	\$565.2	1.39	1.71	4.22	0.93
313	LEDs (base HE incandescent 1.15-2.15 hrs/day)	Multifamily	90%	90%	\$192	211	21	2	58	50.2	4.6	\$0.076	\$839.6	0.72	0.78	10.30	0.93
320	Base High-Efficiency Incandescent Lighting,2.15-5 hrs/day	Multifamily	0%	0%	\$2	91	91	8	1	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
321	CFL 15W (base HE incandescent 2.15-5 hrs/day)	Multifamily	75%	75%	\$1	91	23	2	6	14.7	1.3	\$0.003	\$31.3	25.13	36.71	0.12	0.93
322	CFL 15W - Specialty (base HE incandescent 2.15-5 hrs/day)	Multifamily	75%	75%	\$14	91	23	2	6	1.6	0.1	\$0.045	\$490.5	1.60	2.34	1.95	0.93
323	LEDs (base HE incandescent 2.15-5 hrs/day)	Multifamily	90%	90%	\$39	91	9	1	27	21.7	2.0	\$0.041	\$449.8	1.55	1.67	4.80	0.93
330	Base High-Efficiency Incandescent Lighting,>5 hrs/day	Multifamily	0%	0%	\$1	138	138	13	1	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
331	CFL 15W (base HE incandescent >5 hrs/day)	Multifamily	75%	75%	\$0	138	35	3	2	22.2	2.0	\$0.003	\$28.4	27.65	45.60	0.04	0.93
332	CFL 15W - Specialty (base HE incandescent >5 hrs/day)	Multifamily	75%	75%	\$7	138	35	3	2	2.5	0.2	\$0.040	\$445.7	1.76	2.91	0.65	0.93
333	LEDs (base HE incandescent >5 hrs/day)	Multifamily	90%	90%	\$21	138	14	1	10	32.9	3.0	\$0.027	\$297.9	2.64	3.47	1.78	0.93
340	Base Lighting 15 Watt CFL, <1.15 hrs/day	Multifamily	0%	0%	\$1	3	3	0	37	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
341	LEDs (base CFL < 1.15 hrs/day)	Multifamily	60%	60%	\$20	3	1	0	160	0.5	0.0	\$0.850	\$9,362.1	0.06	0.07	116.74	0.93
342	Photocell/timerclock (outdoor) (base CFL < 1.15 hrs/day)	Multifamily	15%	17%	\$18	3	2	0	320	0.1	0.0	\$3.011	\$28,958.1	0.02	0.02	413.82	0.98
350	Base Lighting 15 Watt CFL, 1.15-2.15 hrs/day	Multifamily	0%	0%	\$4	24	24	2	13	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
351	LEDs (base CFL 1.15-2.15 hrs/day)	Multifamily	60%	60%	\$59	24	9	1	58	3.7	0.3	\$0.313	\$3,448.0	0.18	0.19	42.32	0.93
352	Photocell/timerclock (outdoor) (base CFL 1.15-2.15 hrs/day)	Multifamily	15%	17%	\$52	24	20	2	116	0.9	0.1	\$1.092	\$10,499.9	0.05	0.05	150.01	0.98
360	Base Lighting 15 Watt CFL, 2.15-5 hrs/day	Multifamily	0%	0%	\$2	20	20	2	6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
361	LEDs (base CFL 2.15-5 hrs/day)	Multifamily	60%	60%	\$24	20	8	1	27	3.2	0.3	\$0.168	\$1,847.3	0.38	0.41	19.70	0.93
362	Photocell/timerclock (outdoor) (base CFL 2.15-5 hrs/day)	Multifamily	15%	17%	\$21	20	17	2	55	0.8	0.1	\$0.528	\$5,076.2	0.11	0.11	71.13	0.98
370	Base Lighting 15 Watt CFL, >5 hrs/day	Multifamily	0%	0%	\$1	31	31	3	2	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
371	LEDs (base CFL >5 hrs/day)	Multifamily	60%	60%	\$13	31	12	1	10	4.9	0.4	\$0.111	\$1,223.4	0.64	0.84	7.30	0.93
372	Photocell/timerclock (outdoor) (base CFL >5 hrs/day)	Multifamily	15%	17%	\$11	31	26	2	19	1.2	0.1	\$0.239	\$2,303.0	0.31	0.32	24.57	0.98
380	Base Fluorescent Fixture, 2L4T8, 1.8 hrs/day	Multifamily	0%	0%	\$0	66	66	6	38	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
381	ROB 2L4' Premium T8	Multifamily	17%	17%	\$5	66	55	5	38	3.0	0.3	\$0.038	\$417.2	1.53	1.65	4.86	0.93
400	Base Refrigerator	Multifamily	0%	0%	\$0	525	525	71	12	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
401	HE Refrigerator (CEE Tier 2)	Multifamily	25%	25%	\$105	526	394	53	12	29.3	4.0	\$0.106	\$780.1	0.71	0.85	8.10	0.97
402	HE Refrigerator (Energy Star)	Multifamily	15%	15%	\$238	535	455	62	12	15.7	2.1	\$0.392	\$2,895.7	0.19	0.23	30.06	0.97
410	Base Early Replacement Refrigerator	Multifamily	0%	0%	\$0	610	610	83	12	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
411	Refrigerator - Early Replacement (Energy Star)	Multifamily	28%	28%	\$272	610	441	60	5	6.7	0.9	\$0.442	\$3,267.7	0.17	0.24	16.33	0.97
420	Base Second Refrigerator	Multifamily	0%	0%	\$0	894	894	121	5	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
421	Refrigerator Recycling - second refrigerator	Multifamily	100%	100%	\$125	894	1	0	5	69.9	9.5	\$0.038	\$284.0	1.94	2.81	1.42	0.97
430	Base Freezer	Multifamily	0%	0%	\$0	583	583	80	12	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
431	Freezer (Energy Star)	Multifamily	15%	15%	\$64	588	500	69	12	8.4	1.2	\$0.095	\$691.6	0.78	0.95	7.30	0.97
440	Base Early Replacement Freezer	Multifamily	0%	0%	\$0	583	583	80	12	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
441	Freezer - Early Replacement (Energy Star)	Multifamily	15%	15%	\$80	583	494	68	12	1.6	0.2	\$0.119	\$864.4	0.63	0.76	9.13	0.97
500	Base 40 gal. Water Heating (EF=0.88)	Multifamily	0%	0%	\$0	3658	3658	365	15	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
501	Drain Water Heat Recovery (GFX)	Multifamily	38%	38%	\$670	3658	2283	228	20	2.7	0.3	\$0.048	\$476.7	1.50	1.61	4.98	0.93
502	Faucet Aerators (1.5 GPM)	Multifamily	3%	3%	\$21	3676	3568	356	5	1.7	0.2	\$0.054	\$545.4	1.31	1.97	2.03	0.93
503	HE Water Heater (EF=0.93)	Multifamily	5%	5%	\$72	3658	3461	345	10	3.8	0.4	\$0.057	\$569.7	1.25	1.65	3.74	0.93
504	Heat Pump Water Heater - Energy Star	Multifamily	65%	65%	\$1,411	3682	1296	129	12	11.4	1.1	\$0.078	\$783.7	0.91	1.14	6.05	0.93
505	Low Flow Showerhead 1.5 Gal/Min	Multifamily	6%	6%	\$32	3677	3472	346	5	3.6	0.4	\$0.043	\$431.2	1.66	2.49	1.60	0.93
506	Pipe Wrap	Multifamily	3%	3%	\$3	3670	3560	355	15	1.6	0.2	\$0.003	\$30.3	23.57	27.61	0.27	0.93
507	Solar Domestic Water Heating	Multifamily	50%	50%	\$3,500	3677	1838	183	15	35.2	3.5	\$0.214	\$2,144.8	0.33	0.39	19.47	0.93
508	Tankless Water Heater	Multifamily	29%	29%	\$843	3669	2611	260	20	15.2	1.5	\$0.078	\$779.7	0.92	0.98	8.15	0.93
509	Energy Star CW CEE Tier 2 (MEF=2.0) (base WH)	Multifamily	4%	4%	\$166	3660	3510	474	11	2.5	0.3	\$0.158	\$1,169.1	0.52	0.58	11.29	1.06
510	Tier 3 CW (MEF=2.20) (base WH)	Multifamily	4%	4%	\$393	3658	3502	473	11	2.6	0.4	\$0.357	\$2,643.3	0.23	0.26	25.52	1.06
511	Energy Star Dishwasher (EF=0.72) (base WH)	Multifamily	2%	2%	\$143	3658	3580	518	11	1.2	0.2	\$0.261	\$1,802.4	0.32	0.35	18.70	1.09
550	Base Early Replacement Water Heating to Heat Pump Water Heater	Multifamily	0%	0%	\$0	3658	3658	365	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
551	Early Replacement Water Heating to Heat Pump Water Heater	Multifamily	64%	64%	\$1,374	3658	1332	133	10	0.5	0.0	\$0.092	\$919.8	0.78	1.02	6.04	0.93
600	Base Clotheswasher (MEF=1.26)	Multifamily	0%	0%	\$0	86	86	12	11	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
601	Energy Star CW CEE Tier 2 (MEF=2.0) (base CW)	Multifamily	29%	29%	\$129	86	61	8	11	5.7	0.8	\$0.725	\$5,367.3	0.11	0.13	51.83	1.06
602	Tier 3 CW (MEF=2.20) (base CW)	Multifamily	32%	32%	\$175	94	64	9	11	4.9	0.7	\$0.834	\$6,175.7	0.10	0.11	59.63	1.06
610	Base Clothes Dryer (EF=3.01)	Multifamily	0%	0%	\$0	618	618	79	12	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
611	Heat Pump Dryer	Multifamily	60%	60%	\$1,681	622	249	32	12	42.5	5.5	\$0.595	\$4,627.6	0.13	0.15	45.97	1.05
612	High Efficiency CD (EF=3.01 w/moisture sensor)	Multifamily	15%	15%	\$238	671	570	73	12	5.5	0.7	\$0.313	\$2,431.3	0.26	0.29	24.15	1.05
700	Base Dishwasher (EF=0.65)	Multifamily	0%	0%	\$293	172	172	25	11	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
701	Energy Star Dishwasher (EF=0.72) (base DW)	Multifamily	1%	1%	\$93	173	171	25	13	0.1	0.0	\$5.353	\$36,999.5	0.02	0.02	440.25	1.09
800	Base Single Speed Pool Pump (RET)	Multifamily	0%	0%	\$630	872	872	94	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
801	Variable Speed Pool Pump (1.5 hp)	Multifamily	90%	90%	\$792	990	99	11	10	0.8	0.1	\$0.138	\$1,273.4	0.56	0.68	9.01	1.01

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Measure Number	Measure	Building Type	Energy Savings Fraction	Peak Reduction Fraction	Total Costs/ Household	Base UEC	UEC	Peak Watts/ Household	Service Life (yrs)	Technical Potential GWH	System Peak Tech. Potential MW	Levelized Cost of Conserved Energy \$/kWh	Levelized Cost of Avoided Peak Capacity \$/kW	Total Resource Cost Test (TRC)	Participant Test	Customer Payback (Years)	Revenue Test
810	Base Two Speed Pool Pump (1.5 hp) (ROB)	Multifamily	0%	0%	\$0	445	445	48	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
811	Variable Speed Pool Pump (1.5 hp)	Multifamily	33%	33%	\$752	465	312	34	10	0.1	0.0	\$0.760	\$7,018.4	0.10	0.12	49.63	1.01
900	Base Plasma TV	Multifamily	0%	0%	\$0	249	249	31	6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
901	Energy Star Plasma TV	Multifamily	30%	30%	\$1	283	198	25	6	1.7	0.2	\$0.003	\$24.2	25.44	34.30	0.13	1.01
910	Base LCD TV	Multifamily	0%	0%	\$0	151	151	19	6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
911	Energy Star LCD TV	Multifamily	30%	30%	\$1	188	132	17	6	2.8	0.4	\$0.006	\$46.7	13.19	17.79	0.26	1.01
920	Base CRT TV	Multifamily	0%	0%	\$0	131	131	16	6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
921	Energy Star LCD TV	Multifamily	40%	40%	\$1	131	78	10	6	8.5	1.1	\$0.006	\$50.8	12.13	16.36	0.28	1.01
930	Base Set-Top Box	Multifamily	0%	0%	\$0	209	209	26	7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
931	Energy Star Set-Top Box	Multifamily	40%	40%	\$2	261	158	20	7	9.1	1.1	\$0.003	\$23.7	25.99	34.11	0.15	1.01
940	Base DVD Player	Multifamily	0%	0%	\$0	28	28	4	7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
941	Energy Star DVD Player	Multifamily	55%	55%	\$1	39	17	2	7	2.2	0.3	\$0.013	\$106.8	5.77	7.58	0.67	1.01
950	Base Desktop PC	Multifamily	0%	0%	\$0	607	607	67	4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
951	Energy Star Desktop PC	Multifamily	18%	18%	\$1	627	515	56	4	15.1	1.7	\$0.003	\$30.7	21.18	32.77	0.10	0.93
960	Base Laptop PC	Multifamily	0%	0%	\$0	179	179	20	4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
961	Energy Star Laptop PC	Multifamily	13%	13%	\$2	187	162	18	4	3.0	0.3	\$0.022	\$202.6	3.21	4.97	0.68	0.93
970	Base Cooking	Multifamily	0%	0%	\$0	335	335	89	15	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
980	Base Miscellaneous	Multifamily	0%	0%	\$0	36	36	4	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
981	Plug Load Controls - Smart Power Strip	Multifamily	2%	2%	\$25	36	36	4	5	0.2	0.0	\$9.404	\$85,785.8	0.01	0.01	349.79	0.93
982	Energy Star Ventilating Fans	Multifamily	1%	1%	\$100	37	36	4	10	0.0	0.0	\$30.258	\$276,014.8	0.00	0.00	1990.83	0.93
990	Base House Practices	Multifamily	0%	0%	\$0	4454	4454	1207	1	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
991	Indirect feedback	Multifamily	2%	2%	\$7	4454	4365	1182	1	23.6	6.4	\$0.097	\$359.3	1.01	1.26	0.79	1.27
100	Base Split-System Air Conditioner (13 SEER)	Low Income	0%	0%	\$0	1186	1186	1266	14	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
101	15 SEER (12.72 EER) Split-System Air Conditioner w/ quality install	Low Income	38%	38%	\$537	1191	741	790	14	11.5	12.3	\$0.140	\$131.5	1.59	0.65	11.42	2.73
102	17 SEER (12.28 EER) Split-System Air Conditioner w/ quality install	Low Income	43%	43%	\$996	1192	678	723	14	13.2	14.0	\$0.228	\$213.5	0.98	0.40	18.55	2.73
103	AC Maintenance (Indoor Coil Cleaning)	Low Income	6%	6%	\$100	1202	1126	1201	4	1.3	1.3	\$0.442	\$413.9	0.51	0.27	12.63	2.73
104	AC Maintenance (Outdoor Coil Cleaning)	Low Income	6%	6%	\$60	1217	1140	1217	4	1.2	1.3	\$0.262	\$245.1	0.85	0.45	7.48	2.73
105	AC Maintenance and/or tune-up	Low Income	4%	4%	\$50	1202	1154	1231	4	0.8	0.9	\$0.348	\$326.0	0.64	0.34	9.95	2.73
106	Ceiling Fans (base split-system)	Low Income	5%	5%	\$250	1242	1180	1259	15	0.2	0.2	\$0.451	\$422.9	0.49	0.20	38.45	2.73
109	Ceiling R-11 to R-38 Insulation (base split-system)	Low Income	9%	9%	\$746	1186	1080	1152	30	0.3	0.3	\$0.589	\$551.7	0.33	0.12	67.02	2.73
110	Ceiling R-11 to R-49 Insulation (base split-system)	Low Income	9%	9%	\$980	1186	1080	1152	30	0.3	0.3	\$0.773	\$724.6	0.25	0.09	88.03	2.73
113	Comprehensive Shell Air Sealing - Inf. Reduction (base split-system)	Low Income	8%	8%	\$105	1237	1143	1220	10	1.1	1.2	\$0.173	\$162.6	1.29	0.58	10.70	2.73
114	Duct Insulation	Low Income	4%	4%	\$177	1194	1147	1224	18	1.0	1.1	\$0.377	\$353.0	0.59	0.22	35.42	2.73
115	Duct Repair	Low Income	8%	8%	\$324	1283	1184	1263	18	0.1	0.1	\$0.332	\$310.8	0.67	0.25	31.19	2.73
116	Programmable Thermostat (base split-system)	Low Income	2%	2%	\$33	1191	1167	1248	15	0.3	0.3	\$0.157	\$163.6	1.31	0.57	13.35	2.51
117	Proper Refrigerant Charging and Air Flow	Low Income	12%	12%	\$107	1234	1089	1162	10	2.5	2.7	\$0.114	\$106.6	1.96	0.88	7.01	2.73
118	Proper Sizing and Quality Install	Low Income	31%	37%	\$220	1404	969	945	18	1.1	1.3	\$0.051	\$40.5	5.03	1.63	4.84	3.17
119	Sealed Attic w/Sprayed Foam Insulated Roof Deck (base split-system)	Low Income	9%	9%	\$1,076	1189	1082	1155	30	0.4	0.4	\$0.845	\$791.5	0.23	0.08	96.15	2.73
120	Self Install Weatherization (base split-system)	Low Income	2%	2%	\$7	1196	1172	1250	10	0.4	0.4	\$0.042	\$39.6	5.27	2.36	2.61	2.73
121	Wall Blow-in R-0 to R-13 Insulation (base split-system)	Low Income	8%	8%	\$442	1186	1096	1170	30	1.5	1.6	\$0.412	\$385.8	0.47	0.17	46.86	2.73
122	Single Pane Windows to Double Pane with Gas (base split-system)	Low Income	2%	2%	\$102	1196	1173	1251	25	0.4	0.4	\$0.395	\$369.9	0.52	0.19	42.38	2.73
123	Double Pane with Glazing to Energy Star (base split-system)	Low Income	6%	6%	\$989	1189	1118	1193	25	1.8	1.9	\$1.234	\$1,156.8	0.17	0.06	132.53	2.73
130	Base Early Replacement Split-System Air Conditioner (13 SEER)	Low Income	0%	0%	\$0	1753	1753	1870	7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
131	15 SEER (12.72 EER) Split-System Air Conditioner--early replacement	Low Income	20%	20%	\$399	1756	1401	1495	7	1.6	1.7	\$0.230	\$215.6	0.97	0.47	10.73	2.73
140	Base Room Air Conditioner - EER 9.7	Low Income	0%	0%	\$0	781	781	833	12	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
141	HE Room Air Conditioner - Energy star EER 10.8	Low Income	10%	10%	\$62	781	702	749	12	2.4	2.6	\$0.103	\$96.5	2.17	0.93	7.45	2.73
142	HE Room Air Conditioner - CEE Tier 1 EER 11.3	Low Income	14%	14%	\$66	782	671	716	12	3.3	3.5	\$0.078	\$73.5	2.85	1.22	5.68	2.73
143	Ceiling Fans (base RAC)	Low Income	5%	5%	\$228	807	767	819	15	0.4	0.5	\$0.634	\$594.1	0.35	0.14	54.01	2.73
144	Single Pane Windows to Double Pane with Gas (base RAC)	Low Income	2%	2%	\$134	784	769	821	25	0.4	0.4	\$0.786	\$736.7	0.26	0.09	84.40	2.73
145	Double Pane with Glazing to Energy Star (base RAC)	Low Income	6%	6%	\$840	784	737	787	25	1.3	1.4	\$1.590	\$1,489.8	0.13	0.05	170.68	2.73
148	Ceiling R-11 to R-38 Insulation (base RAC)	Low Income	9%	9%	\$704	781	711	759	30	0.1	0.1	\$0.843	\$790.2	0.23	0.08	96.00	2.73
149	Ceiling R-11 to R-49 Insulation (base RAC)	Low Income	9%	9%	\$924	781	711	759	30	0.1	0.1	\$1.108	\$1,038.0	0.17	0.06	126.10	2.73
150	Ceiling R-19 to R-38 Insulation (base RAC)	Low Income	5%	5%	\$603	781	744	794	30	0.1	0.2	\$1.359	\$1,273.0	0.14	0.05	154.65	2.73
151	Ceiling R-19 to R-49 Insulation (base RAC)	Low Income	5%	5%	\$726	781	744	794	30	0.1	0.1	\$1.637	\$1,533.6	0.12	0.04	186.31	2.73
152	Wall 2x4 R-0 to Blow-In R-13 Insulation (base RAC)	Low Income	8%	8%	\$335	838	775	827	30	0.1	0.1	\$0.441	\$413.2	0.44	0.16	50.20	2.73
153	Self Install Weatherization (base RAC)	Low Income	2%	2%	\$7	787	771	823	10	0.3	0.3	\$0.064	\$60.2	3.47	1.56	3.96	2.73
154	Infiltration Reduction (base RAC)	Low Income	8%	8%	\$92	811	749	800	10	1.0	1.0	\$0.231	\$216.5	0.97	0.43	14.24	2.73
155	Ductless Split Heat Pump	Low Income	32%	32%	\$201	784	535	571	18	0.9	1.0	\$0.082	\$77.1	2.71	1.02	7.74	2.73
160	Base Early Replacement Room Air Conditioner- EER 9.7	Low Income	0%	0%	\$0	836	836	892	12	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
161	EER 8.5 AC Early Replacement, CEE Tier 1 EER 11.3	Low Income	18%	18%	\$84	836	684	730	12	0.8	0.9	\$0.073	\$68.3	3.06	1.31	5.28	2.73
170	Base Dehumidifier - New Federal Standard	Low Income	0%	0%	\$0	723	723	79	12	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
171	Energy Star Dehumidifier (ROB)	Low Income	20%	20%	\$10	738	590	65	12	0.9	0.1	\$0.009	\$81.7	7.97	10.00	0.69	0.93
180	Base Furnace Fans	Low Income	0%	0%	\$0	1038	1038	281	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
181	Variable speed furnace fans	Low Income	58%	56%	\$600	1038	439	123	18	15.5	4.1	\$0.102	\$386.3	0.96	0.79	10.07	1.26
200	Base Resistance Space Heating (Primary)	Low Income	0%	0%	\$0	5314	5314	0	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
203	Ceiling R-11 to R-38 Insulation (base space heating)	Low Income	11%	11%	\$621	5314	4739	0	30	0.3	0.0	\$0.091	N/A	0.49	0.71	11.34	0.69
204	Ceiling R-11 to R-49 Insulation (base space heating)	Low Income	12%	12%	\$802	5314	4679	0	30	0.3	0.0	\$0.106	N/A	0.42	0.60	13.27	0.69
205	Ceiling R-19 to R-38 Insulation (base space heating)	Low Income	5%	5%	\$425	5314	5044	0	30	0.3	0.0	\$0.132	N/A	0.33	0.48	16.54	0.69
206	Ceiling R-19 to R-49 Insulation (base space heating)	Low Income	6%	6%	\$633	5314	4980	0	30	0.2	0.0	\$0.159	N/A	0.28	0.40	19.93	0.69

Residential Electric Existing Construction

DSM ASSYST SUMMARY

Measure Number	Measure	Building Type	Energy Savings Fraction	Peak Reduction Fraction	Total Costs/ Household	Base UEC	UEC	Peak Watts/ Household	Service Life (yrs)	Technical Potential GWH	System Peak Tech. Potential MW	Levelized Cost of Conserved Energy \$/kWH	Levelized Cost of Avoided Peak Capacity \$/kW	Total Resource Cost Test (TRC)	Participant Test	Customer Payback (Years)	Revenue Test
207	Wall Blow-in R-0 to R-13 Insulation (base space heating)	Low Income	15%	15%	\$391	5314	4506	0	30	3.6	0.0	\$0.041	N/A	1.08	1.58	5.08	0.69
208	Basement insulation R-11 (base space heating)	Low Income	21%	21%	\$187	5314	4180	0	30	1.0	0.0	\$0.014	N/A	3.18	4.63	1.73	0.69
209	Floor R-0 to R-19 Insulation-Batts (base space heating)	Low Income	1%	1%	\$1,003	5314	5260	0	30	0.1	0.0	\$1.576	N/A	0.03	0.04	196.87	0.69
210	Comprehensive Shell Air Sealing - Inf. Reduction (base space heating)	Low Income	14%	14%	\$46	5554	4753	0	10	4.7	0.0	\$0.009	N/A	5.75	10.25	0.60	0.69
211	Self Install Weatherization (base space heating)	Low Income	2%	2%	\$3	5354	5247	0	10	0.6	0.0	\$0.005	N/A	10.14	18.06	0.34	0.69
212	Single Pane Windows to Double Pane with Gas (base space heating)	Low Income	32%	32%	\$270	7634	5191	0	25	1.0	0.0	\$0.010	N/A	4.75	6.91	1.16	0.69
213	Double Pane with Glazing to Energy Star (base space heating)	Low Income	6%	6%	\$624	5315	4996	0	25	2.6	0.0	\$0.174	N/A	0.27	0.39	20.54	0.69
214	Single Pane- Add storm windows (base space heating)	Low Income	5%	5%	\$282	5598	5299	0	25	0.1	0.0	\$0.084	N/A	0.56	0.81	9.89	0.69
215	Double Pane- Add storm windows (base space heating)	Low Income	13%	13%	\$3,211	5317	4608	0	25	5.9	0.0	\$0.403	N/A	0.12	0.17	47.51	0.69
216	Programmable Thermostat (base space heating)	Low Income	7%	7%	\$51	5391	5014	0	10	2.5	0.0	\$0.021	N/A	2.37	4.37	1.41	0.67
300	Base High-Efficiency Incandescent Lighting,<1.15 hrs/day	Low Income	0%	0%	\$5	48	48	4	5	0.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A
301	CFL 15W (base HE incandescent<1.15 hrs/day)	Low Income	75%	75%	\$1	48	12	1	37	2.0	0.2	\$0.003	\$30.4	21.14	22.71	0.35	0.93
302	CFL 15W - Specialty (base HE incandescent<1.15 hrs/day)	Low Income	75%	75%	\$39	48	12	1	37	0.2	0.0	\$0.088	\$973.8	0.66	0.71	11.28	0.93
303	LEDs (base HE incandescent<1.15 hrs/day)	Low Income	90%	90%	\$112	48	5	0	160	2.9	0.3	\$0.194	\$2,142.8	0.28	0.30	26.72	0.93
310	Base High-Efficiency Incandescent Lighting,1.15-2.15 hrs/day	Low Income	0%	0%	\$8	206	206	19	2	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
311	CFL 15W (base HE incandescent 1.15-2.15 hrs/day)	Low Income	75%	75%	\$4	206	51	5	13	8.4	0.8	\$0.003	\$33.9	23.19	28.49	0.25	0.93
312	CFL 15W - Specialty (base HE incandescent 1.15-2.15 hrs/day)	Low Income	75%	75%	\$61	206	51	5	13	0.9	0.1	\$0.048	\$531.3	1.48	1.82	3.96	0.93
313	LEDs (base HE incandescent 1.15-2.15 hrs/day)	Low Income	90%	90%	\$176	206	21	2	58	12.5	1.1	\$0.072	\$789.2	0.77	0.83	9.69	0.93
320	Base High-Efficiency Incandescent Lighting,2.15-5 hrs/day	Low Income	0%	0%	\$2	89	89	8	1	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
321	CFL 15W (base HE incandescent 2.15-5 hrs/day)	Low Income	75%	75%	\$1	89	22	2	6	3.7	0.3	\$0.003	\$29.4	26.73	39.06	0.12	0.93
322	CFL 15W - Specialty (base HE incandescent 2.15-5 hrs/day)	Low Income	75%	75%	\$13	89	22	2	6	0.4	0.0	\$0.042	\$461.0	1.70	2.49	1.83	0.93
323	LEDs (base HE incandescent 2.15-5 hrs/day)	Low Income	90%	90%	\$36	89	9	1	27	5.4	0.5	\$0.038	\$422.8	1.65	1.78	4.51	0.93
330	Base High-Efficiency Incandescent Lighting,>5 hrs/day	Low Income	0%	0%	\$1	135	135	12	1	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
331	CFL 15W (base HE incandescent >5 hrs/day)	Low Income	75%	75%	\$0	135	34	3	2	5.5	0.5	\$0.002	\$26.7	29.41	48.51	0.04	0.93
332	CFL 15W - Specialty (base HE incandescent >5 hrs/day)	Low Income	75%	75%	\$7	135	34	3	2	0.6	0.1	\$0.038	\$419.0	1.88	3.09	0.61	0.93
333	LEDs (base HE incandescent >5 hrs/day)	Low Income	90%	90%	\$19	135	13	1	10	8.2	0.7	\$0.025	\$280.0	2.81	3.69	1.67	0.93
340	Base Lighting 15 Watt CFL, <1.15 hrs/day	Low Income	0%	0%	\$2	4	4	0	37	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
341	LEDs (base CFL < 1.15 hrs/day)	Low Income	60%	60%	\$24	4	2	0	160	0.2	0.0	\$0.799	\$8,800.3	0.07	0.07	109.74	0.93
342	Photocell/timer (outdoor) (base CFL < 1.15 hrs/day)	Low Income	15%	17%	\$22	4	3	0	320	0.0	0.0	\$2.831	\$27,220.6	0.02	0.02	388.99	0.98
350	Base Lighting 15 Watt CFL, 1.15-2.15 hrs/day	Low Income	0%	0%	\$5	31	31	3	13	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
351	LEDs (base CFL 1.15-2.15 hrs/day)	Low Income	60%	60%	\$72	31	12	1	58	1.2	0.1	\$0.294	\$3,241.1	0.19	0.20	39.78	0.93
352	Photocell/timer (outdoor) (base CFL 1.15-2.15 hrs/day)	Low Income	15%	17%	\$64	31	26	2	116	0.3	0.0	\$1.026	\$9,869.9	0.06	0.06	141.01	0.98
360	Base Lighting 15 Watt CFL, 2.15-5 hrs/day	Low Income	0%	0%	\$2	27	27	2	6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
361	LEDs (base CFL 2.15-5 hrs/day)	Low Income	60%	60%	\$29	27	11	1	27	1.1	0.1	\$0.158	\$1,736.4	0.40	0.43	18.52	0.93
362	Photocell/timer (outdoor) (base CFL 2.15-5 hrs/day)	Low Income	15%	17%	\$26	27	23	2	55	0.3	0.0	\$0.496	\$4,771.7	0.12	0.12	66.86	0.98
370	Base Lighting 15 Watt CFL, >5 hrs/day	Low Income	0%	0%	\$1	40	40	4	2	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
371	LEDs (base CFL >5 hrs/day)	Low Income	60%	60%	\$16	40	16	1	10	1.6	0.1	\$0.104	\$1,150.0	0.68	0.90	6.86	0.93
372	Photocell/timer (outdoor) (base CFL >5 hrs/day)	Low Income	15%	17%	\$14	40	34	3	19	0.4	0.0	\$0.225	\$2,164.8	0.33	0.34	23.10	0.98
380	Base Fluorescent Fixture, 2L4T8, 1.8 hrs/day	Low Income	0%	0%	\$0	89	89	8	38	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
381	ROB 2L4' Premium T8	Low Income	17%	17%	\$7	89	74	7	38	1.0	0.1	\$0.034	\$378.0	1.69	1.82	4.40	0.93
400	Base Refrigerator	Low Income	0%	0%	\$0	705	705	95	12	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
401	HE Refrigerator (CEE Tier 2)	Low Income	25%	25%	\$101	707	530	72	12	10.1	1.4	\$0.076	\$558.6	0.99	1.19	5.80	0.97
402	HE Refrigerator (Energy Star)	Low Income	15%	15%	\$229	718	610	83	12	5.4	0.7	\$0.281	\$2,076.8	0.27	0.32	21.56	0.97
410	Base Early Replacement Refrigerator	Low Income	0%	0%	\$0	820	820	111	12	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
411	Refrigerator - Early Replacement (Energy Star)	Low Income	28%	28%	\$261	820	593	80	5	2.3	0.3	\$0.317	\$2,340.0	0.24	0.34	11.69	0.97
420	Base Second Refrigerator	Low Income	0%	0%	\$0	1156	1156	156	5	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
421	Refrigerator Recycling - second refrigerator	Low Income	100%	100%	\$131	1156	1	0	5	18.7	2.5	\$0.031	\$230.5	2.39	3.46	1.15	0.97
430	Base Freezer	Low Income	0%	0%	\$0	583	583	80	12	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
431	Freezer (Energy Star)	Low Income	15%	15%	\$60	592	503	69	12	1.7	0.2	\$0.089	\$648.5	0.84	1.01	6.85	0.97
440	Base Early Replacement Freezer	Low Income	0%	0%	\$0	583	583	80	12	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
441	Freezer - Early Replacement (Energy Star)	Low Income	15%	15%	\$75	583	494	68	12	0.3	0.0	\$0.112	\$815.5	0.67	0.80	8.61	0.97
500	Base 40 gal. Water Heating (EF=0.88)	Low Income	0%	0%	\$0	4793	4793	478	15	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
501	Drain Water Heat Recovery (GFX)	Low Income	38%	38%	\$670	4793	2991	298	20	0.4	0.0	\$0.036	\$363.9	1.96	2.10	3.80	0.93
502	Faucet Aerators (1.5 GPM)	Low Income	3%	3%	\$23	4819	4678	466	5	0.2	0.0	\$0.044	\$445.7	1.60	2.41	1.66	0.93
503	HE Water Heater (EF=0.93)	Low Income	5%	5%	\$72	4793	4534	452	10	0.5	0.1	\$0.043	\$434.9	1.64	2.16	2.86	0.93
504	Heat Pump Water Heater - Energy Star	Low Income	65%	65%	\$1,411	4824	1698	169	12	1.6	0.2	\$0.060	\$598.3	1.19	1.50	4.62	0.93
505	Low Flow Showerhead 1.5 Gall/Min	Low Income	6%	6%	\$30	4825	4556	454	5	0.5	0.0	\$0.030	\$302.8	2.36	3.54	1.12	0.93
506	Pipe Wrap	Low Income	3%	3%	\$3	4829	4684	467	15	0.2	0.0	\$0.002	\$23.0	31.01	36.33	0.21	0.93
507	Solar Domestic Water Heating	Low Income	50%	50%	\$3,500	4817	2408	240	15	4.8	0.5	\$0.163	\$1,637.3	0.44	0.51	14.86	0.93
508	Tankless Water Heater	Low Income	29%	29%	\$843	4806	3421	341	20	2.1	0.2	\$0.059	\$595.2	1.20	1.29	6.22	0.93
509	Energy Star CW CEE Tier 2 (MEF=2.0) (base WH)	Low Income	4%	4%	\$166	4794	4622	625	11	0.3	0.0	\$0.137	\$1,017.2	0.59	0.67	9.82	1.06
510	Tier 3 CW (MEF=2.20) (base WH)	Low Income	4%	4%	\$393	4820	4639	627	11	0.3	0.0	\$0.309	\$2,288.3	0.26	0.30	22.10	1.06
550	Base Early Replacement Water Heating to Heat Pump Water Heater	Low Income	0%	0%	\$0	4793	4793	478	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
551	Early Replacement Water Heating to Heat Pump Water Heater	Low Income	64%	64%	\$1,374	4793	1745	174	10	0.1	0.0	\$0.070	\$702.2	1.02	1.34	4.61	0.93
600	Base Clotheswasher (MEF=1.26)	Low Income	0%	0%	\$0	86	86	12	11	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
601	Energy Star CW CEE Tier 2 (MEF=2.0) (base CW)	Low Income	29%	29%	\$134	86	61	8	11	1.4	0.2	\$0.754	\$5,582.0	0.11	0.12	53.90	1.06
602	Tier 3 CW (MEF=2.20) (base CW)	Low Income	32%	32%	\$182	93	64	9	11	1.2	0.2	\$0.875	\$6,476.0	0.09	0.11	62.53	1.06
610	Base Clothes Dryer (EF=3.01)	Low Income	0%	0%	\$0	824	824	106	12	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
611	Heat Pump Dryer	Low Income	60%	60%	\$1,731	828	331	43	12	13.4	1.7	\$0.460	\$3,577.9	0.17	0.19	35.54	1.05

Residential Electric Existing Construction

DSM ASSYST SUMMARY

Measure Number	Measure	Building Type	Energy Savings Fraction	Peak Reduction Fraction	Total Costs/ Household	Base UEC	UEC	Peak Watts/ Household	Service Life (yrs)	Technical Potential GWH	System Peak Tech. Potential MW	Levelized Cost of Conserved Energy \$/kWH	Levelized Cost of Avoided Peak Capacity \$/kW	Total Resource Cost Test (TRC)	Participant Test	Customer Payback (Years)	Revenue Test
612	High Efficiency CD (EF=3.01 w/moisture sensor)	Low Income	15%	15%	\$245	905	769	99	12	1.5	0.2	\$0.239	\$1,856.2	0.34	0.38	18.44	1.05
700	Base Dishwasher (EF=0.65)	Low Income	0%	0%	\$293	172	172	25	11	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
701	Energy Star Dishwasher (EF=0.72) (base DW)	Low Income	1%	1%	\$93	174	172	25	13	0.0	0.0	\$5.346	\$36,948.5	0.02	0.02	439.65	1.09
900	Base Plasma TV	Low Income	0%	0%	\$0	284	284	36	6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
901	Energy Star Plasma TV	Low Income	30%	30%	\$1	300	210	26	6	0.5	0.1	\$0.003	\$23.7	26.03	35.10	0.13	1.01
910	Base LCD TV	Low Income	0%	0%	\$0	175	175	22	6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
911	Energy Star LCD TV	Low Income	30%	30%	\$2	209	146	18	6	1.2	0.2	\$0.006	\$44.4	13.89	18.73	0.24	1.01
920	Base CRT TV	Low Income	0%	0%	\$0	221	221	28	6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
921	Energy Star LCD TV	Low Income	40%	40%	\$2	221	133	17	6	4.6	0.6	\$0.006	\$46.2	13.35	17.99	0.25	1.01
930	Base Set-Top Box	Low Income	0%	0%	\$0	247	247	31	7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
931	Energy Star Set-Top Box	Low Income	40%	40%	\$2	284	172	22	7	3.6	0.5	\$0.003	\$25.7	23.98	31.47	0.16	1.01
940	Base DVD Player	Low Income	0%	0%	\$0	36	36	5	7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
941	Energy Star DVD Player	Low Income	55%	55%	\$2	44	20	3	7	0.8	0.1	\$0.015	\$118.9	5.18	6.80	0.74	1.01
950	Base Desktop PC	Low Income	0%	0%	\$0	727	727	80	4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
951	Energy Star Desktop PC	Low Income	18%	18%	\$1	728	598	66	4	4.4	0.5	\$0.003	\$27.2	23.95	37.06	0.09	0.93
960	Base Laptop PC	Low Income	0%	0%	\$0	181	181	20	4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
961	Energy Star Laptop PC	Low Income	13%	13%	\$1	187	162	18	4	0.4	0.0	\$0.019	\$175.0	3.72	5.75	0.59	0.93
970	Base Cooking	Low Income	0%	0%	\$0	335	335	89	15	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
980	Base Miscellaneous	Low Income	0%	0%	\$0	1910	1910	209	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
981	Plug Load Controls - Smart Power Strip	Low Income	2%	2%	\$25	1910	1872	205	5	2.6	0.3	\$0.180	\$1,638.0	0.40	0.60	6.68	0.93
982	Energy Star Ventilating Fans	Low Income	1%	1%	\$100	1918	1891	207	10	0.5	0.1	\$0.578	\$5,270.3	0.12	0.16	38.01	0.93
990	Base House Practices	Low Income	0%	0%	\$0	8160	8160	2211	1	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
991	Indirect feedback	Low Income	2%	2%	\$7	8160	7997	2166	1	11.0	3.0	\$0.053	\$196.1	1.85	2.31	0.43	1.27

Residential Electric New Construction

DSM ASSYST SUMMARY

Measure Number	Measure	Building Type	Energy Savings Fraction	Peak Reduction Fraction	Total Costs/ Household	Base UEC	UEC	Peak Watts/ Household	Service Life (yrs)	Technical Potential GWH	System Peak Tech. Potential MW	Levelized Cost of Conserved Energy \$/kWH	Levelized Cost of Avoided Peak Capacity \$/kW	Total Resource Cost Test (TRC)	Participant Test	Customer Payback (Years)	Revenue Test
100	Base Code Home - 2011 Energy Star	Single Family	0%	0%	\$0	10465	10465	2835	30	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
101	2011 ENERGY STAR Home	Single Family	31%	31%	\$943	10465	7182	1946	30	58.58	17.55	\$0.024	\$89	3.52	2.77	2.89	1.27
100	Base Code Home - 2011 Energy Star	Multifamily	0%	0%	\$0	4454	4454	1207	30	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
101	2011 ENERGY STAR Home	Multifamily	31%	31%	\$498	4454	3057	828	30	9.16	2.75	\$0.030	\$111	2.84	2.23	3.59	1.27
100	Base Code Home - 2011 Energy Star	Low Income	0%	0%	\$0	8160	8160	2211	30	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
101	2011 ENERGY STAR Home	Low Income	31%	31%	\$544	8160	5600	1517	30	4.29	1.28	\$0.018	\$66	4.76	3.74	2.14	1.27

APPENDIX F

NON-ADDITIVE MEASURE LEVEL RESULTS

Commercial Electric Existing Construction

DSM ASSYST SUMMARY

Measure Number	Measure	Building Type	Energy Savings Fraction	Peak Reduction Fraction	Total Costs/ Sq Ft	Base EUI	EUI	Peak Watts/ Sq Ft	Service Life (yrs)	Technical Potential GWH	System Peak Tech. Potential MW	Levelized Cost of Conserved Energy \$/kWh	Levelized Cost of Avoided Peak Capacity \$/kW	Total Resource Cost Test (TRC)	Participant Test	Customer Payback (Years)	Revenue Test
100	Base Fluorescent Fixture, 4L4T8	Office-S	0%	0%	\$0.000	7.91	7.91	1.23	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
101	ROB 4L4' Premium T8	Office-S	17%	17%	\$0.183	7.97	6.60	1.02	5	188.5	29.3	\$0.035	\$224	2.34	2.44	1.64	1.35
102	Delamping 3L4' F32T8	Office-S	25%	25%	\$0.709	7.91	5.93	0.92	18	113.8	17.7	\$0.036	\$235	2.24	1.71	4.62	1.35
103	LED Troffer (Base 4L4T8)	Office-S	40%	40%	\$4.508	7.91	4.75	0.74	11	318.5	49.4	\$0.211	\$1,359	0.39	0.34	19.13	1.35
104	Lighting Control Tuneup	Office-S	5%	1%	\$0.029	7.91	7.52	1.21	6	39.7	1.5	\$0.017	\$437	2.99	4.01	1.14	1.01
105	Occupancy Sensor, 4L4' Fluorescent Fixtures	Office-S	30%	8%	\$0.135	7.91	5.54	1.14	18	95.3	3.7	\$0.006	\$149	8.77	8.91	0.89	1.01
106	Continuous Dimming, 4L4' Fluorescent Fixtures	Office-S	52%	13%	\$0.750	7.91	3.81	1.07	10	165.2	6.4	\$0.028	\$729	1.79	2.17	2.84	1.01
107	High Performance Lighting R/R - 25% Savings, Base 4L4T8	Office-S	25%	13%	\$0.400	7.91	5.93	1.07	20	85.6	6.6	\$0.020	\$254	3.18	2.77	2.89	1.15
110	Base Fluorescent Fixture, 2L4T8, 1 EB	Office-S	0%	0%	\$0.000	4.60	4.60	0.71	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
111	ROB 2L4' Premium T8	Office-S	17%	17%	\$0.094	4.60	3.81	0.59	5	3.3	0.5	\$0.031	\$200	2.62	2.73	1.46	1.35
112	Delamping 1L4' F32T8	Office-S	48%	48%	\$0.731	4.60	2.40	0.37	18	3.7	0.6	\$0.034	\$217	2.42	1.85	4.28	1.35
113	LED Troffer (Base 2L4T8)	Office-S	40%	40%	\$2.947	4.60	2.76	0.43	11	5.4	0.8	\$0.237	\$1,527	0.34	0.31	21.50	1.35
114	Lighting Control Tuneup	Office-S	5%	1%	\$0.014	4.60	4.37	0.71	6	0.7	0.0	\$0.015	\$376	3.48	4.67	0.98	1.01
115	Occupancy Sensor, 2L4' Fluorescent Fixtures	Office-S	30%	8%	\$0.135	4.60	3.22	0.66	18	1.6	0.1	\$0.010	\$256	5.10	5.18	1.53	1.01
116	Continuous Dimming, 2L4' Fluorescent Fixtures	Office-S	52%	13%	\$0.750	4.60	2.21	0.62	10	2.8	0.1	\$0.049	\$1,253	1.04	1.26	4.89	1.01
117	High Performance Lighting R/R - 25% Savings, Base 2L4T8	Office-S	25%	13%	\$0.400	4.60	3.45	0.62	20	1.4	0.1	\$0.034	\$437	1.85	1.61	4.98	1.15
120	Base Other Fluorescent Fixture	Office-S	0%	0%	\$0.000	3.71	3.71	0.58	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
121	ROB Premium T8 (base other fluorescent)	Office-S	17%	17%	\$0.152	3.71	3.08	0.48	5	7.2	1.1	\$0.062	\$400	1.31	1.36	2.92	1.35
122	Lighting Control Tuneup	Office-S	5%	1%	\$0.029	3.71	3.53	0.57	6	1.5	0.1	\$0.036	\$932	1.40	1.88	2.42	1.01
123	Occupancy Sensor, 4L8' Fluorescent Fixtures	Office-S	30%	8%	\$0.135	3.71	2.60	0.53	18	3.5	0.1	\$0.012	\$318	4.11	4.18	1.89	1.01
124	Continuous Dimming, 4L8' Fluorescent Fixtures	Office-S	52%	13%	\$0.750	3.71	1.79	0.50	10	6.1	0.2	\$0.060	\$1,554	0.84	1.02	6.06	1.01
125	High Performance Lighting R/R - 25% Savings, Base Other Fluorescent	Office-S	25%	13%	\$0.400	3.71	2.78	0.50	20	3.1	0.2	\$0.042	\$542	1.49	1.30	6.17	1.15
130	Base High-Efficiency Incandescent Flood, 53W to Screw-in Replacement	Office-S	0%	0%	\$0.000	17.76	17.76	2.76	1	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
131	CFL Screw-in 18W	Office-S	66%	66%	\$0.499	17.76	6.03	0.94	2	27.0	4.2	\$0.026	\$165	3.18	3.63	0.52	1.35
132	Cold Cathode Lamps	Office-S	66%	66%	\$1.459	17.76	6.03	0.94	5	3.0	0.5	\$0.032	\$208	2.52	2.62	1.52	1.35
133	LED screw-in PAR replacement (base incandescent)	Office-S	90%	90%	\$5.087	17.76	1.86	0.29	11	40.6	6.3	\$0.047	\$305	1.72	1.53	4.30	1.35
140	Base High-Efficiency Incandescent Flood, 53W to Hardwired Replacement	Office-S	0%	0%	\$0.000	17.76	17.76	2.76	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
141	CFL Hardwired, Modular 18W	Office-S	66%	66%	\$3.448	17.76	6.03	0.94	18	15.7	2.4	\$0.030	\$193	2.73	2.08	3.79	1.35
142	Ceramic Metal Halide	Office-S	37%	37%	\$8.266	17.82	11.20	1.74	18	4.4	0.7	\$0.127	\$818	0.64	0.49	16.11	1.35
143	LED fixture replacement (base incandescent flood)	Office-S	90%	90%	\$6.349	17.76	1.86	0.29	11	21.3	3.3	\$0.059	\$381	1.38	1.23	5.37	1.35
150	Base CFL to screw-in replacement	Office-S	0%	0%	\$0.000	1.46	1.46	0.23	2	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
151	LED screw-in replacement (base CFL)	Office-S	68%	68%	\$1.056	1.46	0.47	0.07	11	6.2	1.0	\$0.159	\$1,023	0.51	0.46	14.40	1.35
185	Base Fluorescent Parking Garage Lighting	Office-S	0%	0%	\$0.000	0.16	0.16	0.02	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
186	Parking Garage Low Wattage T8 Lamps replacing 32W lamps	Office-S	15%	15%	\$0.001	0.17	0.14	0.02	3	0.5	0.1	\$0.016	\$133	4.66	5.51	0.49	1.26
187	Bi-Level LED Parking Garage Fixtures (Base Fluorescent)	Office-S	2%	2%	\$0.126	0.17	0.16	0.02	5	0.0	0.0	\$9.417	\$79,821	0.01	0.01	461.84	1.23
190	Base Exit Sign	Office-S	0%	0%	\$0.000	0.02	0.02	0.00	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
191	LED Exit Sign	Office-S	81%	81%	\$0.017	0.03	0.00	0.00	18	2.1	0.2	\$0.085	\$701	0.88	0.72	10.94	1.26
200	Base Outdoor High Pressure Sodium 250W Lamp	Office-S	0%	0%	\$0.120	1.09	1.09	0.01	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
201	Outdoor Lighting Controls (Photocell/Timeclock)	Office-S	22%	38%	\$0.028	1.19	0.93	0.01	18	14.1	0.3	\$0.011	\$562	5.16	5.63	1.40	0.94
202	LED Outdoor Area Lighting	Office-S	52%	52%	\$0.349	1.09	0.52	0.01	9	55.4	0.6	\$0.102	\$8,873	0.48	0.67	8.78	0.89
203	Bi-Level LED Outdoor Lighting	Office-S	69%	70%	\$1.298	1.09	0.33	0.00	9	37.1	0.4	\$0.282	\$24,622	0.16	0.23	25.37	0.88
300	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	Office-S	0%	0%	\$1.800	2.98	2.98	1.49	20	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
320	Base DX Packaged System, EER=10.3, 10 tons	Office-S	0%	0%	\$4.765	5.17	5.17	2.59	20	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
321	DX Tune Up/ Advanced Diagnostics	Office-S	4%	3%	\$0.125	5.33	5.14	2.61	10	1.7	0.6	\$0.102	\$290	1.10	1.00	6.14	1.35
322	DX Packaged System, EER=10.3, 10 tons, with Automated Fault Detection and Diagnostics	Office-S	10%	10%	\$0.120	5.17	4.65	2.33	20	33.0	16.6	\$0.023	\$45	6.18	3.62	2.21	1.71
323	DX Packaged System, EER=10.9, 10 tons	Office-S	6%	6%	\$0.450	5.17	4.88	2.45	20	22.4	11.2	\$0.154	\$308	0.91	0.53	15.07	1.71
324	DX Packaged System, EER=13.4, 10 tons	Office-S	23%	23%	\$0.662	5.17	3.98	1.99	20	93.6	46.9	\$0.054	\$108	2.58	1.51	5.31	1.71
325	Window Film (Standard) - DX	Office-S	4%	4%	\$0.249	5.28	5.06	2.54	10	7.3	3.6	\$0.175	\$349	0.80	0.57	10.73	1.71
326	Prog. Thermostat - DX	Office-S	3%	1%	\$0.062	5.30	5.13	2.63	8	3.6	0.7	\$0.064	\$338	1.35	1.59	3.46	1.09
329	Cool Roof - DX	Office-S	2%	2%	\$0.242	5.18	5.08	2.55	10	3.9	1.9	\$0.402	\$801	0.35	0.25	24.67	1.71
330	Optimize Controls - DX	Office-S	3%	1%	\$0.040	5.29	5.11	2.62	5	4.0	0.7	\$0.062	\$332	1.37	1.76	2.26	1.09
331	Economizer - DX	Office-S	14%	5%	\$0.510	5.51	4.74	2.62	15	38.9	7.3	\$0.074	\$395	1.15	1.15	6.58	1.09
332	Aerosol Duct Sealing - DX	Office-S	7%	7%	\$0.054	5.17	4.81	2.41	15	10.6	5.3	\$0.017	\$33	8.41	5.38	1.41	1.71
334	Duct/Pipe Insulation - DX	Office-S	2%	2%	\$0.649	5.27	5.17	2.59	10	0.1	0.0	\$0.955	\$1,906	0.15	0.11	58.68	1.71
335	DX Coil Cleaning	Office-S	5%	5%	\$0.039	5.22	4.97	2.49	5	13.7	6.9	\$0.043	\$85	3.27	2.68	1.49	1.71
337	Geothermal Heat Pump, EER=13, 10 tons - DX	Office-S	37%	37%	\$1.897	5.19	3.27	1.64	15	8.7	4.3	\$0.111	\$221	1.26	0.81	9.42	1.71
400	Base Fan Motor, 5hp, 1800rpm, 87.5%	Office-S	0%	0%	\$0.018	2.47	2.47	0.44	20	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
401	Fan Motor, 5hp, 1800rpm, 89.5%	Office-S	2%	2%	\$0.007	2.49	2.43	0.44	20	4.1	0.7	\$0.012	\$68	6.90	4.88	1.64	1.41
402	Variable Speed Drive Control, 5 HP	Office-S	30%	8%	\$0.134	2.72	1.91	0.45	15	46.6	2.1	\$0.018	\$410	3.27	3.33	2.28	1.07
410	Base Fan Motor, 15hp, 1800rpm, 91.0%	Office-S	0%	0%	\$0.007	2.29	2.29	0.41	20	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
414	Energy Recovery Ventilation (ERV)	Office-S	7%	7%	\$0.315	2.36	2.20	0.39	20	0.9	0.2	\$0.186	\$1,033	0.45	0.32	24.98	1.41
420	Base Fan Motor, 40hp, 1800rpm, 93.0%	Office-S	0%	0%	\$0.044	2.25	2.25	0.40	20	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
423	Air Handler Tuneups	Office-S	10%	5%	\$0.050	2.27	2.05	0.39	8	1.2	0.1	\$0.040	\$447	1.69	1.86	2.96	1.17
500	Base Built-Up Refrigeration System	Office-S	0%	0%	\$0.000	13.58	13.58	1.52	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
501	High-efficiency fan motors	Office-S	12%	12%	\$0.015	14.19	12.49	1.40	20	0.2	0.0	\$0.001	\$7	84.82	63.91	0.13	1.33
505	Compressor VSD retrofit	Office-S	6%	2%	\$0.005	13.58	12.74	1.50	13	0.2	0.0	\$0.001	\$27	73.48	77.90	0.09	1.08
507	Refrigeration Commissioning	Office-S	5%	5%	\$0.002	13.92	13.23	1.48	3	0.0	0.0	\$0.001	\$12	51.72	57.99	0.05	1.33
508	Demand Hot Gas Defrost	Office-S	3%	3%	\$0.000	13.58	13.24	1.48	10	0.1	0.0	\$0.000	\$2	382.27	352.85	0.02	1.33
511	Freezer-Cooler Replacement Gaskets (built-up systems)	Office-S	7%	7%	\$0.006	14.04	13.11	1.47	4	0.1	0.0	\$0.002	\$20	31.55	34.31	0.10	1.33
513	Bi-level LED Case Lighting (built-up systems)	Office-S	1%	1%	\$0.124	13.58	13.47	1.51	10	0.0	0.0	\$0.170	\$2,002	0.36	0.37	16.84	1.21
514	Fiber Optic Case Lighting (built-up systems)	Office-S	24%	25%	\$0.141	13.58	10.25	1.15	1	0.7	0.1	\$0.053	\$471	1.34	1.60	0.62	1.33
517	Oversized Air Cooled Condenser	Office-S	8%	8%	\$0.008	14.15	13.00	1.46	16	0.2	0.0	\$0.001	\$7	96.47	77.71	0.10	1.33

APPENDIX F

NON-ADDITIVE MEASURE LEVEL RESULTS

Commercial Electric Existing Construction

DSM ASSYST SUMMARY

Measure Number	Measure	Building Type	Energy Savings Fraction	Peak Reduction Fraction	Total Costs/ Sq Ft	Base EUI	EUI	Peak Watts/ Sq Ft	Service Life (yrs)	Technical Potential GWH	System Peak Tech. Potential MW	Levelized Cost of Conserved Energy \$/kWh	Levelized Cost of Avoided Peak Capacity \$/kW	Total Resource Cost Test (TRC)	Participant Test	Customer Payback (Years)	Revenue Test
520	Base Self-Contained Refrigeration	Office-S	0%	0%	\$0.000	0.15	0.15	0.02	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
523	Freezer-Cooler Replacement Gaskets (self-contained)	Office-S	4%	4%	\$0.000	0.16	0.15	0.02	4	0.0	0.0	\$0.008	\$70	9.03	9.82	0.34	1.33
524	Bi-level LED Case Lighting (self-contained units)	Office-S	1%	1%	\$0.002	0.15	0.15	0.02	10	0.0	0.0	\$0.302	\$3,557	0.20	0.21	29.91	1.21
526	Energy-Star Refrigerator, solid door	Office-S	3%	3%	\$0.000	0.15	0.15	0.02	10	0.0	0.0	\$0.015	\$130	4.87	4.49	1.37	1.33
527	Energy-Star Freezer, solid door	Office-S	1%	1%	\$0.000	0.15	0.15	0.02	10	0.0	0.0	\$0.043	\$388	1.63	1.50	4.11	1.33
528	Energy-Star Refrigerator, glass door	Office-S	7%	7%	\$0.000	0.16	0.15	0.02	10	0.0	0.0	\$0.000	\$2	304.37	280.94	0.02	1.33
529	Energy-Star Freezer, glass door	Office-S	2%	2%	\$0.000	0.15	0.15	0.02	10	0.0	0.0	\$0.002	\$19	33.12	30.57	0.20	1.33
530	Energy Star Ice Machines	Office-S	2%	2%	\$0.000	0.15	0.15	0.02	10	0.0	0.0	\$0.003	\$31	20.59	19.00	0.32	1.33
600	Base Desktop PC	Office-S	0%	0%	\$0.000	1.21	1.21	0.14	4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
601	PC Manual Power Management Enabling	Office-S	68%	45%	\$0.032	1.46	0.47	0.09	4	130.6	10.0	\$0.011	\$143	5.61	7.02	0.48	1.15
602	PC Network Power Management Enabling	Office-S	68%	45%	\$0.032	1.46	0.47	0.09	4	130.6	10.0	\$0.011	\$143	5.61	7.02	0.48	1.15
603	Energy Star or Better PC	Office-S	33%	25%	\$0.019	1.27	0.85	0.11	4	63.1	5.5	\$0.016	\$179	4.18	5.06	0.67	1.19
610	Base Monitor, CRT	Office-S	0%	0%	\$0.000	0.01	0.01	0.00	4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
611	Energy Star or Better Monitor-CRT	Office-S	56%	42%	\$0.000	0.01	0.00	0.00	4	0.3	0.0	\$0.013	\$153	4.89	5.93	0.57	1.19
612	Monitor Power Management Enabling--CRT	Office-S	53%	35%	\$0.000	0.02	0.01	0.00	4	0.2	0.0	\$0.015	\$195	4.12	5.15	0.65	1.15
620	Base Monitor, LCD	Office-S	0%	0%	\$0.000	0.47	0.47	0.05	4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
621	Energy Star or Better Monitor--LCD	Office-S	56%	42%	\$0.027	0.67	0.30	0.04	4	41.0	3.6	\$0.024	\$274	2.73	3.30	1.02	1.19
622	Monitor Power Management Enabling--LCD	Office-S	56%	37%	\$0.045	0.74	0.32	0.05	4	25.6	2.0	\$0.036	\$474	1.70	2.13	1.58	1.15
630	Base Copier	Office-S	0%	0%	\$0.000	0.04	0.04	0.00	6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
631	Energy Star or Better Copier	Office-S	20%	15%	\$0.001	0.05	0.04	0.00	6	0.6	0.1	\$0.017	\$195	3.83	4.38	1.04	1.19
632	Copier Power Management Enabling	Office-S	19%	13%	\$0.004	0.05	0.04	0.01	6	0.1	0.0	\$0.086	\$1,127	0.71	0.84	5.41	1.15
640	Base Laser Printer	Office-S	0%	0%	\$0.000	0.17	0.17	0.02	5	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
641	Printer Power Management Enabling	Office-S	49%	32%	\$0.019	0.28	0.14	0.02	5	4.1	0.3	\$0.037	\$488	1.65	2.00	1.99	1.15
650	Base Data Center/Server Room	Office-S	0%	0%	\$0.000	246.45	246.45	28.47	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
651	Data Center Improved Operations	Office-S	20%	13%	\$0.500	256.69	205.50	25.74	10	19.3	1.5	\$0.002	\$20	40.62	43.13	0.14	1.15
652	Data Center Best Practices	Office-S	45%	34%	\$2.500	258.03	142.23	19.75	10	24.6	2.1	\$0.003	\$39	19.49	20.07	0.31	1.19
653	Data Center State of the Art practices	Office-S	56%	56%	\$5.000	246.45	108.44	12.53	10	10.9	1.3	\$0.006	\$49	13.02	12.55	0.49	1.27
660	Base Water Heating	Office-S	0%	0%	\$0.000	0.43	0.43	0.05	15	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
661	Demand controlled circulating systems	Office-S	5%	1%	\$0.023	0.43	0.41	0.05	15	1.9	0.1	\$0.120	\$4,303	0.40	0.44	17.10	0.98
662	High Efficiency Water Heater (electric)	Office-S	2%	2%	\$0.002	0.43	0.42	0.05	15	1.0	0.1	\$0.025	\$223	2.88	2.50	3.04	1.26
663	Hot Water Pipe Insulation	Office-S	2%	2%	\$0.006	0.43	0.42	0.05	15	0.3	0.0	\$0.076	\$673	0.95	0.83	9.18	1.26
664	Tankless Water Heater	Office-S	10%	10%	\$0.016	0.43	0.39	0.04	20	3.9	0.4	\$0.037	\$333	1.93	1.53	5.23	1.26
665	Heat Pump Water Heater (air source)	Office-S	20%	20%	\$0.044	0.43	0.34	0.04	15	8.2	0.9	\$0.058	\$514	1.25	1.08	7.01	1.26
666	Heat Recovery Unit	Office-S	65%	65%	\$0.080	0.43	0.15	0.02	10	3.3	0.4	\$0.045	\$396	1.62	1.57	3.92	1.26
667	Heat Trap	Office-S	9%	9%	\$0.003	0.44	0.40	0.04	10	2.7	0.3	\$0.014	\$121	5.32	5.17	1.19	1.26
668	Solar Water Heater	Office-S	70%	70%	\$0.138	0.43	0.13	0.01	20	27.3	3.1	\$0.045	\$399	1.61	1.28	6.27	1.26
670	Base Vending Machines	Office-S	0%	0%	\$0.000	0.06	0.06	0.01	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
671	Vending Misers	Office-S	10%	7%	\$0.004	0.06	0.05	0.01	5	0.8	0.1	\$0.162	\$2,020	0.39	0.47	8.40	1.15
700	Base Cooking	Office-S	0%	0%	\$0.000	0.11	0.11	0.01	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
800	Base Heating	Office-S	0%	0%	\$0.000	0.46	0.46	0.03	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
900	Base Miscellaneous	Office-S	0%	0%	\$0.000	1.03	1.03	0.13	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
100	Base Fluorescent Fixture, 4L4T8	Office-L	0%	0%	\$0.000	8.13	8.13	1.26	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
101	ROB 4L4' Premium T8	Office-L	17%	17%	\$0.188	8.13	6.74	1.05	5	135.4	21.0	\$0.035	\$226	2.33	2.42	1.65	1.35
102	Delamping 3L4' F32T8	Office-L	25%	25%	\$0.729	8.13	6.10	0.95	18	79.0	12.3	\$0.036	\$235	2.24	1.71	4.62	1.35
103	LED Troffer (Base 4L4T8)	Office-L	40%	40%	\$4.632	8.13	4.88	0.76	11	221.2	34.3	\$0.211	\$1,359	0.39	0.34	19.13	1.35
104	Lighting Control Tuneup	Office-L	5%	1%	\$0.029	8.15	7.75	1.25	6	25.9	1.0	\$0.017	\$424	3.08	4.13	1.10	1.01
105	Occupancy Sensor, 4L4' Fluorescent Fixtures	Office-L	30%	8%	\$0.135	8.13	5.70	1.17	18	66.2	2.6	\$0.006	\$145	9.01	9.16	0.86	1.01
106	Continuous Dimming, 4L4' Fluorescent Fixtures	Office-L	52%	13%	\$0.750	8.13	3.91	1.10	10	114.7	4.5	\$0.028	\$709	1.84	2.23	2.77	1.01
107	High Performance Lighting R/R - 25% Savings, Base 4L4T8	Office-L	25%	13%	\$0.400	8.13	6.09	1.10	20	59.4	4.6	\$0.019	\$247	3.27	2.84	2.82	1.15
110	Base Fluorescent Fixture, 2L4T8, 1 EB	Office-L	0%	0%	\$0.000	4.80	4.80	0.74	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
111	ROB 2L4' Premium T8	Office-L	17%	17%	\$0.098	4.80	3.98	0.62	5	0.8	0.1	\$0.031	\$200	2.62	2.73	1.46	1.35
112	Delamping 1L4' F32T8	Office-L	48%	48%	\$0.762	4.80	2.50	0.39	18	0.9	0.1	\$0.034	\$217	2.42	1.85	4.28	1.35
113	LED Troffer (Base 2L4T8)	Office-L	40%	40%	\$3.073	4.80	2.88	0.45	11	1.3	0.2	\$0.237	\$1,527	0.34	0.31	21.50	1.35
114	Lighting Control Tuneup	Office-L	5%	1%	\$0.014	4.80	4.56	0.74	6	0.2	0.0	\$0.014	\$361	3.63	4.87	0.94	1.01
115	Occupancy Sensor, 2L4' Fluorescent Fixtures	Office-L	30%	8%	\$0.135	4.80	3.36	0.69	18	0.4	0.0	\$0.010	\$246	5.32	5.40	1.46	1.01
116	Continuous Dimming, 2L4' Fluorescent Fixtures	Office-L	52%	13%	\$0.750	4.80	2.31	0.65	10	0.7	0.0	\$0.047	\$1,202	1.09	1.31	4.69	1.01
117	High Performance Lighting R/R - 25% Savings, Base 2L4T8	Office-L	25%	13%	\$0.400	4.80	3.60	0.65	20	0.4	0.0	\$0.032	\$419	1.93	1.68	4.77	1.15
120	Base Other Fluorescent Fixture	Office-L	0%	0%	\$0.000	1.83	1.83	0.28	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
121	ROB Premium T8 (base other fluorescent)	Office-L	17%	17%	\$0.075	1.83	1.51	0.23	5	0.3	0.0	\$0.062	\$400	1.31	1.36	2.92	1.35
122	Lighting Control Tuneup	Office-L	5%	1%	\$0.029	1.83	1.74	0.28	6	0.1	0.0	\$0.074	\$1,895	0.69	0.93	4.92	1.01
123	Occupancy Sensor, 4L8' Fluorescent Fixtures	Office-L	30%	8%	\$0.135	1.83	1.28	0.26	18	0.2	0.0	\$0.025	\$646	2.02	2.06	3.84	1.01
124	Continuous Dimming, 4L8' Fluorescent Fixtures	Office-L	52%	13%	\$0.750	1.83	0.88	0.25	10	0.3	0.0	\$0.123	\$3,157	0.41	0.50	12.32	1.01
125	High Performance Lighting R/R - 25% Savings, Base Other Fluorescent	Office-L	25%	13%	\$0.400	1.83	1.37	0.25	20	0.1	0.0	\$0.085	\$1,100	0.73	0.64	12.54	1.15
130	Base High-Efficiency Incandescent Flood, 53W to Screw-in Replacement	Office-L	0%	0%	\$0.000	4.96	4.96	0.77	1	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
131	CFL Screw-in 18W	Office-L	66%	66%	\$0.140	4.96	1.69	0.26	2	2.6	0.4	\$0.026	\$165	3.18	3.63	0.52	1.35
132	Cold Cathode Lamps	Office-L	66%	66%	\$0.408	4.96	1.69	0.26	5	0.3	0.0	\$0.032	\$208	2.52	2.62	1.52	1.35
133	LED screw-in PAR replacement (base incandescent)	Office-L	90%	90%	\$1.422	4.96	0.52	0.08	11	4.0	0.6	\$0.047	\$305	1.72	1.53	4.30	1.35
150	Base CFL to screw-in replacement	Office-L	0%	0%	\$0.000	2.38	2.38	0.37	2	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
151	LED screw-in replacement (base CFL)	Office-L	68%	68%	\$1.719	2.38	0.77	0.12	11	22.7	3.5	\$0.159	\$1,023	0.51	0.46	14.40	1.35
160	Base High Bay Metal Halide, 400W	Office-L	0%	0%	\$0.867	4.86	4.86	0.75	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
161	High Bay T5	Office-L	49%	49%	\$0.300	4.86	2.50	0.39	18	0.6	0.1	\$0.013	\$83	6.30	4.82	1.64	1.35
162	Induction High Bay Lighting	Office-L	37%	37%	\$0.933	4.86	3.04	0.47	32	0.5	0.1	\$0.042	\$273	1.63	1.21	6.63	1.35

APPENDIX F

NON-ADDITIVE MEASURE LEVEL RESULTS

Commercial Electric Existing Construction

DSM ASSYST SUMMARY

Measure Number	Measure	Building Type	Energy Savings Fraction	Peak Reduction Fraction	Total Costs/ Sq Ft	Base EUI	EUI	Peak Watts/ Sq Ft	Service Life (yrs)	Technical Potential GWH	System Peak Tech. Potential MW	Levelized Cost of Conserved Energy \$/kWh	Levelized Cost of Avoided Peak Capacity \$/kW	Total Resource Cost Test (TRC)	Participant Test	Customer Payback (Years)	Revenue Test
163	PSMH + electronic ballast	Office-L	37%	37%	\$0.712	4.86	3.08	0.48	10	0.4	0.1	\$0.065	\$420	1.25	1.14	5.42	1.35
165	Occupancy Sensor, High Bay T5	Office-L	20%	5%	\$0.135	5.04	4.03	0.74	18	0.1	0.0	\$0.014	\$351	3.73	3.78	2.09	1.01
180	Base Parking Garage Metal Halide, 250 W	Office-L	0%	0%	\$0.000	3.12	3.12	0.38	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
181	High-efficiency fluorescent parking garage fixture (Base MH)	Office-L	62%	62%	\$0.416	3.12	1.17	0.14	18	110.7	13.4	\$0.022	\$179	3.46	2.83	2.80	1.26
182	Bi-Level LED Parking Garage Fixtures (Base MH)	Office-L	65%	63%	\$0.787	3.34	1.18	0.15	5	73.5	8.7	\$0.110	\$929	0.65	0.74	5.37	1.23
185	Base Fluorescent Parking Garage Lighting	Office-L	0%	0%	\$0.000	0.22	0.22	0.03	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
186	Parking Garage Low Wattage T8 Lamps replacing 32W lamps	Office-L	15%	15%	\$0.001	0.22	0.19	0.02	3	1.6	0.2	\$0.017	\$139	4.47	5.28	0.51	1.26
187	Bi-Level LED Parking Garage Fixtures (Base Fluorescent)	Office-L	2%	2%	\$0.176	0.22	0.22	0.03	5	0.1	0.0	\$9.822	\$83,252	0.01	0.01	481.69	1.23
190	Base Exit Sign	Office-L	0%	0%	\$0.000	0.02	0.02	0.00	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
191	LED Exit Sign	Office-L	81%	0%	\$0.017	0.05	0.01	0.00	18	1.0	0.1	\$0.043	\$354	1.75	1.43	5.53	1.26
200	Base Outdoor High Pressure Sodium 250W Lamp	Office-L	0%	0%	\$0.018	0.16	0.16	0.00	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
201	Outdoor Lighting Controls (Photocell/Timeclock)	Office-L	22%	38%	\$0.028	0.18	0.14	0.00	18	1.3	0.0	\$0.073	\$3,772	0.77	0.84	9.43	0.94
202	LED Outdoor Area Lighting	Office-L	52%	52%	\$0.349	0.16	0.08	0.00	9	5.0	0.1	\$0.682	\$59,603	0.07	0.10	59.01	0.89
203	Bi-Level LED Outdoor Lighting	Office-L	69%	70%	\$1.298	0.16	0.05	0.00	9	3.4	0.0	\$1.895	\$165,386	0.02	0.03	170.44	0.88
300	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	Office-L	0%	0%	\$1.800	2.98	2.98	1.01	20	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
301	Centrifugal Chiller, 0.51 kW/ton, 500 tons	Office-L	12%	12%	\$0.225	3.10	2.73	0.93	20	29.0	9.9	\$0.059	\$172	1.91	1.23	6.53	1.56
302	Window Film (Standard) - Chiller	Office-L	4%	4%	\$0.249	3.11	2.98	1.01	10	0.1	0.0	\$0.297	\$872	0.38	0.30	20.76	1.56
304	Cool Roof - Chiller	Office-L	4%	4%	\$0.048	3.00	2.89	0.98	10	5.1	1.7	\$0.068	\$199	1.65	1.30	4.73	1.56
306	VSD for Chiller Pumps and Towers	Office-L	10%	10%	\$0.126	3.01	2.71	0.92	15	10.0	3.4	\$0.047	\$138	2.38	1.67	4.55	1.56
308	Economizer - Chiller	Office-L	21%	7%	\$0.510	3.37	2.67	1.07	15	17.8	2.0	\$0.081	\$740	0.88	0.91	8.39	1.06
309	Ceiling/roof Insulation - Chiller	Office-L	12%	12%	\$0.055	3.32	2.92	0.99	20	1.5	0.5	\$0.013	\$39	8.40	5.40	1.49	1.56
310	Duct/Pipe Insulation - Chiller	Office-L	2%	2%	\$0.769	3.01	2.95	1.00	10	2.5	0.8	\$1.980	\$5,822	0.06	0.04	138.53	1.56
311	High Efficiency Chiller Motors	Office-L	3%	3%	\$0.046	3.03	2.94	1.00	20	2.9	1.0	\$0.047	\$138	2.38	1.53	5.24	1.56
320	Base DX Packaged System, EER=10.3, 10 tons	Office-L	0%	0%	\$4.765	5.17	5.17	1.76	20	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
322	DX Packaged System, EER=10.3, 10 tons, with Automated Fault Detection and Diagnostics	Office-L	10%	10%	\$0.120	5.17	4.65	1.58	20	11.0	3.7	\$0.023	\$67	4.94	3.18	2.52	1.56
323	DX Packaged System, EER=10.9, 10 tons	Office-L	6%	6%	\$0.450	5.17	4.88	1.66	20	7.4	2.5	\$0.154	\$454	0.72	0.47	17.17	1.56
324	DX Packaged System, EER=13.4, 10 tons	Office-L	23%	23%	\$0.662	5.17	3.98	1.35	20	31.1	10.6	\$0.054	\$160	2.06	1.32	6.04	1.56
329	Cool Roof - DX	Office-L	2%	2%	\$0.048	5.17	5.07	1.73	10	1.4	0.5	\$0.080	\$237	1.39	1.09	5.63	1.56
330	Optimize Controls - DX	Office-L	4%	1%	\$0.040	5.30	5.10	1.78	5	1.5	0.2	\$0.053	\$487	1.33	1.76	2.26	1.06
331	Economizer - DX	Office-L	16%	5%	\$0.510	5.20	4.36	1.68	15	24.6	2.7	\$0.068	\$617	1.05	1.09	7.00	1.06
332	Aerosol Duct Sealing - DX	Office-L	7%	7%	\$0.054	5.17	4.81	1.63	15	3.5	1.2	\$0.017	\$49	6.72	4.72	1.61	1.56
334	Duct/Pipe Insulation - DX	Office-L	2%	2%	\$0.649	5.17	5.06	1.72	10	2.4	0.8	\$0.975	\$2,866	0.11	0.09	68.20	1.56
335	DX Coil Cleaning	Office-L	5%	5%	\$0.039	5.22	4.97	1.69	5	4.5	1.5	\$0.043	\$126	2.61	2.35	1.69	1.56
337	Geothermal Heat Pump, EER=13, 10 tons - DX	Office-L	37%	37%	\$1.897	5.19	3.27	1.11	15	2.9	1.0	\$0.111	\$326	1.01	0.71	10.73	1.56
400	Base Fan Motor, 5hp, 1800rpm, 87.5%	Office-L	0%	0%	\$0.018	3.29	3.29	0.59	20	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
401	Fan Motor, 5hp, 1800rpm, 89.5%	Office-L	2%	2%	\$0.007	3.31	3.23	0.58	20	4.5	0.8	\$0.009	\$51	9.18	6.49	1.23	1.41
402	Variable Speed Drive Control, 5 HP	Office-L	30%	8%	\$0.134	3.33	2.33	0.55	15	64.9	2.9	\$0.015	\$335	4.00	4.07	1.86	1.07
410	Base Fan Motor, 15hp, 1800rpm, 91.0%	Office-L	0%	0%	\$0.007	3.05	3.05	0.55	20	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
411	Fan Motor, 15hp, 1800rpm, 92.4%	Office-L	2%	2%	\$0.002	3.05	3.00	0.54	20	1.5	0.3	\$0.004	\$21	22.68	16.03	0.50	1.41
413	Electronically Commutated Motors (ECM) on an Air Handler Unit	Office-L	14%	4%	\$0.067	3.05	2.61	0.53	15	15.5	0.7	\$0.017	\$378	3.55	3.61	2.10	1.07
414	Energy Recovery Ventilation (ERV)	Office-L	7%	7%	\$0.315	3.14	2.92	0.52	20	2.5	0.4	\$0.139	\$776	0.60	0.43	18.77	1.41
420	Base Fan Motor, 40hp, 1800rpm, 93.0%	Office-L	0%	0%	\$0.044	3.00	3.00	0.54	20	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
421	Fan Motor, 40hp, 1800rpm, 94.1%	Office-L	1%	1%	\$0.012	3.00	2.97	0.53	20	2.0	0.4	\$0.033	\$183	2.55	1.81	4.43	1.41
422	Variable Speed Drive Control, 40 HP	Office-L	30%	8%	\$0.186	3.19	2.24	0.53	20	38.6	1.7	\$0.019	\$422	3.17	2.96	2.71	1.07
423	Air Handler Tuneups	Office-L	10%	5%	\$0.050	3.00	2.70	0.51	8	9.4	0.8	\$0.030	\$339	2.23	2.45	2.25	1.17
424	Demand Controlled Ventilation	Office-L	15%	4%	\$0.124	3.00	2.55	0.52	15	21.5	1.0	\$0.031	\$692	1.94	1.97	3.85	1.07
500	Base Built-Up Refrigeration System	Office-L	0%	0%	\$0.000	0.42	0.42	0.05	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
501	High-efficiency fan motors	Office-L	12%	12%	\$0.015	0.44	0.38	0.04	20	0.0	0.0	\$0.027	\$242	2.61	1.97	4.07	1.33
507	Refrigeration Commissioning	Office-L	5%	5%	\$0.002	0.43	0.41	0.05	3	0.0	0.0	\$0.044	\$396	1.59	1.78	1.50	1.33
511	Freezer-Cooler Replacement Gaskets (built-up systems)	Office-L	7%	7%	\$0.000	0.43	0.40	0.05	4	0.0	0.0	\$0.001	\$10	66.26	72.05	0.05	1.33
513	Bi-level LED Case Lighting (built-up systems)	Office-L	1%	1%	\$0.002	0.42	0.41	0.05	10	0.0	0.0	\$0.081	\$953	0.76	0.77	8.02	1.21
514	Fiber Optic Case Lighting (built-up systems)	Office-L	24%	25%	\$0.002	0.42	0.32	0.04	1	0.2	0.0	\$0.025	\$224	2.81	3.36	0.30	1.33
517	Oversized Air Cooled Condenser	Office-L	8%	8%	\$0.008	0.44	0.40	0.04	16	0.0	0.0	\$0.024	\$213	2.97	2.39	3.23	1.33
520	Base Self-Contained Refrigeration	Office-L	0%	0%	\$0.000	0.06	0.06	0.01	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
600	Base Desktop PC	Office-L	0%	0%	\$0.000	1.86	1.86	0.21	4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
601	PC Manual Power Management Enabling	Office-L	68%	45%	\$0.050	2.24	0.72	0.14	4	123.0	9.4	\$0.011	\$143	5.61	7.02	0.48	1.15
602	PC Network Power Management Enabling	Office-L	68%	45%	\$0.050	2.24	0.72	0.14	4	123.0	9.4	\$0.011	\$143	5.61	7.02	0.48	1.15
603	Energy Star or Better PC	Office-L	33%	25%	\$0.030	1.95	1.31	0.17	4	59.5	5.2	\$0.016	\$179	4.17	5.06	0.67	1.19
610	Base Monitor, CRT	Office-L	0%	0%	\$0.000	0.04	0.04	0.00	4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
620	Base Monitor, LCD	Office-L	0%	0%	\$0.000	0.55	0.55	0.06	4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
621	Energy Star or Better Monitor--LCD	Office-L	56%	42%	\$0.031	0.64	0.28	0.04	4	26.2	2.3	\$0.029	\$337	2.22	2.69	1.25	1.19
622	Monitor Power Management Enabling--LCD	Office-L	56%	37%	\$0.052	0.71	0.31	0.05	4	17.5	1.3	\$0.044	\$580	1.39	1.73	1.94	1.15
630	Base Copier	Office-L	0%	0%	\$0.000	0.08	0.08	0.01	6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
631	Energy Star or Better Copier	Office-L	20%	15%	\$0.001	0.08	0.07	0.01	6	1.0	0.1	\$0.018	\$210	3.56	4.06	1.12	1.19
632	Copier Power Management Enabling	Office-L	19%	13%	\$0.007	0.09	0.07	0.01	6	0.6	0.0	\$0.094	\$1,233	0.65	0.77	5.92	1.15
640	Base Laser Printer	Office-L	0%	0%	\$0.000	0.09	0.09	0.01	5	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
641	Printer Power Management Enabling	Office-L	49%	32%	\$0.009	0.11	0.06	0.01	5	0.9	0.1	\$0.046	\$607	1.33	1.61	2.47	1.15
650	Base Data Center/Server Room	Office-L	0%	0%	\$0.000	246.45	246.45	28.47	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
651	Data Center Improved Operations	Office-L	20%	13%	\$0.500	256.69	205.50	25.74	10	2.4	0.2	\$0.002	\$20	40.62	43.13	0.14	1.15
652	Data Center Best Practices	Office-L	45%	34%	\$2.500	258.03	142.23	19.75	10	3.0	0.3	\$0.003	\$39	19.49	20.07	0.31	1.19
653	Data Center State of the Art practices	Office-L	56%	56%	\$5.000	246.45	108.44	12.53	10	1.3	0.2	\$0.006	\$49	13.02	12.55	0.49	1.27
660	Base Water Heating	Office-L	0%	0%	\$0.000	0.25	0.25	0.03	15	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A

APPENDIX F

NON-ADDITIVE MEASURE LEVEL RESULTS

Commercial Electric Existing Construction

DSM ASSYST SUMMARY

Measure Number	Measure	Building Type	Energy Savings Fraction	Peak Reduction Fraction	Total Costs/ Sq Ft	Base EUI	EUI	Peak Watts/ Sq Ft	Service Life (yrs)	Technical Potential GWH	System Peak Tech. Potential MW	Levelized Cost of Conserved Energy \$/kWh	Levelized Cost of Avoided Peak Capacity \$/kW	Total Resource Cost Test (TRC)	Participant Test	Customer Payback (Years)	Revenue Test
661	Demand controlled circulating systems	Office-L	5%	1%	\$0.023	0.26	0.24	0.03	15	0.5	0.0	\$0.201	\$7,166	0.24	0.27	28.47	0.98
662	High Efficiency Water Heater (electric)	Office-L	2%	2%	\$0.002	0.25	0.25	0.03	15	0.6	0.1	\$0.043	\$381	1.69	1.46	5.19	1.26
664	Tankless Water Heater	Office-L	10%	10%	\$0.016	0.25	0.23	0.03	20	2.1	0.2	\$0.064	\$569	1.13	0.90	8.94	1.26
665	Heat Pump Water Heater (air source)	Office-L	20%	20%	\$0.044	0.25	0.20	0.02	15	4.5	0.5	\$0.099	\$878	0.73	0.63	11.98	1.26
666	Heat Recovery Unit	Office-L	65%	65%	\$0.080	0.25	0.09	0.01	10	1.8	0.2	\$0.076	\$677	0.95	0.92	6.69	1.26
667	Heat Trap	Office-L	9%	9%	\$0.003	0.26	0.23	0.03	10	1.4	0.2	\$0.023	\$206	3.11	3.03	2.04	1.26
668	Solar Water Heater	Office-L	70%	70%	\$0.138	0.25	0.08	0.01	20	14.8	1.7	\$0.077	\$681	0.94	0.75	10.71	1.26
670	Base Vending Machines	Office-L	0%	0%	\$0.000	0.09	0.09	0.01	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
700	Base Cooking	Office-L	0%	0%	\$0.000	0.13	0.13	0.02	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
704	Energy Star Hot Food Holding Cabinets	Office-L	4%	4%	\$0.070	0.13	0.12	0.02	10	0.2	0.0	\$2,376	\$19,083	0.03	0.04	174.95	1.16
800	Base Heating	Office-L	0%	0%	\$0.000	1.71	1.71	0.10	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
900	Base Miscellaneous	Office-L	0%	0%	\$0.000	0.68	0.68	0.08	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
100	Base Fluorescent Fixture, 4L4T8	Restaurant	0%	0%	\$0.000	6.47	6.47	1.06	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
101	ROB 4L4' Premium T8	Restaurant	17%	17%	\$0.286	6.47	5.36	0.88	10	1.4	0.2	\$0.040	\$242	2.12	1.77	3.47	1.46
102	Delamping 3L4' F32T8	Restaurant	25%	25%	\$1.108	6.47	4.85	0.80	18	0.8	0.1	\$0.070	\$425	1.20	0.85	9.31	1.46
103	LED Troffer (Base 4L4T8)	Restaurant	40%	40%	\$7.044	6.47	3.88	0.64	20	2.2	0.4	\$0.263	\$1,603	0.32	0.22	36.67	1.46
104	Lighting Control Tuneup	Restaurant	4%	1%	\$0.029	6.49	6.20	1.05	6	0.2	0.0	\$0.023	\$504	2.32	2.91	1.57	1.09
105	Occupancy Sensor, 4L4' Fluorescent Fixtures	Restaurant	27%	8%	\$0.135	6.47	4.74	0.98	18	0.1	0.0	\$0.008	\$172	6.80	6.43	1.23	1.09
106	Continuous Dimming, 4L4' Fluorescent Fixtures	Restaurant	46%	13%	\$0.750	6.47	3.47	0.92	10	1.3	0.1	\$0.039	\$843	1.39	1.56	3.94	1.09
107	High Performance Lighting R/R - 25% Savings, Base 4L4T8	Restaurant	24%	13%	\$0.400	6.47	4.94	0.93	20	0.6	0.0	\$0.025	\$294	2.59	2.08	3.95	1.25
110	Base Fluorescent Fixture, 2L4T8, 1 EB	Restaurant	0%	0%	\$0.000	3.10	3.10	0.51	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
111	ROB 2L4' Premium T8	Restaurant	17%	17%	\$0.121	3.10	2.57	0.42	10	8.1	1.3	\$0.035	\$214	2.39	2.00	3.08	1.46
112	Delamping 1L4' F32T8	Restaurant	48%	48%	\$0.940	3.10	1.61	0.26	18	9.0	1.5	\$0.064	\$393	1.30	0.92	8.61	1.46
113	LED Troffer (Base 2L4T8)	Restaurant	40%	40%	\$3.790	3.10	1.86	0.30	20	13.2	2.2	\$0.295	\$1,801	0.28	0.19	41.21	1.46
114	Lighting Control Tuneup	Restaurant	4%	1%	\$0.014	3.10	2.96	0.50	6	1.5	0.1	\$0.024	\$529	2.22	2.77	1.64	1.09
115	Occupancy Sensor, 2L4' Fluorescent Fixtures	Restaurant	27%	8%	\$0.135	3.10	2.27	0.47	18	0.9	0.0	\$0.017	\$360	3.25	3.08	2.57	1.09
116	Continuous Dimming, 2L4' Fluorescent Fixtures	Restaurant	46%	13%	\$0.750	3.10	1.66	0.44	10	7.6	0.4	\$0.081	\$1,761	0.67	0.75	8.23	1.09
117	High Performance Lighting R/R - 25% Savings, Base 2L4T8	Restaurant	24%	13%	\$0.400	3.10	2.36	0.44	20	3.3	0.3	\$0.053	\$614	1.24	1.00	8.04	1.25
130	Base High-Efficiency Incandescent Flood, 53W to Screw-in Replacement	Restaurant	0%	0%	\$0.000	2.20	2.20	0.36	1	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
131	CFL Screw-in 18W	Restaurant	66%	66%	\$0.118	2.20	0.75	0.12	4	2.2	0.4	\$0.027	\$164	3.11	3.07	1.10	1.46
132	Cold Cathode Lamps	Restaurant	66%	66%	\$0.345	2.20	0.75	0.12	10	0.2	0.0	\$0.037	\$223	2.29	1.92	3.20	1.46
133	LED screw-in PAR replacement (base incandescent)	Restaurant	89%	90%	\$1.202	2.20	0.23	0.04	20	3.3	0.5	\$0.059	\$360	1.42	0.97	8.24	1.46
140	Base High-Efficiency Incandescent Flood, 53W to Hardwired Replacement	Restaurant	0%	0%	\$0.000	2.20	2.20	0.36	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
141	CFL Hardwired, Modular 18W	Restaurant	66%	66%	\$0.815	2.20	0.75	0.12	18	17.2	2.8	\$0.057	\$348	1.47	1.03	7.64	1.46
142	Ceramic Metal Halide	Restaurant	37%	37%	\$1.953	2.20	1.39	0.23	18	4.8	0.8	\$0.243	\$1,479	0.35	0.24	32.45	1.46
143	LED fixture replacement (base incandescent flood)	Restaurant	89%	90%	\$1.500	2.20	0.23	0.04	20	23.4	3.8	\$0.074	\$449	1.14	0.78	10.28	1.46
150	Base CFL to screw-in replacement	Restaurant	0%	0%	\$0.000	0.80	0.80	0.13	4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
151	LED screw-in replacement (base CFL)	Restaurant	67%	68%	\$1.110	0.80	0.26	0.04	20	0.8	0.1	\$0.198	\$1,206	0.42	0.29	27.59	1.46
160	Base High Bay Metal Halide, 400W	Restaurant	0%	0%	\$0.024	0.07	0.07	0.01	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
161	High Bay T5	Restaurant	49%	49%	\$0.008	0.07	0.04	0.01	18	0.1	0.0	\$0.025	\$151	3.39	2.39	3.30	1.46
162	Induction High Bay Lighting	Restaurant	37%	37%	\$0.026	0.07	0.04	0.01	32	0.1	0.0	\$0.081	\$494	0.88	0.60	13.36	1.46
163	PSMH + electronic ballast	Restaurant	37%	37%	\$0.020	0.07	0.05	0.01	18	0.1	0.0	\$0.077	\$469	1.09	0.77	10.28	1.46
165	Occupancy Sensor, High Bay T5	Restaurant	18%	5%	\$0.135	0.07	0.06	0.01	18	0.0	0.0	\$1.040	\$22,594	0.05	0.05	161.01	1.09
190	Base Exit Sign	Restaurant	0%	0%	\$0.000	0.06	0.06	0.01	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
191	LED Exit Sign	Restaurant	81%	81%	\$0.024	0.09	0.02	0.00	18	0.8	0.1	\$0.036	\$219	2.30	1.65	4.90	1.43
200	Base Outdoor High Pressure Sodium 250W Lamp	Restaurant	0%	0%	\$0.415	3.76	3.76	0.21	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
201	Outdoor Lighting Controls (Photocell/Timeclock)	Restaurant	23%	38%	\$0.072	4.15	3.18	0.14	18	11.5	1.0	\$0.007	\$84	9.10	8.65	0.91	1.08
202	LED Outdoor Area Lighting	Restaurant	52%	52%	\$0.878	3.76	1.81	0.10	9	42.6	2.4	\$0.074	\$1,340	0.77	0.96	6.09	1.00
203	Bi-Level LED Outdoor Lighting	Restaurant	68%	70%	\$3.266	3.76	1.20	0.06	9	28.0	1.6	\$0.209	\$3,719	0.26	0.33	17.91	0.99
300	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	Restaurant	0%	0%	\$1.800	4.02	4.02	1.88	20	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
320	Base DX Packaged System, EER=10.3, 10 tons	Restaurant	0%	0%	\$4.765	6.97	6.97	3.26	20	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
321	DX Tune Up/ Advanced Diagnostics	Restaurant	4%	3%	\$0.125	7.20	6.93	3.28	10	0.5	0.2	\$0.072	\$231	1.46	1.25	4.91	1.42
322	DX Packaged System, EER=10.3, 10 tons, with Automated Fault Detection and Diagnostics	Restaurant	10%	10%	\$0.120	6.97	6.27	2.93	20	9.0	4.2	\$0.017	\$36	7.93	4.42	1.81	1.79
323	DX Packaged System, EER=10.9, 10 tons	Restaurant	6%	6%	\$0.450	6.97	6.58	3.08	20	7.1	3.3	\$0.114	\$245	1.16	0.65	12.33	1.79
324	DX Packaged System, EER=13.4, 10 tons	Restaurant	23%	23%	\$0.662	6.97	5.36	2.51	20	29.7	13.9	\$0.040	\$86	3.31	1.84	4.34	1.79
325	Window Film (Standard) - DX	Restaurant	5%	5%	\$0.081	6.99	6.66	3.11	10	4.2	2.0	\$0.038	\$82	3.47	2.37	2.60	1.79
326	Prog. Thermostat - DX	Restaurant	4%	1%	\$0.062	7.14	6.89	3.30	8	1.5	0.2	\$0.044	\$269	1.82	2.02	2.73	1.16
329	Cool Roof - DX	Restaurant	7%	7%	\$0.484	7.01	6.52	3.05	10	4.1	1.9	\$0.155	\$331	0.86	0.59	10.49	1.79
330	Optimize Controls - DX	Restaurant	4%	1%	\$0.040	7.13	6.88	3.29	5	1.2	0.2	\$0.044	\$263	1.86	2.25	1.77	1.16
331	Economizer - DX	Restaurant	6%	2%	\$0.510	7.25	6.84	3.32	15	2.3	0.4	\$0.140	\$845	0.58	0.55	13.92	1.16
332	Aerosol Duct Sealing - DX	Restaurant	7%	7%	\$0.054	7.01	6.52	3.05	15	2.7	1.2	\$0.012	\$26	10.85	6.61	1.15	1.79
333	Ceiling/roof Insulation - DX	Restaurant	12%	12%	\$0.239	7.92	6.96	3.25	20	0.0	0.0	\$0.024	\$52	5.48	3.06	2.62	1.79
334	Duct/Pipe Insulation - DX	Restaurant	2%	2%	\$0.649	6.99	6.85	3.20	10	1.6	0.7	\$0.720	\$1,541	0.18	0.13	48.78	1.79
335	DX Coil Cleaning	Restaurant	5%	5%	\$0.039	7.15	6.80	3.18	5	2.3	1.1	\$0.031	\$67	4.26	3.33	1.20	1.79
337	Geothermal Heat Pump, EER=13, 10 tons - DX	Restaurant	37%	37%	\$2.754	6.99	4.40	2.06	15	2.4	1.1	\$0.120	\$256	1.11	0.68	11.19	1.79
400	Base Fan Motor, 5hp, 1800rpm, 87.5%	Restaurant	0%	0%	\$0.095	6.33	6.33	0.96	20	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
401	Fan Motor, 5hp, 1800rpm, 89.5%	Restaurant	2%	2%	\$0.036	6.36	6.22	0.94	20	1.2	0.2	\$0.025	\$165	3.20	2.25	3.56	1.42
402	Variable Speed Drive Control, 5 HP	Restaurant	30%	8%	\$0.701	6.33	4.44	0.89	15	20.8	0.8	\$0.042	\$1,092	1.43	1.40	5.41	1.11
410	Base Fan Motor, 15hp, 1800rpm, 91.0%	Restaurant	0%	0%	\$0.043	5.87	5.87	0.89	20	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
420	Base Fan Motor, 40hp, 1800rpm, 93.0%	Restaurant	0%	0%	\$0.000	5.77	5.77	0.88	20	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
500	Base Built-Up Refrigeration System	Restaurant	0%	0%	\$0.000	7.31	7.31	0.87	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
501	High-efficiency fan motors	Restaurant	12%	12%	\$0.580	7.31	6.43	0.77	20	4.1	0.5	\$0.065	\$541	1.12	0.83	9.70	1.35

APPENDIX F

NON-ADDITIVE MEASURE LEVEL RESULTS

Commercial Electric Existing Construction

DSM ASSYST SUMMARY

Measure Number	Measure	Building Type	Energy Savings Fraction	Peak Reduction Fraction	Total Costs/ Sq Ft	Base EUI	EUI	Peak Watts/ Sq Ft	Service Life (yrs)	Technical Potential GWH	System Peak Tech. Potential MW	Levelized Cost of Conserved Energy \$/kWh	Levelized Cost of Avoided Peak Capacity \$/kW	Total Resource Cost Test (TRC)	Participant Test	Customer Payback (Years)	Revenue Test
505	Compressor VSD retrofit	Restaurant	6%	2%	\$0.203	7.31	6.86	0.86	13	3.8	0.1	\$0.056	\$1,855	0.99	1.04	6.89	1.09
507	Refrigeration Commissioning	Restaurant	5%	0%	\$0.088	7.50	7.12	0.85	3	0.3	0.0	\$0.101	\$849	0.71	0.78	3.42	1.35
508	Demand Hot Gas Defrost	Restaurant	3%	3%	\$0.016	7.31	7.13	0.85	10	1.5	0.2	\$0.014	\$115	5.26	4.76	1.29	1.35
511	Freezer-Cooler Replacement Gaskets (built-up systems)	Restaurant	7%	7%	\$0.014	7.56	7.06	0.84	4	2.1	0.2	\$0.009	\$77	7.86	8.39	0.40	1.35
513	Bi-level LED Case Lighting (built-up systems)	Restaurant	1%	1%	\$0.274	7.31	7.25	0.87	10	0.5	0.0	\$0.703	\$7,692	0.09	0.09	69.39	1.24
514	Fiber Optic Case Lighting (built-up systems)	Restaurant	25%	25%	\$0.312	7.31	5.52	0.66	1	11.2	1.3	\$0.216	\$1,808	0.33	0.39	2.55	1.35
517	Oversized Air Cooled Condenser	Restaurant	8%	8%	\$0.310	7.62	7.00	0.84	16	2.6	0.3	\$0.054	\$455	1.33	1.05	7.37	1.35
520	Base Self-Contained Refrigeration	Restaurant	0%	0%	\$0.000	4.73	4.73	0.57	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
521	Strip curtains for walk-ins	Restaurant	1%	1%	\$0.146	4.73	4.70	0.56	4	0.3	0.0	\$1.588	\$13,294	0.05	0.05	69.51	1.35
522	Night covers for display cases (self-contained)	Restaurant	1%	0%	\$0.002	4.73	4.68	0.57	5	0.5	0.0	\$0.012	N/A	3.21	5.28	0.76	0.85
523	Freezer-Cooler Replacement Gaskets (self-contained)	Restaurant	3%	3%	\$0.003	4.80	4.67	0.56	4	0.6	0.1	\$0.007	\$55	11.07	11.82	0.29	1.35
524	Bi-level LED Case Lighting (self-contained units)	Restaurant	1%	1%	\$0.044	4.74	4.70	0.56	10	0.2	0.0	\$0.175	\$1,918	0.36	0.36	17.30	1.24
526	Energy-Star Refrigerator, solid door	Restaurant	3%	3%	\$0.015	4.79	4.63	0.55	10	0.9	0.1	\$0.014	\$121	4.98	4.51	1.37	1.35
527	Energy-Star Freezer, solid door	Restaurant	1%	1%	\$0.018	4.76	4.69	0.56	10	0.4	0.0	\$0.043	\$363	1.66	1.51	4.09	1.35
528	Energy-Star Refrigerator, glass door	Restaurant	2%	2%	\$0.000	4.76	4.69	0.56	10	0.4	0.1	\$0.000	\$2	305.06	276.27	0.02	1.35
529	Energy-Star Freezer, glass door	Restaurant	3%	3%	\$0.002	4.79	4.63	0.55	10	0.9	0.1	\$0.002	\$18	34.00	30.79	0.20	1.35
530	Energy Star Ice Machines	Restaurant	2%	2%	\$0.003	4.78	4.66	0.56	10	0.6	0.1	\$0.003	\$29	21.05	19.06	0.32	1.35
600	Base Desktop PC	Restaurant	0%	0%	\$0.000	0.27	0.27	0.04	4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
601	PC Manual Power Management Enabling	Restaurant	61%	45%	\$0.007	0.32	0.13	0.03	4	2.3	0.3	\$0.013	\$104	5.81	6.26	0.54	1.34
602	PC Network Power Management Enabling	Restaurant	61%	45%	\$0.007	0.32	0.13	0.03	4	2.3	0.3	\$0.013	\$104	5.81	6.26	0.54	1.34
603	Energy Star or Better PC	Restaurant	30%	25%	\$0.004	0.27	0.19	0.03	4	1.7	0.2	\$0.018	\$133	4.33	4.54	0.74	1.38
610	Base Monitor, CRT	Restaurant	0%	0%	\$0.000	0.02	0.02	0.00	4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
611	Energy Star or Better Monitor-CRT	Restaurant	52%	42%	\$0.001	0.02	0.01	0.00	4	0.1	0.0	\$0.029	\$219	2.64	2.77	1.22	1.38
612	Monitor Power Management Enabling--CRT	Restaurant	48%	35%	\$0.002	0.03	0.02	0.00	4	0.0	0.0	\$0.039	\$321	1.89	2.04	1.65	1.34
620	Base Monitor, LCD	Restaurant	0%	0%	\$0.000	0.09	0.09	0.01	4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
621	Energy Star or Better Monitor--LCD	Restaurant	52%	42%	\$0.005	0.09	0.04	0.01	4	0.9	0.1	\$0.036	\$275	2.10	2.20	1.53	1.38
622	Monitor Power Management Enabling--LCD	Restaurant	50%	37%	\$0.009	0.11	0.06	0.01	4	0.5	0.1	\$0.050	\$411	1.47	1.59	2.12	1.34
630	Base Copier	Restaurant	0%	0%	\$0.000	0.05	0.05	0.01	6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
631	Energy Star or Better Copier	Restaurant	19%	15%	\$0.001	0.05	0.04	0.01	6	0.1	0.0	\$0.020	\$152	3.80	3.75	1.21	1.38
632	Copier Power Management Enabling	Restaurant	17%	13%	\$0.004	0.05	0.04	0.01	6	0.1	0.0	\$0.109	\$906	0.67	0.68	6.71	1.34
640	Base Laser Printer	Restaurant	0%	0%	\$0.000	0.02	0.02	0.00	5	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
641	Printer Power Management Enabling	Restaurant	44%	32%	\$0.003	0.02	0.01	0.00	5	0.0	0.0	\$0.069	\$569	1.06	1.11	3.58	1.34
650	Base Data Center/Server Room	Restaurant	0%	0%	\$0.000	277.59	277.59	45.12	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
651	Data Center Improved Operations	Restaurant	18%	13%	\$0.500	287.83	236.60	40.61	10	0.1	0.0	\$0.002	\$13	48.21	44.11	0.14	1.34
652	Data Center Best Practices	Restaurant	42%	34%	\$2.500	289.74	168.23	31.20	10	0.1	0.0	\$0.003	\$24	23.88	21.36	0.29	1.37
653	Data Center State of the Art practices	Restaurant	56%	56%	\$5.000	277.59	122.14	19.85	10	0.1	0.0	\$0.005	\$31	16.76	14.12	0.44	1.45
660	Base Water Heating	Restaurant	0%	0%	\$0.000	2.32	2.32	0.33	15	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
661	Demand controlled circulating systems	Restaurant	4%	1%	\$0.046	2.32	2.23	0.32	15	0.2	0.0	\$0.059	\$1,267	0.95	0.96	7.92	1.09
662	High Efficiency Water Heater (electric)	Restaurant	2%	2%	\$0.004	2.32	2.27	0.32	15	0.2	0.0	\$0.009	\$61	9.37	7.55	1.00	1.35
664	Tankless Water Heater	Restaurant	10%	10%	\$0.031	2.32	2.09	0.29	20	0.6	0.1	\$0.013	\$91	6.27	4.63	1.73	1.35
665	Heat Pump Water Heater (air source)	Restaurant	20%	20%	\$0.082	2.32	1.85	0.26	15	1.4	0.2	\$0.020	\$140	4.06	3.27	2.32	1.35
666	Heat Recovery Unit	Restaurant	65%	65%	\$0.080	2.32	0.81	0.11	10	4.5	0.6	\$0.008	\$58	9.77	8.84	0.70	1.35
667	Heat Trap	Restaurant	9%	9%	\$0.006	2.37	2.16	0.30	10	0.4	0.1	\$0.005	\$33	17.30	15.65	0.39	1.35
668	Solar Water Heater	Restaurant	70%	70%	\$0.256	2.32	0.70	0.10	20	1.2	0.2	\$0.015	\$109	5.23	3.87	2.07	1.35
670	Base Vending Machines	Restaurant	0%	0%	\$0.000	0.15	0.15	0.02	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
700	Base Cooking	Restaurant	0%	0%	\$0.000	10.90	10.90	1.86	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
701	Convection Oven	Restaurant	0%	0%	\$0.060	10.90	10.87	1.86	10	0.4	0.1	\$0.325	\$1,903	0.26	0.22	28.15	1.47
702	Efficient Fryer	Restaurant	5%	5%	\$0.037	10.90	10.40	1.78	10	7.3	1.3	\$0.011	\$67	7.42	6.20	0.99	1.47
703	Efficient Steamer	Restaurant	21%	21%	\$0.136	10.90	8.57	1.46	10	34.3	5.9	\$0.009	\$53	9.42	7.87	0.78	1.47
704	Energy Star Hot Food Holding Cabinets	Restaurant	0%	0%	\$0.095	10.90	10.86	1.85	10	0.6	0.1	\$0.354	\$2,071	0.24	0.20	30.64	1.47
800	Base Heating	Restaurant	0%	0%	\$0.000	0.76	0.76	0.00	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
900	Base Miscellaneous	Restaurant	0%	0%	\$0.000	1.45	1.45	0.24	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
100	Base Fluorescent Fixture, 4L4T8	Retail-S	0%	0%	\$0.000	3.58	3.58	0.54	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
101	ROB 4L4' Premium T8	Retail-S	17%	17%	\$0.150	3.58	2.96	0.45	10	33.7	5.1	\$0.040	\$263	2.04	1.78	3.47	1.41
102	Delamping 3L4' F32T8	Retail-S	25%	25%	\$0.580	3.58	2.68	0.40	18	19.7	3.0	\$0.066	\$438	1.23	0.90	8.81	1.41
103	LED Troffer (Base 4L4T8)	Retail-S	40%	40%	\$3.688	3.58	2.15	0.32	19	55.1	8.3	\$0.255	\$1,691	0.32	0.23	34.78	1.41
104	Lighting Control Tuneup	Retail-S	5%	1%	\$0.029	3.58	3.41	0.53	6	6.6	0.3	\$0.039	\$997	1.32	1.71	2.66	1.05
105	Occupancy Sensor, 4L4' Fluorescent Fixtures	Retail-S	29%	8%	\$0.135	3.58	2.55	0.50	18	4.0	0.2	\$0.013	\$340	3.87	3.80	2.08	1.05
106	Continuous Dimming, 4L4' Fluorescent Fixtures	Retail-S	50%	13%	\$0.750	3.58	1.79	0.47	10	8.3	0.3	\$0.065	\$1,662	0.79	0.93	6.66	1.05
107	High Performance Lighting R/R - 25% Savings, Base 4L4T8	Retail-S	25%	13%	\$0.400	3.58	2.70	0.47	20	14.5	1.1	\$0.044	\$579	1.42	1.19	6.74	1.20
110	Base Fluorescent Fixture, 2L4T8, 1 EB	Retail-S	0%	0%	\$0.000	2.10	2.10	0.32	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
111	ROB 2L4' Premium T8	Retail-S	17%	17%	\$0.078	2.10	1.74	0.26	10	6.7	1.0	\$0.035	\$233	2.31	2.01	3.07	1.41
112	Delamping 1L4' F32T8	Retail-S	48%	48%	\$0.603	2.10	1.09	0.16	18	7.5	1.1	\$0.061	\$405	1.33	0.97	8.14	1.41
113	LED Troffer (Base 2L4T8)	Retail-S	40%	40%	\$2.430	2.10	1.26	0.19	19	11.0	1.7	\$0.286	\$1,901	0.28	0.20	39.09	1.41
114	Lighting Control Tuneup	Retail-S	5%	1%	\$0.014	2.10	2.00	0.31	6	1.3	0.1	\$0.033	\$851	1.55	2.01	2.27	1.05
115	Occupancy Sensor, 2L4' Fluorescent Fixtures	Retail-S	29%	8%	\$0.135	2.10	1.49	0.29	18	0.8	0.0	\$0.023	\$580	2.27	2.23	3.55	1.05
116	Continuous Dimming, 2L4' Fluorescent Fixtures	Retail-S	50%	13%	\$0.750	2.10	1.05	0.27	10	1.6	0.1	\$0.111	\$2,836	0.46	0.54	11.37	1.05
117	High Performance Lighting R/R - 25% Savings, Base 2L4T8	Retail-S	25%	13%	\$0.400	2.10	1.58	0.28	20	2.9	0.2	\$0.076	\$988	0.83	0.70	11.50	1.20
120	Base Other Fluorescent Fixture	Retail-S	0%	0%	\$0.000	1.08	1.08	0.16	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
121	ROB Premium T8 (base other fluorescent)	Retail-S	17%	17%	\$0.080	1.08	0.89	0.13	10	0.1	0.0	\$0.070	\$466	1.15	1.00	6.15	1.41
122	Lighting Control Tuneup	Retail-S	5%	1%	\$0.029	1.08	1.03	0.16	6	0.0	0.0	\$0.130	\$3,307	0.40	0.52	8.82	1.05
123	Occupancy Sensor, 4L8' Fluorescent Fixtures	Retail-S	29%	8%	\$0.135	1.08	0.77	0.15	18	0.0	0.0	\$0.044	\$1,127	1.17	1.15	6.89	1.05

APPENDIX F

NON-ADDITIVE MEASURE LEVEL RESULTS

Commercial Electric Existing Construction

DSM ASSYST SUMMARY

Measure Number	Measure	Building Type	Energy Savings Fraction	Peak Reduction Fraction	Total Costs/ Sq Ft	Base EUI	EUI	Peak Watts/ Sq Ft	Service Life (yrs)	Technical Potential GWH	System Peak Tech. Potential MW	Levelized Cost of Conserved Energy \$/kWh	Levelized Cost of Avoided Peak Capacity \$/kW	Total Resource Cost Test (TRC)	Participant Test	Customer Payback (Years)	Revenue Test
124	Continuous Dimming, 4L8' Fluorescent Fixtures	Retail-S	50%	13%	\$0.750	1.08	0.54	0.14	10	0.0	0.0	\$0.216	\$5,511	0.24	0.28	22.09	1.05
125	High Performance Lighting R/R - 25% Savings, Base Other Fluorescent	Retail-S	25%	13%	\$0.400	1.08	0.81	0.14	20	0.0	0.0	\$0.147	\$1,921	0.43	0.36	22.35	1.20
130	Base High-Efficiency Incandescent Flood, 53W to Screw-in Replacement	Retail-S	0%	0%	\$0.000	2.82	2.82	0.43	1	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
131	CFL Screw-in 18W	Retail-S	66%	66%	\$0.144	2.82	0.96	0.14	4	13.1	2.0	\$0.027	\$179	3.01	3.08	1.09	1.41
132	Cold Cathode Lamps	Retail-S	66%	66%	\$0.420	2.82	0.96	0.14	10	1.5	0.2	\$0.037	\$243	2.22	1.93	3.20	1.41
133	LED screw-in PAR replacement (base incandescent)	Retail-S	90%	90%	\$1.464	2.82	0.30	0.04	19	19.7	3.0	\$0.057	\$380	1.42	1.02	7.82	1.41
140	Base High-Efficiency Incandescent Flood, 53W to Hardwired Replacement	Retail-S	0%	0%	\$0.000	2.82	2.82	0.43	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
141	CFL Hardwired, Modular 18W	Retail-S	66%	66%	\$0.992	2.82	0.96	0.14	18	5.9	0.9	\$0.054	\$359	1.50	1.09	7.23	1.41
142	Ceramic Metal Halide	Retail-S	37%	37%	\$2.379	2.83	1.78	0.27	18	3.0	0.4	\$0.230	\$1,526	0.35	0.26	30.68	1.41
143	LED fixture replacement (base incandescent flood)	Retail-S	90%	90%	\$1.827	2.82	0.30	0.04	19	8.1	1.2	\$0.071	\$474	1.13	0.82	9.75	1.41
150	Base CFL to screw-in replacement	Retail-S	0%	0%	\$0.000	0.65	0.65	0.10	4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
151	LED screw-in replacement (base CFL)	Retail-S	68%	68%	\$0.853	0.65	0.21	0.03	19	6.5	1.0	\$0.192	\$1,272	0.42	0.30	26.17	1.41
190	Base Exit Sign	Retail-S	0%	0%	\$0.000	0.02	0.02	0.00	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
191	LED Exit Sign	Retail-S	81%	81%	\$0.008	0.02	0.00	0.00	18	0.7	0.1	\$0.048	\$322	1.68	1.24	6.40	1.40
200	Base Outdoor High Pressure Sodium 250W Lamp	Retail-S	0%	0%	\$0.140	1.27	1.27	0.07	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
201	Outdoor Lighting Controls (Photocell/Timeclock)	Retail-S	24%	38%	\$0.023	1.40	1.07	0.05	18	12.4	1.1	\$0.007	\$81	9.62	9.27	0.85	1.07
202	LED Outdoor Area Lighting	Retail-S	52%	52%	\$0.280	1.27	0.61	0.03	9	46.0	2.5	\$0.070	\$1,286	0.81	1.03	5.71	0.99
203	Bi-Level LED Outdoor Lighting	Retail-S	68%	70%	\$1.041	1.27	0.41	0.02	9	30.1	1.7	\$0.199	\$3,569	0.27	0.35	16.85	0.98
300	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	Retail-S	0%	0%	\$1.800	2.42	2.42	1.13	20	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
301	Centrifugal Chiller, 0.51 kW/ton, 500 tons	Retail-S	12%	12%	\$0.225	2.52	2.21	1.03	20	2.4	1.1	\$0.072	\$155	1.84	1.03	7.79	1.79
309	Ceiling/roof Insulation - Chiller	Retail-S	12%	12%	\$0.549	2.70	2.37	1.11	20	0.2	0.1	\$0.164	\$351	0.81	0.45	17.68	1.79
320	Base DX Packaged System, EER=10.3, 10 tons	Retail-S	0%	0%	\$4.765	4.19	4.19	1.96	20	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
321	DX Tune Up/ Advanced Diagnostics	Retail-S	4%	3%	\$0.125	4.27	4.12	1.95	10	4.2	1.3	\$0.122	\$388	0.87	0.75	8.27	1.42
322	DX Packaged System, EER=10.3, 10 tons, with Automated Fault Detection and Diagnostics	Retail-S	10%	10%	\$0.120	4.19	3.77	1.76	20	21.4	10.0	\$0.028	\$60	4.77	2.66	3.01	1.79
323	DX Packaged System, EER=10.9, 10 tons	Retail-S	6%	6%	\$0.450	4.19	3.96	1.85	20	16.9	7.9	\$0.190	\$407	0.70	0.39	20.49	1.79
324	DX Packaged System, EER=13.4, 10 tons	Retail-S	23%	23%	\$0.662	4.19	3.23	1.51	20	70.5	32.9	\$0.067	\$143	1.99	1.11	7.21	1.79
325	Window Film (Standard) - DX	Retail-S	1%	1%	\$0.116	4.23	4.18	1.95	10	0.5	0.2	\$0.382	\$817	0.35	0.24	25.87	1.79
326	Prog. Thermostat - DX	Retail-S	4%	1%	\$0.062	4.22	4.08	1.95	8	8.5	1.4	\$0.075	\$455	1.08	1.20	4.61	1.16
329	Cool Roof - DX	Retail-S	13%	13%	\$0.484	4.29	3.73	1.75	10	16.7	7.8	\$0.135	\$289	0.98	0.67	9.15	1.79
330	Optimize Controls - DX	Retail-S	4%	1%	\$0.040	4.29	4.14	1.98	5	2.7	0.5	\$0.072	\$438	1.12	1.35	2.95	1.16
331	Economizer - DX	Retail-S	12%	4%	\$0.510	4.33	3.81	1.94	15	27.9	4.6	\$0.110	\$666	0.74	0.69	10.96	1.16
332	Aerosol Duct Sealing - DX	Retail-S	7%	7%	\$0.054	4.19	3.90	1.82	15	6.9	3.2	\$0.021	\$44	6.49	3.96	1.92	1.79
334	Duct/Pipe Insulation - DX	Retail-S	2%	2%	\$0.649	4.23	4.14	1.94	10	2.8	1.3	\$1.192	\$2,550	0.11	0.08	80.73	1.79
335	DX Coil Cleaning	Retail-S	5%	5%	\$0.039	4.29	4.08	1.91	5	5.9	2.8	\$0.052	\$111	2.56	2.00	1.99	1.79
337	Geothermal Heat Pump, EER=13, 10 tons - DX	Retail-S	37%	37%	\$1.651	4.21	2.65	1.24	15	5.6	2.6	\$0.119	\$255	1.12	0.68	11.14	1.79
400	Base Fan Motor, 5hp, 1800rpm, 87.5%	Retail-S	0%	0%	\$0.014	4.23	4.23	0.70	20	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
401	Fan Motor, 5hp, 1800rpm, 89.5%	Retail-S	2%	2%	\$0.006	4.25	4.16	0.69	20	4.6	0.8	\$0.006	\$34	14.64	10.16	0.79	1.44
402	Variable Speed Drive Control, 5 HP	Retail-S	30%	8%	\$0.106	4.23	2.98	0.64	15	85.3	3.6	\$0.010	\$229	6.41	6.28	1.21	1.12
410	Base Fan Motor, 15hp, 1800rpm, 91.0%	Retail-S	0%	0%	\$0.057	3.92	3.92	0.65	20	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
412	Variable Speed Drive Control, 15 HP	Retail-S	30%	8%	\$0.308	3.92	2.76	0.60	20	2.8	0.1	\$0.026	\$620	2.37	2.12	3.78	1.12
413	Electronically Commutated Motors (ECM) on an Air Handler Unit	Retail-S	14%	4%	\$0.044	3.92	3.36	0.62	15	1.3	0.1	\$0.009	\$210	6.97	6.83	1.11	1.12
414	Energy Recovery Ventilation (ERV)	Retail-S	7%	7%	\$0.206	3.93	3.65	0.60	20	0.6	0.1	\$0.073	\$444	1.13	0.79	10.17	1.44
420	Base Fan Motor, 40hp, 1800rpm, 93.0%	Retail-S	0%	0%	\$0.071	3.86	3.86	0.64	20	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
422	Variable Speed Drive Control, 40 HP	Retail-S	30%	8%	\$0.301	3.86	2.72	0.59	20	2.7	0.1	\$0.026	\$617	2.38	2.13	3.76	1.12
423	Air Handler Tuneups	Retail-S	10%	5%	\$0.050	3.86	3.48	0.60	8	0.3	0.0	\$0.024	\$287	2.85	3.03	1.82	1.21
424	Demand Controlled Ventilation	Retail-S	15%	4%	\$0.124	3.86	3.29	0.61	15	0.9	0.0	\$0.024	\$586	2.50	2.45	3.10	1.12
500	Base Built-Up Refrigeration System	Retail-S	0%	0%	\$0.000	8.35	8.35	1.01	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
501	High-efficiency fan motors	Retail-S	12%	12%	\$0.116	8.91	7.84	0.95	20	0.2	0.0	\$0.011	\$87	6.83	5.06	1.58	1.35
503	Night covers for display cases (built-up systems)	Retail-S	6%	0%	\$0.005	8.35	7.88	1.01	5	0.4	0.0	\$0.003	N/A	12.69	20.89	0.19	0.85
505	Compressor VSD retrofit	Retail-S	6%	2%	\$0.041	8.35	7.84	1.00	13	0.4	0.0	\$0.010	\$320	5.67	5.98	1.20	1.08
507	Refrigeration Commissioning	Retail-S	5%	5%	\$0.018	8.57	8.14	0.99	3	0.2	0.0	\$0.018	\$146	4.08	4.50	0.60	1.35
508	Demand Hot Gas Defrost	Retail-S	3%	3%	\$0.003	8.35	8.14	0.99	10	0.2	0.0	\$0.002	\$20	30.16	27.35	0.23	1.35
509	Demand Defrost Electric	Retail-S	8%	8%	\$0.003	8.94	8.24	1.00	10	0.1	0.0	\$0.001	\$6	99.96	90.64	0.07	1.35
511	Freezer-Cooler Replacement Gaskets (built-up systems)	Retail-S	7%	7%	\$0.003	8.64	8.07	0.98	4	0.2	0.0	\$0.002	\$14	43.96	46.96	0.07	1.35
512	High R-Value Glass Doors	Retail-S	2%	2%	\$0.056	8.35	8.22	1.00	10	0.1	0.0	\$0.064	\$529	1.13	1.02	6.02	1.35
513	Bi-level LED Case Lighting (built-up systems)	Retail-S	1%	1%	\$0.056	8.36	8.29	1.01	10	0.1	0.0	\$0.126	\$1,360	0.50	0.50	12.40	1.24
514	Fiber Optic Case Lighting (built-up systems)	Retail-S	24%	25%	\$0.064	8.35	6.31	0.77	1	1.2	0.1	\$0.039	\$320	1.87	2.19	0.46	1.35
517	Oversized Air Cooled Condenser	Retail-S	8%	8%	\$0.062	8.71	8.00	0.97	16	0.3	0.0	\$0.010	\$78	7.61	6.02	1.28	1.35
520	Base Self-Contained Refrigeration	Retail-S	0%	0%	\$0.000	3.28	3.28	0.40	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
521	Strip curtains for walk-ins	Retail-S	1%	1%	\$0.079	3.28	3.26	0.40	4	0.1	0.0	\$1.588	\$13,095	0.05	0.05	69.14	1.35
522	Night covers for display cases (self-contained)	Retail-S	1%	0%	\$0.001	3.28	3.26	0.40	5	0.2	0.0	\$0.012	N/A	3.21	5.29	0.75	0.85
523	Freezer-Cooler Replacement Gaskets (self-contained)	Retail-S	4%	4%	\$0.003	3.35	3.21	0.39	4	0.6	0.1	\$0.008	\$68	8.81	9.42	0.36	1.35
524	Bi-level LED Case Lighting (self-contained units)	Retail-S	1%	1%	\$0.065	3.28	3.25	0.39	10	0.1	0.0	\$0.373	\$4,026	0.17	0.17	36.69	1.24
526	Energy-Star Refrigerator, solid door	Retail-S	2%	2%	\$0.005	3.30	3.24	0.39	10	0.3	0.0	\$0.015	\$120	4.97	4.51	1.37	1.35
527	Energy-Star Freezer, solid door	Retail-S	1%	1%	\$0.010	3.29	3.25	0.39	10	0.2	0.0	\$0.043	\$358	1.67	1.51	4.07	1.35
528	Energy-Star Refrigerator, glass door	Retail-S	10%	10%	\$0.001	3.40	3.05	0.37	10	1.9	0.2	\$0.000	\$2	316.39	286.91	0.02	1.35
529	Energy-Star Freezer, glass door	Retail-S	3%	3%	\$0.001	3.31	3.22	0.39	10	0.5	0.1	\$0.002	\$18	34.05	30.88	0.20	1.35
530	Energy Star Ice Machines	Retail-S	1%	1%	\$0.001	3.29	3.25	0.39	10	0.2	0.0	\$0.003	\$28	21.04	19.08	0.32	1.35
600	Base Desktop PC	Retail-S	0%	0%	\$0.000	0.07	0.07	0.01	4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
601	PC Manual Power Management Enabling	Retail-S	62%	45%	\$0.002	0.09	0.03	0.01	4	3.0	0.3	\$0.012	\$114	5.73	6.56	0.51	1.26
602	PC Network Power Management Enabling	Retail-S	62%	45%	\$0.002	0.09	0.03	0.01	4	3.0	0.3	\$0.012	\$114	5.73	6.56	0.51	1.26
603	Energy Star or Better PC	Retail-S	31%	25%	\$0.001	0.09	0.06	0.01	4	0.9	0.1	\$0.014	\$122	5.07	5.64	0.60	1.30

APPENDIX F

NON-ADDITIVE MEASURE LEVEL RESULTS

Commercial Electric Existing Construction

DSM ASSYST SUMMARY

Measure Number	Measure	Building Type	Energy Savings Fraction	Peak Reduction Fraction	Total Costs/ Sq Ft	Base EUI	EUI	Peak Watts/ Sq Ft	Service Life (yrs)	Technical Potential GWH	System Peak Tech. Potential MW	Levelized Cost of Conserved Energy \$/kWh	Levelized Cost of Avoided Peak Capacity \$/kW	Total Resource Cost Test (TRC)	Participant Test	Customer Payback (Years)	Revenue Test
610	Base Monitor, CRT	Retail-S	0%	0%	\$0.000	0.00	0.00	0.00	4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
611	Energy Star or Better Monitor-CRT	Retail-S	53%	42%	\$0.000	0.00	0.00	0.00	4	0.1	0.0	\$0.081	\$684	0.90	1.00	3.36	1.30
612	Monitor Power Management Enabling--CRT	Retail-S	49%	35%	\$0.001	0.01	0.00	0.00	4	0.0	0.0	\$0.097	\$907	0.72	0.82	4.10	1.26
620	Base Monitor, LCD	Retail-S	0%	0%	\$0.000	0.03	0.03	0.00	4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
621	Energy Star or Better Monitor--LCD	Retail-S	53%	42%	\$0.002	0.04	0.02	0.00	4	1.4	0.2	\$0.030	\$250	2.47	2.75	1.23	1.30
622	Monitor Power Management Enabling--LCD	Retail-S	51%	37%	\$0.003	0.05	0.03	0.00	4	0.6	0.1	\$0.040	\$369	1.76	2.02	1.67	1.26
630	Base Copier	Retail-S	0%	0%	\$0.000	0.02	0.02	0.00	6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
631	Energy Star or Better Copier	Retail-S	19%	15%	\$0.000	0.02	0.02	0.00	6	0.3	0.0	\$0.020	\$171	3.60	3.78	1.21	1.30
632	Copier Power Management Enabling	Retail-S	18%	13%	\$0.002	0.02	0.02	0.00	6	0.1	0.0	\$0.101	\$945	0.69	0.74	6.13	1.26
640	Base Laser Printer	Retail-S	0%	0%	\$0.000	0.03	0.03	0.00	5	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
641	Printer Power Management Enabling	Retail-S	45%	32%	\$0.003	0.04	0.02	0.00	5	0.2	0.0	\$0.046	\$430	1.51	1.68	2.37	1.26
650	Base Data Center/Server Room	Retail-S	0%	0%	\$0.000	294.72	294.72	43.76	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
651	Data Center Improved Operations	Retail-S	18%	13%	\$0.500	305.89	250.03	39.43	10	0.8	0.1	\$0.001	\$13	50.33	48.85	0.13	1.26
652	Data Center Best Practices	Retail-S	43%	34%	\$2.500	307.82	176.77	30.28	10	1.0	0.1	\$0.003	\$25	24.76	23.48	0.26	1.29
653	Data Center State of the Art practices	Retail-S	56%	56%	\$5.000	294.72	129.67	19.26	10	0.5	0.1	\$0.005	\$32	17.20	15.38	0.40	1.37
660	Base Water Heating	Retail-S	0%	0%	\$0.000	0.26	0.26	0.03	15	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
661	Demand controlled circulating systems	Retail-S	4%	1%	\$0.012	0.27	0.26	0.04	15	0.1	0.0	\$0.118	\$2,879	0.46	0.47	16.02	1.05
662	High Efficiency Water Heater (electric)	Retail-S	2%	2%	\$0.002	0.26	0.26	0.03	15	0.3	0.0	\$0.037	\$275	2.13	1.75	4.33	1.33
663	Hot Water Pipe Insulation	Retail-S	2%	2%	\$0.005	0.26	0.26	0.03	15	0.2	0.0	\$0.112	\$840	0.70	0.57	13.22	1.33
664	Tankless Water Heater	Retail-S	10%	10%	\$0.015	0.26	0.23	0.03	20	1.0	0.1	\$0.055	\$411	1.43	1.07	7.45	1.33
665	Heat Pump Water Heater (air source)	Retail-S	20%	20%	\$0.039	0.26	0.21	0.03	15	2.2	0.3	\$0.085	\$635	0.92	0.76	9.99	1.33
666	Heat Recovery Unit	Retail-S	65%	65%	\$0.080	0.26	0.09	0.01	10	0.5	0.1	\$0.073	\$547	1.07	0.99	6.23	1.33
667	Heat Trap	Retail-S	9%	9%	\$0.003	0.27	0.24	0.03	10	0.7	0.1	\$0.020	\$149	3.93	3.63	1.70	1.33
668	Solar Water Heater	Retail-S	70%	70%	\$0.123	0.26	0.08	0.01	20	0.4	0.1	\$0.066	\$492	1.19	0.90	8.93	1.33
670	Base Vending Machines	Retail-S	0%	0%	\$0.000	0.11	0.11	0.02	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
700	Base Cooking	Retail-S	0%	0%	\$0.000	0.27	0.27	0.04	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
701	Convection Oven	Retail-S	3%	3%	\$0.056	0.27	0.26	0.04	10	0.1	0.0	\$0.932	\$6,208	0.09	0.08	77.13	1.36
704	Energy Star Hot Food Holding Cabinets	Retail-S	14%	14%	\$0.090	0.27	0.23	0.04	10	0.4	0.1	\$0.370	\$2,461	0.22	0.20	30.58	1.36
800	Base Heating	Retail-S	0%	0%	\$0.000	11.62	11.62	0.07	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
900	Base Miscellaneous	Retail-S	0%	0%	\$0.000	0.84	0.84	0.12	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
100	Base Fluorescent Fixture, 4L4T8	Retail-L	0%	0%	\$0.000	3.50	3.50	0.53	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
101	ROB 4L4' Premium T8	Retail-L	17%	17%	\$0.146	3.50	2.90	0.44	10	8.4	1.3	\$0.040	\$263	2.04	1.78	3.47	1.41
102	Delamping 3L4' F32T8	Retail-L	25%	25%	\$0.567	3.50	2.62	0.40	18	4.9	0.7	\$0.066	\$438	1.23	0.90	8.81	1.41
103	LED Troffer (Base 4L4T8)	Retail-L	40%	40%	\$3.607	3.50	2.10	0.32	19	13.7	2.1	\$0.255	\$1,691	0.32	0.23	34.78	1.41
104	Lighting Control Tuneup	Retail-L	5%	1%	\$0.029	3.50	3.33	0.52	6	1.6	0.1	\$0.040	\$1,020	1.29	1.67	2.72	1.05
105	Occupancy Sensor, 4L4' Fluorescent Fixtures	Retail-L	29%	8%	\$0.135	3.50	2.49	0.49	18	1.0	0.0	\$0.014	\$348	3.79	3.72	2.13	1.05
106	Continuous Dimming, 4L4' Fluorescent Fixtures	Retail-L	50%	13%	\$0.750	3.50	1.75	0.46	10	2.0	0.1	\$0.067	\$1,699	0.77	0.90	6.81	1.05
107	High Performance Lighting R/R - 25% Savings, Base 4L4T8	Retail-L	25%	13%	\$0.400	3.50	2.64	0.46	20	3.6	0.3	\$0.045	\$592	1.39	1.16	6.89	1.20
110	Base Fluorescent Fixture, 2L4T8, 1 EB	Retail-L	0%	0%	\$0.000	3.20	3.20	0.48	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
111	ROB 2L4' Premium T8	Retail-L	17%	17%	\$0.119	3.20	2.65	0.40	10	0.1	0.0	\$0.035	\$233	2.31	2.01	3.07	1.41
112	Delamping 1L4' F32T8	Retail-L	48%	48%	\$0.920	3.20	1.67	0.25	18	0.1	0.0	\$0.061	\$405	1.33	0.97	8.14	1.41
113	LED Troffer (Base 2L4T8)	Retail-L	40%	40%	\$3.710	3.20	1.92	0.29	19	0.1	0.0	\$0.286	\$1,901	0.28	0.20	39.09	1.41
114	Lighting Control Tuneup	Retail-L	5%	1%	\$0.014	3.20	3.05	0.48	6	0.0	0.0	\$0.022	\$557	2.36	3.07	1.49	1.05
115	Occupancy Sensor, 2L4' Fluorescent Fixtures	Retail-L	29%	8%	\$0.135	3.20	2.28	0.45	18	0.0	0.0	\$0.015	\$380	3.47	3.40	2.32	1.05
116	Continuous Dimming, 2L4' Fluorescent Fixtures	Retail-L	50%	13%	\$0.750	3.20	1.60	0.42	10	0.0	0.0	\$0.073	\$1,857	0.71	0.83	7.44	1.05
117	High Performance Lighting R/R - 25% Savings, Base 2L4T8	Retail-L	25%	13%	\$0.400	3.20	2.41	0.42	20	0.0	0.0	\$0.049	\$647	1.27	1.06	7.53	1.20
130	Base High-Efficiency Incandescent Flood, 53W to Screw-in Replacement	Retail-L	0%	0%	\$0.000	7.59	7.59	1.14	1	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
131	CFL Screw-in 18W	Retail-L	66%	66%	\$0.386	7.59	2.58	0.39	4	0.3	0.0	\$0.027	\$179	3.01	3.08	1.09	1.41
132	Cold Cathode Lamps	Retail-L	66%	66%	\$1.128	7.59	2.58	0.39	10	0.0	0.0	\$0.037	\$243	2.22	1.93	3.20	1.41
133	LED screw-in PAR replacement (base incandescent)	Retail-L	90%	90%	\$3.932	7.59	0.80	0.12	19	0.5	0.1	\$0.057	\$380	1.42	1.02	7.82	1.41
160	Base High Bay Metal Halide, 400W	Retail-L	0%	0%	\$1.097	3.40	3.40	0.51	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
161	High Bay T5	Retail-L	49%	49%	\$0.380	3.40	1.75	0.26	18	11.4	1.7	\$0.023	\$155	3.46	2.53	3.12	1.41
162	Induction High Bay Lighting	Retail-L	37%	37%	\$1.181	3.40	2.13	0.32	32	8.8	1.3	\$0.077	\$510	0.89	0.63	12.63	1.41
163	PSMH + electronic ballast	Retail-L	37%	37%	\$0.901	3.40	2.15	0.32	17	8.6	1.3	\$0.075	\$496	1.09	0.81	9.69	1.41
165	Occupancy Sensor, High Bay T5	Retail-L	19%	5%	\$0.135	3.52	2.84	0.50	18	1.0	0.0	\$0.020	\$518	2.54	2.50	3.17	1.05
190	Base Exit Sign	Retail-L	0%	0%	\$0.000	0.02	0.02	0.00	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
191	LED Exit Sign	Retail-L	81%	81%	\$0.008	0.03	0.01	0.00	18	0.4	0.1	\$0.032	\$216	2.51	1.85	4.28	1.40
200	Base Outdoor High Pressure Sodium 250W Lamp	Retail-L	0%	0%	\$0.062	0.56	0.56	0.03	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
201	Outdoor Lighting Controls (Photocell/Timeclock)	Retail-L	24%	38%	\$0.023	0.62	0.48	0.02	18	3.2	0.3	\$0.016	\$181	4.29	4.14	1.91	1.07
202	LED Outdoor Area Lighting	Retail-L	52%	52%	\$0.280	0.56	0.27	0.01	9	11.9	0.6	\$0.157	\$2,882	0.36	0.46	12.80	0.99
203	Bi-Level LED Outdoor Lighting	Retail-L	68%	70%	\$1.041	0.56	0.18	0.01	9	7.8	0.4	\$0.445	\$7,998	0.12	0.16	37.76	0.98
300	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	Retail-L	0%	0%	\$1.800	0.94	0.94	0.44	20	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
320	Base DX Packaged System, EER=10.3, 10 tons	Retail-L	0%	0%	\$4.765	1.62	1.62	0.76	20	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
322	DX Packaged System, EER=10.3, 10 tons, with Automated Fault Detection and Diagnostics	Retail-L	10%	10%	\$0.120	1.62	1.46	0.68	20	6.2	2.9	\$0.072	\$154	1.85	1.03	7.76	1.79
323	DX Packaged System, EER=10.9, 10 tons	Retail-L	6%	6%	\$0.450	1.62	1.53	0.72	20	4.9	2.3	\$0.491	\$1,050	0.27	0.15	52.88	1.79
324	DX Packaged System, EER=13.4, 10 tons	Retail-L	23%	23%	\$0.662	1.62	1.25	0.58	20	20.5	9.6	\$0.173	\$370	0.77	0.43	18.61	1.79
325	Window Film (Standard) - DX	Retail-L	1%	1%	\$0.116	1.64	1.62	0.76	10	0.1	0.1	\$0.986	\$2,109	0.14	0.09	66.75	1.79
330	Optimize Controls - DX	Retail-L	4%	1%	\$0.040	1.66	1.60	0.77	5	0.8	0.1	\$0.187	\$1,129	0.43	0.52	7.61	1.16
332	Aerosol Duct Sealing - DX	Retail-L	7%	7%	\$0.054	1.62	1.51	0.71	15	2.0	0.9	\$0.053	\$113	2.52	1.53	4.95	1.79
335	DX Coil Cleaning	Retail-L	5%	5%	\$0.039	1.66	1.58	0.74	5	1.7	0.8	\$0.134	\$288	0.99	0.77	5.15	1.79
337	Geothermal Heat Pump, EER=13, 10 tons - DX	Retail-L	37%	37%	\$1.651	1.63	1.03	0.48	15	1.6	0.8	\$0.307	\$657	0.43	0.26	28.76	1.79
400	Base Fan Motor, 5hp, 1800rpm, 87.5%	Retail-L	0%	0%	\$0.014	1.97	1.97	0.33	20	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A

APPENDIX F

NON-ADDITIVE MEASURE LEVEL RESULTS

Commercial Electric Existing Construction

DSM ASSYST SUMMARY

Measure Number	Measure	Building Type	Energy Savings Fraction	Peak Reduction Fraction	Total Costs/ Sq Ft	Base EUI	EUI	Peak Watts/ Sq Ft	Service Life (yrs)	Technical Potential GWH	System Peak Tech. Potential MW	Levelized Cost of Conserved Energy \$/kWh	Levelized Cost of Avoided Peak Capacity \$/kW	Total Resource Cost Test (TRC)	Participant Test	Customer Payback (Years)	Revenue Test
401	Fan Motor, 5hp, 1800rpm, 89.5%	Retail-L	2%	2%	\$0.006	1.98	1.94	0.32	20	1.3	0.2	\$0.012	\$74	6.83	4.74	1.69	1.44
402	Variable Speed Drive Control, 5 HP	Retail-L	30%	8%	\$0.106	1.97	1.39	0.30	15	23.7	1.0	\$0.020	\$490	2.99	2.93	2.59	1.12
410	Base Fan Motor, 15hp, 1800rpm, 91.0%	Retail-L	0%	0%	\$0.057	1.83	1.83	0.30	20	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
420	Base Fan Motor, 40hp, 1800rpm, 93.0%	Retail-L	0%	0%	\$0.071	1.80	1.80	0.30	20	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
500	Base Built-Up Refrigeration System	Retail-L	0%	0%	\$0.000	1.69	1.69	0.21	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
501	High-efficiency fan motors	Retail-L	12%	12%	\$0.116	1.80	1.59	0.19	20	0.2	0.0	\$0.052	\$432	1.38	1.02	7.82	1.35
503	Night covers for display cases (built-up systems)	Retail-L	6%	0%	\$0.006	1.69	1.60	0.21	5	0.4	0.0	\$0.017	N/A	2.29	3.77	1.06	0.85
505	Compressor VSD retrofit	Retail-L	6%	2%	\$0.041	1.69	1.59	0.20	13	0.4	0.0	\$0.048	\$1,579	1.15	1.21	5.94	1.08
507	Refrigeration Commissioning	Retail-L	5%	5%	\$0.018	1.74	1.65	0.20	3	0.0	0.0	\$0.088	\$723	0.83	0.91	2.94	1.35
508	Demand Hot Gas Defrost	Retail-L	3%	3%	\$0.003	1.69	1.65	0.20	10	0.2	0.0	\$0.012	\$98	6.11	5.54	1.11	1.35
509	Demand Defrost Electric	Retail-L	8%	8%	\$0.003	1.78	1.65	0.20	10	0.2	0.0	\$0.004	\$30	19.95	18.09	0.34	1.35
511	Freezer-Cooler Replacement Gaskets (built-up systems)	Retail-L	7%	7%	\$0.003	1.75	1.63	0.20	4	0.2	0.0	\$0.009	\$75	7.93	8.48	0.40	1.35
512	High R-Value Glass Doors	Retail-L	2%	2%	\$0.063	1.69	1.66	0.20	10	0.1	0.0	\$0.356	\$2,932	0.20	0.18	33.37	1.35
513	Bi-level LED Case Lighting (built-up systems)	Retail-L	1%	1%	\$0.063	1.69	1.68	0.20	10	0.1	0.0	\$0.699	\$7,536	0.09	0.09	68.69	1.24
514	Fiber Optic Case Lighting (built-up systems)	Retail-L	24%	25%	\$0.072	1.69	1.28	0.15	1	1.3	0.2	\$0.215	\$1,772	0.34	0.40	2.53	1.35
517	Oversized Air Cooled Condenser	Retail-L	8%	8%	\$0.062	1.76	1.62	0.20	16	0.3	0.0	\$0.047	\$387	1.54	1.22	6.33	1.35
520	Base Self-Contained Refrigeration	Retail-L	0%	0%	\$0.000	3.11	3.11	0.38	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
522	Night covers for display cases (self-contained)	Retail-L	1%	0%	\$0.001	3.11	3.10	0.38	5	0.7	0.0	\$0.012	N/A	3.21	5.29	0.75	0.85
523	Freezer-Cooler Replacement Gaskets (self-contained)	Retail-L	4%	4%	\$0.003	3.18	3.05	0.37	4	2.7	0.3	\$0.008	\$68	8.81	9.42	0.36	1.35
524	Bi-level LED Case Lighting (self-contained units)	Retail-L	1%	1%	\$0.062	3.12	3.09	0.38	10	0.5	0.0	\$0.373	\$4,026	0.17	0.17	36.69	1.24
526	Energy-Star Refrigerator, solid door	Retail-L	2%	2%	\$0.005	3.13	3.08	0.37	10	1.4	0.2	\$0.015	\$120	4.97	4.51	1.37	1.35
527	Energy-Star Freezer, solid door	Retail-L	1%	1%	\$0.009	3.13	3.09	0.38	10	0.9	0.1	\$0.043	\$358	1.67	1.51	4.07	1.35
528	Energy-Star Refrigerator, glass door	Retail-L	10%	10%	\$0.000	3.24	2.90	0.35	10	8.8	1.1	\$0.000	\$2	316.39	286.91	0.02	1.35
529	Energy-Star Freezer, glass door	Retail-L	3%	3%	\$0.001	3.14	3.06	0.37	10	2.1	0.3	\$0.002	\$18	34.05	30.88	0.20	1.35
530	Energy Star Ice Machines	Retail-L	1%	1%	\$0.001	3.13	3.09	0.37	10	1.0	0.1	\$0.003	\$28	21.04	19.08	0.32	1.35
600	Base Desktop PC	Retail-L	0%	0%	\$0.000	0.07	0.07	0.01	4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
601	PC Manual Power Management Enabling	Retail-L	45%	\$0.002	0.08	0.03	0.01	4	1.1	0.1	0.1	\$0.012	\$114	5.73	6.56	0.51	1.26
602	PC Network Power Management Enabling	Retail-L	62%	45%	\$0.002	0.08	0.03	0.01	4	1.1	0.1	\$0.012	\$114	5.73	6.56	0.51	1.26
603	Energy Star or Better PC	Retail-L	31%	25%	\$0.001	0.07	0.05	0.01	4	0.5	0.1	\$0.016	\$134	4.60	5.11	0.66	1.30
610	Base Monitor, CRT	Retail-L	0%	0%	\$0.000	0.01	0.01	0.00	4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
611	Energy Star or Better Monitor-CRT	Retail-L	53%	42%	\$0.000	0.01	0.01	0.00	4	0.1	0.0	\$0.004	\$33	18.58	20.67	0.16	1.30
620	Base Monitor, LCD	Retail-L	0%	0%	\$0.000	0.02	0.02	0.00	4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
621	Energy Star or Better Monitor--LCD	Retail-L	53%	42%	\$0.001	0.02	0.01	0.00	4	0.3	0.0	\$0.027	\$225	2.74	3.05	1.10	1.30
630	Base Copier	Retail-L	0%	0%	\$0.000	0.01	0.01	0.00	6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
640	Base Laser Printer	Retail-L	0%	0%	\$0.000	0.02	0.02	0.00	5	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
650	Base Data Center/Server Room	Retail-L	0%	0%	\$0.000	294.72	294.72	43.76	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
651	Data Center Improved Operations	Retail-L	18%	13%	\$0.500	305.89	250.03	39.43	10	0.4	0.0	\$0.001	\$13	50.33	48.85	0.13	1.26
652	Data Center Best Practices	Retail-L	43%	34%	\$2.500	307.82	176.77	30.28	10	0.5	0.1	\$0.003	\$25	24.76	23.48	0.26	1.29
653	Data Center State of the Art practices	Retail-L	56%	56%	\$5.000	294.72	129.67	19.26	10	0.2	0.0	\$0.005	\$32	17.20	15.38	0.40	1.37
660	Base Water Heating	Retail-L	0%	0%	\$0.000	0.26	0.26	0.03	15	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
670	Base Vending Machines	Retail-L	0%	0%	\$0.000	0.14	0.14	0.02	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
700	Base Cooking	Retail-L	0%	0%	\$0.000	0.27	0.27	0.04	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
701	Convection Oven	Retail-L	3%	3%	\$0.056	0.27	0.26	0.04	10	0.3	0.0	\$0.932	\$6,208	0.09	0.08	77.13	1.36
704	Energy Star Hot Food Holding Cabinets	Retail-L	14%	14%	\$0.090	0.27	0.23	0.04	10	1.2	0.2	\$0.370	\$2,461	0.22	0.20	30.58	1.36
800	Base Heating	Retail-L	0%	0%	\$0.000	0.38	0.38	0.00	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
900	Base Miscellaneous	Retail-L	0%	0%	\$0.000	0.84	0.84	0.12	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
100	Base Fluorescent Fixture, 4L4T8	Grocery	0%	0%	\$0.000	7.84	7.84	0.99	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
101	ROB 4L4' Premium T8	Grocery	17%	17%	\$0.197	7.86	6.51	0.83	6	39.2	5.0	\$0.036	\$281	2.12	2.08	2.19	1.39
102	Delamping 3L4' F32T8	Grocery	25%	25%	\$0.765	7.84	5.88	0.75	18	23.2	2.9	\$0.040	\$313	1.90	1.41	5.60	1.39
103	LED Troffer (Base 4L4T8)	Grocery	40%	40%	\$4.862	7.84	4.70	0.60	12	64.9	8.2	\$0.214	\$1,684	0.35	0.30	23.20	1.39
104	Lighting Control Tuneup	Grocery	6%	1%	\$0.029	7.84	7.40	0.98	6	9.0	0.3	\$0.015	\$540	3.11	4.21	1.08	1.00
105	Occupancy Sensor, 4L4' Fluorescent Fixtures	Grocery	34%	8%	\$0.135	7.84	5.20	0.92	18	5.5	0.2	\$0.005	\$184	9.11	9.34	0.85	1.00
106	Continuous Dimming, 4L4' Fluorescent Fixtures	Grocery	58%	13%	\$0.750	7.84	3.27	0.87	10	24.6	0.7	\$0.025	\$900	1.86	2.27	2.71	1.00
107	High Performance Lighting R/R - 25% Savings, Base 4L4T8	Grocery	27%	13%	\$0.400	7.84	5.74	0.87	20	18.6	1.1	\$0.019	\$314	3.11	2.69	2.98	1.16
110	Base Fluorescent Fixture, 2L4T8, 1 EB	Grocery	0%	0%	\$0.000	6.55	6.55	0.83	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
111	ROB 2L4' Premium T8	Grocery	17%	17%	\$0.146	6.61	5.48	0.70	6	0.1	0.0	\$0.031	\$247	2.41	2.36	1.93	1.39
112	Delamping 1L4' F32T8	Grocery	48%	48%	\$1.133	6.55	3.41	0.43	18	0.2	0.0	\$0.037	\$289	2.06	1.53	5.18	1.39
113	LED Troffer (Base 2L4T8)	Grocery	40%	40%	\$4.570	6.55	3.93	0.50	12	0.2	0.0	\$0.240	\$1,893	0.31	0.27	26.07	1.39
114	Lighting Control Tuneup	Grocery	6%	1%	\$0.014	6.55	6.19	0.82	6	0.0	0.0	\$0.009	\$323	5.19	7.03	0.65	1.00
115	Occupancy Sensor, 2L4' Fluorescent Fixtures	Grocery	34%	8%	\$0.135	6.55	4.35	0.77	18	0.0	0.0	\$0.006	\$220	7.62	7.81	1.01	1.00
116	Continuous Dimming, 2L4' Fluorescent Fixtures	Grocery	58%	13%	\$0.750	6.55	2.73	0.72	10	0.1	0.0	\$0.030	\$1,076	1.56	1.90	3.24	1.00
117	High Performance Lighting R/R - 25% Savings, Base 2L4T8	Grocery	27%	13%	\$0.400	6.55	4.80	0.73	20	0.1	0.0	\$0.022	\$375	2.60	2.25	3.56	1.16
130	Base High-Efficiency Incandescent Flood, 53W to Screw-in Replacement	Grocery	0%	0%	\$0.000	3.74	3.74	0.47	1	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
131	CFL Screw-in 18W	Grocery	66%	66%	\$0.114	3.74	1.27	0.16	2	0.1	0.0	\$0.026	\$202	2.95	3.26	0.58	1.39
132	Cold Cathode Lamps	Grocery	66%	66%	\$0.335	3.74	1.27	0.16	6	0.0	0.0	\$0.033	\$260	2.29	2.25	2.03	1.39
133	LED screw-in PAR replacement (base incandescent)	Grocery	89%	90%	\$1.166	3.74	0.39	0.05	12	0.1	0.0	\$0.048	\$378	1.57	1.33	5.21	1.39
140	Base High-Efficiency Incandescent Flood, 53W to Hardwired Replacement	Grocery	0%	0%	\$0.000	3.74	3.74	0.47	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
141	CFL Hardwired, Modular 18W	Grocery	66%	66%	\$0.791	3.74	1.27	0.16	18	0.2	0.0	\$0.033	\$257	2.32	1.72	4.59	1.39
142	Ceramic Metal Halide	Grocery	37%	37%	\$1.895	3.75	2.36	0.30	18	0.1	0.0	\$0.138	\$1,090	0.55	0.41	19.50	1.39
143	LED fixture replacement (base incandescent flood)	Grocery	89%	90%	\$1.456	3.74	0.39	0.05	12	0.3	0.0	\$0.060	\$472	1.26	1.06	6.51	1.39
150	Base CFL to screw-in replacement	Grocery	0%	0%	\$0.000	6.58	6.58	0.84	2	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
151	LED screw-in replacement (base CFL)	Grocery	67%	68%	\$5.186	6.58	2.14	0.27	12	0.4	0.0	\$0.161	\$1,267	0.47	0.40	17.45	1.39

APPENDIX F

NON-ADDITIVE MEASURE LEVEL RESULTS

Commercial Electric Existing Construction

DSM ASSYST SUMMARY

Measure Number	Measure	Building Type	Energy Savings Fraction	Peak Reduction Fraction	Total Costs/ Sq Ft	Base EUI	EUI	Peak Watts/ Sq Ft	Service Life (yrs)	Technical Potential GWH	System Peak Tech. Potential MW	Levelized Cost of Conserved Energy \$/kWh	Levelized Cost of Avoided Peak Capacity \$/kW	Total Resource Cost Test (TRC)	Participant Test	Customer Payback (Years)	Revenue Test
160	Base High Bay Metal Halide, 400W	Grocery	0%	0%	\$2.224	11.45	11.45	1.45	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
161	High Bay T5	Grocery	49%	49%	\$0.770	11.45	5.89	0.75	18	5.3	0.7	\$0.014	\$111	5.36	3.98	1.98	1.39
162	Induction High Bay Lighting	Grocery	37%	37%	\$2.395	11.45	7.17	0.91	32	4.1	0.5	\$0.046	\$364	1.38	1.00	8.03	1.39
163	PSMH + electronic ballast	Grocery	37%	37%	\$1.827	11.58	7.33	0.93	10	3.9	0.5	\$0.064	\$508	1.17	1.04	5.95	1.39
165	Occupancy Sensor, High Bay T5	Grocery	22%	5%	\$0.135	11.93	9.26	1.44	18	0.5	0.0	\$0.005	\$181	9.25	9.48	0.83	1.00
190	Base Exit Sign	Grocery	0%	0%	\$0.000	0.01	0.01	0.00	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
191	LED Exit Sign	Grocery	81%	81%	\$0.004	0.06	0.01	0.00	18	0.0	0.0	\$0.008	\$61	9.42	7.02	1.13	1.38
200	Base Outdoor High Pressure Sodium 250W Lamp	Grocery	0%	0%	\$0.050	0.45	0.45	0.01	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
201	Outdoor Lighting Controls (Photocell/Timeclock)	Grocery	23%	38%	\$0.037	0.50	0.39	0.01	18	2.1	0.1	\$0.033	\$998	1.76	1.85	4.27	0.98
202	LED Outdoor Area Lighting	Grocery	52%	52%	\$0.449	0.45	0.22	0.00	9	8.1	0.2	\$0.313	\$15,787	0.16	0.22	27.01	0.92
203	Bi-Level LED Outdoor Lighting	Grocery	69%	70%	\$1.670	0.45	0.14	0.00	9	5.4	0.1	\$0.874	\$43,806	0.05	0.08	78.22	0.91
300	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	Grocery	0%	0%	\$1.473	1.76	1.76	0.82	20	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
302	Window Film (Standard) - Chiller	Grocery	1%	1%	\$0.130	1.76	1.74	0.82	10	0.2	0.1	\$1.030	\$2,202	0.13	0.09	69.72	1.79
303	EMS - Chiller	Grocery	10%	10%	\$0.147	1.95	1.76	0.82	15	0.1	0.0	\$0.085	\$181	1.57	0.96	7.92	1.79
304	Cool Roof - Chiller	Grocery	4%	4%	\$0.484	1.76	1.70	0.79	10	0.5	0.2	\$1.152	\$2,463	0.12	0.08	77.98	1.79
306	VSD for Chiller Pumps and Towers	Grocery	10%	10%	\$0.103	1.76	1.59	0.74	15	2.6	1.2	\$0.066	\$140	2.03	1.24	6.14	1.79
308	Economizer - Chiller	Grocery	15%	5%	\$0.418	2.06	1.76	0.91	15	0.1	0.0	\$0.153	\$927	0.53	0.50	15.26	1.16
310	Duct/Pipe Insulation - Chiller	Grocery	2%	2%	\$0.769	1.76	1.73	0.81	10	0.4	0.2	\$3.383	\$7,237	0.04	0.03	229.09	1.79
311	High Efficiency Chiller Motors	Grocery	3%	3%	\$0.048	1.76	1.71	0.80	20	0.8	0.4	\$0.084	\$179	1.59	0.89	9.03	1.79
320	Base DX Packaged System, EER=10.3, 10 tons	Grocery	0%	0%	\$3.899	3.06	3.06	1.43	20	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
321	DX Tune Up/ Advanced Diagnostics	Grocery	4%	3%	\$0.125	3.17	3.06	1.45	10	0.0	0.0	\$0.164	\$523	0.64	0.55	11.14	1.42
322	DX Packaged System, EER=10.3, 10 tons, with Automated Fault Detection and Diagnostics	Grocery	10%	10%	\$0.098	3.06	2.75	1.29	20	4.0	1.9	\$0.031	\$67	4.25	2.37	3.38	1.79
323	DX Packaged System, EER=10.9, 10 tons	Grocery	6%	6%	\$0.368	3.06	2.89	1.35	20	3.2	1.5	\$0.213	\$457	0.62	0.35	23.00	1.79
324	DX Packaged System, EER=13.4, 10 tons	Grocery	23%	23%	\$0.542	3.06	2.35	1.10	20	13.3	6.2	\$0.075	\$161	1.77	0.99	8.10	1.79
325	Window Film (Standard) - DX	Grocery	1%	1%	\$0.130	3.06	3.02	1.41	10	0.5	0.2	\$0.594	\$1,271	0.22	0.15	40.22	1.79
326	Prog. Thermostat - DX	Grocery	4%	1%	\$0.050	3.16	3.05	1.46	8	0.1	0.0	\$0.082	\$497	0.99	1.10	5.03	1.16
329	Cool Roof - DX	Grocery	13%	13%	\$0.484	3.06	2.66	1.24	10	3.7	1.8	\$0.190	\$406	0.70	0.48	12.85	1.79
330	Optimize Controls - DX	Grocery	4%	1%	\$0.040	3.13	3.02	1.44	5	0.5	0.1	\$0.099	\$600	0.82	0.99	4.04	1.16
331	Economizer - DX	Grocery	1%	0%	\$0.418	3.08	3.06	1.43	15	0.0	0.0	\$2.155	\$13,036	0.04	0.04	214.64	1.16
332	Aerosol Duct Sealing - DX	Grocery	7%	7%	\$0.044	3.06	2.84	1.33	15	1.3	0.6	\$0.023	\$49	5.78	3.52	2.15	1.79
333	Ceiling/roof Insulation - DX	Grocery	12%	12%	\$0.239	3.47	3.05	1.43	20	0.1	0.0	\$0.055	\$119	2.40	1.34	5.97	1.79
334	Duct/Pipe Insulation - DX	Grocery	2%	2%	\$0.649	3.06	2.99	1.40	10	0.9	0.4	\$1.648	\$3,526	0.08	0.06	111.61	1.79
335	DX Coil Cleaning	Grocery	5%	5%	\$0.032	3.19	3.04	1.42	5	0.2	0.1	\$0.057	\$122	2.32	1.82	2.19	1.79
337	Geothermal Heat Pump, EER=13, 10 tons - DX	Grocery	37%	37%	\$1.964	3.07	1.93	0.90	15	1.1	0.5	\$0.194	\$416	0.69	0.42	18.18	1.79
400	Base Fan Motor, 5hp, 1800rpm, 87.5%	Grocery	0%	0%	\$0.026	1.10	1.10	0.14	20	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
401	Fan Motor, 5hp, 1800rpm, 89.5%	Grocery	2%	2%	\$0.010	1.10	1.08	0.14	20	0.6	0.1	\$0.039	\$312	1.89	1.37	5.84	1.38
402	Variable Speed Drive Control, 5 HP	Grocery	31%	8%	\$0.192	1.10	0.76	0.13	15	11.3	0.3	\$0.064	\$2,073	0.89	0.88	8.64	1.10
410	Base Fan Motor, 15hp, 1800rpm, 91.0%	Grocery	0%	0%	\$0.000	1.02	1.02	0.13	20	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
420	Base Fan Motor, 40hp, 1800rpm, 93.0%	Grocery	0%	0%	\$0.000	1.00	1.00	0.13	20	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
423	Air Handler Tuneups	Grocery	10%	5%	\$0.050	1.00	0.90	0.12	8	0.6	0.0	\$0.090	\$1,445	0.69	0.76	7.27	1.18
424	Demand Controlled Ventilation	Grocery	15%	4%	\$0.124	1.00	0.85	0.12	15	5.1	0.2	\$0.091	\$2,951	0.62	0.62	12.30	1.10
500	Base Built-Up Refrigeration System	Grocery	0%	0%	\$0.000	16.92	16.92	2.18	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
501	High-efficiency fan motors	Grocery	12%	12%	\$1.161	17.84	15.70	2.02	20	2.2	0.3	\$0.053	\$412	1.39	1.02	7.83	1.36
503	Night covers for display cases (built-up systems)	Grocery	6%	0%	\$0.135	16.92	15.96	2.18	5	3.5	0.0	\$0.039	N/A	0.99	1.62	2.45	0.85
504	Efficient compressor motor retrofit	Grocery	7%	7%	\$0.088	18.12	16.88	2.17	10	0.1	0.0	\$0.011	\$85	6.70	6.03	1.02	1.36
505	Compressor VSD retrofit	Grocery	6%	2%	\$0.405	16.92	15.89	2.14	13	3.8	0.1	\$0.049	\$1,488	1.15	1.21	5.94	1.08
506	Floating head pressure controls	Grocery	7%	0%	\$0.125	18.08	16.88	2.33	14	0.1	0.0	\$0.012	N/A	3.12	4.10	1.81	0.85
507	Refrigeration Commissioning	Grocery	5%	5%	\$0.175	17.35	16.48	2.12	3	0.3	0.0	\$0.088	\$681	0.84	0.92	2.91	1.36
508	Demand Hot Gas Defrost	Grocery	3%	3%	\$0.032	16.92	16.49	2.12	10	1.6	0.2	\$0.012	\$92	6.22	5.59	1.10	1.36
510	Anti-sweat (humidistat) controls	Grocery	5%	2%	\$0.161	17.55	16.68	2.20	12	0.5	0.0	\$0.025	\$378	2.50	2.51	2.76	1.17
511	Freezer-Cooler Replacement Gaskets (built-up systems)	Grocery	7%	7%	\$0.073	17.49	16.34	2.10	4	2.1	0.3	\$0.021	\$164	3.50	3.71	0.91	1.36
512	High R-Value Glass Doors	Grocery	2%	2%	\$1.458	16.93	16.66	2.14	10	1.0	0.1	\$0.820	\$6,369	0.09	0.08	76.20	1.36
513	Bi-level LED Case Lighting (built-up systems)	Grocery	1%	1%	\$1.454	16.92	16.78	2.16	10	0.5	0.0	\$1.616	\$16,386	0.04	0.04	157.56	1.25
514	Fiber Optic Case Lighting (built-up systems)	Grocery	24%	25%	\$1.659	16.92	12.77	1.64	1	6.0	0.8	\$0.496	\$3,853	0.15	0.17	5.77	1.36
516	Multiplex Compressor System	Grocery	14%	14%	\$2.713	19.38	16.62	2.14	14	1.0	0.1	\$0.115	\$896	0.64	0.52	14.15	1.36
517	Oversized Air Cooled Condenser	Grocery	8%	8%	\$0.620	17.63	16.20	2.09	16	2.6	0.3	\$0.047	\$365	1.57	1.23	6.27	1.36
520	Base Self-Contained Refrigeration	Grocery	0%	0%	\$0.000	2.51	2.51	0.32	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
522	Night covers for display cases (self-contained)	Grocery	0%	0%	\$0.000	2.51	2.51	0.32	5	0.0	0.0	\$0.012	N/A	3.19	5.26	0.76	0.85
523	Freezer-Cooler Replacement Gaskets (self-contained)	Grocery	3%	3%	\$0.001	2.55	2.48	0.32	4	1.2	0.1	\$0.004	\$34	17.04	18.05	0.19	1.36
524	Bi-level LED Case Lighting (self-contained units)	Grocery	1%	1%	\$0.015	2.51	2.49	0.32	10	0.3	0.0	\$0.110	\$1,118	0.58	0.57	10.75	1.25
526	Energy-Star Refrigerator, solid door	Grocery	0%	0%	\$0.000	2.51	2.51	0.32	10	0.0	0.0	\$0.015	\$114	5.03	4.52	1.36	1.36
527	Energy-Star Freezer, solid door	Grocery	3%	3%	\$0.024	2.54	2.46	0.32	10	2.0	0.3	\$0.043	\$334	1.71	1.54	4.00	1.36
528	Energy-Star Refrigerator, glass door	Grocery	0%	0%	\$0.000	2.51	2.51	0.32	10	0.1	0.0	\$0.000	\$2	310.31	279.04	0.02	1.36
529	Energy-Star Freezer, glass door	Grocery	8%	8%	\$0.003	2.59	2.37	0.31	10	4.8	0.6	\$0.002	\$16	35.41	31.84	0.19	1.36
530	Energy Star Ice Machines	Grocery	0%	0%	\$0.000	2.51	2.51	0.32	10	0.0	0.0	\$0.003	\$27	21.33	19.19	0.32	1.36
600	Base Desktop PC	Grocery	0%	0%	\$0.000	0.06	0.06	0.01	4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
601	PC Manual Power Management Enabling	Grocery	62%	45%	\$0.001	0.07	0.02	0.01	4	0.8	0.1	\$0.012	\$113	5.74	6.35	0.53	1.30
602	PC Network Power Management Enabling	Grocery	62%	45%	\$0.001	0.07	0.02	0.01	4	0.8	0.1	\$0.012	\$113	5.74	6.35	0.53	1.30
603	Energy Star or Better PC	Grocery	31%	25%	\$0.001	0.06	0.04	0.01	4	0.6	0.1	\$0.017	\$145	4.25	4.56	0.74	1.34
610	Base Monitor, CRT	Grocery	0%	0%	\$0.000	0.01	0.01	0.00	4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
611	Energy Star or Better Monitor-CRT	Grocery	53%	42%	\$0.000	0.01	0.01	0.00	4	0.0	0.0	\$0.015	\$124	4.96	5.33	0.63	1.34
612	Monitor Power Management Enabling--CRT	Grocery	49%	35%	\$0.000	0.01	0.01	0.00	4	0.0	0.0	\$0.027	\$247	2.63	2.91	1.16	1.30

APPENDIX F

NON-ADDITIVE MEASURE LEVEL RESULTS

Commercial Electric Existing Construction

DSM ASSYST SUMMARY

Measure Number	Measure	Building Type	Energy Savings Fraction	Peak Reduction Fraction	Total Costs/ Sq Ft	Base EUI	EUI	Peak Watts/ Sq Ft	Service Life (yrs)	Technical Potential GWH	System Peak Tech. Potential MW	Levelized Cost of Conserved Energy \$/kWh	Levelized Cost of Avoided Peak Capacity \$/kW	Total Resource Cost Test (TRC)	Participant Test	Customer Payback (Years)	Revenue Test
620	Base Monitor, LCD	Grocery	0%	0%	\$0.000	0.02	0.02	0.00	4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
621	Energy Star or Better Monitor--LCD	Grocery	53%	42%	\$0.001	0.02	0.01	0.00	4	0.3	0.0	\$0.036	\$301	2.04	2.19	1.53	1.34
622	Monitor Power Management Enabling--LCD	Grocery	51%	37%	\$0.002	0.02	0.01	0.00	4	0.2	0.0	\$0.060	\$562	1.16	1.28	2.63	1.30
630	Base Copier	Grocery	0%	0%	\$0.000	0.02	0.02	0.00	6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
631	Energy Star or Better Copier	Grocery	19%	15%	\$0.000	0.02	0.01	0.00	6	0.1	0.0	\$0.021	\$177	3.48	3.53	1.29	1.34
632	Copier Power Management Enabling	Grocery	18%	13%	\$0.001	0.02	0.01	0.00	6	0.1	0.0	\$0.113	\$1,055	0.62	0.64	7.09	1.30
640	Base Laser Printer	Grocery	0%	0%	\$0.000	0.01	0.01	0.00	5	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
641	Printer Power Management Enabling	Grocery	45%	32%	\$0.001	0.01	0.01	0.00	5	0.0	0.0	\$0.056	\$518	1.25	1.35	2.96	1.30
650	Base Data Center/Server Room	Grocery	0%	0%	\$0.000	425.53	425.53	63.36	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
651	Data Center Improved Operations	Grocery	18%	13%	\$0.500	441.68	360.90	57.08	10	0.9	0.1	\$0.001	\$9	72.69	68.31	0.09	1.30
652	Data Center Best Practices	Grocery	43%	34%	\$2.500	444.47	255.04	43.84	10	1.2	0.1	\$0.002	\$17	35.75	32.73	0.19	1.34
653	Data Center State of the Art practices	Grocery	56%	56%	\$5.000	425.53	187.23	27.88	10	0.6	0.1	\$0.003	\$22	24.80	21.32	0.29	1.43
660	Base Water Heating	Grocery	0%	0%	\$0.000	0.53	0.53	0.07	15	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
661	Demand controlled circulating systems	Grocery	4%	1%	\$0.012	0.53	0.51	0.07	15	0.0	0.0	\$0.058	\$1,456	0.92	0.94	8.06	1.07
662	High Efficiency Water Heater (electric)	Grocery	2%	2%	\$0.003	0.53	0.52	0.07	15	0.0	0.0	\$0.029	\$220	2.65	2.11	3.60	1.38
663	Hot Water Pipe Insulation	Grocery	2%	2%	\$0.008	0.53	0.52	0.07	15	0.0	0.0	\$0.089	\$670	0.87	0.69	10.99	1.38
664	Tankless Water Heater	Grocery	10%	10%	\$0.024	0.53	0.48	0.06	20	0.1	0.0	\$0.044	\$328	1.78	1.29	6.20	1.38
665	Heat Pump Water Heater (air source)	Grocery	20%	20%	\$0.064	0.53	0.43	0.06	15	0.1	0.0	\$0.068	\$507	1.15	0.91	8.31	1.38
666	Heat Recovery Unit	Grocery	65%	65%	\$0.080	0.53	0.19	0.02	10	0.5	0.1	\$0.036	\$269	2.17	1.93	3.19	1.38
667	Heat Trap	Grocery	9%	9%	\$0.005	0.54	0.50	0.07	10	0.0	0.0	\$0.016	\$119	4.90	4.36	1.41	1.38
668	Solar Water Heater	Grocery	70%	70%	\$0.201	0.53	0.16	0.02	20	0.1	0.0	\$0.052	\$393	1.48	1.08	7.43	1.38
670	Base Vending Machines	Grocery	0%	0%	\$0.000	0.17	0.17	0.02	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
671	Vending Misers	Grocery	10%	7%	\$0.010	0.17	0.15	0.02	5	0.4	0.0	\$0.163	\$1,885	0.39	0.44	9.00	1.23
700	Base Cooking	Grocery	0%	0%	\$0.000	1.65	1.65	0.19	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
703	Efficient Steamer	Grocery	22%	22%	\$0.189	1.65	1.30	0.15	10	11.9	1.4	\$0.082	\$710	0.90	0.85	7.29	1.31
704	Energy Star Hot Food Holding Cabinets	Grocery	1%	1%	\$0.111	1.65	1.64	0.19	10	0.3	0.0	\$1.691	\$14,610	0.04	0.04	149.96	1.31
800	Base Heating	Grocery	0%	0%	\$0.000	0.57	0.57	0.00	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
900	Base Miscellaneous	Grocery	0%	0%	\$0.000	0.78	0.78	0.10	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
100	Base Fluorescent Fixture, 4L4'T8	Warehouse	0%	0%	\$0.000	1.46	1.46	0.22	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
101	ROB 4L4' Premium T8	Warehouse	17%	17%	\$0.057	1.52	1.26	0.19	9	51.6	7.6	\$0.037	\$250	2.15	2.02	2.90	1.33
102	Delamping 3L4' F32T8	Warehouse	25%	25%	\$0.222	1.46	1.10	0.16	18	37.1	5.5	\$0.062	\$418	1.29	0.99	7.95	1.33
103	LED Troffer (Base 4L4'T8)	Warehouse	40%	40%	\$1.410	1.46	0.88	0.13	18	103.8	15.3	\$0.247	\$1,674	0.32	0.25	31.84	1.33
104	Lighting Control Tuneup	Warehouse	5%	1%	\$0.029	1.46	1.39	0.21	6	13.9	0.5	\$0.085	\$2,489	0.57	0.79	5.80	0.99
105	Occupancy Sensor, 4L4' Fluorescent Fixtures	Warehouse	32%	8%	\$0.135	1.46	0.99	0.20	18	16.7	0.6	\$0.029	\$848	1.68	1.75	4.53	0.99
106	Continuous Dimming, 4L4' Fluorescent Fixtures	Warehouse	56%	13%	\$0.750	1.46	0.65	0.19	10	58.0	2.0	\$0.142	\$4,147	0.34	0.42	14.52	0.99
107	High Performance Lighting R/R - 25% Savings, Base 4L4'T8	Warehouse	26%	13%	\$0.400	1.46	1.08	0.19	20	29.0	2.0	\$0.102	\$1,446	0.59	0.52	15.32	1.13
110	Base Fluorescent Fixture, 2L4'T8, 1 EB	Warehouse	0%	0%	\$0.000	1.41	1.41	0.21	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
111	ROB 2L4' Premium T8	Warehouse	17%	17%	\$0.049	1.41	1.17	0.17	9	0.4	0.1	\$0.034	\$230	2.34	2.20	2.67	1.33
112	Delamping 1L4' F32T8	Warehouse	48%	48%	\$0.379	1.41	0.73	0.11	18	0.5	0.1	\$0.057	\$387	1.39	1.08	7.35	1.33
113	LED Troffer (Base 2L4'T8)	Warehouse	40%	40%	\$1.528	1.41	0.85	0.12	18	0.7	0.1	\$0.277	\$1,881	0.29	0.22	35.78	1.33
114	Lighting Control Tuneup	Warehouse	5%	1%	\$0.014	1.41	1.34	0.21	6	0.1	0.0	\$0.044	\$1,291	1.10	1.51	3.01	0.99
115	Occupancy Sensor, 2L4' Fluorescent Fixtures	Warehouse	32%	8%	\$0.135	1.41	0.96	0.19	18	0.1	0.0	\$0.030	\$880	1.62	1.68	4.70	0.99
116	Continuous Dimming, 2L4' Fluorescent Fixtures	Warehouse	56%	13%	\$0.750	1.41	0.62	0.18	10	0.4	0.0	\$0.148	\$4,302	0.33	0.41	15.06	0.99
117	High Performance Lighting R/R - 25% Savings, Base 2L4'T8	Warehouse	26%	13%	\$0.400	1.41	1.04	0.18	20	0.2	0.0	\$0.106	\$1,500	0.57	0.50	15.90	1.13
120	Base Other Fluorescent Fixture	Warehouse	0%	0%	\$0.000	2.21	2.21	0.33	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
121	ROB Premium T8 (base other fluorescent)	Warehouse	17%	17%	\$0.153	2.21	1.83	0.27	9	0.1	0.0	\$0.068	\$460	1.17	1.10	5.34	1.33
122	Lighting Control Tuneup	Warehouse	5%	1%	\$0.029	2.21	2.09	0.32	6	0.0	0.0	\$0.056	\$1,646	0.87	1.19	3.84	0.99
123	Occupancy Sensor, 4L8' Fluorescent Fixtures	Warehouse	32%	8%	\$0.135	2.21	1.50	0.30	18	0.0	0.0	\$0.019	\$561	2.54	2.64	3.00	0.99
124	Continuous Dimming, 4L8' Fluorescent Fixtures	Warehouse	56%	13%	\$0.750	2.21	0.98	0.28	10	0.1	0.0	\$0.094	\$2,743	0.52	0.64	9.60	0.99
125	High Performance Lighting R/R - 25% Savings, Base Other Fluorescent	Warehouse	26%	13%	\$0.400	2.21	1.64	0.29	20	0.0	0.0	\$0.068	\$956	0.89	0.79	10.14	1.13
140	Base High-Efficiency Incandescent Flood, 53W to Hardwired Replacement	Warehouse	0%	0%	\$0.000	2.07	2.07	0.30	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
141	CFL Hardwired, Modular 18W	Warehouse	66%	66%	\$0.678	2.07	0.70	0.10	18	2.4	0.4	\$0.051	\$343	1.57	1.21	6.52	1.33
142	Ceramic Metal Halide	Warehouse	37%	37%	\$1.626	2.07	1.30	0.19	18	1.2	0.2	\$0.215	\$1,456	0.37	0.29	27.70	1.33
143	LED fixture replacement (base incandescent flood)	Warehouse	89%	90%	\$1.249	2.07	0.22	0.03	18	3.3	0.5	\$0.069	\$469	1.15	0.89	8.93	1.33
150	Base CFL to screw-in replacement	Warehouse	0%	0%	\$0.000	0.73	0.73	0.11	4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
151	LED screw-in replacement (base CFL)	Warehouse	67%	68%	\$0.888	0.73	0.24	0.03	18	0.0	0.0	\$0.186	\$1,259	0.43	0.33	23.96	1.33
160	Base High Bay Metal Halide, 400W	Warehouse	0%	0%	\$0.386	1.28	1.28	0.19	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
161	High Bay T5	Warehouse	49%	49%	\$0.133	1.28	0.66	0.10	18	3.1	0.5	\$0.022	\$148	3.63	2.80	2.82	1.33
162	Induction High Bay Lighting	Warehouse	37%	37%	\$0.415	1.28	0.80	0.12	32	2.4	0.3	\$0.072	\$487	0.94	0.70	11.40	1.33
163	PSMH + electronic ballast	Warehouse	37%	37%	\$0.317	1.28	0.81	0.12	16	2.3	0.3	\$0.073	\$492	1.09	0.88	8.81	1.33
165	Occupancy Sensor, High Bay T5	Warehouse	21%	5%	\$0.135	1.33	1.04	0.19	18	0.3	0.0	\$0.048	\$1,400	1.02	1.06	7.48	0.99
190	Base Exit Sign	Warehouse	0%	0%	\$0.000	0.00	0.00	0.00	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
191	LED Exit Sign	Warehouse	81%	81%	\$0.018	0.00	0.00	0.00	18	1.2	0.2	\$0.563	\$3,592	0.14	0.11	74.45	1.39
200	Base Outdoor High Pressure Sodium 250W Lamp	Warehouse	0%	0%	\$0.064	0.58	0.58	0.01	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
201	Outdoor Lighting Controls (Photocell/Timeclock)	Warehouse	22%	38%	\$0.042	0.64	0.50	0.00	18	11.7	0.2	\$0.030	\$1,566	1.84	2.03	3.89	0.93
202	LED Outdoor Area Lighting	Warehouse	52%	52%	\$0.511	0.58	0.28	0.00	9	46.5	0.5	\$0.279	\$24,713	0.17	0.24	24.12	0.89
203	Bi-Level LED Outdoor Lighting	Warehouse	70%	70%	\$1.901	0.58	0.18	0.00	9	31.3	0.4	\$0.771	\$68,575	0.06	0.08	69.43	0.87
300	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	Warehouse	0%	0%	\$11.362	1.00	1.00	0.47	20	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
301	Centrifugal Chiller, 0.51 kW/ton, 500 tons	Warehouse	12%	12%	\$1.420	1.04	0.91	0.43	20	0.1	0.0	\$1.103	\$2,359	0.12	0.07	118.82	1.79
309	Ceiling/roof Insulation - Chiller	Warehouse	12%	12%	\$0.549	1.09	0.96	0.45	20	0.0	0.0	\$0.406	\$869	0.33	0.18	43.78	1.79
320	Base DX Packaged System, EER=10.3, 10 tons	Warehouse	0%	0%	\$30.075	1.73	1.73	0.81	20	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
321	DX Tune Up/ Advanced Diagnostics	Warehouse	4%	3%	\$0.125	1.78	1.71	0.81	10	1.2	0.4	\$0.293	\$933	0.36	0.31	19.89	1.42

APPENDIX F

NON-ADDITIVE MEASURE LEVEL RESULTS

Commercial Electric Existing Construction

DSM ASSYST SUMMARY

Measure Number	Measure	Building Type	Energy Savings Fraction	Peak Reduction Fraction	Total Costs/ Sq Ft	Base EUI	EUI	Peak Watts/ Sq Ft	Service Life (yrs)	Technical Potential GWH	System Peak Tech. Potential MW	Levelized Cost of Conserved Energy \$/kWh	Levelized Cost of Avoided Peak Capacity \$/kW	Total Resource Cost Test (TRC)	Participant Test	Customer Payback (Years)	Revenue Test
322	DX Packaged System, EER=10.3, 10 tons, with Automated Fault Detection and Diagnostics	Warehouse	10%	10%	\$0.757	1.73	1.56	0.73	20	8.5	4.0	\$0.426	\$911	0.31	0.17	45.90	1.79
323	DX Packaged System, EER=10.9, 10 tons	Warehouse	6%	6%	\$2.840	1.73	1.64	0.77	20	6.7	3.1	\$2.902	\$6,208	0.05	0.03	312.68	1.79
324	DX Packaged System, EER=13.4, 10 tons	Warehouse	23%	23%	\$4.178	1.73	1.34	0.62	20	27.8	13.0	\$1.021	\$2,185	0.13	0.07	110.06	1.79
325	Window Film (Standard) - DX	Warehouse	4%	4%	\$2.884	1.78	1.70	0.80	10	1.7	0.8	\$6.025	\$12,890	0.02	0.02	408.04	1.79
326	Prog. Thermostat - DX	Warehouse	4%	1%	\$0.388	1.76	1.69	0.81	8	2.8	0.5	\$1.141	\$6,905	0.07	0.08	69.92	1.16
329	Cool Roof - DX	Warehouse	2%	2%	\$0.484	1.74	1.71	0.80	10	0.9	0.4	\$2.388	\$5,109	0.06	0.04	161.74	1.79
330	Optimize Controls - DX	Warehouse	4%	1%	\$0.040	1.78	1.71	0.82	5	1.1	0.2	\$0.175	\$1,058	0.46	0.56	7.13	1.16
332	Aerosol Duct Sealing - DX	Warehouse	7%	7%	\$0.338	1.74	1.62	0.76	15	2.6	1.2	\$0.312	\$668	0.43	0.26	29.23	1.79
333	Ceiling/roof Insulation - DX	Warehouse	12%	12%	\$0.239	1.88	1.65	0.77	20	5.6	2.6	\$0.102	\$219	1.30	0.73	11.02	1.79
334	Duct/Pipe Insulation - DX	Warehouse	2%	2%	\$0.649	1.76	1.73	0.81	10	0.2	0.1	\$2.854	\$6,107	0.05	0.03	193.31	1.79
335	DX Coil Cleaning	Warehouse	5%	5%	\$0.249	1.74	1.66	0.77	5	4.1	1.9	\$0.811	\$1,735	0.16	0.13	31.05	1.79
337	Geothermal Heat Pump, EER=13, 10 tons - DX	Warehouse	37%	37%	\$1.407	1.74	1.10	0.51	15	2.2	1.0	\$0.245	\$525	0.54	0.33	22.96	1.79
400	Base Fan Motor, 5hp, 1800rpm, 87.5%	Warehouse	0%	0%	\$0.014	0.70	0.70	0.13	20	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
401	Fan Motor, 5hp, 1800rpm, 89.5%	Warehouse	2%	2%	\$0.005	0.70	0.69	0.13	20	1.3	0.2	\$0.034	\$187	2.49	1.84	4.36	1.35
402	Variable Speed Drive Control, 5 HP	Warehouse	29%	8%	\$0.106	0.87	0.61	0.15	15	9.5	0.4	\$0.046	\$1,002	1.30	1.38	5.50	1.03
410	Base Fan Motor, 15hp, 1800rpm, 91.0%	Warehouse	0%	0%	\$0.000	0.65	0.65	0.12	20	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
420	Base Fan Motor, 40hp, 1800rpm, 93.0%	Warehouse	0%	0%	\$0.013	0.64	0.64	0.12	20	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
422	Variable Speed Drive Control, 40 HP	Warehouse	29%	8%	\$0.055	0.88	0.62	0.15	20	0.7	0.0	\$0.021	\$447	2.92	2.83	2.82	1.03
423	Air Handler Tuneups	Warehouse	10%	5%	\$0.050	0.64	0.57	0.11	8	0.6	0.1	\$0.145	\$1,574	0.47	0.54	10.21	1.13
424	Demand Controlled Ventilation	Warehouse	15%	4%	\$0.124	0.74	0.63	0.13	15	0.3	0.0	\$0.129	\$2,773	0.47	0.50	15.21	1.03
500	Base Built-Up Refrigeration System	Warehouse	0%	0%	\$0.000	18.80	18.80	2.86	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
501	High-efficiency fan motors	Warehouse	12%	12%	\$0.116	20.05	17.64	2.68	20	6.1	0.9	\$0.005	\$31	16.47	11.77	0.68	1.40
507	Refrigeration Commissioning	Warehouse	5%	5%	\$0.018	19.28	18.32	2.79	3	1.0	0.2	\$0.008	\$52	9.84	10.47	0.26	1.40
517	Oversized Air Cooled Condenser	Warehouse	8%	8%	\$0.062	19.59	18.01	2.74	16	8.4	1.3	\$0.004	\$28	18.36	14.03	0.55	1.40
520	Base Self-Contained Refrigeration	Warehouse	0%	0%	\$0.000	0.06	0.06	0.01	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
600	Base Desktop PC	Warehouse	0%	0%	\$0.000	0.20	0.20	0.03	4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
601	PC Manual Power Management Enabling	Warehouse	64%	45%	\$0.005	0.24	0.09	0.02	4	30.3	3.0	\$0.012	\$121	5.69	6.95	0.48	1.18
602	PC Network Power Management Enabling	Warehouse	64%	45%	\$0.005	0.24	0.09	0.02	4	30.3	3.0	\$0.012	\$121	5.69	6.95	0.48	1.18
603	Energy Star or Better PC	Warehouse	31%	25%	\$0.003	0.20	0.14	0.02	4	22.3	2.4	\$0.017	\$156	4.16	4.95	0.68	1.21
610	Base Monitor, CRT	Warehouse	0%	0%	\$0.000	0.01	0.01	0.00	4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
611	Energy Star or Better Monitor-CRT	Warehouse	54%	42%	\$0.000	0.01	0.01	0.00	4	2.4	0.3	\$0.013	\$120	5.43	6.46	0.52	1.21
612	Monitor Power Management Enabling--CRT	Warehouse	50%	35%	\$0.000	0.02	0.01	0.00	4	1.8	0.2	\$0.020	\$202	3.41	4.16	0.81	1.18
620	Base Monitor, LCD	Warehouse	0%	0%	\$0.000	0.06	0.06	0.01	4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
621	Energy Star or Better Monitor--LCD	Warehouse	54%	42%	\$0.003	0.06	0.03	0.00	4	11.3	1.2	\$0.035	\$325	2.00	2.38	1.42	1.21
622	Monitor Power Management Enabling--LCD	Warehouse	52%	37%	\$0.006	0.12	0.05	0.01	4	1.1	0.1	\$0.031	\$317	2.18	2.66	1.27	1.18
630	Base Copier	Warehouse	0%	0%	\$0.000	0.02	0.02	0.00	6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
631	Energy Star or Better Copier	Warehouse	20%	15%	\$0.000	0.02	0.02	0.00	6	0.9	0.1	\$0.019	\$172	3.76	4.22	1.08	1.21
632	Copier Power Management Enabling	Warehouse	18%	13%	\$0.002	0.02	0.02	0.00	6	0.2	0.0	\$0.096	\$977	0.71	0.81	5.61	1.18
640	Base Laser Printer	Warehouse	0%	0%	\$0.000	0.03	0.03	0.00	5	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
641	Printer Power Management Enabling	Warehouse	46%	32%	\$0.003	0.05	0.02	0.00	5	0.9	0.1	\$0.040	\$411	1.67	1.99	2.01	1.18
650	Base Data Center/Server Room	Warehouse	0%	0%	\$0.000	27.04	27.04	3.75	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
651	Data Center Improved Operations	Warehouse	19%	13%	\$0.500	28.09	22.84	3.38	10	0.2	0.0	\$0.015	\$151	4.57	4.74	1.30	1.18
652	Data Center Best Practices	Warehouse	43%	34%	\$2.500	28.26	16.06	2.60	10	0.3	0.0	\$0.032	\$293	2.23	2.27	2.72	1.21
653	Data Center State of the Art practices	Warehouse	56%	56%	\$5.000	27.04	11.90	1.65	10	0.1	0.0	\$0.051	\$369	1.54	1.48	4.18	1.28
660	Base Water Heating	Warehouse	0%	0%	\$0.000	0.07	0.07	0.01	15	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
661	Demand controlled circulating systems	Warehouse	5%	1%	\$0.050	0.07	0.07	0.01	15	0.3	0.0	\$1.676	\$47,541	0.03	0.03	229.52	0.99
662	High Efficiency Water Heater (electric)	Warehouse	2%	2%	\$0.010	0.07	0.07	0.01	15	0.3	0.0	\$0.832	\$6,389	0.09	0.08	96.10	1.27
663	Hot Water Pipe Insulation	Warehouse	2%	2%	\$0.032	0.07	0.07	0.01	15	0.3	0.0	\$2.538	\$19,498	0.03	0.03	293.28	1.27
664	Tankless Water Heater	Warehouse	10%	10%	\$0.090	0.07	0.06	0.01	20	1.2	0.2	\$1.243	\$9,547	0.06	0.05	165.36	1.27
665	Heat Pump Water Heater (air source)	Warehouse	20%	20%	\$0.241	0.07	0.06	0.01	15	2.6	0.3	\$1.919	\$14,739	0.04	0.03	221.70	1.27
666	Heat Recovery Unit	Warehouse	65%	65%	\$0.080	0.07	0.02	0.00	10	1.0	0.1	\$0.271	\$2,082	0.28	0.27	22.66	1.27
667	Heat Trap	Warehouse	9%	9%	\$0.019	0.07	0.07	0.01	10	0.8	0.1	\$0.450	\$3,460	0.17	0.16	37.67	1.27
668	Solar Water Heater	Warehouse	70%	70%	\$0.753	0.07	0.02	0.00	20	5.5	0.7	\$1.489	\$11,436	0.05	0.04	198.08	1.27
670	Base Vending Machines	Warehouse	0%	0%	\$0.000	0.10	0.10	0.01	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
671	Vending Misers	Warehouse	10%	7%	\$0.006	0.10	0.09	0.01	5	1.4	0.1	\$0.161	\$1,551	0.41	0.47	8.52	1.24
700	Base Cooking	Warehouse	0%	0%	\$0.000	0.02	0.02	0.00	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
800	Base Heating	Warehouse	0%	0%	\$0.000	10.61	10.61	0.01	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
900	Base Miscellaneous	Warehouse	0%	0%	\$0.000	0.46	0.46	0.07	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
100	Base Fluorescent Fixture, 4L4T8	School	0%	0%	\$0.000	3.37	3.37	0.38	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
101	ROB 4L4' Premium T8	School	17%	17%	\$0.148	3.38	2.80	0.32	10	23.9	2.7	\$0.040	\$346	1.91	2.11	2.92	1.11
102	Delamping 3L4' F32T8	School	25%	25%	\$0.575	3.37	2.53	0.29	18	14.2	1.6	\$0.069	\$608	1.09	1.01	7.84	1.11
103	LED Troffer (Base 4L4T8)	School	40%	40%	\$3.656	3.37	2.02	0.23	20	39.7	4.5	\$0.263	\$2,303	0.29	0.26	30.94	1.11
104	Lighting Control Tuneup	School	5%	1%	\$0.029	3.40	3.24	0.38	6	3.8	0.1	\$0.042	\$1,385	1.20	1.73	2.64	0.94
105	Occupancy Sensor, 4L4' Fluorescent Fixtures	School	28%	8%	\$0.135	3.37	2.43	0.36	18	13.9	0.4	\$0.015	\$476	3.48	3.81	2.08	0.94
106	Continuous Dimming, 4L4' Fluorescent Fixtures	School	48%	13%	\$0.750	3.37	1.74	0.33	10	14.4	0.4	\$0.071	\$2,328	0.71	0.93	6.66	0.94
107	High Performance Lighting R/R - 25% Savings, Base 4L4T8	School	24%	13%	\$0.400	3.37	2.55	0.34	20	10.3	0.6	\$0.048	\$811	1.27	1.25	6.39	1.02
110	Base Fluorescent Fixture, 2L4T8, 1 EB	School	0%	0%	\$0.000	2.29	2.29	0.26	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
111	ROB 2L4' Premium T8	School	17%	17%	\$0.089	2.29	1.90	0.22	10	1.5	0.2	\$0.035	\$308	2.15	2.37	2.60	1.11
112	Delamping 1L4' F32T8	School	48%	48%	\$0.693	2.29	1.19	0.14	18	1.7	0.2	\$0.064	\$563	1.18	1.09	7.24	1.11
113	LED Troffer (Base 2L4T8)	School	40%	40%	\$2.795	2.29	1.37	0.16	20	2.5	0.3	\$0.295	\$2,588	0.26	0.23	34.77	1.11
114	Lighting Control Tuneup	School	5%	1%	\$0.014	2.29	2.18	0.26	6	0.3	0.0	\$0.031	\$1,027	1.62	2.33	1.95	0.94
115	Occupancy Sensor, 2L4' Fluorescent Fixtures	School	28%	8%	\$0.135	2.29	1.65	0.24	18	0.9	0.0	\$0.021	\$700	2.37	2.59	3.05	0.94

APPENDIX F

NON-ADDITIVE MEASURE LEVEL RESULTS

Commercial Electric Existing Construction

DSM ASSYST SUMMARY

Measure Number	Measure	Building Type	Energy Savings Fraction	Peak Reduction Fraction	Total Costs/ Sq Ft	Base EUI	EUI	Peak Watts/ Sq Ft	Service Life (yrs)	Technical Potential GWH	System Peak Tech. Potential MW	Levelized Cost of Conserved Energy \$/kWh	Levelized Cost of Avoided Peak Capacity \$/kW	Total Resource Cost Test (TRC)	Participant Test	Customer Payback (Years)	Revenue Test
116	Continuous Dimming, 2L4' Fluorescent Fixtures	School	48%	13%	\$0.750	2.29	1.18	0.23	10	0.9	0.0	\$0.105	\$3,422	0.48	0.63	9.79	0.94
117	High Performance Lighting R/R - 25% Savings, Base 2L4'T8	School	24%	13%	\$0.400	2.29	1.74	0.23	20	0.6	0.0	\$0.070	\$1,193	0.87	0.85	9.39	1.02
120	Base Other Fluorescent Fixture	School	0%	0%	\$0.000	0.43	0.43	0.05	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
121	ROB Premium T8 (base other fluorescent)	School	17%	17%	\$0.034	0.43	0.36	0.04	10	0.1	0.0	\$0.070	\$615	1.08	1.19	5.19	1.11
122	Lighting Control Tuneup	School	5%	1%	\$0.029	0.44	0.42	0.05	6	0.0	0.0	\$0.329	\$10,749	0.15	0.22	20.46	0.94
123	Occupancy Sensor, 4L8' Fluorescent Fixtures	School	28%	8%	\$0.135	0.43	0.31	0.05	18	0.1	0.0	\$0.114	\$3,721	0.45	0.49	16.23	0.94
124	Continuous Dimming, 4L8' Fluorescent Fixtures	School	48%	13%	\$0.750	0.43	0.22	0.04	10	0.1	0.0	\$0.558	\$18,193	0.09	0.12	52.03	0.94
125	High Performance Lighting R/R - 25% Savings, Base Other Fluorescent	School	24%	13%	\$0.400	0.43	0.33	0.04	20	0.1	0.0	\$0.373	\$6,342	0.16	0.16	49.94	1.02
130	Base High-Efficiency Incandescent Flood, 53W to Screw-in Replacement	School	0%	0%	\$0.000	0.11	0.11	0.01	1	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
131	CFL Screw-in 18W	School	66%	66%	\$0.006	0.11	0.04	0.00	4	0.2	0.0	\$0.027	\$236	2.80	3.64	0.92	1.11
132	Cold Cathode Lamps	School	66%	66%	\$0.017	0.11	0.04	0.00	10	0.0	0.0	\$0.037	\$320	2.07	2.28	2.70	1.11
133	LED screw-in PAR replacement (base incandescent)	School	90%	90%	\$0.060	0.11	0.01	0.00	20	0.2	0.0	\$0.059	\$518	1.28	1.15	6.95	1.11
140	Base High-Efficiency Incandescent Flood, 53W to Hardwired Replacement	School	0%	0%	\$0.000	0.11	0.11	0.01	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
141	CFL Hardwired, Modular 18W	School	66%	66%	\$0.041	0.11	0.04	0.00	18	0.1	0.0	\$0.057	\$499	1.33	1.23	6.43	1.11
142	Ceramic Metal Halide	School	37%	37%	\$0.098	0.11	0.07	0.01	18	0.0	0.0	\$0.242	\$2,119	0.31	0.29	27.29	1.11
143	LED fixture replacement (base incandescent flood)	School	90%	90%	\$0.075	0.11	0.01	0.00	20	0.1	0.0	\$0.074	\$646	1.03	0.92	8.68	1.11
150	Base CFL to screw-in replacement	School	0%	0%	\$0.000	1.39	1.39	0.16	4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
151	LED screw-in replacement (base CFL)	School	68%	68%	\$1.915	1.39	0.45	0.05	20	4.1	0.5	\$0.198	\$1,733	0.38	0.34	23.28	1.11
160	Base High Bay Metal Halide, 400W	School	0%	0%	\$1.161	3.42	3.42	0.39	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
161	High Bay T5	School	49%	49%	\$0.402	3.42	1.76	0.20	18	3.7	0.4	\$0.025	\$216	3.07	2.85	2.79	1.11
162	Induction High Bay Lighting	School	37%	37%	\$1.251	3.42	2.14	0.24	32	2.8	0.3	\$0.081	\$708	0.79	0.71	11.24	1.11
163	PSMH + electronic ballast	School	37%	37%	\$0.954	4.52	2.86	0.33	18	1.2	0.1	\$0.058	\$510	1.30	1.20	6.56	1.11
165	Occupancy Sensor, High Bay T5	School	19%	5%	\$0.135	3.54	2.88	0.38	18	0.3	0.0	\$0.021	\$680	2.44	2.66	2.97	0.94
190	Base Exit Sign	School	0%	0%	\$0.000	0.01	0.01	0.00	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
191	LED Exit Sign	School	81%	81%	\$0.006	0.02	0.00	0.00	18	0.8	0.1	\$0.044	\$592	1.56	1.66	4.77	0.97
200	Base Outdoor High Pressure Sodium 250W Lamp	School	0%	0%	\$0.090	0.82	0.82	0.03	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
201	Outdoor Lighting Controls (Photocell/Timeclock)	School	23%	38%	\$0.022	0.90	0.70	0.02	18	11.0	0.6	\$0.011	\$202	5.58	5.72	1.38	1.00
202	LED Outdoor Area Lighting	School	52%	52%	\$0.274	0.82	0.39	0.01	9	42.3	1.4	\$0.106	\$3,198	0.49	0.66	8.90	0.94
203	Bi-Level LED Outdoor Lighting	School	69%	70%	\$1.019	0.82	0.25	0.01	9	28.1	0.9	\$0.297	\$8,875	0.17	0.23	25.94	0.93
300	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	School	0%	0%	\$1.500	0.90	0.90	0.42	20	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
301	Centrifugal Chiller, 0.51 kW/ton, 500 tons	School	12%	12%	\$0.188	0.94	0.82	0.39	20	2.5	1.1	\$0.161	\$345	0.82	0.46	17.40	1.79
302	Window Film (Standard) - Chiller	School	2%	2%	\$0.069	0.91	0.90	0.42	10	0.1	0.0	\$0.664	\$1,421	0.20	0.14	44.97	1.79
303	EMS - Chiller	School	10%	10%	\$0.150	0.98	0.88	0.41	15	0.7	0.3	\$0.172	\$369	0.77	0.47	16.13	1.79
304	Cool Roof - Chiller	School	4%	4%	\$0.242	0.92	0.89	0.41	10	0.3	0.1	\$1.104	\$2,363	0.12	0.08	74.79	1.79
306	VSD for Chiller Pumps and Towers	School	10%	10%	\$0.105	0.99	0.89	0.42	15	0.1	0.1	\$0.119	\$256	1.11	0.68	11.18	1.79
308	Economizer - Chiller	School	8%	3%	\$0.425	0.93	0.85	0.42	15	0.8	0.1	\$0.606	\$3,664	0.13	0.13	60.33	1.16
310	Duct/Pipe Insulation - Chiller	School	2%	2%	\$0.769	0.91	0.89	0.42	10	0.2	0.1	\$6.551	\$14,015	0.02	0.01	443.64	1.79
311	High Efficiency Chiller Motors	School	3%	3%	\$0.064	0.91	0.88	0.41	20	0.1	0.0	\$0.218	\$466	0.61	0.34	23.47	1.79
320	Base DX Packaged System, EER=10.3, 10 tons	School	0%	0%	\$3.971	1.56	1.56	0.73	20	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
321	DX Tune Up/ Advanced Diagnostics	School	4%	3%	\$0.125	1.61	1.55	0.73	10	0.7	0.2	\$0.324	\$1,033	0.33	0.28	22.00	1.42
322	DX Packaged System, EER=10.3, 10 tons, with Automated Fault Detection and Diagnostics	School	10%	10%	\$0.100	1.56	1.41	0.66	20	6.6	3.1	\$0.062	\$133	2.13	1.19	6.72	1.79
323	DX Packaged System, EER=10.9, 10 tons	School	6%	6%	\$0.375	1.56	1.48	0.69	20	5.2	2.4	\$0.425	\$909	0.31	0.17	45.79	1.79
324	DX Packaged System, EER=13.4, 10 tons	School	23%	23%	\$0.552	1.56	1.20	0.56	20	21.8	10.2	\$0.150	\$320	0.89	0.50	16.12	1.79
325	Window Film (Standard) - DX	School	2%	2%	\$0.069	1.59	1.56	0.73	10	0.2	0.1	\$0.383	\$819	0.35	0.24	25.92	1.79
326	Prog. Thermostat - DX	School	4%	1%	\$0.051	1.58	1.52	0.73	8	2.5	0.4	\$0.168	\$1,016	0.48	0.54	10.28	1.16
329	Cool Roof - DX	School	6%	6%	\$0.242	1.57	1.47	0.69	10	2.7	1.3	\$0.390	\$834	0.34	0.23	26.39	1.79
330	Optimize Controls - DX	School	4%	1%	\$0.040	1.60	1.54	0.74	5	0.8	0.1	\$0.194	\$1,174	0.42	0.50	7.91	1.16
331	Economizer - DX	School	7%	3%	\$0.425	1.66	1.54	0.75	15	1.5	0.2	\$0.408	\$2,467	0.20	0.19	40.63	1.16
332	Aerosol Duct Sealing - DX	School	7%	7%	\$0.045	1.56	1.45	0.68	15	2.1	1.0	\$0.046	\$98	2.90	1.77	4.29	1.79
333	Ceiling/roof Insulation - DX	School	12%	12%	\$0.119	1.78	1.56	0.73	20	0.0	0.0	\$0.054	\$116	2.46	1.37	5.84	1.79
334	Duct/Pipe Insulation - DX	School	2%	2%	\$0.649	1.56	1.53	0.72	10	1.4	0.6	\$3.220	\$6,889	0.04	0.03	218.06	1.79
335	DX Coil Cleaning	School	5%	5%	\$0.033	1.60	1.52	0.71	5	1.9	0.9	\$0.117	\$249	1.14	0.89	4.46	1.79
337	Geothermal Heat Pump, EER=13, 10 tons - DX	School	37%	37%	\$2.640	1.57	0.99	0.46	15	1.7	0.8	\$0.511	\$1,092	0.26	0.16	47.78	1.79
340	Base PTAC, EER=8.3, 1 ton	School	0%	0%	\$2.273	1.65	1.65	0.77	20	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
341	HE PTAC, EER=9.6, 1 ton	School	14%	14%	\$0.620	1.65	1.43	0.67	20	0.1	0.0	\$0.271	\$579	0.49	0.27	29.17	1.79
400	Base Fan Motor, 5hp, 1800rpm, 87.5%	School	0%	0%	\$0.019	0.65	0.65	0.07	20	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
401	Fan Motor, 5hp, 1800rpm, 89.5%	School	2%	2%	\$0.007	0.65	0.63	0.07	20	0.4	0.0	\$0.050	\$438	1.54	1.46	5.48	1.06
402	Variable Speed Drive Control, 5 HP	School	30%	8%	\$0.143	0.69	0.49	0.07	15	5.6	0.2	\$0.078	\$2,708	0.78	0.94	8.11	0.91
410	Base Fan Motor, 15hp, 1800rpm, 91.0%	School	0%	0%	\$0.031	0.60	0.60	0.07	20	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
411	Fan Motor, 15hp, 1800rpm, 92.4%	School	2%	2%	\$0.008	0.60	0.59	0.07	20	0.7	0.1	\$0.086	\$756	0.90	0.85	9.45	1.06
412	Variable Speed Drive Control, 15 HP	School	30%	8%	\$0.169	0.62	0.43	0.07	20	15.8	0.5	\$0.090	\$3,120	0.68	0.74	10.75	0.91
413	Electronically Commutated Motors (ECM) on an Air Handler Unit	School	14%	4%	\$0.073	0.60	0.51	0.07	15	6.6	0.2	\$0.095	\$3,300	0.64	0.77	9.88	0.91
414	Energy Recovery Ventilation (ERV)	School	7%	7%	\$0.344	0.60	0.56	0.06	20	2.8	0.3	\$0.801	\$7,006	0.10	0.09	87.67	1.06
420	Base Fan Motor, 40hp, 1800rpm, 93.0%	School	0%	0%	\$0.000	0.59	0.59	0.07	20	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
423	Air Handler Tuneups	School	10%	5%	\$0.050	0.59	0.53	0.06	8	1.5	0.1	\$0.155	\$2,713	0.43	0.58	9.51	0.95
424	Demand Controlled Ventilation	School	15%	4%	\$0.124	0.60	0.51	0.07	15	3.2	0.1	\$0.158	\$5,458	0.39	0.46	16.33	0.91
500	Base Built-Up Refrigeration System	School	0%	0%	\$0.000	0.31	0.31	0.03	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
505	Compressor VSD retrofit	School	6%	2%	\$0.041	0.31	0.29	0.03	13	0.2	0.0	\$0.260	\$9,369	0.21	0.23	31.87	1.07
507	Refrigeration Commissioning	School	5%	5%	\$0.018	0.32	0.31	0.03	3	0.0	0.0	\$0.473	\$4,288	0.15	0.17	15.88	1.31
508	Demand Hot Gas Defrost	School	3%	3%	\$0.003	0.31	0.31	0.03	10	0.1	0.0	\$0.064	\$590	1.10	1.03	6.01	1.31
511	Freezer-Cooler Replacement Gaskets (built-up systems)	School	7%	7%	\$0.001	0.32	0.30	0.03	4	0.1	0.0	\$0.012	\$111	5.73	6.29	0.54	1.31
513	Bi-level LED Case Lighting (built-up systems)	School	1%	1%	\$0.016	0.31	0.31	0.03	10	0.0	0.0	\$0.936	\$11,157	0.07	0.07	92.12	1.21

APPENDIX F

NON-ADDITIVE MEASURE LEVEL RESULTS

Commercial Electric Existing Construction

DSM ASSYST SUMMARY

Measure Number	Measure	Building Type	Energy Savings Fraction	Peak Reduction Fraction	Total Costs/ Sq Ft	Base EUI	EUI	Peak Watts/ Sq Ft	Service Life (yrs)	Technical Potential GWH	System Peak Tech. Potential MW	Levelized Cost of Conserved Energy \$/kWh	Levelized Cost of Avoided Peak Capacity \$/kW	Total Resource Cost Test (TRC)	Participant Test	Customer Payback (Years)	Revenue Test
514	Fiber Optic Case Lighting (built-up systems)	School	24%	25%	\$0.018	0.31	0.24	0.03	1	0.5	0.1	\$0.290	\$2,623	0.24	0.29	3.41	1.31
517	Oversized Air Cooled Condenser	School	8%	8%	\$0.062	0.33	0.30	0.03	16	0.1	0.0	\$0.254	\$2,299	0.28	0.23	34.22	1.31
520	Base Self-Contained Refrigeration	School	0%	0%	\$0.000	0.19	0.19	0.02	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
521	Strip curtains for walk-ins	School	1%	1%	\$0.007	0.19	0.19	0.02	4	0.1	0.0	\$1.588	\$14,392	0.04	0.05	69.18	1.31
522	Night covers for display cases (self-contained)	School	1%	0%	\$0.000	0.19	0.19	0.02	5	0.1	0.0	\$0.012	N/A	3.27	5.39	0.74	0.85
523	Freezer-Cooler Replacement Gaskets (self-contained)	School	3%	3%	\$0.000	0.19	0.19	0.02	4	0.2	0.0	\$0.007	\$61	10.40	11.42	0.29	1.31
524	Bi-level LED Case Lighting (self-contained units)	School	1%	1%	\$0.002	0.19	0.19	0.02	10	0.0	0.0	\$0.195	\$2,322	0.32	0.32	19.17	1.21
526	Energy-Star Refrigerator, solid door	School	3%	3%	\$0.000	0.19	0.19	0.02	10	0.2	0.0	\$0.015	\$132	4.85	4.52	1.36	1.31
527	Energy-Star Freezer, solid door	School	2%	2%	\$0.001	0.19	0.19	0.02	10	0.1	0.0	\$0.043	\$392	1.63	1.52	4.07	1.31
528	Energy-Star Refrigerator, glass door	School	3%	3%	\$0.000	0.19	0.19	0.02	10	0.2	0.0	\$0.000	\$2	299.26	278.86	0.02	1.31
529	Energy-Star Freezer, glass door	School	4%	4%	\$0.000	0.19	0.19	0.02	10	0.3	0.0	\$0.002	\$19	33.26	31.00	0.20	1.31
530	Energy Star Ice Machines	School	2%	2%	\$0.000	0.19	0.19	0.02	10	0.1	0.0	\$0.003	\$31	20.52	19.12	0.32	1.31
600	Base Desktop PC	School	0%	0%	\$0.000	0.25	0.25	0.02	4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
601	PC Manual Power Management Enabling	School	63%	45%	\$0.007	0.30	0.11	0.01	4	10.6	0.5	\$0.012	\$232	5.06	7.61	0.44	0.96
602	PC Network Power Management Enabling	School	63%	45%	\$0.007	0.30	0.11	0.01	4	10.6	0.5	\$0.012	\$232	5.06	7.61	0.44	0.96
603	Energy Star or Better PC	School	31%	25%	\$0.004	0.26	0.18	0.01	4	6.9	0.4	\$0.016	\$285	3.85	5.73	0.59	0.97
610	Base Monitor, CRT	School	0%	0%	\$0.000	0.00	0.00	0.00	4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
611	Energy Star or Better Monitor-CRT	School	53%	42%	\$0.000	0.00	0.00	0.00	4	0.1	0.0	\$0.075	\$1,315	0.84	1.24	2.71	0.97
612	Monitor Power Management Enabling-CRT	School	50%	35%	\$0.000	0.00	0.00	0.00	4	0.1	0.0	\$0.093	\$1,820	0.65	0.97	3.46	0.96
620	Base Monitor, LCD	School	0%	0%	\$0.000	0.07	0.07	0.00	4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
621	Energy Star or Better Monitor-LCD	School	53%	42%	\$0.004	0.07	0.03	0.00	4	3.2	0.2	\$0.033	\$576	1.91	2.84	1.19	0.97
622	Monitor Power Management Enabling-LCD	School	52%	37%	\$0.006	0.12	0.06	0.01	4	0.5	0.0	\$0.033	\$638	1.84	2.77	1.21	0.96
630	Base Copier	School	0%	0%	\$0.000	0.01	0.01	0.00	6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
631	Energy Star or Better Copier	School	20%	15%	\$0.000	0.01	0.01	0.00	6	0.0	0.0	\$0.017	\$306	3.60	5.05	0.90	0.97
632	Copier Power Management Enabling	School	18%	13%	\$0.000	0.01	0.00	0.00	6	0.0	0.0	\$0.096	\$1,877	0.63	0.89	5.12	0.96
640	Base Laser Printer	School	0%	0%	\$0.000	0.01	0.01	0.00	5	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
641	Printer Power Management Enabling	School	46%	32%	\$0.001	0.02	0.01	0.00	5	0.2	0.0	\$0.043	\$833	1.41	2.06	1.93	0.96
650	Base Data Center/Server Room	School	0%	0%	\$0.000	98.84	98.84	7.14	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
651	Data Center Improved Operations	School	19%	13%	\$0.500	102.66	83.55	6.44	10	0.1	0.0	\$0.004	\$79	14.85	18.97	0.32	0.96
652	Data Center Best Practices	School	43%	34%	\$2.500	103.29	58.75	4.95	10	0.1	0.0	\$0.009	\$154	7.23	9.17	0.67	0.97
653	Data Center State of the Art practices	School	56%	56%	\$5.000	98.84	43.49	3.14	10	0.0	0.0	\$0.014	\$194	4.87	6.05	1.02	0.99
660	Base Water Heating	School	0%	0%	\$0.000	0.22	0.22	0.01	15	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
661	Demand controlled circulating systems	School	4%	1%	\$0.012	0.22	0.21	0.01	15	0.1	0.0	\$0.149	\$7,159	0.35	0.43	17.83	0.89
662	High Efficiency Water Heater (electric)	School	2%	2%	\$0.003	0.22	0.21	0.01	15	0.1	0.0	\$0.085	\$1,291	0.80	0.92	8.25	0.95
663	Hot Water Pipe Insulation	School	2%	2%	\$0.010	0.22	0.22	0.01	15	0.0	0.0	\$0.255	\$3,869	0.27	0.31	24.72	0.95
664	Tankless Water Heater	School	10%	10%	\$0.029	0.22	0.20	0.01	20	0.2	0.0	\$0.127	\$1,929	0.54	0.56	14.19	0.95
665	Heat Pump Water Heater (air source)	School	20%	20%	\$0.077	0.22	0.18	0.01	15	0.4	0.0	\$0.197	\$2,978	0.35	0.40	19.03	0.95
666	Heat Recovery Unit	School	65%	65%	\$0.080	0.22	0.08	0.01	10	0.3	0.0	\$0.087	\$1,319	0.79	1.01	6.10	0.95
667	Heat Trap	School	9%	9%	\$0.006	0.22	0.20	0.01	10	0.1	0.0	\$0.046	\$699	1.48	1.91	3.23	0.95
668	Solar Water Heater	School	70%	70%	\$0.240	0.22	0.07	0.00	20	0.4	0.0	\$0.153	\$2,311	0.45	0.47	17.00	0.95
670	Base Vending Machines	School	0%	0%	\$0.000	0.13	0.13	0.01	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
671	Vending Misers	School	9%	7%	\$0.008	0.14	0.13	0.01	5	0.4	0.0	\$0.168	\$3,179	0.36	0.54	7.41	0.94
700	Base Cooking	School	0%	0%	\$0.000	0.19	0.19	0.01	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
701	Convection Oven	School	5%	5%	\$0.019	0.19	0.18	0.01	10	0.9	0.1	\$0.330	\$5,263	0.21	0.28	21.63	0.90
704	Energy Star Hot Food Holding Cabinets	School	14%	14%	\$0.030	0.19	0.16	0.01	10	2.6	0.2	\$0.175	\$2,803	0.39	0.54	11.52	0.90
800	Base Heating	School	0%	0%	\$0.000	0.21	0.21	0.00	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
900	Base Miscellaneous	School	0%	0%	\$0.000	0.27	0.27	0.02	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
100	Base Fluorescent Fixture, 4L4T8	College	0%	0%	\$0.000	8.66	8.66	1.53	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
101	ROB 4L4' Premium T8	College	17%	17%	\$0.275	8.66	7.18	1.27	7	7.6	1.3	\$0.037	\$208	2.31	2.19	2.30	1.40
102	Delamping 3L4' F32T8	College	25%	25%	\$1.065	8.66	6.50	1.15	18	4.4	0.8	\$0.050	\$283	1.69	1.25	6.33	1.40
103	LED Troffer (Base 4L4T8)	College	40%	40%	\$6.772	8.66	5.20	0.92	14	12.4	2.2	\$0.222	\$1,256	0.38	0.31	24.28	1.40
104	Lighting Control Tuneup	College	5%	1%	\$0.029	8.66	8.25	1.51	6	1.5	0.1	\$0.016	\$351	3.25	4.26	1.07	1.04
105	Occupancy Sensor, 4L4' Fluorescent Fixtures	College	29%	8%	\$0.135	8.66	6.16	1.41	18	4.5	0.2	\$0.005	\$120	9.55	9.47	0.84	1.04
106	Continuous Dimming, 4L4' Fluorescent Fixtures	College	50%	13%	\$0.750	8.66	4.33	1.33	10	4.7	0.2	\$0.027	\$585	1.95	2.30	2.68	1.04
107	High Performance Lighting R/R - 25% Savings, Base 4L4T8	College	25%	13%	\$0.400	8.66	6.53	1.34	20	3.3	0.3	\$0.018	\$204	3.55	2.99	2.68	1.19
110	Base Fluorescent Fixture, 2L4T8, 1 EB	College	0%	0%	\$0.000	5.56	5.56	0.98	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
111	ROB 2L4' Premium T8	College	17%	17%	\$0.156	5.64	4.67	0.82	7	6.9	1.2	\$0.032	\$181	2.64	2.51	2.01	1.40
112	Delamping 1L4' F32T8	College	48%	48%	\$1.212	5.56	2.90	0.51	18	8.3	1.5	\$0.046	\$262	1.83	1.35	5.85	1.40
113	LED Troffer (Base 2L4T8)	College	40%	40%	\$4.888	5.56	3.34	0.59	14	12.1	2.1	\$0.249	\$1,412	0.34	0.27	27.29	1.40
114	Lighting Control Tuneup	College	5%	1%	\$0.014	5.56	5.30	0.97	6	1.5	0.1	\$0.013	\$273	4.18	5.47	0.83	1.04
115	Occupancy Sensor, 2L4' Fluorescent Fixtures	College	29%	8%	\$0.135	5.56	3.96	0.91	18	4.4	0.2	\$0.009	\$186	6.13	6.08	1.30	1.04
116	Continuous Dimming, 2L4' Fluorescent Fixtures	College	50%	13%	\$0.750	5.56	2.78	0.85	10	4.5	0.2	\$0.042	\$911	1.25	1.48	4.17	1.04
117	High Performance Lighting R/R - 25% Savings, Base 2L4T8	College	25%	13%	\$0.400	5.56	4.19	0.86	20	3.2	0.3	\$0.028	\$318	2.28	1.92	4.17	1.19
120	Base Other Fluorescent Fixture	College	0%	0%	\$0.000	2.74	2.74	0.48	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
121	ROB Premium T8 (base other fluorescent)	College	17%	17%	\$0.154	3.17	2.63	0.46	7	0.1	0.0	\$0.056	\$319	1.51	1.43	3.53	1.40
122	Lighting Control Tuneup	College	5%	1%	\$0.029	2.75	2.61	0.48	6	0.1	0.0	\$0.051	\$1,108	1.03	1.35	3.37	1.04
123	Occupancy Sensor, 4L8' Fluorescent Fixtures	College	29%	8%	\$0.135	2.74	1.95	0.45	18	0.3	0.0	\$0.017	\$378	3.02	3.00	2.64	1.04
124	Continuous Dimming, 4L8' Fluorescent Fixtures	College	50%	13%	\$0.750	2.74	1.37	0.42	10	0.3	0.0	\$0.085	\$1,848	0.62	0.73	8.45	1.04
125	High Performance Lighting R/R - 25% Savings, Base Other Fluorescent	College	25%	13%	\$0.400	2.74	2.07	0.42	20	0.2	0.0	\$0.058	\$644	1.12	0.95	8.45	1.19
130	Base High-Efficiency Incandescent Flood, 53W to Screw-in Replacement	College	0%	0%	\$0.000	3.16	3.16	0.56	1	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
131	CFL Screw-in 18W	College	66%	66%	\$0.122	3.16	1.07	0.19	3	9.5	1.7	\$0.026	\$149	3.23	3.44	0.78	1.40
132	Cold Cathode Lamps	College	66%	66%	\$0.356	3.16	1.07	0.19	7	1.1	0.2	\$0.034	\$192	2.51	2.38	2.12	1.40

APPENDIX F

NON-ADDITIVE MEASURE LEVEL RESULTS

Commercial Electric Existing Construction

DSM ASSYST SUMMARY

Measure Number	Measure	Building Type	Energy Savings Fraction	Peak Reduction Fraction	Total Costs/ Sq Ft	Base EUI	EUI	Peak Watts/ Sq Ft	Service Life (yrs)	Technical Potential GWH	System Peak Tech. Potential MW	Levelized Cost of Conserved Energy \$/kWh	Levelized Cost of Avoided Peak Capacity \$/kW	Total Resource Cost Test (TRC)	Participant Test	Customer Payback (Years)	Revenue Test
133	LED screw-in PAR replacement (base incandescent)	College	89%	90%	\$1,242	3.16	0.33	0.06	14	14.4	2.5	\$0.050	\$282	1.70	1.36	5.46	1.40
140	Base High-Efficiency Incandescent Flood, 53W to Hardwired Replacement	College	0%	0%	\$0.000	3.16	3.16	0.56	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
141	CFL Hardwired, Modular 18W	College	66%	66%	\$0.842	3.16	1.07	0.19	18	4.4	0.8	\$0.041	\$232	2.06	1.52	5.19	1.40
142	Ceramic Metal Halide	College	37%	37%	\$2.018	3.17	1.99	0.35	18	2.2	0.4	\$0.174	\$987	0.49	0.36	22.04	1.40
143	LED fixture replacement (base incandescent flood)	College	89%	90%	\$1.550	3.16	0.33	0.06	14	5.9	1.0	\$0.062	\$352	1.36	1.09	6.81	1.40
150	Base CFL to screw-in replacement	College	0%	0%	\$0.000	1.36	1.36	0.24	3	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
151	LED screw-in replacement (base CFL)	College	67%	68%	\$1.351	1.36	0.44	0.08	14	3.1	0.5	\$0.167	\$945	0.51	0.41	18.27	1.40
160	Base High Bay Metal Halide, 400W	College	0%	0%	\$3.449	14.09	14.09	2.49	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
161	High Bay T5	College	49%	49%	\$1.194	14.09	7.25	1.28	18	0.2	0.0	\$0.018	\$100	4.78	3.52	2.24	1.40
162	Induction High Bay Lighting	College	37%	37%	\$3.714	14.09	8.83	1.56	32	0.2	0.0	\$0.058	\$330	1.23	0.88	9.07	1.40
163	PSMH + electronic ballast	College	37%	37%	\$2.833	14.09	8.92	1.57	13	0.2	0.0	\$0.068	\$383	1.25	1.03	7.02	1.40
165	Occupancy Sensor, High Bay T5	College	19%	5%	\$0.135	14.60	11.79	2.45	18	0.0	0.0	\$0.005	\$107	10.73	10.64	0.74	1.04
180	Base Parking Garage Metal Halide, 250 W	College	0%	0%	\$0.000	0.11	0.11	0.02	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
181	High-efficiency fluorescent parking garage fixture (Base MH)	College	62%	62%	\$0.015	0.11	0.04	0.01	18	0.3	0.1	\$0.022	\$139	3.72	2.82	2.80	1.36
182	Bi-Level LED Parking Garage Fixtures (Base MH)	College	64%	63%	\$0.029	0.12	0.04	0.01	5	0.2	0.0	\$0.111	\$719	0.70	0.73	5.46	1.34
190	Base Exit Sign	College	0%	0%	\$0.000	0.02	0.02	0.00	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
191	LED Exit Sign	College	81%	81%	\$0.009	0.04	0.01	0.00	18	0.5	0.1	\$0.027	\$173	2.98	2.26	3.50	1.36
200	Base Outdoor High Pressure Sodium 250W Lamp	College	0%	0%	\$0.085	0.77	0.77	0.00	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
201	Outdoor Lighting Controls (Photocell/Timeclock)	College	22%	38%	\$0.004	0.84	0.66	0.00	18	1.7	0.0	\$0.002	\$715	21.65	25.07	0.32	0.89
202	LED Outdoor Area Lighting	College	52%	52%	\$0.054	0.77	0.37	0.00	9	7.1	0.0	\$0.022	\$11,265	2.08	3.05	1.92	0.86
203	Bi-Level LED Outdoor Lighting	College	70%	70%	\$0.200	0.77	0.23	0.00	9	4.8	0.0	\$0.061	\$31,257	0.72	1.07	5.51	0.84
300	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	College	0%	0%	\$1.588	1.77	1.77	0.83	20	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
301	Centrifugal Chiller, 0.51 kW/ton, 500 tons	College	12%	12%	\$0.199	1.84	1.62	0.76	20	1.2	0.5	\$0.087	\$186	1.53	0.85	9.39	1.79
303	EMS - Chiller	College	10%	10%	\$0.159	1.77	1.59	0.74	15	1.4	0.6	\$0.101	\$216	1.32	0.81	9.43	1.79
304	Cool Roof - Chiller	College	4%	4%	\$0.210	1.77	1.70	0.80	10	0.3	0.1	\$0.497	\$1,063	0.27	0.18	33.66	1.79
308	Economizer - Chiller	College	15%	5%	\$0.450	1.77	1.51	0.78	15	1.0	0.2	\$0.192	\$1,164	0.42	0.40	19.16	1.16
320	Base DX Packaged System, EER=10.3, 10 tons	College	0%	0%	\$4.205	3.07	3.07	1.43	20	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
321	DX Tune Up/ Advanced Diagnostics	College	4%	3%	\$0.125	3.18	3.06	1.45	10	0.1	0.0	\$0.164	\$523	0.64	0.55	11.13	1.42
322	DX Packaged System, EER=10.3, 10 tons, with Automated Fault Detection and Diagnostics	College	10%	10%	\$0.106	3.07	2.76	1.29	20	3.3	1.5	\$0.034	\$72	3.96	2.21	3.63	1.79
323	DX Packaged System, EER=10.9, 10 tons	College	6%	6%	\$0.397	3.07	2.90	1.36	20	2.6	1.2	\$0.229	\$490	0.58	0.32	24.70	1.79
324	DX Packaged System, EER=13.4, 10 tons	College	23%	23%	\$0.584	3.07	2.36	1.10	20	10.7	5.0	\$0.081	\$173	1.65	0.92	8.69	1.79
325	Window Film (Standard) - DX	College	1%	1%	\$0.177	3.08	3.04	1.42	10	0.3	0.1	\$0.802	\$1,716	0.17	0.11	54.30	1.79
326	Prog. Thermostat - DX	College	4%	1%	\$0.054	3.17	3.05	1.46	8	0.2	0.0	\$0.089	\$536	0.92	1.02	5.42	1.16
329	Cool Roof - DX	College	13%	13%	\$0.210	3.07	2.67	1.25	10	3.0	1.4	\$0.082	\$175	1.63	1.11	5.55	1.79
330	Optimize Controls - DX	College	4%	1%	\$0.040	3.14	3.03	1.45	5	0.4	0.1	\$0.099	\$598	0.82	0.99	4.03	1.16
331	Economizer - DX	College	7%	3%	\$0.450	3.22	3.00	1.47	15	1.1	0.2	\$0.222	\$1,342	0.37	0.34	22.09	1.16
332	Aerosol Duct Sealing - DX	College	7%	7%	\$0.047	3.21	2.99	1.40	15	0.4	0.2	\$0.024	\$51	5.63	3.43	2.21	1.79
334	Duct/Pipe Insulation - DX	College	2%	2%	\$0.649	3.11	3.05	1.43	10	0.2	0.1	\$1.618	\$3,460	0.08	0.06	109.54	1.79
335	DX Coil Cleaning	College	5%	5%	\$0.035	3.18	3.02	1.41	5	0.5	0.2	\$0.062	\$133	2.14	1.68	2.38	1.79
337	Geothermal Heat Pump, EER=13, 10 tons - DX	College	37%	37%	\$2.118	3.08	1.94	0.91	15	0.9	0.4	\$0.209	\$446	0.64	0.39	19.53	1.79
340	Base PTAC, EER=8.3, 1 ton	College	0%	0%	\$4.198	3.05	3.05	1.42	20	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
341	HE PTAC, EER=9.6, 1 ton	College	14%	14%	\$0.498	3.05	2.63	1.23	20	0.0	0.0	\$0.118	\$252	1.13	0.63	12.67	1.79
400	Base Fan Motor, 5hp, 1800rpm, 87.5%	College	0%	0%	\$0.007	1.06	1.06	0.18	20	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
401	Fan Motor, 5hp, 1800rpm, 89.5%	College	2%	2%	\$0.003	1.07	1.05	0.17	20	0.5	0.1	\$0.011	\$69	7.24	5.29	1.51	1.37
402	Variable Speed Drive Control, 5 HP	College	30%	8%	\$0.054	1.10	0.77	0.17	15	8.3	0.3	\$0.018	\$446	3.31	3.38	2.25	1.07
410	Base Fan Motor, 15hp, 1800rpm, 91.0%	College	0%	0%	\$0.015	0.99	0.99	0.16	20	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
414	Energy Recovery Ventilation (ERV)	College	7%	7%	\$0.256	1.04	0.97	0.16	20	0.5	0.1	\$0.343	\$2,087	0.24	0.18	45.63	1.37
420	Base Fan Motor, 40hp, 1800rpm, 93.0%	College	0%	0%	\$0.020	0.97	0.97	0.16	20	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
421	Fan Motor, 40hp, 1800rpm, 94.1%	College	1%	1%	\$0.005	0.98	0.97	0.16	20	0.1	0.0	\$0.047	\$285	1.76	1.29	6.23	1.37
423	Air Handler Tuneups	College	10%	5%	\$0.050	0.97	0.87	0.15	8	0.9	0.1	\$0.094	\$1,144	0.72	0.80	6.88	1.16
424	Demand Controlled Ventilation	College	15%	4%	\$0.124	0.97	0.82	0.15	15	3.4	0.1	\$0.096	\$2,336	0.63	0.64	11.78	1.07
500	Base Built-Up Refrigeration System	College	0%	0%	\$0.000	0.53	0.53	0.06	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
501	High-efficiency fan motors	College	12%	12%	\$0.015	0.53	0.47	0.06	20	0.0	0.0	\$0.022	\$186	3.24	2.40	3.33	1.35
507	Refrigeration Commissioning	College	5%	5%	\$0.002	0.55	0.52	0.06	3	0.0	0.0	\$0.035	\$293	2.07	2.28	1.17	1.35
511	Freezer-Cooler Replacement Gaskets (built-up systems)	College	7%	7%	\$0.001	0.55	0.51	0.06	4	0.0	0.0	\$0.012	\$99	6.10	6.53	0.52	1.35
513	Bi-level LED Case Lighting (built-up systems)	College	1%	1%	\$0.026	0.53	0.53	0.06	10	0.0	0.0	\$0.901	\$9,921	0.07	0.07	89.02	1.23
514	Fiber Optic Case Lighting (built-up systems)	College	24%	25%	\$0.029	0.53	0.40	0.05	1	0.0	0.0	\$0.277	\$2,333	0.26	0.30	3.28	1.35
517	Oversized Air Cooled Condenser	College	8%	8%	\$0.008	0.56	0.51	0.06	16	0.0	0.0	\$0.019	\$157	3.85	3.05	2.53	1.35
520	Base Self-Contained Refrigeration	College	0%	0%	\$0.000	0.20	0.20	0.02	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
600	Base Desktop PC	College	0%	0%	\$0.000	0.09	0.09	0.01	4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
601	PC Manual Power Management Enabling	College	64%	45%	\$0.002	0.10	0.04	0.01	4	1.3	0.1	\$0.012	\$113	5.77	6.90	0.49	1.21
602	PC Network Power Management Enabling	College	64%	45%	\$0.002	0.10	0.04	0.01	4	1.3	0.1	\$0.012	\$113	5.77	6.90	0.49	1.21
603	Energy Star or Better PC	College	32%	25%	\$0.001	0.09	0.06	0.01	4	0.8	0.1	\$0.016	\$137	4.48	5.21	0.65	1.24
610	Base Monitor, CRT	College	0%	0%	\$0.000	0.01	0.01	0.00	4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
611	Energy Star or Better Monitor-CRT	College	54%	42%	\$0.000	0.01	0.01	0.00	4	0.1	0.0	\$0.003	\$27	22.95	26.69	0.13	1.24
612	Monitor Power Management Enabling--CRT	College	50%	35%	\$0.000	0.01	0.01	0.00	4	0.1	0.0	\$0.006	\$53	12.24	14.65	0.23	1.21
620	Base Monitor, LCD	College	0%	0%	\$0.000	0.02	0.02	0.00	4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
621	Energy Star or Better Monitor--LCD	College	54%	42%	\$0.001	0.03	0.01	0.00	4	0.4	0.0	\$0.032	\$274	2.24	2.60	1.29	1.24
622	Monitor Power Management Enabling--LCD	College	53%	37%	\$0.002	0.04	0.02	0.00	4	0.1	0.0	\$0.036	\$342	1.90	2.28	1.48	1.21
630	Base Copier	College	0%	0%	\$0.000	0.00	0.00	0.00	6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
631	Energy Star or Better Copier	College	20%	15%	\$0.000	0.01	0.00	0.00	6	0.0	0.0	\$0.018	\$159	3.88	4.26	1.07	1.24
632	Copier Power Management Enabling	College	18%	13%	\$0.000	0.01	0.00	0.00	6	0.0	0.0	\$0.098	\$939	0.69	0.78	5.83	1.21

APPENDIX F

NON-ADDITIVE MEASURE LEVEL RESULTS

Commercial Electric Existing Construction

DSM ASSYST SUMMARY

Measure Number	Measure	Building Type	Energy Savings Fraction	Peak Reduction Fraction	Total Costs/ Sq Ft	Base EUI	EUI	Peak Watts/ Sq Ft	Service Life (yrs)	Technical Potential GWH	System Peak Tech. Potential MW	Levelized Cost of Conserved Energy \$/kWh	Levelized Cost of Avoided Peak Capacity \$/kW	Total Resource Cost Test (TRC)	Participant Test	Customer Payback (Years)	Revenue Test
640	Base Laser Printer	College	0%	0%	\$0.000	0.01	0.01	0.00	5	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
641	Printer Power Management Enabling	College	46%	32%	\$0.001	0.01	0.01	0.00	5	0.0	0.0	\$0.056	\$536	1.21	1.41	2.83	1.21
650	Base Data Center/Server Room	College	0%	0%	\$0.000	78.51	78.51	11.67	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
651	Data Center Improved Operations	College	19%	13%	\$0.500	81.58	66.21	10.53	10	0.2	0.0	\$0.005	\$48	13.43	13.64	0.45	1.21
652	Data Center Best Practices	College	43%	34%	\$2.500	82.07	46.44	8.09	10	0.2	0.0	\$0.011	\$94	6.57	6.51	0.95	1.24
653	Data Center State of the Art practices	College	56%	56%	\$5.000	78.51	34.54	5.14	10	0.1	0.0	\$0.018	\$119	4.51	4.21	1.46	1.31
660	Base Water Heating	College	0%	0%	\$0.000	0.25	0.25	0.04	15	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
661	Demand controlled circulating systems	College	4%	1%	\$0.005	0.25	0.24	0.04	15	0.0	0.0	\$0.050	\$1,009	1.09	1.14	6.66	1.05
662	High Efficiency Water Heater (electric)	College	2%	2%	\$0.003	0.25	0.25	0.04	15	0.0	0.0	\$0.074	\$454	1.11	0.90	8.41	1.35
663	Hot Water Pipe Insulation	College	2%	2%	\$0.010	0.25	0.25	0.04	15	0.0	0.0	\$0.227	\$1,388	0.36	0.30	25.72	1.35
664	Tankless Water Heater	College	10%	10%	\$0.029	0.25	0.23	0.04	20	0.0	0.0	\$0.111	\$680	0.74	0.55	14.51	1.35
665	Heat Pump Water Heater (air source)	College	20%	20%	\$0.077	0.25	0.20	0.03	15	0.0	0.0	\$0.172	\$1,050	0.48	0.39	19.46	1.35
666	Heat Recovery Unit	College	65%	65%	\$0.080	0.25	0.09	0.01	10	0.0	0.0	\$0.076	\$465	1.09	0.99	6.24	1.35
667	Heat Trap	College	9%	9%	\$0.006	0.26	0.23	0.04	10	0.0	0.0	\$0.040	\$246	2.05	1.86	3.31	1.35
670	Base Vending Machines	College	0%	0%	\$0.000	0.12	0.12	0.02	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
700	Base Cooking	College	0%	0%	\$0.000	0.33	0.33	0.06	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
701	Convection Oven	College	0%	0%	\$0.053	0.33	0.33	0.06	10	0.0	0.0	\$9.517	\$56,994	0.01	0.01	808.38	1.41
800	Base Heating	College	0%	0%	\$0.000	10.86	10.86	0.76	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
900	Base Miscellaneous	College	0%	0%	\$0.000	0.52	0.52	0.08	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
100	Base Fluorescent Fixture, 4L4T8	Health	0%	0%	\$0.000	5.88	5.88	0.75	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
101	ROB 4L4' Premium T8	Health	17%	17%	\$0.114	5.88	4.87	0.62	4	1.9	0.2	\$0.034	\$270	2.19	2.33	1.45	1.36
102	Delamping 3L4' F32T8	Health	25%	25%	\$0.442	5.88	4.41	0.56	18	1.1	0.1	\$0.031	\$242	2.45	1.86	4.26	1.36
103	LED Troffer (Base 4L4T8)	Health	40%	40%	\$2.813	5.88	3.53	0.45	9	3.1	0.4	\$0.202	\$1,596	0.37	0.34	17.17	1.36
104	Lighting Control Tuneup	Health	6%	1%	\$0.029	5.88	5.54	0.74	6	0.5	0.0	\$0.020	\$721	2.39	3.30	1.38	0.99
105	Occupancy Sensor, 4L4' Fluorescent Fixtures	Health	35%	8%	\$0.135	5.88	3.82	0.69	18	1.4	0.0	\$0.007	\$246	7.01	7.33	1.08	0.99
106	Continuous Dimming, 4L4' Fluorescent Fixtures	Health	61%	13%	\$0.750	5.88	2.31	0.65	10	0.5	0.0	\$0.033	\$1,201	1.43	1.78	3.46	0.99
107	High Performance Lighting R/R - 25% Savings, Base 4L4T8	Health	27%	13%	\$0.400	5.88	4.27	0.65	20	0.9	0.1	\$0.024	\$419	2.35	2.08	3.85	1.13
110	Base Fluorescent Fixture, 2L4T8, 1 EB	Health	0%	0%	\$0.000	2.79	2.79	0.35	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
111	ROB 2L4' Premium T8	Health	17%	17%	\$0.048	2.79	2.31	0.29	4	1.9	0.2	\$0.030	\$239	2.48	2.63	1.28	1.36
112	Delamping 1L4' F32T8	Health	48%	48%	\$0.372	2.79	1.45	0.18	18	2.1	0.3	\$0.028	\$223	2.65	2.01	3.94	1.36
113	LED Troffer (Base 2L4T8)	Health	40%	40%	\$1.498	2.79	1.67	0.21	9	3.1	0.4	\$0.227	\$1,794	0.33	0.30	19.30	1.36
114	Lighting Control Tuneup	Health	6%	1%	\$0.014	2.79	2.62	0.35	6	0.4	0.0	\$0.021	\$761	2.26	3.13	1.46	0.99
115	Occupancy Sensor, 2L4' Fluorescent Fixtures	Health	35%	8%	\$0.135	2.79	1.81	0.33	18	1.3	0.0	\$0.014	\$519	3.32	3.47	2.28	0.99
116	Continuous Dimming, 2L4' Fluorescent Fixtures	Health	61%	13%	\$0.750	2.79	1.09	0.31	10	0.5	0.0	\$0.069	\$2,535	0.68	0.84	7.30	0.99
117	High Performance Lighting R/R - 25% Savings, Base 2L4T8	Health	27%	13%	\$0.400	2.79	2.02	0.31	20	0.9	0.1	\$0.051	\$884	1.11	0.98	8.13	1.13
120	Base Other Fluorescent Fixture	Health	0%	0%	\$0.000	2.22	2.22	0.28	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
121	ROB Premium T8 (base other fluorescent)	Health	17%	17%	\$0.076	2.22	1.84	0.23	4	0.5	0.1	\$0.061	\$478	1.24	1.31	2.56	1.36
122	Lighting Control Tuneup	Health	6%	1%	\$0.029	2.22	2.15	0.29	6	0.1	0.0	\$0.050	\$1,855	0.93	1.28	3.55	0.99
123	Occupancy Sensor, 4L8' Fluorescent Fixtures	Health	35%	8%	\$0.135	2.22	1.44	0.26	18	0.4	0.0	\$0.018	\$652	2.64	2.76	2.86	0.99
124	Continuous Dimming, 4L8' Fluorescent Fixtures	Health	61%	13%	\$0.750	2.22	0.87	0.24	10	0.1	0.0	\$0.086	\$3,185	0.54	0.67	9.17	0.99
125	High Performance Lighting R/R - 25% Savings, Base Other Fluorescent	Health	27%	13%	\$0.400	2.22	1.61	0.25	20	0.2	0.0	\$0.064	\$1,110	0.89	0.78	10.21	1.13
130	Base High-Efficiency Incandescent Flood, 53W to Screw-in Replacement	Health	0%	0%	\$0.000	1.94	1.94	0.25	1	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
131	CFL Screw-in 18W	Health	66%	66%	\$0.046	1.94	0.66	0.08	2	0.4	0.1	\$0.026	\$202	2.93	3.31	0.57	1.36
132	Cold Cathode Lamps	Health	66%	66%	\$0.134	1.94	0.66	0.08	4	0.0	0.0	\$0.032	\$249	2.38	2.53	1.33	1.36
133	LED screw-in PAR replacement (base incandescent)	Health	90%	90%	\$0.466	1.94	0.20	0.03	9	0.0	0.0	\$0.045	\$359	1.65	1.52	3.86	1.36
140	Base High-Efficiency Incandescent Flood, 53W to Hardwired Replacement	Health	0%	0%	\$0.000	1.94	1.94	0.25	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
141	CFL Hardwired, Modular 18W	Health	66%	66%	\$0.316	1.94	0.66	0.08	18	4.5	0.6	\$0.025	\$198	2.99	2.26	3.49	1.36
142	Ceramic Metal Halide	Health	37%	37%	\$0.757	1.95	1.22	0.15	18	2.3	0.3	\$0.107	\$842	0.70	0.53	14.83	1.36
143	LED fixture replacement (base incandescent flood)	Health	90%	90%	\$0.582	1.94	0.20	0.03	9	6.1	0.8	\$0.057	\$448	1.32	1.22	4.82	1.36
150	Base CFL to screw-in replacement	Health	0%	0%	\$0.000	0.90	0.90	0.11	2	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
151	LED screw-in replacement (base CFL)	Health	68%	68%	\$0.545	0.90	0.29	0.04	9	1.8	0.2	\$0.152	\$1,201	0.49	0.45	12.92	1.36
180	Base Parking Garage Metal Halide, 250 W	Health	0%	0%	\$0.000	0.44	0.44	0.05	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
181	High-efficiency fluorescent parking garage fixture (Base MH)	Health	62%	62%	\$0.059	0.44	0.17	0.02	18	0.5	0.1	\$0.022	\$187	3.38	2.67	2.96	1.30
182	Bi-Level LED Parking Garage Fixtures (Base MH)	Health	65%	63%	\$0.112	0.47	0.16	0.02	5	0.3	0.0	\$0.108	\$972	0.64	0.71	5.60	1.27
190	Base Exit Sign	Health	0%	0%	\$0.000	0.03	0.03	0.00	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
191	LED Exit Sign	Health	81%	81%	\$0.024	0.12	0.02	0.00	18	0.2	0.0	\$0.026	\$221	2.87	2.27	3.48	1.30
200	Base Outdoor High Pressure Sodium 250W Lamp	Health	0%	0%	\$0.044	0.40	0.40	0.00	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
201	Outdoor Lighting Controls (Photocell/Timeclock)	Health	22%	38%	\$0.007	0.43	0.34	0.00	18	1.5	0.0	\$0.007	\$540	7.66	8.45	0.94	0.93
202	LED Outdoor Area Lighting	Health	52%	52%	\$0.083	0.40	0.19	0.00	9	6.0	0.0	\$0.066	\$8,528	0.72	1.01	5.79	0.89
203	Bi-Level LED Outdoor Lighting	Health	70%	70%	\$0.309	0.40	0.12	0.00	9	4.1	0.0	\$0.184	\$23,665	0.24	0.35	16.67	0.87
300	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	Health	0%	0%	\$1.500	3.20	3.20	1.49	20	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
301	Centrifugal Chiller, 0.51 kW/ton, 500 tons	Health	12%	12%	\$0.188	3.33	2.92	1.37	20	2.6	1.2	\$0.046	\$97	2.92	1.63	4.91	1.79
302	Window Film (Standard) - Chiller	Health	1%	1%	\$0.048	3.23	3.19	1.49	10	0.0	0.0	\$0.209	\$447	0.64	0.44	14.14	1.79
303	EMS - Chiller	Health	10%	10%	\$0.150	3.53	3.17	1.48	15	0.2	0.1	\$0.048	\$102	2.79	1.70	4.47	1.79
304	Cool Roof - Chiller	Health	4%	4%	\$0.121	3.21	3.09	1.45	10	0.5	0.2	\$0.158	\$338	0.84	0.58	10.70	1.79
305	Chiller Tune Up/Diagnostics	Health	6%	4%	\$0.100	3.40	3.20	1.53	10	0.0	0.0	\$0.077	\$244	1.38	1.19	5.20	1.42
306	VSD for Chiller Pumps and Towers	Health	10%	10%	\$0.105	3.50	3.15	1.47	15	0.1	0.0	\$0.034	\$72	3.95	2.41	3.15	1.79
308	Economizer - Chiller	Health	15%	5%	\$0.425	3.43	2.92	1.52	15	1.3	0.2	\$0.094	\$567	0.87	0.81	9.33	1.16
310	Duct/Pipe Insulation - Chiller	Health	2%	2%	\$0.769	3.21	3.15	1.47	10	0.3	0.2	\$1.856	\$3,971	0.07	0.05	125.70	1.79
311	High Efficiency Chiller Motors	Health	3%	3%	\$0.067	3.24	3.14	1.47	20	0.1	0.0	\$0.064	\$137	2.07	1.16	6.92	1.79
320	Base DX Packaged System, EER=10.3, 10 tons	Health	0%	0%	\$3.971	5.54	5.54	2.59	20	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
321	DX Tune Up/ Advanced Diagnostics	Health	4%	3%	\$0.125	5.71	5.50	2.60	10	0.6	0.2	\$0.091	\$290	1.16	1.00	6.19	1.42

APPENDIX F

NON-ADDITIVE MEASURE LEVEL RESULTS

Commercial Electric Existing Construction

DSM ASSYST SUMMARY

Measure Number	Measure	Building Type	Energy Savings Fraction	Peak Reduction Fraction	Total Costs/ Sq Ft	Base EUI	EUI	Peak Watts/ Sq Ft	Service Life (yrs)	Technical Potential GWH	System Peak Tech. Potential MW	Levelized Cost of Conserved Energy \$/kWh	Levelized Cost of Avoided Peak Capacity \$/kW	Total Resource Cost Test (TRC)	Participant Test	Customer Payback (Years)	Revenue Test
322	DX Packaged System, EER=10.3, 10 tons, with Automated Fault Detection and Diagnostics	Health	10%	10%	\$0.100	5.54	4.99	2.33	20	7.6	3.6	\$0.018	\$38	7.57	4.22	1.90	1.79
323	DX Packaged System, EER=10.9, 10 tons	Health	6%	6%	\$0.375	5.54	5.24	2.45	20	6.0	2.8	\$0.120	\$256	1.11	0.62	12.92	1.79
324	DX Packaged System, EER=13.4, 10 tons	Health	23%	23%	\$0.552	5.54	4.27	1.99	20	25.0	11.7	\$0.042	\$90	3.16	1.76	4.55	1.79
325	Window Film (Standard) - DX	Health	1%	1%	\$0.048	5.57	5.50	2.57	10	0.6	0.3	\$0.121	\$259	1.10	0.75	8.20	1.79
326	Prog. Thermostat - DX	Health	4%	1%	\$0.051	5.69	5.49	2.63	8	1.1	0.2	\$0.047	\$282	1.74	1.93	2.85	1.16
329	Cool Roof - DX	Health	13%	13%	\$0.121	5.54	4.82	2.25	10	7.1	3.3	\$0.026	\$56	5.09	3.48	1.77	1.79
330	Optimize Controls - DX	Health	4%	1%	\$0.040	5.68	5.48	2.62	5	1.0	0.2	\$0.055	\$331	1.48	1.79	2.23	1.16
331	Economizer - DX	Health	7%	3%	\$0.425	5.60	5.20	2.55	15	6.7	1.1	\$0.121	\$730	0.67	0.63	12.02	1.16
332	Aerosol Duct Sealing - DX	Health	7%	7%	\$0.045	5.54	5.15	2.41	15	2.4	1.1	\$0.013	\$28	10.30	6.28	1.21	1.79
334	Duct/Pipe Insulation - DX	Health	2%	2%	\$0.649	5.57	5.46	2.55	10	1.2	0.6	\$0.904	\$1,934	0.15	0.10	61.22	1.79
337	Geothermal Heat Pump, EER=13, 10 tons - DX	Health	37%	37%	\$2.770	5.56	3.50	1.64	15	2.0	0.9	\$0.151	\$323	0.88	0.54	14.14	1.79
400	Base Fan Motor, 5hp, 1800rpm, 87.5%	Health	0%	0%	\$0.016	2.14	2.14	0.26	20	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
401	Fan Motor, 5hp, 1800rpm, 89.5%	Health	2%	2%	\$0.006	2.15	2.10	0.25	20	0.2	0.0	\$0.012	\$103	5.84	4.34	1.84	1.34
402	Variable Speed Drive Control, 5 HP	Health	31%	8%	\$0.117	2.14	1.48	0.24	15	4.0	0.1	\$0.020	\$685	2.78	2.82	2.69	1.08
410	Base Fan Motor, 15hp, 1800rpm, 91.0%	Health	0%	0%	\$0.008	1.98	1.98	0.24	20	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
411	Fan Motor, 15hp, 1800rpm, 92.4%	Health	2%	2%	\$0.002	2.01	1.98	0.24	20	0.1	0.0	\$0.006	\$52	11.68	8.69	0.92	1.34
412	Variable Speed Drive Control, 15 HP	Health	31%	8%	\$0.040	2.62	1.81	0.29	20	5.1	0.1	\$0.005	\$168	11.36	10.54	0.76	1.08
413	Electronically Commutated Motors (ECM) on an Air Handler Unit	Health	15%	4%	\$0.115	1.98	1.69	0.23	15	8.8	0.3	\$0.044	\$1,511	1.26	1.28	5.94	1.08
414	Energy Recovery Ventilation (ERV)	Health	7%	7%	\$0.544	1.98	1.84	0.22	20	4.1	0.5	\$0.382	\$3,199	0.19	0.14	57.13	1.34
420	Base Fan Motor, 40hp, 1800rpm, 93.0%	Health	0%	0%	\$0.000	1.95	1.95	0.23	20	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
424	Demand Controlled Ventilation	Health	15%	4%	\$0.124	2.06	1.74	0.24	15	6.4	0.2	\$0.044	\$1,514	1.26	1.28	5.95	1.08
500	Base Built-Up Refrigeration System	Health	0%	0%	\$0.000	0.74	0.74	0.09	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
501	High-efficiency fan motors	Health	12%	12%	\$0.019	0.74	0.65	0.08	20	0.0	0.0	\$0.021	\$184	3.36	2.50	3.20	1.34
505	Compressor VSD retrofit	Health	6%	2%	\$0.007	0.74	0.70	0.08	13	0.0	0.0	\$0.018	\$630	3.02	3.18	2.26	1.09
507	Refrigeration Commissioning	Health	5%	5%	\$0.003	0.76	0.72	0.08	3	0.0	0.0	\$0.033	\$288	2.14	2.38	1.13	1.34
508	Demand Hot Gas Defrost	Health	3%	3%	\$0.001	0.74	0.72	0.08	10	0.0	0.0	\$0.005	\$39	15.85	14.45	0.43	1.34
511	Freezer-Cooler Replacement Gaskets (built-up systems)	Health	7%	7%	\$0.001	0.77	0.72	0.08	4	0.0	0.0	\$0.009	\$76	8.16	8.77	0.38	1.34
513	Bi-level LED Case Lighting (built-up systems)	Health	1%	1%	\$0.026	0.74	0.74	0.09	10	0.0	0.0	\$0.670	\$7,578	0.09	0.09	66.24	1.23
514	Fiber Optic Case Lighting (built-up systems)	Health	24%	25%	\$0.030	0.74	0.56	0.06	1	0.0	0.0	\$0.206	\$1,782	0.35	0.41	2.44	1.34
517	Oversized Air Cooled Condenser	Health	8%	8%	\$0.010	0.77	0.71	0.08	16	0.0	0.0	\$0.018	\$154	4.00	3.18	2.43	1.34
520	Base Self-Contained Refrigeration	Health	0%	0%	\$0.000	0.23	0.23	0.03	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
522	Night covers for display cases (self-contained)	Health	2%	0%	\$0.000	0.23	0.23	0.03	5	0.0	0.0	\$0.012	N/A	3.22	5.30	0.75	0.85
523	Freezer-Cooler Replacement Gaskets (self-contained)	Health	3%	3%	\$0.000	0.23	0.23	0.03	4	0.0	0.0	\$0.008	\$65	9.43	10.13	0.33	1.34
524	Bi-level LED Case Lighting (self-contained units)	Health	1%	1%	\$0.003	0.23	0.23	0.03	10	0.0	0.0	\$0.264	\$2,985	0.24	0.24	26.09	1.23
526	Energy-Star Refrigerator, solid door	Health	5%	5%	\$0.001	0.23	0.22	0.03	10	0.0	0.0	\$0.014	\$124	4.97	4.53	1.36	1.34
528	Energy-Star Refrigerator, glass door	Health	4%	4%	\$0.000	0.23	0.22	0.03	10	0.0	0.0	\$0.000	\$2	304.60	277.76	0.02	1.34
530	Energy Star Ice Machines	Health	4%	4%	\$0.000	0.23	0.22	0.03	10	0.0	0.0	\$0.003	\$29	20.95	19.11	0.32	1.34
600	Base Desktop PC	Health	0%	0%	\$0.000	0.72	0.72	0.08	4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
601	PC Manual Power Management Enabling	Health	68%	45%	\$0.019	0.86	0.28	0.06	4	9.6	0.8	\$0.011	\$136	5.78	7.08	0.48	1.18
602	PC Network Power Management Enabling	Health	68%	45%	\$0.019	0.86	0.28	0.06	4	9.6	0.8	\$0.011	\$136	5.78	7.08	0.48	1.18
603	Energy Star or Better PC	Health	33%	25%	\$0.011	0.73	0.49	0.07	4	6.6	0.6	\$0.016	\$175	4.18	4.95	0.68	1.22
610	Base Monitor, CRT	Health	0%	0%	\$0.000	0.04	0.04	0.00	4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
611	Energy Star or Better Monitor-CRT	Health	56%	42%	\$0.000	0.04	0.02	0.00	4	0.5	0.0	\$0.006	\$70	10.47	12.39	0.27	1.22
612	Monitor Power Management Enabling-CRT	Health	53%	35%	\$0.001	0.05	0.02	0.00	4	0.4	0.0	\$0.009	\$117	6.72	8.23	0.41	1.18
620	Base Monitor, LCD	Health	0%	0%	\$0.000	0.21	0.21	0.03	4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
621	Energy Star or Better Monitor-LCD	Health	56%	42%	\$0.011	0.22	0.10	0.01	4	3.4	0.3	\$0.031	\$352	2.08	2.47	1.37	1.22
622	Monitor Power Management Enabling-LCD	Health	56%	37%	\$0.019	0.35	0.15	0.03	4	1.3	0.1	\$0.033	\$417	1.89	2.32	1.45	1.18
630	Base Copier	Health	0%	0%	\$0.000	0.06	0.06	0.01	6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
631	Energy Star or Better Copier	Health	20%	15%	\$0.001	0.06	0.05	0.01	6	0.3	0.0	\$0.015	\$170	4.31	4.82	0.95	1.22
632	Copier Power Management Enabling	Health	19%	13%	\$0.004	0.07	0.06	0.01	6	0.1	0.0	\$0.074	\$939	0.84	0.97	4.70	1.18
640	Base Laser Printer	Health	0%	0%	\$0.000	0.08	0.08	0.01	5	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
641	Printer Power Management Enabling	Health	49%	32%	\$0.008	0.13	0.07	0.01	5	0.4	0.0	\$0.035	\$445	1.77	2.10	1.89	1.18
650	Base Data Center/Server Room	Health	0%	0%	\$0.000	123.57	123.57	14.64	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
651	Data Center Improved Operations	Health	20%	13%	\$0.500	128.69	103.05	13.24	10	0.8	0.1	\$0.003	\$39	20.45	21.26	0.29	1.18
652	Data Center Best Practices	Health	45%	34%	\$2.500	129.37	71.34	10.16	10	1.1	0.1	\$0.007	\$75	9.82	9.88	0.62	1.22
653	Data Center State of the Art practices	Health	56%	56%	\$5.000	123.57	54.37	6.44	10	0.5	0.1	\$0.011	\$95	6.57	6.16	1.00	1.31
660	Base Water Heating	Health	0%	0%	\$0.000	0.38	0.38	0.04	15	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
670	Base Vending Machines	Health	0%	0%	\$0.000	0.06	0.06	0.01	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
671	Vending Misers	Health	10%	7%	\$0.004	0.06	0.06	0.01	5	0.1	0.0	\$0.152	\$2,041	0.40	0.48	8.29	1.17
700	Base Cooking	Health	0%	0%	\$0.000	0.46	0.46	0.07	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
800	Base Heating	Health	0%	0%	\$0.000	1.02	1.02	0.05	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
900	Base Miscellaneous	Health	0%	0%	\$0.000	2.65	2.65	0.31	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
100	Base Fluorescent Fixture, 4L4'T8	Lodging	0%	0%	\$0.000	1.86	1.86	0.22	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
101	ROB 4L4' Premium T8	Lodging	17%	17%	\$0.074	1.86	1.54	0.18	9	0.3	0.0	\$0.038	\$325	1.91	1.79	3.29	1.34
102	Delamping 3L4' F32T8	Lodging	25%	25%	\$0.288	1.86	1.40	0.16	18	0.2	0.0	\$0.063	\$534	1.16	0.89	8.85	1.34
103	LED Troffer (Base 4L4'T8)	Lodging	40%	40%	\$1.830	1.86	1.12	0.13	18	0.4	0.1	\$0.247	\$2,095	0.30	0.23	34.72	1.34
104	Lighting Control Tuneup	Lodging	6%	1%	\$0.029	1.86	1.75	0.22	6	0.1	0.0	\$0.060	\$2,448	0.77	1.07	4.25	0.97
105	Occupancy Sensor, 4L4' Fluorescent Fixtures	Lodging	36%	8%	\$0.135	1.86	1.19	0.20	18	0.1	0.0	\$0.020	\$834	2.25	2.38	3.32	0.97
106	Continuous Dimming, 4L4' Fluorescent Fixtures	Lodging	63%	13%	\$0.750	1.86	0.69	0.19	10	0.2	0.0	\$0.100	\$4,080	0.46	0.58	10.63	0.97
107	High Performance Lighting R/R - 25% Savings, Base 4L4'T8	Lodging	28%	13%	\$0.400	1.86	1.34	0.19	20	0.1	0.0	\$0.075	\$1,422	0.74	0.67	12.02	1.11
110	Base Fluorescent Fixture, 2L4'T8, 1 EB	Lodging	0%	0%	\$0.000	1.33	1.33	0.16	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
111	ROB 2L4' Premium T8	Lodging	17%	17%	\$0.047	1.33	1.11	0.13	9	1.1	0.1	\$0.034	\$288	2.15	2.02	2.91	1.34

APPENDIX F

NON-ADDITIVE MEASURE LEVEL RESULTS

Commercial Electric Existing Construction

DSM ASSYST SUMMARY

Measure Number	Measure	Building Type	Energy Savings Fraction	Peak Reduction Fraction	Total Costs/ Sq Ft	Base EUI	EUI	Peak Watts/ Sq Ft	Service Life (yrs)	Technical Potential GWH	System Peak Tech. Potential MW	Levelized Cost of Conserved Energy \$/kWh	Levelized Cost of Avoided Peak Capacity \$/kW	Total Resource Cost Test (TRC)	Participant Test	Customer Payback (Years)	Revenue Test
112	Delamping 1L4' F32T8	Lodging	48%	48%	\$0.365	1.33	0.69	0.08	18	1.2	0.1	\$0.058	\$494	1.26	0.97	8.18	1.34
113	LED Troffer (Base 2L4T8)	Lodging	40%	40%	\$1.474	1.33	0.80	0.09	18	1.8	0.2	\$0.277	\$2,354	0.26	0.20	39.02	1.34
114	Lighting Control Tuneup	Lodging	6%	1%	\$0.014	1.33	1.25	0.16	6	0.3	0.0	\$0.042	\$1,709	1.10	1.54	2.96	0.97
115	Occupancy Sensor, 2L4' Fluorescent Fixtures	Lodging	36%	8%	\$0.135	1.33	0.85	0.15	18	0.3	0.0	\$0.028	\$1,165	1.61	1.71	4.63	0.97
116	Continuous Dimming, 2L4' Fluorescent Fixtures	Lodging	63%	13%	\$0.750	1.33	0.50	0.14	10	0.8	0.0	\$0.139	\$5,694	0.33	0.42	14.84	0.97
117	High Performance Lighting R/R - 25% Savings, Base 2L4T8	Lodging	28%	13%	\$0.400	1.33	0.96	0.14	20	0.5	0.0	\$0.105	\$1,985	0.53	0.48	16.77	1.11
120	Base Other Fluorescent Fixture	Lodging	0%	0%	\$0.000	0.59	0.59	0.07	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
121	ROB Premium T8 (base other fluorescent)	Lodging	17%	17%	\$0.042	0.59	0.49	0.06	9	0.0	0.0	\$0.068	\$576	1.08	1.01	5.83	1.34
122	Lighting Control Tuneup	Lodging	6%	1%	\$0.029	0.59	0.56	0.07	6	0.0	0.0	\$0.188	\$7,711	0.24	0.34	13.37	0.97
123	Occupancy Sensor, 4L8' Fluorescent Fixtures	Lodging	36%	8%	\$0.135	0.59	0.38	0.06	18	0.0	0.0	\$0.064	\$2,628	0.72	0.76	10.45	0.97
124	Continuous Dimming, 4L8' Fluorescent Fixtures	Lodging	63%	13%	\$0.750	0.59	0.22	0.06	10	0.0	0.0	\$0.314	\$12,849	0.15	0.18	33.48	0.97
125	High Performance Lighting R/R - 25% Savings, Base Other Fluorescent	Lodging	28%	13%	\$0.400	0.59	0.43	0.06	20	0.0	0.0	\$0.236	\$4,479	0.24	0.21	37.85	1.11
130	Base High-Efficiency Incandescent Flood, 53W to Screw-in Replacement	Lodging	0%	0%	\$0.000	2.63	2.63	0.31	1	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
131	CFL Screw-in 18W	Lodging	66%	66%	\$0.128	2.63	0.89	0.11	4	1.0	0.1	\$0.027	\$229	2.71	2.92	1.15	1.34
132	Cold Cathode Lamps	Lodging	66%	66%	\$0.373	2.63	0.89	0.11	9	0.1	0.0	\$0.035	\$300	2.07	1.94	3.03	1.34
133	LED screw-in PAR replacement (base incandescent)	Lodging	89%	90%	\$1.302	2.63	0.28	0.03	18	1.5	0.2	\$0.055	\$471	1.32	1.01	7.80	1.34
140	Base High-Efficiency Incandescent Flood, 53W to Hardwired Replacement	Lodging	0%	0%	\$0.000	2.63	2.63	0.31	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
141	CFL Hardwired, Modular 18W	Lodging	66%	66%	\$0.882	2.63	0.89	0.11	18	6.6	0.8	\$0.052	\$438	1.41	1.09	7.26	1.34
142	Ceramic Metal Halide	Lodging	37%	37%	\$2.115	2.64	1.66	0.20	18	0.2	0.0	\$0.219	\$1,859	0.33	0.26	30.81	1.34
143	LED fixture replacement (base incandescent flood)	Lodging	89%	90%	\$1.625	2.63	0.28	0.03	18	9.0	1.1	\$0.069	\$587	1.05	0.81	9.74	1.34
150	Base CFL to screw-in replacement	Lodging	0%	0%	\$0.000	0.66	0.66	0.08	4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
151	LED screw-in replacement (base CFL)	Lodging	67%	68%	\$0.826	0.66	0.22	0.03	18	15.9	1.9	\$0.186	\$1,576	0.39	0.30	26.12	1.34
160	Base High Bay Metal Halide, 400W	Lodging	0%	0%	\$0.630	2.05	2.05	0.24	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
161	High Bay T5	Lodging	49%	49%	\$0.218	2.05	1.05	0.12	18	0.9	0.1	\$0.022	\$189	3.27	2.52	3.14	1.34
162	Induction High Bay Lighting	Lodging	37%	37%	\$0.678	2.05	1.28	0.15	32	0.7	0.1	\$0.073	\$621	0.84	0.63	12.69	1.34
163	PSMH + electronic ballast	Lodging	37%	37%	\$0.517	2.05	1.30	0.15	16	0.7	0.1	\$0.072	\$614	1.01	0.81	9.58	1.34
165	Occupancy Sensor, High Bay T5	Lodging	24%	5%	\$0.135	2.14	1.62	0.24	18	0.1	0.0	\$0.027	\$1,089	1.73	1.83	4.33	0.97
185	Base Fluorescent Parking Garage Lighting	Lodging	0%	0%	\$0.000	0.39	0.39	0.05	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
186	Parking Garage Low Wattage T8 Lamps replacing 32W lamps	Lodging	15%	15%	\$0.002	0.39	0.33	0.04	3	0.1	0.0	\$0.017	\$123	4.60	4.94	0.54	1.39
187	Bi-Level LED Parking Garage Fixtures (Base Fluorescent)	Lodging	2%	2%	\$0.303	0.39	0.38	0.05	5	0.0	0.0	\$9.554	\$73,870	0.01	0.01	507.44	1.35
190	Base Exit Sign	Lodging	0%	0%	\$0.000	0.03	0.03	0.00	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
191	LED Exit Sign	Lodging	81%	81%	\$0.014	0.05	0.01	0.00	18	0.9	0.1	\$0.031	\$234	2.42	1.80	4.40	1.39
200	Base Outdoor High Pressure Sodium 250W Lamp	Lodging	0%	0%	\$0.042	0.38	0.38	0.00	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
201	Outdoor Lighting Controls (Photocell/Timeclock)	Lodging	22%	38%	\$0.011	0.42	0.33	0.00	18	2.0	0.0	\$0.013	\$1,025	4.31	4.86	1.63	0.91
202	LED Outdoor Area Lighting	Lodging	52%	52%	\$0.141	0.38	0.18	0.00	9	8.2	0.1	\$0.116	\$16,178	0.41	0.58	10.04	0.87
203	Bi-Level LED Outdoor Lighting	Lodging	70%	70%	\$0.523	0.38	0.12	0.00	9	5.5	0.0	\$0.320	\$44,891	0.14	0.20	28.88	0.86
300	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	Lodging	0%	0%	\$2.100	0.97	0.97	0.45	20	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
302	Window Film (Standard) - Chiller	Lodging	3%	3%	\$0.048	0.98	0.95	0.44	10	0.3	0.2	\$0.241	\$516	0.55	0.38	16.34	1.79
303	EMS - Chiller	Lodging	10%	10%	\$0.210	1.00	0.90	0.42	15	1.5	0.7	\$0.235	\$503	0.57	0.35	22.00	1.79
304	Cool Roof - Chiller	Lodging	4%	4%	\$0.121	0.97	0.93	0.44	10	0.4	0.2	\$0.523	\$1,118	0.25	0.17	35.40	1.79
305	Chiller Tune Up/Diagnostics	Lodging	6%	4%	\$0.100	1.03	0.97	0.46	10	0.0	0.0	\$0.253	\$805	0.42	0.36	17.16	1.42
306	VSD for Chiller Pumps and Towers	Lodging	10%	10%	\$0.147	0.97	0.87	0.41	15	0.1	0.0	\$0.170	\$364	0.78	0.48	15.91	1.79
308	Economizer - Chiller	Lodging	30%	11%	\$0.595	1.07	0.75	0.45	15	2.4	0.4	\$0.205	\$1,238	0.40	0.37	20.38	1.16
310	Duct/Pipe Insulation - Chiller	Lodging	2%	2%	\$0.769	0.98	0.96	0.45	10	0.1	0.0	\$6.061	\$12,967	0.02	0.02	410.47	1.79
311	High Efficiency Chiller Motors	Lodging	3%	3%	\$0.054	1.00	0.97	0.45	20	0.0	0.0	\$0.167	\$358	0.80	0.44	18.03	1.79
320	Base DX Packaged System, EER=10.3, 10 tons	Lodging	0%	0%	\$5.559	1.68	1.68	0.79	20	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
321	DX Tune Up/ Advanced Diagnostics	Lodging	4%	3%	\$0.125	1.74	1.67	0.79	10	0.1	0.0	\$0.299	\$954	0.35	0.30	20.33	1.42
322	DX Packaged System, EER=10.3, 10 tons, with Automated Fault Detection and Diagnostics	Lodging	10%	10%	\$0.140	1.68	1.51	0.71	20	1.2	0.6	\$0.081	\$174	1.64	0.92	8.74	1.79
323	DX Packaged System, EER=10.9, 10 tons	Lodging	6%	6%	\$0.525	1.68	1.59	0.74	20	1.0	0.5	\$0.553	\$1,182	0.24	0.13	59.55	1.79
324	DX Packaged System, EER=13.4, 10 tons	Lodging	23%	23%	\$0.772	1.68	1.30	0.61	20	4.0	1.9	\$0.195	\$416	0.68	0.38	20.96	1.79
325	Window Film (Standard) - DX	Lodging	3%	3%	\$0.048	1.68	1.63	0.76	10	0.4	0.2	\$0.141	\$301	0.95	0.65	9.52	1.79
326	Prog. Thermostat - DX	Lodging	4%	1%	\$0.072	1.72	1.66	0.80	8	0.2	0.0	\$0.215	\$1,301	0.38	0.42	13.17	1.16
329	Cool Roof - DX	Lodging	0%	0%	\$0.121	1.68	1.68	0.78	10	0.0	0.0	\$2.844	\$6,084	0.05	0.03	192.60	1.79
330	Optimize Controls - DX	Lodging	4%	1%	\$0.040	1.72	1.66	0.80	5	0.2	0.0	\$0.180	\$1,090	0.45	0.54	7.34	1.16
331	Economizer - DX	Lodging	6%	2%	\$0.595	1.71	1.61	0.78	15	0.8	0.1	\$0.693	\$4,191	0.12	0.11	69.00	1.16
332	Aerosol Duct Sealing - DX	Lodging	7%	7%	\$0.063	1.68	1.56	0.73	15	0.4	0.2	\$0.060	\$127	2.23	1.36	5.58	1.79
334	Duct/Pipe Insulation - DX	Lodging	2%	2%	\$0.649	1.69	1.66	0.78	10	0.2	0.1	\$2.976	\$6,367	0.04	0.03	201.56	1.79
335	DX Coil Cleaning	Lodging	5%	5%	\$0.046	1.74	1.65	0.77	5	0.2	0.1	\$0.150	\$321	0.89	0.69	5.75	1.79
337	Geothermal Heat Pump, EER=13, 10 tons - DX	Lodging	37%	37%	\$2.227	1.69	1.06	0.50	15	0.3	0.2	\$0.400	\$856	0.33	0.20	37.44	1.79
340	Base PTAC, EER=8.3, 1 ton	Lodging	0%	0%	\$2.655	1.93	1.93	0.90	20	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
341	HE PTAC, EER=9.6, 1 ton	Lodging	14%	14%	\$0.523	1.93	1.67	0.78	20	3.6	1.7	\$0.196	\$418	0.68	0.38	21.07	1.79
342	Hotel Room Controllers	Lodging	35%	35%	\$1.000	1.93	1.25	0.59	10	5.3	2.5	\$0.230	\$492	0.58	0.40	15.58	1.79
400	Base Fan Motor, 5hp, 1800rpm, 87.5%	Lodging	0%	0%	\$0.017	2.87	2.87	0.36	20	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
401	Fan Motor, 5hp, 1800rpm, 89.5%	Lodging	2%	2%	\$0.007	2.88	2.82	0.35	20	1.8	0.2	\$0.010	\$81	7.23	5.35	1.50	1.35
410	Base Fan Motor, 15hp, 1800rpm, 91.0%	Lodging	0%	0%	\$0.000	2.66	2.66	0.33	20	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
420	Base Fan Motor, 40hp, 1800rpm, 93.0%	Lodging	0%	0%	\$0.000	2.61	2.61	0.33	20	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
423	Air Handler Tuneups	Lodging	10%	5%	\$0.050	2.61	2.34	0.31	8	1.0	0.1	\$0.034	\$560	1.77	1.99	2.77	1.15
424	Demand Controlled Ventilation	Lodging	15%	4%	\$0.124	2.61	2.21	0.31	15	2.5	0.1	\$0.035	\$1,143	1.59	1.62	4.69	1.07
500	Base Built-Up Refrigeration System	Lodging	0%	0%	\$0.000	0.78	0.78	0.09	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
505	Compressor VSD retrofit	Lodging	6%	2%	\$0.005	0.78	0.73	0.09	13	0.1	0.0	\$0.013	\$443	4.27	4.46	1.61	1.09
507	Refrigeration Commissioning	Lodging	5%	5%	\$0.002	0.80	0.76	0.09	3	0.0	0.0	\$0.024	\$203	3.03	3.33	0.80	1.35
508	Demand Hot Gas Defrost	Lodging	3%	3%	\$0.000	0.78	0.76	0.09	10	0.0	0.0	\$0.003	\$27	22.41	20.26	0.30	1.35

APPENDIX F

NON-ADDITIVE MEASURE LEVEL RESULTS

Commercial Electric Existing Construction

DSM ASSYST SUMMARY

Measure Number	Measure	Building Type	Energy Savings Fraction	Peak Reduction Fraction	Total Costs/ Sq Ft	Base EUI	EUI	Peak Watts/ Sq Ft	Service Life (yrs)	Technical Potential GWH	System Peak Tech. Potential MW	Levelized Cost of Conserved Energy \$/kWh	Levelized Cost of Avoided Peak Capacity \$/kW	Total Resource Cost Test (TRC)	Participant Test	Customer Payback (Years)	Revenue Test
511	Freezer-Cooler Replacement Gaskets (built-up systems)	Lodging	7%	7%	\$0.001	0.81	0.76	0.09	4	0.0	0.0	\$0.006	\$54	11.34	12.08	0.28	1.35
513	Bi-level LED Case Lighting (built-up systems)	Lodging	1%	1%	\$0.020	0.78	0.78	0.09	10	0.0	0.0	\$0.486	\$5,431	0.13	0.13	48.20	1.24
514	Fiber Optic Case Lighting (built-up systems)	Lodging	25%	25%	\$0.023	0.78	0.59	0.07	1	0.2	0.0	\$0.149	\$1,277	0.48	0.56	1.77	1.35
517	Oversized Air Cooled Condenser	Lodging	8%	8%	\$0.008	0.82	0.75	0.09	16	0.0	0.0	\$0.013	\$109	5.65	4.46	1.73	1.35
520	Base Self-Contained Refrigeration	Lodging	0%	0%	\$0.000	0.21	0.21	0.03	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
523	Freezer-Cooler Replacement Gaskets (self-contained)	Lodging	3%	3%	\$0.000	0.22	0.21	0.02	4	0.1	0.0	\$0.006	\$47	13.02	13.87	0.24	1.35
524	Bi-level LED Case Lighting (self-contained units)	Lodging	1%	1%	\$0.001	0.21	0.21	0.02	10	0.0	0.0	\$0.106	\$1,187	0.59	0.59	10.54	1.24
526	Energy-Star Refrigerator, solid door	Lodging	2%	2%	\$0.000	0.22	0.21	0.02	10	0.1	0.0	\$0.015	\$125	4.92	4.45	1.38	1.35
527	Energy-Star Freezer, solid door	Lodging	3%	3%	\$0.002	0.22	0.21	0.02	10	0.1	0.0	\$0.043	\$370	1.66	1.50	4.10	1.35
529	Energy-Star Freezer, glass door	Lodging	6%	6%	\$0.000	0.22	0.21	0.02	10	0.2	0.0	\$0.002	\$18	34.16	30.89	0.20	1.35
530	Energy Star Ice Machines	Lodging	1%	1%	\$0.000	0.22	0.21	0.02	10	0.0	0.0	\$0.003	\$29	20.85	18.85	0.33	1.35
600	Base Desktop PC	Lodging	0%	0%	\$0.000	0.04	0.04	0.01	4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
601	PC Manual Power Management Enabling	Lodging	67%	45%	\$0.001	0.05	0.02	0.00	4	1.1	0.1	\$0.011	\$133	5.68	6.69	0.50	1.23
602	PC Network Power Management Enabling	Lodging	67%	45%	\$0.001	0.05	0.02	0.00	4	1.1	0.1	\$0.011	\$133	5.68	6.69	0.50	1.23
603	Energy Star or Better PC	Lodging	33%	25%	\$0.001	0.05	0.03	0.00	4	0.5	0.0	\$0.014	\$147	4.76	5.41	0.62	1.27
610	Base Monitor, CRT	Lodging	0%	0%	\$0.000	0.00	0.00	0.00	4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
611	Energy Star or Better Monitor-CRT	Lodging	56%	42%	\$0.000	0.00	0.00	0.00	4	0.0	0.0	\$0.005	\$53	13.13	14.92	0.23	1.27
612	Monitor Power Management Enabling-CRT	Lodging	53%	35%	\$0.000	0.01	0.00	0.00	4	0.0	0.0	\$0.006	\$73	10.28	12.11	0.28	1.23
620	Base Monitor, LCD	Lodging	0%	0%	\$0.000	0.01	0.01	0.00	4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
621	Energy Star or Better Monitor-LCD	Lodging	56%	42%	\$0.001	0.02	0.01	0.00	4	0.2	0.0	\$0.023	\$247	2.84	3.22	1.04	1.27
622	Monitor Power Management Enabling-LCD	Lodging	56%	37%	\$0.001	0.01	0.01	0.00	4	0.2	0.0	\$0.049	\$587	1.29	1.51	2.23	1.23
630	Base Copier	Lodging	0%	0%	\$0.000	0.00	0.00	0.00	6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
631	Energy Star or Better Copier	Lodging	20%	15%	\$0.000	0.00	0.00	0.00	6	0.0	0.0	\$0.018	\$185	3.78	4.05	1.12	1.27
632	Copier Power Management Enabling	Lodging	19%	13%	\$0.000	0.00	0.00	0.00	6	0.0	0.0	\$0.090	\$1,078	0.70	0.78	5.88	1.23
640	Base Laser Printer	Lodging	0%	0%	\$0.000	0.01	0.01	0.00	5	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
641	Printer Power Management Enabling	Lodging	49%	32%	\$0.001	0.01	0.01	0.00	5	0.1	0.0	\$0.042	\$499	1.51	1.72	2.31	1.23
650	Base Data Center/Server Room	Lodging	0%	0%	\$0.000	203.48	203.48	25.49	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
651	Data Center Improved Operations	Lodging	20%	13%	\$0.500	211.86	169.96	23.04	10	0.3	0.0	\$0.002	\$22	33.99	33.98	0.18	1.23
652	Data Center Best Practices	Lodging	45%	34%	\$2.500	212.99	117.88	17.68	10	0.3	0.0	\$0.004	\$43	16.35	15.78	0.39	1.27
653	Data Center State of the Art practices	Lodging	56%	56%	\$5.000	203.48	89.53	11.22	10	0.1	0.0	\$0.007	\$54	10.99	9.83	0.63	1.37
660	Base Water Heating	Lodging	0%	0%	\$0.000	1.04	1.04	0.12	15	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
670	Base Vending Machines	Lodging	0%	0%	\$0.000	0.12	0.12	0.02	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
700	Base Cooking	Lodging	0%	0%	\$0.000	0.75	0.75	0.13	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
704	Energy Star Hot Food Holding Cabinets	Lodging	13%	13%	\$0.048	0.75	0.65	0.11	10	1.8	0.3	\$0.075	\$445	1.12	0.93	6.60	1.46
800	Base Heating	Lodging	0%	0%	\$0.000	1.61	1.61	0.04	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
900	Base Miscellaneous	Lodging	0%	0%	\$0.000	1.17	1.17	0.16	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
100	Base Fluorescent Fixture, 4L4T8	Other	0%	0%	\$0.000	2.64	2.64	0.37	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
101	ROB 4L4' Premium T8	Other	17%	17%	\$0.106	2.64	2.19	0.31	9	23.0	3.3	\$0.038	\$270	2.07	1.94	3.03	1.34
102	Delamping 3L4' F32T8	Other	25%	25%	\$0.412	2.64	1.98	0.28	18	13.5	1.9	\$0.064	\$448	1.25	0.96	8.24	1.34
103	LED Troffer (Base 4L4T8)	Other	40%	40%	\$2.619	2.64	1.58	0.22	18	37.8	5.4	\$0.247	\$1,740	0.32	0.25	32.01	1.34
104	Lighting Control Tuneup	Other	5%	1%	\$0.029	2.64	2.51	0.37	6	4.6	0.2	\$0.051	\$1,435	0.98	1.31	3.46	1.02
105	Occupancy Sensor, 4L4' Fluorescent Fixtures	Other	30%	8%	\$0.135	2.64	1.85	0.35	18	5.6	0.2	\$0.018	\$489	2.88	2.92	2.71	1.02
106	Continuous Dimming, 4L4' Fluorescent Fixtures	Other	51%	13%	\$0.750	2.64	1.28	0.33	10	14.6	0.5	\$0.086	\$2,392	0.59	0.71	8.68	1.02
107	High Performance Lighting R/R - 25% Savings, Base 4L4T8	Other	25%	13%	\$0.400	2.64	1.98	0.33	20	10.1	0.7	\$0.059	\$834	1.04	0.91	8.84	1.15
110	Base Fluorescent Fixture, 2L4T8, 1 EB	Other	0%	0%	\$0.000	2.15	2.15	0.30	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
111	ROB 2L4' Premium T8	Other	17%	17%	\$0.077	2.18	1.81	0.26	9	16.2	2.3	\$0.033	\$235	2.38	2.23	2.64	1.34
112	Delamping 1L4' F32T8	Other	48%	48%	\$0.594	2.15	1.12	0.16	18	19.8	2.8	\$0.059	\$414	1.35	1.04	7.62	1.34
113	LED Troffer (Base 2L4T8)	Other	40%	40%	\$2.394	2.15	1.29	0.18	18	28.9	4.1	\$0.277	\$1,955	0.29	0.22	35.98	1.34
114	Lighting Control Tuneup	Other	5%	1%	\$0.014	2.15	2.04	0.30	6	3.6	0.1	\$0.032	\$882	1.60	2.14	2.13	1.02
115	Occupancy Sensor, 2L4' Fluorescent Fixtures	Other	30%	8%	\$0.135	2.15	1.51	0.28	18	4.3	0.2	\$0.022	\$602	2.35	2.37	3.33	1.02
116	Continuous Dimming, 2L4' Fluorescent Fixtures	Other	51%	13%	\$0.750	2.15	1.04	0.26	10	11.2	0.4	\$0.105	\$2,941	0.48	0.58	10.67	1.02
117	High Performance Lighting R/R - 25% Savings, Base 2L4T8	Other	25%	13%	\$0.400	2.15	1.61	0.27	20	7.7	0.5	\$0.073	\$1,025	0.85	0.74	10.87	1.15
120	Base Other Fluorescent Fixture	Other	0%	0%	\$0.000	0.53	0.53	0.08	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
121	ROB Premium T8 (base other fluorescent)	Other	17%	17%	\$0.040	0.56	0.47	0.07	9	0.2	0.0	\$0.068	\$480	1.17	1.09	5.39	1.34
122	Lighting Control Tuneup	Other	5%	1%	\$0.029	0.53	0.51	0.07	6	0.0	0.0	\$0.254	\$7,100	0.20	0.27	17.14	1.02
123	Occupancy Sensor, 4L8' Fluorescent Fixtures	Other	30%	8%	\$0.135	0.53	0.37	0.07	18	0.1	0.0	\$0.087	\$2,420	0.58	0.59	13.39	1.02
124	Continuous Dimming, 4L8' Fluorescent Fixtures	Other	51%	13%	\$0.750	0.53	0.26	0.07	10	0.1	0.0	\$0.424	\$11,830	0.12	0.14	42.93	1.02
125	High Performance Lighting R/R - 25% Savings, Base Other Fluorescent	Other	25%	13%	\$0.400	0.53	0.40	0.07	20	0.1	0.0	\$0.293	\$4,124	0.21	0.18	43.73	1.15
130	Base High-Efficiency Incandescent Flood, 53W to Screw-in Replacement	Other	0%	0%	\$0.000	2.30	2.30	0.33	1	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
131	CFL Screw-in 18W	Other	66%	66%	\$0.113	2.30	0.78	0.11	4	4.7	0.7	\$0.027	\$190	2.95	3.17	1.06	1.34
132	Cold Cathode Lamps	Other	66%	66%	\$0.330	2.30	0.78	0.11	9	0.5	0.1	\$0.035	\$249	2.25	2.10	2.80	1.34
133	LED screw-in PAR replacement (base incandescent)	Other	90%	90%	\$1.149	2.30	0.24	0.03	18	7.1	1.0	\$0.055	\$391	1.43	1.17	7.19	1.34
140	Base High-Efficiency Incandescent Flood, 53W to Hardwired Replacement	Other	0%	0%	\$0.000	2.30	2.30	0.33	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
141	CFL Hardwired, Modular 18W	Other	66%	66%	\$0.779	2.30	0.78	0.11	18	67.4	9.6	\$0.052	\$367	1.52	1.17	6.76	1.34
142	Ceramic Metal Halide	Other	37%	37%	\$1.867	2.31	1.45	0.21	18	18.8	2.7	\$0.221	\$1,560	0.36	0.28	28.70	1.34
143	LED fixture replacement (base incandescent flood)	Other	90%	90%	\$1.434	2.30	0.24	0.03	18	91.4	13.0	\$0.069	\$488	1.15	0.88	8.98	1.34
150	Base CFL to screw-in replacement	Other	0%	0%	\$0.000	0.59	0.59	0.08	4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
151	LED screw-in replacement (base CFL)	Other	68%	68%	\$0.744	0.59	0.19	0.03	18	7.9	1.1	\$0.186	\$1,309	0.43	0.33	24.09	1.34
160	Base High Bay Metal Halide, 400W	Other	0%	0%	\$0.346	1.11	1.11	0.16	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
161	High Bay T5	Other	49%	49%	\$0.120	1.11	0.57	0.08	18	7.8	1.1	\$0.023	\$159	3.53	2.71	2.92	1.34
162	Induction High Bay Lighting	Other	37%	37%	\$0.373	1.11	0.70	0.10	32	6.0	0.8	\$0.074	\$521	0.91	0.68	11.82	1.34
163	PSMH + electronic ballast	Other	37%	37%	\$0.284	1.12	0.71	0.10	17	5.8	0.8	\$0.074	\$524	1.07	0.83	9.39	1.34

APPENDIX F

NON-ADDITIVE MEASURE LEVEL RESULTS

Commercial Electric Existing Construction

DSM ASSYST SUMMARY

Measure Number	Measure	Building Type	Energy Savings Fraction	Peak Reduction Fraction	Total Costs/ Sq Ft	Base EUI	EUI	Peak Watts/ Sq Ft	Service Life (yrs)	Technical Potential GWH	System Peak Tech. Potential MW	Levelized Cost of Conserved Energy \$/kWh	Levelized Cost of Avoided Peak Capacity \$/kW	Total Resource Cost Test (TRC)	Participant Test	Customer Payback (Years)	Revenue Test
165	Occupancy Sensor, High Bay T5	Other	20%	5%	\$0.135	1.15	0.93	0.16	18	0.7	0.0	\$0.060	\$1,676	0.84	0.85	9.28	1.02
185	Base Fluorescent Parking Garage Lighting	Other	0%	0%	\$0.000	0.69	0.69	0.10	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
186	Parking Garage Low Wattage T8 Lamps replacing 32W lamps	Other	15%	15%	\$0.004	0.70	0.59	0.08	3	1.3	0.2	\$0.017	\$119	4.75	5.23	0.51	1.35
187	Bi-Level LED Parking Garage Fixtures (Base Fluorescent)	Other	2%	2%	\$0.540	0.69	0.67	0.09	5	0.1	0.0	\$9.892	\$71,622	0.01	0.01	493.51	1.33
190	Base Exit Sign	Other	0%	0%	\$0.000	0.00	0.00	0.00	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
191	LED Exit Sign	Other	81%	81%	\$0.007	0.01	0.00	0.00	18	0.4	0.1	\$0.146	\$1,048	0.54	0.41	19.21	1.35
200	Base Outdoor High Pressure Sodium 250W Lamp	Other	0%	0%	\$0.045	0.41	0.41	0.03	18	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
201	Outdoor Lighting Controls (Photocell/Timeclock)	Other	24%	38%	\$0.020	0.45	0.34	0.02	18	10.9	1.1	\$0.019	\$183	3.80	3.55	2.23	1.10
202	LED Outdoor Area Lighting	Other	52%	52%	\$0.243	0.41	0.20	0.01	9	39.5	2.5	\$0.188	\$2,916	0.31	0.39	15.18	1.01
203	Bi-Level LED Outdoor Lighting	Other	67%	70%	\$0.905	0.41	0.13	0.01	9	25.7	1.7	\$0.537	\$8,091	0.11	0.13	45.03	1.01
210	Base Streetlighting High Pressure Sodium	Other	0%	0%	\$0.164	0.69	0.69	0.04	4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
211	Induction Streetlighting	Other	50%	50%	\$0.336	0.69	0.34	0.02	9	73.7	4.7	\$0.161	\$2,494	0.37	0.45	12.98	1.01
212	LED Streetlighting	Other	52%	52%	\$0.259	0.69	0.33	0.02	9	76.1	4.9	\$0.119	\$1,842	0.50	0.61	9.59	1.01
300	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	Other	0%	0%	\$1.200	0.95	0.95	0.44	20	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
301	Centrifugal Chiller, 0.51 kW/ton, 500 tons	Other	12%	12%	\$0.150	0.98	0.86	0.40	20	1.9	0.9	\$0.123	\$264	1.08	0.60	13.28	1.79
302	Window Film (Standard) - Chiller	Other	1%	1%	\$0.081	0.95	0.94	0.44	10	0.2	0.1	\$1.185	\$2,535	0.11	0.08	80.24	1.79
303	EMS - Chiller	Other	10%	10%	\$0.120	1.04	0.94	0.44	15	0.2	0.1	\$0.130	\$277	1.03	0.63	12.12	1.79
304	Cool Roof - Chiller	Other	4%	4%	\$0.242	0.95	0.91	0.43	10	0.4	0.2	\$1.074	\$2,297	0.12	0.08	72.70	1.79
305	Chiller Tune Up/Diagnostics	Other	6%	4%	\$0.100	0.97	0.91	0.43	10	0.6	0.2	\$0.269	\$857	0.39	0.34	18.26	1.42
306	VSD for Chiller Pumps and Towers	Other	10%	10%	\$0.084	0.98	0.88	0.41	15	0.9	0.4	\$0.096	\$205	1.39	0.85	8.98	1.79
308	Economizer - Chiller	Other	0%	0%	\$0.340	0.95	0.95	0.44	15	0.0	0.0	\$57,128.037	N/A	0.00	0.00	5691097.47	1.16
309	Ceiling/roof Insulation - Chiller	Other	12%	12%	\$0.275	1.05	0.92	0.43	20	0.3	0.1	\$0.211	\$451	0.63	0.35	22.73	1.79
310	Duct/Pipe Insulation - Chiller	Other	2%	2%	\$0.769	0.95	0.93	0.43	10	0.3	0.1	\$6.294	\$13,464	0.02	0.01	426.21	1.79
311	High Efficiency Chiller Motors	Other	3%	3%	\$0.075	0.96	0.93	0.43	20	0.0	0.0	\$0.242	\$518	0.55	0.31	26.11	1.79
320	Base DX Packaged System, EER=10.3, 10 tons	Other	0%	0%	\$3.176	1.64	1.64	0.77	20	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
321	DX Tune Up/ Advanced Diagnostics	Other	4%	3%	\$0.125	1.68	1.62	0.77	10	1.5	0.5	\$0.310	\$987	0.34	0.29	21.03	1.42
322	DX Packaged System, EER=10.3, 10 tons, with Automated Fault Detection and Diagnostics	Other	10%	10%	\$0.080	1.64	1.48	0.69	20	11.8	5.5	\$0.048	\$102	2.80	1.56	5.13	1.79
323	DX Packaged System, EER=10.9, 10 tons	Other	6%	6%	\$0.300	1.64	1.55	0.72	20	9.1	4.3	\$0.324	\$694	0.41	0.23	34.93	1.79
324	DX Packaged System, EER=13.4, 10 tons	Other	23%	23%	\$0.441	1.64	1.26	0.59	20	38.2	17.9	\$0.114	\$244	1.17	0.65	12.30	1.79
325	Window Film (Standard) - DX	Other	1%	1%	\$0.081	1.65	1.63	0.76	10	0.6	0.3	\$0.680	\$1,456	0.20	0.13	46.08	1.79
326	Prog. Thermostat - DX	Other	4%	1%	\$0.041	1.69	1.63	0.78	8	0.5	0.1	\$0.125	\$756	0.65	0.72	7.66	1.16
329	Cool Roof - DX	Other	13%	13%	\$0.242	1.64	1.43	0.67	10	10.9	5.1	\$0.177	\$378	0.75	0.51	11.98	1.79
330	Optimize Controls - DX	Other	4%	1%	\$0.040	1.68	1.62	0.77	5	1.5	0.2	\$0.185	\$1,119	0.44	0.53	7.54	1.16
331	Economizer - DX	Other	6%	2%	\$0.340	1.69	1.59	0.77	15	4.3	0.7	\$0.400	\$2,422	0.20	0.19	39.87	1.16
332	Aerosol Duct Sealing - DX	Other	7%	7%	\$0.036	1.64	1.53	0.71	15	3.6	1.7	\$0.035	\$75	3.82	2.33	3.26	1.79
333	Ceiling/roof Insulation - DX	Other	12%	12%	\$0.119	1.86	1.64	0.77	20	0.0	0.0	\$0.052	\$110	2.58	1.44	5.56	1.79
334	Duct/Pipe Insulation - DX	Other	2%	2%	\$0.649	1.66	1.63	0.76	10	1.1	0.5	\$3.037	\$6,498	0.04	0.03	205.69	1.79
335	DX Coil Cleaning	Other	5%	5%	\$0.026	1.67	1.59	0.74	5	3.6	1.7	\$0.089	\$190	1.50	1.17	3.41	1.79
337	Geothermal Heat Pump, EER=13, 10 tons - DX	Other	37%	37%	\$3.083	1.65	1.04	0.48	15	3.1	1.4	\$0.569	\$1,216	0.23	0.14	53.21	1.79
340	Base PTAC, EER=8.3, 1 ton	Other	0%	0%	\$2.072	1.50	1.50	0.70	20	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
341	HE PTAC, EER=9.6, 1 ton	Other	14%	14%	\$0.724	1.50	1.30	0.61	20	7.1	3.3	\$0.347	\$742	0.38	0.21	37.37	1.79
400	Base Fan Motor, 5hp, 1800rpm, 87.5%	Other	0%	0%	\$0.025	0.63	0.63	0.11	20	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
401	Fan Motor, 5hp, 1800rpm, 89.5%	Other	2%	2%	\$0.010	0.63	0.62	0.11	20	1.3	0.2	\$0.067	\$395	1.23	0.88	9.07	1.40
402	Variable Speed Drive Control, 5 HP	Other	30%	8%	\$0.188	0.67	0.47	0.11	15	18.3	0.8	\$0.107	\$2,471	0.57	0.57	13.23	1.08
410	Base Fan Motor, 15hp, 1800rpm, 91.0%	Other	0%	0%	\$0.039	0.58	0.58	0.10	20	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
411	Fan Motor, 15hp, 1800rpm, 92.4%	Other	2%	2%	\$0.010	0.58	0.58	0.10	20	0.8	0.1	\$0.109	\$640	0.76	0.55	14.68	1.40
412	Variable Speed Drive Control, 15 HP	Other	30%	8%	\$0.208	0.64	0.45	0.10	20	12.3	0.5	\$0.107	\$2,482	0.56	0.52	15.31	1.08
413	Electronically Commutated Motors (ECM) on an Air Handler Unit	Other	14%	4%	\$0.039	0.58	0.50	0.10	15	6.2	0.3	\$0.052	\$1,207	1.16	1.18	6.46	1.08
414	Energy Recovery Ventilation (ERV)	Other	7%	7%	\$0.183	0.62	0.58	0.10	20	0.7	0.1	\$0.411	\$2,411	0.20	0.14	55.30	1.40
420	Base Fan Motor, 40hp, 1800rpm, 93.0%	Other	0%	0%	\$0.089	0.58	0.58	0.10	20	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
421	Fan Motor, 40hp, 1800rpm, 94.1%	Other	1%	1%	\$0.024	0.58	0.57	0.10	20	0.2	0.0	\$0.346	\$2,030	0.24	0.17	46.55	1.40
422	Variable Speed Drive Control, 40 HP	Other	30%	8%	\$0.377	0.81	0.57	0.13	20	0.3	0.0	\$0.153	\$3,548	0.39	0.37	21.87	1.08
423	Air Handler Tuneups	Other	10%	5%	\$0.050	0.60	0.54	0.10	8	2.6	0.2	\$0.155	\$1,801	0.44	0.48	11.47	1.17
424	Demand Controlled Ventilation	Other	15%	4%	\$0.124	0.66	0.56	0.11	15	0.8	0.0	\$0.143	\$3,313	0.42	0.43	17.74	1.08
500	Base Built-Up Refrigeration System	Other	0%	0%	\$0.000	2.09	2.09	0.25	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
501	High-efficiency fan motors	Other	12%	12%	\$0.116	2.09	1.84	0.22	20	0.0	0.0	\$0.045	\$377	1.59	1.18	6.79	1.35
505	Compressor VSD retrofit	Other	6%	2%	\$0.041	2.09	1.96	0.25	13	0.0	0.0	\$0.039	\$1,292	1.42	1.49	4.83	1.09
507	Refrigeration Commissioning	Other	5%	5%	\$0.018	2.14	2.04	0.24	3	0.0	0.0	\$0.071	\$591	1.02	1.12	2.39	1.35
508	Demand Hot Gas Defrost	Other	3%	3%	\$0.003	2.09	2.04	0.24	10	0.0	0.0	\$0.010	\$80	7.51	6.81	0.91	1.35
511	Freezer-Cooler Replacement Gaskets (built-up systems)	Other	7%	7%	\$0.001	2.16	2.02	0.24	4	0.0	0.0	\$0.003	\$24	25.46	27.18	0.12	1.35
512	High R-Value Glass Doors	Other	2%	2%	\$0.024	2.09	2.05	0.25	10	0.0	0.0	\$0.110	\$920	0.65	0.59	10.41	1.35
513	Bi-level LED Case Lighting (built-up systems)	Other	1%	1%	\$0.024	2.09	2.07	0.25	10	0.0	0.0	\$0.217	\$2,364	0.29	0.29	21.37	1.24
514	Fiber Optic Case Lighting (built-up systems)	Other	25%	25%	\$0.028	2.09	1.58	0.19	1	0.1	0.0	\$0.067	\$556	1.08	1.27	0.79	1.35
517	Oversized Air Cooled Condenser	Other	8%	8%	\$0.062	2.18	2.00	0.24	16	0.0	0.0	\$0.038	\$317	1.90	1.50	5.15	1.35
520	Base Self-Contained Refrigeration	Other	0%	0%	\$0.000	0.15	0.15	0.02	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
522	Night covers for display cases (self-contained)	Other	2%	0%	\$0.000	0.15	0.15	0.02	5	0.0	0.0	\$0.012	N/A	3.23	5.31	0.75	0.85
523	Freezer-Cooler Replacement Gaskets (self-contained)	Other	3%	3%	\$0.000	0.15	0.15	0.02	4	0.0	0.0	\$0.007	\$60	9.95	10.62	0.32	1.35
524	Bi-level LED Case Lighting (self-contained units)	Other	1%	1%	\$0.002	0.15	0.15	0.02	10	0.0	0.0	\$0.231	\$2,526	0.27	0.27	22.84	1.24
526	Energy-Star Refrigerator, solid door	Other	6%	6%	\$0.001	0.15	0.14	0.02	10	0.0	0.0	\$0.014	\$120	5.02	4.55	1.36	1.35
528	Energy-Star Refrigerator, glass door	Other	2%	2%	\$0.000	0.15	0.15	0.02	10	0.0	0.0	\$0.000	\$2	305.85	277.09	0.02	1.35
530	Energy Star Ice Machines	Other	4%	4%	\$0.000	0.15	0.15	0.02	10	0.0	0.0	\$0.003	\$28	21.18	19.19	0.32	1.35
600	Base Desktop PC	Other	0%	0%	\$0.000	0.08	0.08	0.01	4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A

Commercial Electric Existing Construction

DSM ASSYST SUMMARY

Measure Number	Measure	Building Type	Energy Savings Fraction	Peak Reduction Fraction	Total Costs/ Sq Ft	Base EUI	EUI	Peak Watts/ Sq Ft	Service Life (yrs)	Technical Potential GWH	System Peak Tech. Potential MW	Levelized Cost of Conserved Energy \$/kWh	Levelized Cost of Avoided Peak Capacity \$/kW	Total Resource Cost Test (TRC)	Participant Test	Customer Payback (Years)	Revenue Test
601	PC Manual Power Management Enabling	Other	63%	45%	\$0.002	0.10	0.04	0.01	4	7.1	0.6	\$0.012	\$132	5.59	6.89	0.49	1.17
602	PC Network Power Management Enabling	Other	63%	45%	\$0.002	0.10	0.04	0.01	4	7.1	0.6	\$0.012	\$132	5.59	6.89	0.49	1.17
603	Energy Star or Better PC	Other	31%	25%	\$0.001	0.08	0.06	0.01	4	5.0	0.5	\$0.017	\$166	4.18	5.02	0.67	1.20
620	Base Monitor, LCD	Other	0%	0%	\$0.000	0.02	0.02	0.00	4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
621	Energy Star or Better Monitor--LCD	Other	54%	42%	\$0.001	0.02	0.01	0.00	4	2.4	0.2	\$0.033	\$327	2.12	2.55	1.32	1.20
622	Monitor Power Management Enabling--LCD	Other	52%	37%	\$0.002	0.04	0.02	0.00	4	0.7	0.1	\$0.035	\$393	1.87	2.31	1.46	1.17
630	Base Copier	Other	0%	0%	\$0.000	0.01	0.01	0.00	6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
631	Energy Star or Better Copier	Other	20%	15%	\$0.000	0.01	0.01	0.00	6	0.2	0.0	\$0.019	\$190	3.64	4.12	1.11	1.20
632	Copier Power Management Enabling	Other	18%	13%	\$0.001	0.01	0.01	0.00	6	0.1	0.0	\$0.098	\$1,082	0.68	0.79	5.77	1.17
640	Base Laser Printer	Other	0%	0%	\$0.000	0.01	0.01	0.00	5	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
641	Printer Power Management Enabling	Other	46%	32%	\$0.001	0.02	0.01	0.00	5	0.3	0.0	\$0.044	\$491	1.50	1.79	2.23	1.17
650	Base Data Center/Server Room	Other	0%	0%	\$0.000	121.34	121.34	15.49	10	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
651	Data Center Improved Operations	Other	19%	13%	\$0.500	126.04	102.51	13.97	10	0.0	0.0	\$0.003	\$37	20.13	21.06	0.29	1.17
652	Data Center Best Practices	Other	43%	34%	\$2.500	126.81	72.11	10.72	10	0.0	0.0	\$0.007	\$71	9.84	10.07	0.61	1.20
653	Data Center State of the Art practices	Other	56%	56%	\$5.000	121.34	53.39	6.82	10	0.0	0.0	\$0.011	\$89	6.75	6.56	0.94	1.26

APPENDIX F

NON-ADDITIVE MEASURE LEVEL RESULTS

Commercial Electric New Construction

DSM ASSYST SUMMARY

Measure Number	Measure	Building Type	Energy Savings Fraction	Peak Reduction Fraction	Total Costs/ Sq Ft	Base EUI	EUI	Peak Watts/ Sq Ft	Service Life (yrs)	Technical Potential GWH	System Peak Tech. Potential MW	Levelized Cost of Conserved Energy \$/kWh	Levelized Cost of Avoided Peak Capacity \$/kW	Total Resource Cost Test (TRC)	Participant Test	Customer Payback (Years)	Revenue Test
100	Base Bldg Design - 15%	Office-S	0%	0%	\$0.00	13.98	13.98	2.70	20	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
101	High Performance Building/Int Design - Tier 1 15% - Small Office	Office-S	15%	15%	\$2.33	13.98	11.89	2.30	20	3.94	0.64	\$0.108	\$559	0.80	0.58	13.75	1.38
200	Base Bldg Design - 30%	Office-S	0%	0%	\$0.00	13.98	13.98	2.70	20	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
201	High Performance Building/Int Design - Tier 2 30% - Small Office	Office-S	30%	30%	\$3.32	13.98	9.79	1.89	20	6.30	1.03	\$0.077	\$399	1.12	0.82	9.82	1.38
300	Base Bldg Design - 50%	Office-S	0%	0%	\$0.00	13.98	13.98	2.70	20	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
301	High Performance Building/Int Design - Tier 3 50% - Small Office	Office-S	50%	50%	\$5.82	13.98	6.99	1.35	20	2.36	0.39	\$0.081	\$419	1.07	0.78	10.31	1.38
400	Base Bldg Design - 70%	Office-S	0%	0%	\$0.00	13.98	13.98	2.70	20	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
401	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Small Office	Office-S	70%	70%	\$9.14	13.98	4.20	0.81	20	0.37	0.06	\$0.091	\$471	0.95	0.69	11.58	1.38
100	Base Bldg Design - 15%	Office-L	0%	0%	\$0.00	15.24	15.24	2.95	20	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
102	High Performance Building/Int Design - Tier 1 15% - Large Office	Office-L	15%	15%	\$2.15	15.24	12.95	2.50	20	3.12	0.51	\$0.092	\$475	0.95	0.69	11.68	1.38
200	Base Bldg Design - 30%	Office-L	0%	0%	\$0.00	15.24	15.24	2.95	20	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
202	High Performance Building/Int Design - Tier 2 30% - Large Office	Office-L	30%	30%	\$3.08	15.24	10.67	2.06	20	5.00	0.82	\$0.066	\$339	1.32	0.96	8.34	1.38
300	Base Bldg Design - 50%	Office-L	0%	0%	\$0.00	15.24	15.24	2.95	20	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
302	High Performance Building/Int Design - Tier 3 50% - Large Office	Office-L	50%	50%	\$5.38	15.24	7.62	1.47	20	1.87	0.31	\$0.069	\$356	1.26	0.91	8.76	1.38
400	Base Bldg Design - 70%	Office-L	0%	0%	\$0.00	15.24	15.24	2.95	20	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
402	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Large Office	Office-L	70%	70%	\$8.46	15.24	4.57	0.88	20	0.29	0.05	\$0.077	\$400	1.12	0.81	9.83	1.38
100	Base Bldg Design - 15%	Restaurant	0%	0%	\$0.00	33.20	33.20	5.84	20	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
103	High Performance Building/Int Design - Tier 1 15% - Restaurant	Restaurant	15%	15%	\$2.75	33.20	28.22	4.96	20	0.87	0.17	\$0.054	\$306	1.57	1.08	7.43	1.46
200	Base Bldg Design - 30%	Restaurant	0%	0%	\$0.00	33.20	33.20	5.84	20	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
203	High Performance Building/Int Design - Tier 2 30% - Restaurant	Restaurant	30%	30%	\$3.92	33.20	23.24	4.09	20	1.39	0.26	\$0.038	\$218	2.19	1.51	5.31	1.46
300	Base Bldg Design - 50%	Restaurant	0%	0%	\$0.00	33.20	33.20	5.84	20	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
303	High Performance Building/Int Design - Tier 3 50% - Restaurant	Restaurant	50%	50%	\$6.87	33.20	16.60	2.92	20	0.52	0.10	\$0.040	\$229	2.09	1.44	5.57	1.46
400	Base Bldg Design - 70%	Restaurant	0%	0%	\$0.00	33.20	33.20	5.84	20	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
403	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Restaurant	Restaurant	70%	70%	\$10.79	33.20	9.96	1.75	20	0.08	0.02	\$0.045	\$257	1.86	1.28	6.26	1.46
100	Base Bldg Design - 15%	Retail-S	0%	0%	\$0.00	8.70	8.70	1.70	20	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
104	High Performance Building/Int Design - Tier 1 15% - Small Retail	Retail-S	15%	15%	\$1.54	8.70	7.39	1.44	20	1.64	0.32	\$0.115	\$591	0.76	0.53	15.19	1.45
200	Base Bldg Design - 30%	Retail-S	0%	0%	\$0.00	8.70	8.70	1.70	20	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
204	High Performance Building/Int Design - Tier 2 30% - Small Retail	Retail-S	30%	30%	\$2.21	8.70	6.09	1.19	20	2.62	0.52	\$0.082	\$422	1.07	0.74	10.85	1.45
300	Base Bldg Design - 50%	Retail-S	0%	0%	\$0.00	8.70	8.70	1.70	20	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
304	High Performance Building/Int Design - Tier 3 50% - Small Retail	Retail-S	50%	50%	\$3.86	8.70	4.35	0.85	20	0.98	0.19	\$0.087	\$443	1.02	0.70	11.39	1.45
400	Base Bldg Design - 70%	Retail-S	0%	0%	\$0.00	8.70	8.70	1.70	20	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
404	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Small Retail	Retail-S	70%	70%	\$6.07	8.70	2.61	0.51	20	0.15	0.03	\$0.097	\$498	0.91	0.63	12.79	1.45
100	Base Bldg Design - 15%	Retail-L	0%	0%	\$0.00	8.91	8.91	1.74	20	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
105	High Performance Building/Int Design - Tier 1 15% - Large Retail	Retail-L	15%	15%	\$1.80	8.91	7.57	1.48	20	0.43	0.09	\$0.132	\$674	0.67	0.46	17.33	1.45
200	Base Bldg Design - 30%	Retail-L	0%	0%	\$0.00	8.91	8.91	1.74	20	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
205	High Performance Building/Int Design - Tier 2 30% - Large Retail	Retail-L	30%	30%	\$2.58	8.91	6.23	1.22	20	0.69	0.14	\$0.094	\$482	0.94	0.65	12.38	1.45
300	Base Bldg Design - 50%	Retail-L	0%	0%	\$0.00	8.91	8.91	1.74	20	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
305	High Performance Building/Int Design - Tier 3 50% - Large Retail	Retail-L	50%	50%	\$4.51	8.91	4.45	0.87	20	0.26	0.05	\$0.099	\$506	0.89	0.62	12.99	1.45
400	Base Bldg Design - 70%	Retail-L	0%	0%	\$0.00	8.91	8.91	1.74	20	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
405	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Large Retail	Retail-L	70%	70%	\$7.09	8.91	2.67	0.52	20	0.04	0.01	\$0.111	\$568	0.79	0.55	14.59	1.45

APPENDIX F

NON-ADDITIVE MEASURE LEVEL RESULTS

Industrial Electric																	
DSM ASSYST SUMMARY																	
Measure Number	Measure	Building Type	Energy Savings Fraction	Peak Reduction Fraction	Total Costs/ Base kWh	Base EUJ	EUJ	Peak Watts/ Base kWh	Service Life (yrs)	Technical Potential GWH	System Peak Tech. Potential MW	Levelized Cost of Conserved Energy \$/kWH	Levelized Cost of Avoided Peak Capacity \$/kW	Total Resource Cost Test (TRC)	Participant Test	Customer Payback (Years)	Revenue Test
100	Base Compressed Air	Food	0%	0%	\$0.00	1.04	1.04	0.12	14	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
101	Compressed Air-O&M	Food	17%	17%	\$0.01	1.18	0.98	0.12	2	4.17	0.49	\$0.039	\$334	1.81	2.05	0.92	1.36
102	Compressed Air - Controls	Food	12%	12%	\$0.02	1.15	1.01	0.12	10	2.33	0.27	\$0.020	\$166	3.64	3.29	1.87	1.36
103	Compressed Air - System Optimization	Food	20%	20%	\$0.02	1.16	0.93	0.11	10	7.86	0.93	\$0.013	\$111	5.48	4.95	1.25	1.36
104	Compressed Air- Sizing	Food	9%	9%	\$0.00	1.13	1.03	0.12	10	0.67	0.08	\$0.007	\$60	10.16	9.18	0.67	1.36
105	Comp Air - Replace 1-5 HP motor	Food	3%	3%	\$0.05	1.05	1.02	0.12	17	0.08	0.01	\$0.191	\$1,623	0.37	0.29	27.14	1.36
106	Comp Air - ASD (1-5 hp)	Food	6%	1%	\$0.09	1.04	0.98	0.12	17	0.21	0.00	\$0.153	\$13,644	0.35	0.34	23.16	1.09
107	Comp Air - Motor practices-1 (1-5 HP)	Food	5%	5%	\$0.02	1.04	0.99	0.12	17	0.16	0.02	\$0.045	\$379	1.60	1.24	6.33	1.36
108	Comp Air - Replace 6-100 HP motor	Food	4%	4%	\$0.03	1.06	1.02	0.12	20	0.57	0.07	\$0.079	\$672	0.90	0.66	12.05	1.36
109	Comp Air - ASD (6-100 hp)	Food	6%	1%	\$0.00	1.04	0.98	0.12	20	4.14	0.05	\$0.004	\$355	13.49	12.39	0.65	1.09
110	Comp Air - Motor practices-1 (6-100 HP)	Food	2%	2%	\$0.01	1.07	1.04	0.12	20	0.09	0.01	\$0.024	\$207	2.93	2.16	3.71	1.36
111	Comp Air - Replace 100+ HP motor	Food	3%	3%	\$0.01	1.07	1.04	0.12	20	0.35	0.04	\$0.026	\$225	2.70	1.99	4.03	1.36
112	Comp Air - ASD (100+ hp)	Food	6%	1%	\$0.01	1.07	1.00	0.12	20	2.61	0.03	\$0.011	\$937	5.11	4.69	1.71	1.09
113	Comp Air - Motor practices-1 (100+ HP)	Food	2%	2%	\$0.00	1.05	1.03	0.12	20	0.41	0.05	\$0.016	\$137	4.44	3.27	2.45	1.36
200	Base Fans	Food	0%	0%	\$0.00	1.04	1.04	0.12	14	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
201	Fans - O&M	Food	2%	2%	\$0.00	1.05	1.03	0.12	2	4.45	0.52	\$0.036	\$309	1.96	2.22	0.85	1.36
202	Fans - Controls	Food	30%	30%	\$0.09	1.14	0.80	0.09	10	51.20	6.04	\$0.043	\$361	1.68	1.52	4.06	1.36
203	Fans - System Optimization	Food	21%	10%	\$0.06	1.08	0.85	0.11	10	39.59	2.27	\$0.043	\$745	1.44	1.46	4.23	1.21
204	Fans- Improve components	Food	5%	5%	\$0.01	1.06	1.01	0.12	10	9.08	1.07	\$0.015	\$126	4.79	4.33	1.42	1.36
205	Fans - Replace 1-5 HP motor	Food	3%	3%	\$0.05	1.04	1.02	0.12	17	0.35	0.04	\$0.192	\$1,629	0.37	0.29	27.23	1.36
206	Fans - ASD (1-5 hp)	Food	6%	1%	\$0.09	1.04	0.98	0.12	17	0.77	0.01	\$0.153	\$13,641	0.35	0.34	23.15	1.09
207	Fans - Motor practices-1 (1-5 HP)	Food	5%	5%	\$0.02	1.04	0.99	0.12	17	0.60	0.07	\$0.045	\$378	1.60	1.24	6.33	1.36
208	Fans - Replace 6-100 HP motor	Food	3%	4%	\$0.03	1.05	1.02	0.12	20	2.59	0.35	\$0.091	\$679	0.84	0.59	13.52	1.42
209	Fans - ASD (6-100 hp)	Food	3%	1%	\$0.00	1.05	1.01	0.12	20	2.88	0.06	\$0.007	\$354	8.06	7.06	1.13	1.14
210	Fans - Motor practices-1 (6-100 HP)	Food	2%	2%	\$0.01	1.05	1.02	0.12	20	2.01	0.24	\$0.025	\$211	2.88	2.12	3.78	1.36
211	Fans - Replace 100+ HP motor	Food	3%	3%	\$0.01	1.05	1.01	0.12	20	4.53	0.53	\$0.027	\$229	2.64	1.95	4.11	1.36
212	Fans - ASD (100+ hp)	Food	5%	1%	\$0.01	1.05	0.99	0.12	20	7.79	0.10	\$0.012	\$953	4.60	4.10	1.95	1.12
213	Fans - Motor practices-1 (100+ HP)	Food	1%	2%	\$0.00	1.04	1.04	0.12	20	1.32	0.28	\$0.029	\$137	3.14	2.00	4.00	1.57
300	Base Pumps	Food	0%	0%	\$0.00	1.04	1.04	0.12	14	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
301	Pumps - O&M	Food	10%	10%	\$0.01	1.14	1.02	0.12	2	1.58	0.19	\$0.034	\$289	2.10	2.37	0.79	1.36
302	Pumps - Controls	Food	30%	30%	\$0.03	1.41	0.99	0.12	10	4.51	0.53	\$0.010	\$85	7.11	6.42	0.96	1.36
303	Pumps - System Optimization	Food	33%	33%	\$0.08	1.45	0.97	0.11	10	5.58	0.66	\$0.026	\$221	2.74	2.48	2.49	1.36
304	Pumps - Sizing	Food	20%	20%	\$0.02	1.24	0.99	0.12	10	3.92	0.46	\$0.013	\$107	5.64	5.09	1.21	1.36
305	Pumps - Replace 1-5 HP motor	Food	3%	3%	\$0.05	1.05	1.02	0.12	17	0.10	0.01	\$0.192	\$1,624	0.37	0.29	27.16	1.36
306	Pumps - ASD (1-5 hp)	Food	6%	1%	\$0.09	1.04	0.98	0.12	17	0.24	0.00	\$0.153	\$13,644	0.35	0.34	23.16	1.09
307	Pumps - Motor practices-1 (1-5 HP)	Food	5%	5%	\$0.02	1.08	1.02	0.12	17	0.08	0.01	\$0.043	\$368	1.65	1.27	6.15	1.36
308	Pumps - Replace 6-100 HP motor	Food	4%	4%	\$0.03	1.05	1.01	0.12	20	1.00	0.12	\$0.080	\$680	0.89	0.66	12.19	1.36
309	Pumps - ASD (6-100 hp)	Food	6%	1%	\$0.00	1.05	0.98	0.12	20	1.76	0.02	\$0.005	\$423	11.33	10.41	0.77	1.09
310	Pumps - Motor practices-1 (6-100 HP)	Food	2%	2%	\$0.01	1.05	1.03	0.12	20	0.45	0.05	\$0.025	\$209	2.89	2.13	3.75	1.36
311	Pumps - Replace 100+ HP motor	Food	3%	3%	\$0.01	1.06	1.03	0.12	20	0.59	0.07	\$0.027	\$225	2.69	1.98	4.04	1.36
312	Pumps - ASD (100+ hp)	Food	6%	1%	\$0.01	1.04	0.98	0.12	20	2.98	0.03	\$0.011	\$956	5.01	4.60	1.74	1.09
313	Pumps - Motor practices-1 (100+ HP)	Food	2%	2%	\$0.00	1.04	1.03	0.12	20	0.73	0.09	\$0.016	\$137	4.41	3.25	2.46	1.36
400	Base Drives	Food	0%	0%	\$0.00	1.04	1.04	0.12	20	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
401	Bakery - Process (Mixing) - O&M	Food	10%	10%	\$0.01	1.08	0.97	0.11	10	13.07	1.54	\$0.009	\$75	8.12	7.34	0.84	1.36
431	Custom Measures--Drives	Food	4%	4%	\$0.02	1.04	1.00	0.12	15	7.63	0.90	\$0.042	\$359	1.69	1.36	5.59	1.36
500	Base Process Heating	Food	0%	0%	\$0.00	1.04	1.04	0.12	20	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
501	Bakery - Process	Food	37%	37%	\$0.05	1.28	0.81	0.10	15	19.30	2.28	\$0.012	\$102	5.94	4.79	1.59	1.36
512	Custom Measures--Process Heating	Food	4%	4%	\$0.02	1.04	1.00	0.12	15	3.60	0.42	\$0.042	\$359	1.69	1.36	5.59	1.36
550	Base Process Cooling	Food	0%	0%	\$0.00	1.04	1.04	0.12	20	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
551	Efficient Refrigeration - Operations	Food	12%	12%	\$0.01	1.07	0.94	0.11	10	21.19	2.50	\$0.009	\$75	8.06	7.28	0.85	1.36
552	Optimization Refrigeration	Food	26%	26%	\$0.11	1.06	0.78	0.09	15	52.05	6.14	\$0.045	\$384	1.58	1.27	5.98	1.36
553	Custom Measures--Process Cooling	Food	4%	4%	\$0.02	1.04	1.00	0.12	15	8.76	1.03	\$0.042	\$359	1.69	1.36	5.59	1.36
600	Base Other Process	Food	0%	0%	\$0.00	1.04	1.04	0.12	15	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
605	Custom Measures--Other Process	Food	4%	4%	\$0.02	1.04	1.00	0.12	15	0.50	0.06	\$0.042	\$359	1.69	1.36	5.59	1.36
700	Base Space Cooling Centrifugal Chiller, 0.58 kW/ton, 500 tons	Food	0%	0%	\$0.00	1.04	1.04	0.12	20	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
710	Base Space Cooling DX Packaged System, EER=10.3, 10 tons	Food	0%	0%	\$0.00	1.04	1.04	0.12	15	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
711	DX Tune Up/ Advanced Diagnostics	Food	10%	10%	\$0.08	1.10	0.99	0.12	3	0.80	0.09	\$0.324	\$2,750	0.22	0.24	11.07	1.36
712	DX Packaged System, EER=10.9, 10 tons	Food	6%	6%	\$0.05	0.90	0.85	0.10	15	0.97	0.11	\$0.102	\$868	0.70	0.56	13.51	1.36
713	Window Film - DX	Food	10%	10%	\$0.03	1.12	1.01	0.12	10	0.52	0.06	\$0.045	\$386	1.57	1.42	4.35	1.36
715	Prog. Thermostat - DX	Food	10%	3%	\$0.01	1.10	1.00	0.13	10	0.70	0.02	\$0.008	\$277	6.70	7.20	0.86	1.14
716	Cool Roof - DX	Food	10%	10%	\$0.11	1.08	0.98	0.12	10	0.62	0.07	\$0.164	\$1,388	0.44	0.39	15.64	1.36
800	Base Lighting	Food	0%	0%	\$0.00	1.04	1.04	0.12	10	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
801	RET 2L4' Premium T8, 1EB	Food	31%	31%	\$0.12	1.06	0.73	0.09	15	6.20	0.73	\$0.041	\$351	1.73	1.39	5.46	1.36
802	CFL Hardwired, Modular 36W	Food	72%	72%	\$0.10	1.04	0.29	0.03	4	0.12	0.01	\$0.045	\$382	1.58	1.69	2.00	1.36
803	Metal Halide, 50W	Food	58%	58%	\$0.80	1.23	0.52	0.06	5	10.34	1.22	\$0.307	\$2,607	0.23	0.24	16.60	1.36
804	Occupancy Sensor, 4L4' Fluorescent Fixtures	Food	18%	20%	\$0.05	1.05	0.87	0.10	9	0.98	0.13	\$0.045	\$337	1.69	1.50	3.92	1.42
900	Base Other	Food	0%	0%	\$0.00	1.04	1.04	0.12	15	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A

Industrial Electric																	
DSM ASSYST SUMMARY																	
Measure Number	Measure	Building Type	Energy Savings Fraction	Peak Reduction Fraction	Total Costs/ Base kWh	Base EU	EU	Peak Watts/ Base kWh	Service Life (yrs)	Technical Potential GWH	System Peak Tech. Potential MW	Levelized Cost of Conserved Energy \$/kWh	Levelized Cost of Avoided Peak Capacity \$/kW	Total Resource Cost Test (TRC)	Participant Test	Customer Payback (Years)	Revenue Test
901	Replace V-belts	Food	0%	0%	\$0.00	1.04	1.04	0.12	5	0.01	0.00	\$0.044	\$371	1.63	1.68	2.37	1.36
100	Base Compressed Air	Textiles-Apparel	0%	0%	\$0.00	1.04	1.04	0.42	14	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
101	Compressed Air -O&M	Textiles-Apparel	17%	17%	\$0.01	1.20	1.00	0.40	2	0.12	0.05	\$0.039	\$96	3.21	2.34	0.81	2.11
102	Compressed Air - Controls	Textiles-Apparel	12%	12%	\$0.02	1.15	1.01	0.41	10	0.10	0.04	\$0.020	\$49	6.34	3.68	1.67	2.11
103	Compressed Air - System Optimization	Textiles-Apparel	20%	20%	\$0.02	1.16	0.93	0.37	10	0.33	0.13	\$0.013	\$32	9.54	5.53	1.11	2.11
104	Compressed Air- Sizing	Textiles-Apparel	9%	9%	\$0.00	1.04	0.95	0.38	10	0.12	0.05	\$0.008	\$19	16.39	9.51	0.65	2.11
105	Comp Air - Replace 1-5 HP motor	Textiles-Apparel	3%	3%	\$0.05	1.05	1.02	0.41	17	0.00	0.00	\$0.191	\$475	0.65	0.32	24.27	2.11
106	Comp Air - ASD (1-5 hp)	Textiles-Apparel	5%	1%	\$0.09	1.04	0.99	0.42	17	0.01	0.00	\$0.182	\$3,990	0.35	0.27	28.82	1.37
107	Comp Air - Motor practices-1 (1-5 HP)	Textiles-Apparel	5%	5%	\$0.02	1.04	0.99	0.40	17	0.01	0.00	\$0.045	\$111	2.79	1.38	5.66	2.11
108	Comp Air - Replace 6-100 HP motor	Textiles-Apparel	4%	4%	\$0.03	1.07	1.04	0.42	20	0.01	0.00	\$0.078	\$194	1.59	0.75	10.61	2.11
109	Comp Air - ASD (6-100 hp)	Textiles-Apparel	5%	1%	\$0.00	1.04	0.99	0.42	20	0.05	0.00	\$0.005	\$104	13.63	9.96	0.80	1.37
110	Comp Air - Motor practices-1 (6-100 HP)	Textiles-Apparel	2%	2%	\$0.01	1.04	1.02	0.41	20	0.03	0.01	\$0.025	\$62	4.99	2.37	3.38	2.11
111	Comp Air - Replace 100+ HP motor	Textiles-Apparel	3%	3%	\$0.01	1.06	1.03	0.42	20	0.02	0.01	\$0.027	\$66	4.68	2.22	3.61	2.11
112	Comp Air - ASD (100+ hp)	Textiles-Apparel	5%	1%	\$0.01	1.04	0.99	0.42	20	0.15	0.01	\$0.013	\$279	5.06	3.70	2.16	1.37
113	Comp Air - Motor practices-1 (100+ HP)	Textiles-Apparel	2%	2%	\$0.00	1.05	1.04	0.42	20	0.01	0.00	\$0.016	\$40	7.75	3.67	2.18	2.11
200	Base Fans	Textiles-Apparel	0%	0%	\$0.00	1.04	1.04	0.42	14	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
201	Fans - O&M	Textiles-Apparel	2%	2%	\$0.00	1.06	1.04	0.42	2	0.01	0.00	\$0.036	\$89	3.47	2.52	0.75	2.11
202	Fans - Controls	Textiles-Apparel	30%	30%	\$0.09	1.37	0.96	0.39	10	0.19	0.08	\$0.035	\$88	3.51	2.04	3.03	2.11
203	Fans - System Optimization	Textiles-Apparel	19%	10%	\$0.06	1.22	0.99	0.44	10	0.11	0.02	\$0.041	\$192	2.25	1.56	3.94	1.76
204	Fans- Improve components	Textiles-Apparel	5%	5%	\$0.01	1.08	1.03	0.41	10	0.05	0.02	\$0.015	\$36	8.48	4.92	1.25	2.11
205	Fans - Replace 1-5 HP motor	Textiles-Apparel	3%	3%	\$0.05	1.05	1.02	0.41	17	0.00	0.00	\$0.191	\$475	0.65	0.32	24.27	2.11
206	Fans - ASD (1-5 hp)	Textiles-Apparel	5%	1%	\$0.09	1.05	1.00	0.42	17	0.01	0.00	\$0.181	\$3,953	0.36	0.27	28.55	1.37
207	Fans - Motor practices-1 (1-5 HP)	Textiles-Apparel	5%	5%	\$0.02	1.04	0.99	0.40	17	0.01	0.00	\$0.045	\$111	2.79	1.38	5.66	2.11
208	Fans - Replace 6-100 HP motor	Textiles-Apparel	3%	4%	\$0.03	1.06	1.03	0.41	20	0.02	0.01	\$0.082	\$196	1.55	0.72	11.07	2.15
209	Fans - ASD (6-100 hp)	Textiles-Apparel	3%	1%	\$0.00	1.05	1.02	0.42	20	0.03	0.00	\$0.008	\$104	8.39	6.02	1.33	1.39
210	Fans - Motor practices-1 (6-100 HP)	Textiles-Apparel	2%	2%	\$0.01	1.06	1.03	0.42	20	0.01	0.00	\$0.025	\$61	5.07	2.40	3.34	2.11
211	Fans - Replace 100+ HP motor	Textiles-Apparel	3%	3%	\$0.01	1.05	1.02	0.41	20	0.04	0.02	\$0.027	\$67	4.60	2.18	3.67	2.11
212	Fans - ASD (100+ hp)	Textiles-Apparel	5%	1%	\$0.01	1.09	1.04	0.44	20	0.01	0.00	\$0.013	\$267	5.10	3.67	2.18	1.39
213	Fans - Motor practices-1 (100+ HP)	Textiles-Apparel	1%	2%	\$0.00	1.04	1.03	0.41	20	0.02	0.01	\$0.024	\$40	6.45	2.71	2.95	2.38
300	Base Pumps	Textiles-Apparel	0%	0%	\$0.00	1.04	1.04	0.42	14	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
301	Pumps - O&M	Textiles-Apparel	10%	10%	\$0.01	1.09	0.98	0.40	2	0.11	0.05	\$0.035	\$88	3.51	2.55	0.74	2.11
302	Pumps - Controls	Textiles-Apparel	30%	30%	\$0.03	1.35	0.95	0.38	10	0.14	0.06	\$0.010	\$26	11.87	6.89	0.90	2.11
303	Pumps - System Optimization	Textiles-Apparel	33%	33%	\$0.08	1.12	0.75	0.30	10	0.42	0.17	\$0.034	\$84	3.69	2.14	2.88	2.11
304	Pumps - Sizing	Textiles-Apparel	20%	20%	\$0.02	1.24	0.99	0.40	10	0.09	0.04	\$0.013	\$31	9.82	5.70	1.08	2.11
305	Pumps - Replace 1-5 HP motor	Textiles-Apparel	3%	3%	\$0.05	1.05	1.02	0.41	17	0.00	0.00	\$0.192	\$475	0.65	0.32	24.31	2.11
306	Pumps - ASD (1-5 hp)	Textiles-Apparel	5%	1%	\$0.09	1.05	1.00	0.42	17	0.00	0.00	\$0.180	\$3,950	0.36	0.27	28.53	1.37
307	Pumps - Motor practices-1 (1-5 HP)	Textiles-Apparel	5%	5%	\$0.02	1.07	1.02	0.41	17	0.00	0.00	\$0.044	\$108	2.85	1.41	5.53	2.11
308	Pumps - Replace 6-100 HP motor	Textiles-Apparel	4%	4%	\$0.03	1.05	1.01	0.41	20	0.02	0.01	\$0.080	\$198	1.55	0.74	10.87	2.11
309	Pumps - ASD (6-100 hp)	Textiles-Apparel	5%	1%	\$0.00	1.07	1.02	0.43	20	0.02	0.00	\$0.005	\$120	11.75	8.59	0.93	1.37
310	Pumps - Motor practices-1 (6-100 HP)	Textiles-Apparel	2%	2%	\$0.01	1.05	1.02	0.41	20	0.01	0.01	\$0.025	\$61	5.02	2.38	3.37	2.11
311	Pumps - Replace 100+ HP motor	Textiles-Apparel	3%	3%	\$0.01	1.06	1.03	0.42	20	0.01	0.01	\$0.027	\$66	4.68	2.22	3.61	2.11
312	Pumps - ASD (100+ hp)	Textiles-Apparel	5%	1%	\$0.01	1.05	0.99	0.42	20	0.06	0.00	\$0.013	\$279	5.07	3.70	2.16	1.37
313	Pumps - Motor practices-1 (100+ HP)	Textiles-Apparel	2%	2%	\$0.00	1.04	1.03	0.41	20	0.02	0.01	\$0.016	\$40	7.68	3.64	2.20	2.11
400	Base Drives	Textiles-Apparel	0%	0%	\$0.00	1.04	1.04	0.42	20	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
402	O&M/drives spinning machines	Textiles-Apparel	16%	16%	\$0.04	1.16	0.97	0.39	10	0.36	0.14	\$0.033	\$81	3.80	2.20	2.80	2.11
431	Custom Measures--Drives	Textiles-Apparel	4%	4%	\$0.02	1.04	1.00	0.40	15	0.35	0.14	\$0.042	\$105	2.94	1.52	5.00	2.11
500	Base Process Heating	Textiles-Apparel	0%	0%	\$0.00	1.04	1.04	0.42	20	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
502	Drying (UV/IR)	Textiles-Apparel	24%	15%	\$0.08	1.29	0.98	0.44	8	0.17	0.04	\$0.046	\$179	2.19	1.53	3.60	1.84
512	Custom Measures--Process Heating	Textiles-Apparel	4%	4%	\$0.02	1.04	1.00	0.40	15	0.13	0.05	\$0.042	\$105	2.94	1.52	5.00	2.11
550	Base Process Cooling	Textiles-Apparel	0%	0%	\$0.00	1.04	1.04	0.42	20	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
553	Custom Measures--Process Cooling	Textiles-Apparel	4%	4%	\$0.02	1.04	1.00	0.40	15	0.12	0.05	\$0.042	\$105	2.94	1.52	5.00	2.11
600	Base Other Process	Textiles-Apparel	0%	0%	\$0.00	1.04	1.04	0.42	15	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
605	Custom Measures--Other Process	Textiles-Apparel	4%	4%	\$0.02	1.04	1.00	0.40	15	0.02	0.01	\$0.042	\$105	2.94	1.52	5.00	2.11
700	Base Space Cooling Centrifugal Chiller, 0.58 kW/ton, 500 tons	Textiles-Apparel	0%	0%	\$0.00	1.04	1.04	0.42	20	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
701	Centrifugal Chiller, 0.51 kW/ton, 500 tons	Textiles-Apparel	12%	12%	\$0.03	0.93	0.82	0.33	20	0.01	0.00	\$0.028	\$68	4.51	2.14	3.75	2.11
702	Window Film - Chiller	Textiles-Apparel	10%	10%	\$0.06	1.10	0.99	0.40	10	0.00	0.00	\$0.080	\$198	1.56	0.91	6.81	2.11
703	EMS - Chiller	Textiles-Apparel	10%	10%	\$0.11	1.08	0.98	0.39	10	0.01	0.00	\$0.155	\$384	0.80	0.47	13.24	2.11
704	Cool Roof - Chiller	Textiles-Apparel	10%	10%	\$0.19	1.09	0.98	0.40	10	0.00	0.00	\$0.280	\$694	0.44	0.26	23.91	2.11
705	Chiller Tune Up/Diagnostics	Textiles-Apparel	8%	8%	\$0.05	1.09	1.00	0.40	10	0.00	0.00	\$0.095	\$235	1.31	0.76	8.11	2.11
706	Cooling Circ. Pumps - VSD	Textiles-Apparel	6%	6%	\$0.12	1.06	1.00	0.40	15	0.00	0.00	\$0.207	\$514	0.60	0.31	24.46	2.11
710	Base Space Cooling DX Packaged System, EER=10.3, 10 tons	Textiles-Apparel	0%	0%	\$0.00	1.04	1.04	0.42	15	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
711	DX Tune Up/ Advanced Diagnostics	Textiles-Apparel	10%	10%	\$0.08	1.10	0.99	0.40	3	0.05	0.02	\$0.324	\$804	0.38	0.27	9.90	2.11
712	DX Packaged System, EER=10.9, 10 tons	Textiles-Apparel	6%	6%	\$0.05	0.90	0.85	0.34	15	0.06	0.02	\$0.102	\$254	1.22	0.63	12.08	2.11
713	Window Film - DX	Textiles-Apparel	10%	10%	\$0.03	1.12	1.01	0.41	10	0.03	0.01	\$0.045	\$113	2.73	1.59	3.89	2.11
715	Prog. Thermostat - DX	Textiles-Apparel	8%	3%	\$0.01	1.09	1.00	0.43	10	0.04	0.00	\$0.010	\$81	7.84	6.18	1.00	1.55
716	Cool Roof - DX	Textiles-Apparel	10%	10%	\$0.11	1.08	0.98	0.40	10	0.04	0.02	\$0.164	\$406	0.76	0.44	13.99	2.11
800	Base Lighting	Textiles-Apparel	0%	0%	\$0.00	1.04	1.04	0.42	10	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A

Industrial Electric

DSM ASSYST SUMMARY

Measure Number	Measure	Building Type	Energy Savings Fraction	Peak Reduction Fraction	Total Costs/ Base kWh	Base EU	EU	Peak Watts/ Base kWh	Service Life (yrs)	Technical Potential GWH	System Peak Tech. Potential MW	Levelized Cost of Conserved Energy \$/kWH	Levelized Cost of Avoided Peak Capacity \$/kW	Total Resource Cost Test (TRC)	Participant Test	Customer Payback (Years)	Revenue Test
801	RET 2L4' Premium T8, 1EB	Textiles-Apparel	31%	31%	\$0.12	1.06	0.73	0.29	15	0.52	0.21	\$0.041	\$103	3.01	1.56	4.88	2.11
802	CFL Hardwired, Modular 36W	Textiles-Apparel	72%	72%	\$0.10	1.04	0.29	0.12	4	0.01	0.00	\$0.045	\$112	2.76	1.89	1.79	2.11
803	Metal Halide, 50W	Textiles-Apparel	58%	58%	\$0.80	1.23	0.52	0.21	5	0.77	0.31	\$0.307	\$762	0.40	0.27	14.84	2.11
804	Occupancy Sensor, 4L4' Fluorescent Fixtures	Textiles-Apparel	19%	20%	\$0.05	1.05	0.85	0.34	9	0.08	0.03	\$0.041	\$98	3.09	1.80	3.26	2.15
900	Base Other	Textiles-Apparel	0%	0%	\$0.00	1.04	1.04	0.42	15	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
901	Replace V-belts	Textiles-Apparel	0%	0%	\$0.00	1.04	1.04	0.42	5	0.00	0.00	\$0.044	\$109	2.84	1.88	2.11	2.11
902	Membranes for wastewater	Textiles-Apparel	10%	10%	\$0.04	1.14	1.03	0.41	15	0.01	0.00	\$0.035	\$87	3.56	1.84	4.12	2.11
100	Base Compressed Air	Lumber-Furniture	0%	0%	\$0.00	1.04	1.04	0.15	14	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
101	Compressed Air-O&M	Lumber-Furniture	17%	17%	\$0.01	1.20	1.00	0.15	2	0.26	0.04	\$0.039	\$267	1.98	2.13	0.89	1.43
102	Compressed Air - Controls	Lumber-Furniture	12%	12%	\$0.02	1.15	1.01	0.15	10	0.20	0.03	\$0.020	\$135	3.92	3.35	1.84	1.43
103	Compressed Air - System Optimization	Lumber-Furniture	20%	20%	\$0.02	1.16	0.93	0.13	10	0.68	0.10	\$0.013	\$90	5.90	5.04	1.22	1.43
104	Compressed Air- Sizing	Lumber-Furniture	9%	9%	\$0.00	1.04	0.95	0.14	10	0.26	0.04	\$0.008	\$52	10.13	8.65	0.71	1.43
105	Comp Air - Replace 1-5 HP motor	Lumber-Furniture	3%	3%	\$0.05	1.05	1.02	0.15	17	0.01	0.00	\$0.191	\$1,319	0.40	0.29	26.67	1.43
106	Comp Air - ASD (1-5 hp)	Lumber-Furniture	6%	1%	\$0.09	1.04	0.98	0.15	17	0.02	0.00	\$0.155	\$11,084	0.35	0.33	23.39	1.11
107	Comp Air - Motor practices-1 (1-5 HP)	Lumber-Furniture	5%	5%	\$0.02	1.04	0.99	0.14	17	0.01	0.00	\$0.045	\$308	1.72	1.26	6.22	1.43
108	Comp Air - Replace 6-100 HP motor	Lumber-Furniture	4%	4%	\$0.03	1.07	1.04	0.15	20	0.02	0.00	\$0.078	\$538	0.98	0.69	11.66	1.43
109	Comp Air - ASD (6-100 hp)	Lumber-Furniture	6%	1%	\$0.00	1.04	0.98	0.15	20	0.13	0.00	\$0.004	\$288	13.64	12.27	0.65	1.11
110	Comp Air - Motor practices-1 (6-100 HP)	Lumber-Furniture	2%	2%	\$0.01	1.04	1.02	0.15	20	0.05	0.01	\$0.025	\$172	3.09	2.15	3.72	1.43
111	Comp Air - Replace 100+ HP motor	Lumber-Furniture	3%	3%	\$0.01	1.06	1.03	0.15	20	0.04	0.01	\$0.027	\$183	2.89	2.02	3.97	1.43
112	Comp Air - ASD (100+ hp)	Lumber-Furniture	6%	1%	\$0.01	1.04	0.98	0.15	20	0.37	0.01	\$0.011	\$776	5.07	4.56	1.76	1.11
113	Comp Air - Motor practices-1 (100+ HP)	Lumber-Furniture	2%	2%	\$0.00	1.05	1.04	0.15	20	0.02	0.00	\$0.016	\$111	4.79	3.34	2.40	1.43
200	Base Fans	Lumber-Furniture	0%	0%	\$0.00	1.04	1.04	0.15	14	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
201	Fans - O&M	Lumber-Furniture	2%	2%	\$0.00	1.06	1.04	0.15	2	0.10	0.01	\$0.036	\$247	2.14	2.29	0.82	1.43
202	Fans - Controls	Lumber-Furniture	30%	30%	\$0.09	1.37	0.96	0.14	10	2.91	0.42	\$0.035	\$244	2.17	1.85	3.33	1.43
203	Fans - System Optimization	Lumber-Furniture	20%	10%	\$0.06	1.24	0.99	0.16	10	1.82	0.13	\$0.037	\$524	1.73	1.69	3.65	1.26
204	Fans - Improve components	Lumber-Furniture	5%	5%	\$0.01	1.08	1.03	0.15	10	0.73	0.11	\$0.015	\$101	5.24	4.48	1.38	1.43
205	Fans - Replace 1-5 HP motor	Lumber-Furniture	3%	3%	\$0.05	1.05	1.02	0.15	17	0.05	0.01	\$0.191	\$1,319	0.40	0.29	26.67	1.43
206	Fans - ASD (1-5 hp)	Lumber-Furniture	6%	1%	\$0.09	1.06	0.99	0.15	17	0.09	0.00	\$0.153	\$10,964	0.36	0.34	23.14	1.11
207	Fans - Motor practices-1 (1-5 HP)	Lumber-Furniture	5%	5%	\$0.02	1.04	0.99	0.14	17	0.09	0.01	\$0.045	\$308	1.72	1.26	6.22	1.43
208	Fans - Replace 6-100 HP motor	Lumber-Furniture	3%	4%	\$0.03	1.06	1.03	0.15	20	0.21	0.03	\$0.089	\$544	0.92	0.62	12.93	1.49
209	Fans - ASD (6-100 hp)	Lumber-Furniture	3%	1%	\$0.00	1.05	1.01	0.15	20	0.43	0.01	\$0.007	\$288	8.30	7.16	1.12	1.16
210	Fans - Motor practices-1 (6-100 HP)	Lumber-Furniture	2%	2%	\$0.01	1.06	1.03	0.15	20	0.14	0.02	\$0.025	\$169	3.13	2.18	3.67	1.43
211	Fans - Replace 100+ HP motor	Lumber-Furniture	3%	3%	\$0.01	1.05	1.02	0.15	20	0.65	0.09	\$0.027	\$186	2.84	1.98	4.04	1.43
212	Fans - ASD (100+ hp)	Lumber-Furniture	5%	1%	\$0.01	1.10	1.04	0.16	20	0.14	0.00	\$0.012	\$740	4.92	4.30	1.86	1.14
213	Fans - Motor practices-1 (100+ HP)	Lumber-Furniture	1%	2%	\$0.00	1.04	1.04	0.15	20	0.20	0.05	\$0.028	\$112	3.50	2.11	3.79	1.66
214	Optimize drying process	Lumber-Furniture	20%	20%	\$0.06	1.09	0.87	0.13	10	6.58	0.96	\$0.043	\$299	1.77	1.51	4.08	1.43
300	Base Pumps	Lumber-Furniture	0%	0%	\$0.00	1.04	1.04	0.15	14	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
301	Pumps - O&M	Lumber-Furniture	10%	10%	\$0.01	1.09	0.98	0.14	2	0.53	0.08	\$0.035	\$244	2.17	2.32	0.81	1.43
302	Pumps - Controls	Lumber-Furniture	30%	30%	\$0.03	1.35	0.95	0.14	10	0.68	0.10	\$0.010	\$72	7.33	6.27	0.98	1.43
303	Pumps - System Optimization	Lumber-Furniture	33%	33%	\$0.08	1.12	0.75	0.11	10	1.99	0.29	\$0.034	\$232	2.28	1.95	3.17	1.43
304	Pumps - Sizing	Lumber-Furniture	20%	20%	\$0.02	1.24	0.99	0.14	10	0.44	0.06	\$0.013	\$87	6.07	5.18	1.19	1.43
305	Pumps - Replace 1-5 HP motor	Lumber-Furniture	3%	3%	\$0.05	1.05	1.02	0.15	17	0.01	0.00	\$0.192	\$1,321	0.40	0.29	26.71	1.43
306	Pumps - ASD (1-5 hp)	Lumber-Furniture	6%	1%	\$0.09	1.06	0.99	0.15	17	0.02	0.00	\$0.153	\$10,954	0.36	0.34	23.12	1.11
307	Pumps - Motor practices-1 (1-5 HP)	Lumber-Furniture	5%	5%	\$0.02	1.07	1.02	0.15	17	0.01	0.00	\$0.044	\$301	1.76	1.29	6.08	1.43
308	Pumps - Replace 6-100 HP motor	Lumber-Furniture	4%	4%	\$0.03	1.05	1.01	0.15	20	0.10	0.01	\$0.080	\$551	0.96	0.67	11.95	1.43
309	Pumps - ASD (6-100 hp)	Lumber-Furniture	6%	1%	\$0.00	1.08	1.01	0.16	20	0.10	0.00	\$0.005	\$333	11.82	10.63	0.75	1.11
310	Pumps - Motor practices-1 (6-100 HP)	Lumber-Furniture	2%	2%	\$0.01	1.05	1.02	0.15	20	0.06	0.01	\$0.025	\$171	3.10	2.16	3.70	1.43
311	Pumps - Replace 100+ HP motor	Lumber-Furniture	3%	3%	\$0.01	1.06	1.03	0.15	20	0.07	0.01	\$0.027	\$183	2.89	2.02	3.97	1.43
312	Pumps - ASD (100+ hp)	Lumber-Furniture	6%	1%	\$0.01	1.05	0.98	0.15	20	0.32	0.00	\$0.011	\$775	5.07	4.56	1.75	1.11
313	Pumps - Motor practices-1 (100+ HP)	Lumber-Furniture	2%	2%	\$0.00	1.04	1.03	0.15	20	0.08	0.01	\$0.016	\$112	4.75	3.31	2.42	1.43
400	Base Drives	Lumber-Furniture	0%	0%	\$0.00	1.04	1.04	0.15	20	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
403	Air conveying systems	Lumber-Furniture	39%	10%	\$0.04	1.48	0.90	0.19	14	3.16	0.12	\$0.008	\$211	7.52	7.16	1.04	1.17
405	Drives - EE motor	Lumber-Furniture	4%	4%	\$0.01	1.08	1.04	0.15	10	0.11	0.02	\$0.026	\$182	2.92	2.49	2.47	1.43
431	Custom Measures--Drives	Lumber-Furniture	4%	4%	\$0.02	1.04	1.00	0.15	15	3.20	0.46	\$0.042	\$292	1.82	1.38	5.49	1.43
500	Base Process Heating	Lumber-Furniture	0%	0%	\$0.00	1.04	1.04	0.15	20	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
503	Heat Pumps - Drying	Lumber-Furniture	22%	22%	\$0.18	1.27	0.99	0.14	15	0.75	0.11	\$0.072	\$496	1.07	0.81	9.34	1.43
512	Custom Measures--Process Heating	Lumber-Furniture	4%	4%	\$0.02	1.04	1.00	0.15	15	0.59	0.09	\$0.042	\$292	1.82	1.38	5.49	1.43
550	Base Process Cooling	Lumber-Furniture	0%	0%	\$0.00	1.04	1.04	0.15	20	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
553	Custom Measures--Process Cooling	Lumber-Furniture	4%	4%	\$0.02	1.04	1.00	0.15	15	0.07	0.01	\$0.042	\$292	1.82	1.38	5.49	1.43
600	Base Other Process	Lumber-Furniture	0%	0%	\$0.00	1.04	1.04	0.15	15	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
605	Custom Measures--Other Process	Lumber-Furniture	4%	4%	\$0.02	1.04	1.00	0.15	15	0.06	0.01	\$0.042	\$292	1.82	1.38	5.49	1.43
700	Base Space Cooling Centrifugal Chiller, 0.58 kw/ton, 500 tons	Lumber-Furniture	0%	0%	\$0.00	1.04	1.04	0.15	20	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
710	Base Space Cooling DX Packaged System, EER=10.3, 10 tons	Lumber-Furniture	0%	0%	\$0.00	1.04	1.04	0.15	15	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
711	DX Tune Up/ Advanced Diagnostics	Lumber-Furniture	10%	10%	\$0.08	1.10	0.99	0.14	3	0.09	0.01	\$0.324	\$2,234	0.24	0.25	10.88	1.43
712	DX Packaged System, EER=10.9, 10 tons	Lumber-Furniture	6%	6%	\$0.05	0.90	0.85	0.12	15	0.11	0.02	\$0.102	\$705	0.75	0.57	13.28	1.43
713	Window Film - DX	Lumber-Furniture	10%	10%	\$0.03	1.12	1.01	0.15	10	0.06	0.01	\$0.045	\$313	1.69	1.44	4.27	1.43
715	Prog. Thermostat - DX	Lumber-Furniture	9%	3%	\$0.01	1.10	1.00	0.16	10	0.08	0.00	\$0.009	\$225	6.87	7.16	0.86	1.18

Industrial Electric																		
DSM ASSYST SUMMARY																		
Measure Number	Measure	Building Type	Energy Savings Fraction	Peak Reduction Fraction	Total Costs/ Base kWh	Base EUJ	EUJ	Peak Watts/ Base kWh	Service Life (yrs)	Technical Potential GWH	System Peak Tech. Potential MW	Levelized Cost of Conserved Energy \$/kWH	Levelized Cost of Avoided Peak Capacity \$/kW	Total Resource Cost Test (TRC)	Participant Test	Customer Payback (Years)	Revenue Test	
716	Cool Roof - DX	Lumber-Furniture	10%	10%	\$0.11	1.08	0.98	0.14	10	0.07	0.01	\$0.164	\$1,128	0.47	0.40	15.37	1.43	
800	Base Lighting	Lumber-Furniture	0%	0%	\$0.00	1.04	1.04	0.15	10	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
801	RET 2L4' Premium T8, 1EB	Lumber-Furniture	31%	31%	\$0.12	1.06	0.73	0.11	15	1.17	0.17	\$0.041	\$285	1.86	1.42	5.36	1.43	
802	CFL Hardwired, Modular 36W	Lumber-Furniture	72%	72%	\$0.10	1.04	0.29	0.04	4	0.02	0.00	\$0.045	\$311	1.70	1.72	1.96	1.43	
803	Metal Halide, 50W	Lumber-Furniture	58%	58%	\$0.80	1.23	0.52	0.08	5	1.72	0.25	\$0.307	\$2,118	0.25	0.24	16.31	1.43	
804	Occupancy Sensor, 4L4' Fluorescent Fixtures	Lumber-Furniture	18%	20%	\$0.05	1.05	0.86	0.12	9	0.17	0.03	\$0.044	\$273	1.84	1.55	3.80	1.49	
900	Base Other	Lumber-Furniture	0%	0%	\$0.00	1.04	1.04	0.15	15	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
901	Replace V-belts	Lumber-Furniture	0%	0%	\$0.00	1.04	1.04	0.15	5	0.00	0.00	\$0.044	\$302	1.76	1.71	2.32	1.43	
100	Base Compressed Air	Paper	0%	0%	\$0.00	1.04	1.04	0.08	14	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
101	Compressed Air-O&M	Paper	17%	17%	\$0.01	1.18	0.98	0.08	2	0.63	0.05	\$0.039	\$504	1.63	2.02	0.93	1.24	
102	Compressed Air - Controls	Paper	12%	12%	\$0.02	1.15	1.01	0.08	10	0.35	0.03	\$0.020	\$251	3.28	3.24	1.90	1.24	
103	Compressed Air - System Optimization	Paper	20%	20%	\$0.02	1.16	0.93	0.07	10	1.19	0.09	\$0.013	\$167	4.94	4.87	1.27	1.24	
104	Compressed Air- Sizing	Paper	9%	9%	\$0.00	1.13	1.03	0.08	10	0.10	0.01	\$0.007	\$90	9.15	9.03	0.68	1.24	
105	Comp Air - Replace 1-5 HP motor	Paper	3%	3%	\$0.05	1.05	1.02	0.08	17	0.01	0.00	\$0.191	\$2,451	0.34	0.28	27.58	1.24	
106	Comp Air - ASD (1-5 hp)	Paper	6%	1%	\$0.09	1.04	0.98	0.08	17	0.03	0.00	\$0.150	\$20,598	0.35	0.35	22.61	1.06	
107	Comp Air - Motor practices-1 (1-5 HP)	Paper	5%	5%	\$0.02	1.04	0.99	0.08	17	0.02	0.00	\$0.045	\$571	1.44	1.22	6.43	1.24	
108	Comp Air - Replace 6-100 HP motor	Paper	4%	4%	\$0.03	1.06	1.02	0.08	20	0.09	0.01	\$0.079	\$1,015	0.81	0.65	12.25	1.24	
109	Comp Air - ASD (6-100 hp)	Paper	6%	1%	\$0.00	1.04	0.98	0.08	20	0.64	0.00	\$0.004	\$536	13.44	12.69	0.63	1.06	
110	Comp Air - Motor practices-1 (6-100 HP)	Paper	2%	2%	\$0.01	1.07	1.04	0.08	20	0.01	0.00	\$0.024	\$312	2.64	2.13	3.77	1.24	
111	Comp Air - Replace 100+ HP motor	Paper	3%	3%	\$0.01	1.07	1.04	0.08	20	0.05	0.00	\$0.026	\$339	2.43	1.96	4.09	1.24	
112	Comp Air - ASD (100+ hp)	Paper	6%	1%	\$0.01	1.07	1.00	0.08	20	0.40	0.00	\$0.010	\$1,414	5.09	4.81	1.66	1.06	
113	Comp Air - Motor practices-1 (100+ HP)	Paper	2%	2%	\$0.00	1.05	1.03	0.08	20	0.06	0.00	\$0.016	\$206	4.00	3.22	2.49	1.24	
200	Base Fans	Paper	0%	0%	\$0.00	1.04	1.04	0.08	14	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
201	Fans - O&M	Paper	2%	2%	\$0.00	1.05	1.03	0.08	2	2.50	0.20	\$0.036	\$466	1.77	2.19	0.86	1.24	
202	Fans - Controls	Paper	30%	30%	\$0.09	1.14	0.80	0.06	10	28.74	2.24	\$0.043	\$544	1.51	1.49	4.13	1.24	
203	Fans - System Optimization	Paper	21%	10%	\$0.06	1.08	0.85	0.08	10	22.45	0.84	\$0.042	\$1,124	1.36	1.47	4.20	1.14	
204	Fans - Improve components	Paper	5%	5%	\$0.01	1.06	1.01	0.08	10	5.10	0.40	\$0.015	\$191	4.32	4.26	1.45	1.24	
205	Fans - Replace 1-5 HP motor	Paper	3%	3%	\$0.05	1.04	1.02	0.08	17	0.20	0.02	\$0.192	\$2,459	0.34	0.28	27.67	1.24	
206	Fans - ASD (1-5 hp)	Paper	6%	1%	\$0.09	1.04	0.98	0.08	17	0.44	0.00	\$0.150	\$20,594	0.35	0.35	22.61	1.06	
207	Fans - Motor practices-1 (1-5 HP)	Paper	5%	5%	\$0.02	1.04	0.99	0.08	17	0.34	0.03	\$0.045	\$571	1.44	1.22	6.43	1.24	
208	Fans - Replace 6-100 HP motor	Paper	3%	4%	\$0.03	1.05	1.02	0.08	20	1.43	0.13	\$0.093	\$1,025	0.74	0.57	13.95	1.30	
209	Fans - ASD (6-100 hp)	Paper	3%	1%	\$0.00	1.05	1.01	0.08	20	1.60	0.02	\$0.007	\$535	7.93	7.08	1.13	1.12	
210	Fans - Motor practices-1 (6-100 HP)	Paper	2%	2%	\$0.01	1.05	1.02	0.08	20	1.13	0.09	\$0.025	\$318	2.59	2.09	3.84	1.24	
211	Fans - Replace 100+ HP motor	Paper	3%	3%	\$0.01	1.05	1.01	0.08	20	2.54	0.20	\$0.027	\$346	2.38	1.92	4.18	1.24	
212	Fans - ASD (100+ hp)	Paper	5%	1%	\$0.01	1.05	0.99	0.08	20	4.38	0.04	\$0.012	\$1,438	4.54	4.15	1.93	1.09	
213	Fans - Motor practices-1 (100+ HP)	Paper	1%	2%	\$0.00	1.04	1.04	0.08	20	0.71	0.10	\$0.030	\$207	2.68	1.89	4.24	1.42	
300	Base Pumps	Paper	0%	0%	\$0.00	1.04	1.04	0.08	14	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
301	Pumps - O&M	Paper	10%	10%	\$0.01	1.14	1.02	0.08	2	0.84	0.07	\$0.034	\$436	1.89	2.34	0.81	1.24	
302	Pumps - Controls	Paper	30%	30%	\$0.03	1.41	0.99	0.08	10	2.40	0.19	\$0.010	\$129	6.40	6.32	0.98	1.24	
303	Pumps - System Optimization	Paper	33%	33%	\$0.08	1.45	0.97	0.08	10	2.96	0.23	\$0.026	\$333	2.47	2.44	2.53	1.24	
304	Pumps - Sizing	Paper	20%	20%	\$0.02	1.24	0.99	0.08	10	2.08	0.16	\$0.013	\$162	5.08	5.01	1.23	1.24	
305	Pumps - Replace 1-5 HP motor	Paper	3%	3%	\$0.05	1.05	1.02	0.08	17	0.05	0.00	\$0.192	\$2,453	0.34	0.28	27.60	1.24	
306	Pumps - ASD (1-5 hp)	Paper	6%	1%	\$0.09	1.04	0.98	0.08	17	0.13	0.00	\$0.150	\$20,598	0.35	0.35	22.61	1.06	
307	Pumps - Motor practices-1 (1-5 HP)	Paper	5%	5%	\$0.02	1.08	1.02	0.08	17	0.04	0.00	\$0.043	\$555	1.48	1.25	6.25	1.24	
308	Pumps - Replace 6-100 HP motor	Paper	4%	4%	\$0.03	1.05	1.01	0.08	20	0.53	0.04	\$0.080	\$1,027	0.80	0.65	12.39	1.24	
309	Pumps - ASD (6-100 hp)	Paper	6%	1%	\$0.00	1.05	0.98	0.08	20	0.95	0.01	\$0.005	\$638	11.29	10.66	0.75	1.06	
310	Pumps - Motor practices-1 (6-100 HP)	Paper	2%	2%	\$0.01	1.05	1.03	0.08	20	0.24	0.02	\$0.025	\$316	2.61	2.10	3.81	1.24	
311	Pumps - Replace 100+ HP motor	Paper	3%	3%	\$0.01	1.06	1.03	0.08	20	0.31	0.02	\$0.027	\$340	2.42	1.95	4.11	1.24	
312	Pumps - ASD (100+ hp)	Paper	6%	1%	\$0.01	1.04	0.98	0.08	20	1.61	0.01	\$0.011	\$1,443	4.99	4.71	1.70	1.06	
313	Pumps - Motor practices-1 (100+ HP)	Paper	2%	2%	\$0.00	1.04	1.03	0.08	20	0.39	0.03	\$0.016	\$207	3.98	3.20	2.50	1.24	
400	Base Drives	Paper	0%	0%	\$0.00	1.04	1.04	0.08	20	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
405	Drives - EE motor	Paper	3%	3%	\$0.01	1.06	1.02	0.08	10	1.90	0.15	\$0.027	\$344	2.40	2.36	2.61	1.24	
406	Gap Forming papermachine	Paper	8%	8%	\$0.01	1.12	1.04	0.08	20	1.12	0.09	\$0.009	\$112	7.33	5.90	1.36	1.24	
407	High Consistency forming	Paper	8%	8%	\$0.01	1.12	1.04	0.08	20	1.07	0.08	\$0.009	\$113	7.30	5.88	1.36	1.24	
408	Optimization control PM	Paper	5%	5%	\$0.02	1.07	1.01	0.08	10	3.12	0.24	\$0.044	\$566	1.46	1.44	4.29	1.24	
431	Custom Measures--Drives	Paper	4%	4%	\$0.02	1.04	1.00	0.08	15	5.54	0.43	\$0.042	\$542	1.52	1.34	5.68	1.24	
500	Base Process Heating	Paper	0%	0%	\$0.00	1.04	1.04	0.08	20	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
512	Custom Measures--Process Heating	Paper	4%	4%	\$0.02	1.04	1.00	0.08	15	1.64	0.13	\$0.042	\$542	1.52	1.34	5.68	1.24	
550	Base Process Cooling	Paper	0%	0%	\$0.00	1.04	1.04	0.08	20	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
553	Custom Measures--Process Cooling	Paper	4%	4%	\$0.02	1.04	1.00	0.08	15	0.17	0.01	\$0.042	\$542	1.52	1.34	5.68	1.24	
600	Base Other Process	Paper	0%	0%	\$0.00	1.04	1.04	0.08	15	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
605	Custom Measures--Other Process	Paper	4%	4%	\$0.02	1.04	1.00	0.08	15	0.33	0.03	\$0.042	\$542	1.52	1.34	5.68	1.24	
700	Base Space Cooling Centrifugal Chiller, 0.58 kW/ton, 500 tons	Paper	0%	0%	\$0.00	1.04	1.04	0.08	20	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
710	Base Space Cooling DX Packaged System, EER=10.3, 10 tons	Paper	0%	0%	\$0.00	1.04	1.04	0.08	15	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
711	DX Tune Up/ Advanced Diagnostics	Paper	10%	10%	\$0.08	1.10	0.99	0.08	3	0.13	0.01	\$0.324	\$4,152	0.20	0.24	11.25	1.24	
712	DX Packaged System, EER=10.9, 10 tons	Paper	6%	6%	\$0.05	0.90	0.85	0.07	15	0.16	0.01	\$0.102	\$1,310	0.63	0.55	13.73	1.24	
713	Window Film - DX	Paper	10%	10%	\$0.03	1.12	1.01	0.08	10	0.09	0.01	\$0.045	\$582	1.41	1.40	4.42	1.24	

APPENDIX F

NON-ADDITIVE MEASURE LEVEL RESULTS

Industrial Electric																		
DSM ASSYST SUMMARY																		
Measure Number	Measure	Building Type	Energy Savings Fraction	Peak Reduction Fraction	Total Costs/ Base kWh	Base EUJ	EUJ	Peak Watts/ Base kWh	Service Life (yrs)	Technical Potential GWH	System Peak Tech. Potential MW	Levelized Cost of Conserved Energy \$/kWh	Levelized Cost of Avoided Peak Capacity \$/kW	Total Resource Cost Test (TRC)	Participant Test	Customer Payback (Years)	Revenue Test	
715	Prog. Thermostat - DX	Paper	10%	3%	\$0.01	1.10	1.00	0.08	10	0.12	0.00	\$0.008	\$417	6.54	7.33	0.84	1.09	
716	Cool Roof - DX	Paper	10%	10%	\$0.11	1.08	0.98	0.08	10	0.10	0.01	\$0.164	\$2,096	0.39	0.39	15.89	1.24	
800	Base Lighting	Paper	0%	0%	\$0.00	1.04	1.04	0.08	10	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
801	RET 2L4' Premium T8, 1EB	Paper	31%	31%	\$0.12	1.06	0.73	0.06	15	1.11	0.09	\$0.041	\$529	1.56	1.37	5.55	1.24	
802	CFL Hardwired, Modular 36W	Paper	72%	72%	\$0.10	1.04	0.29	0.02	4	0.02	0.00	\$0.045	\$577	1.43	1.66	2.03	1.24	
803	Metal Halide, 50W	Paper	58%	58%	\$0.80	1.23	0.52	0.04	5	1.77	0.14	\$0.307	\$3,935	0.21	0.24	16.87	1.24	
804	Occupancy Sensor, 4L4' Fluorescent Fixtures	Paper	17%	20%	\$0.05	1.05	0.87	0.07	9	0.17	0.01	\$0.046	\$508	1.50	1.45	4.05	1.30	
900	Base Other	Paper	0%	0%	\$0.00	1.04	1.04	0.08	15	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
901	Replace V-belts	Paper	0%	0%	\$0.00	1.04	1.04	0.08	5	0.00	0.00	\$0.044	\$561	1.47	1.66	2.40	1.24	
100	Base Compressed Air	Printing	0%	0%	\$0.00	1.04	1.04	0.13	14	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
101	Compressed Air-O&M	Printing	17%	17%	\$0.01	1.18	0.98	0.13	2	2.57	0.33	\$0.039	\$308	1.85	2.05	0.92	1.39	
102	Compressed Air - Controls	Printing	12%	12%	\$0.02	1.15	1.01	0.13	10	1.44	0.18	\$0.020	\$153	3.72	3.29	1.87	1.39	
103	Compressed Air - System Optimization	Printing	20%	20%	\$0.02	1.16	0.93	0.12	10	4.85	0.62	\$0.013	\$102	5.60	4.95	1.25	1.39	
104	Compressed Air- Sizing	Printing	9%	9%	\$0.00	1.13	1.03	0.13	10	0.42	0.05	\$0.007	\$55	10.38	9.18	0.67	1.39	
105	Comp Air - Replace 1-5 HP motor	Printing	3%	3%	\$0.05	1.05	1.02	0.13	17	0.05	0.01	\$0.191	\$1,495	0.38	0.29	27.14	1.39	
106	Comp Air - ASD (1-5 hp)	Printing	6%	1%	\$0.09	1.04	0.98	0.13	17	0.13	0.00	\$0.154	\$12,562	0.35	0.33	23.40	1.10	
107	Comp Air - Motor practices-1 (1-5 HP)	Printing	5%	5%	\$0.02	1.04	0.99	0.13	17	0.10	0.01	\$0.045	\$349	1.64	1.24	6.33	1.39	
108	Comp Air - Replace 6-100 HP motor	Printing	3%	4%	\$0.03	1.06	1.02	0.13	20	0.35	0.05	\$0.079	\$619	0.92	0.66	12.05	1.39	
109	Comp Air - ASD (6-100 hp)	Printing	6%	1%	\$0.00	1.04	0.98	0.13	20	2.55	0.03	\$0.004	\$327	13.44	12.26	0.65	1.10	
110	Comp Air - Motor practices-1 (6-100 HP)	Printing	2%	2%	\$0.01	1.07	1.04	0.13	20	0.05	0.01	\$0.024	\$190	2.99	2.16	3.71	1.39	
111	Comp Air - Replace 100+ HP motor	Printing	3%	3%	\$0.01	1.07	1.04	0.13	20	0.21	0.03	\$0.026	\$207	2.76	1.99	4.03	1.39	
112	Comp Air - ASD (100+ hp)	Printing	6%	1%	\$0.01	1.06	1.00	0.14	20	1.61	0.02	\$0.011	\$863	5.09	4.65	1.72	1.10	
113	Comp Air - Motor practices-1 (100+ HP)	Printing	1%	2%	\$0.00	1.05	1.03	0.13	20	0.25	0.03	\$0.016	\$126	4.54	3.27	2.45	1.39	
200	Base Fans	Printing	0%	0%	\$0.00	1.04	1.04	0.13	14	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
201	Fans - O&M	Printing	2%	2%	\$0.00	1.05	1.03	0.13	2	0.66	0.08	\$0.036	\$284	2.01	2.22	0.85	1.39	
202	Fans - Controls	Printing	30%	30%	\$0.09	1.14	0.80	0.10	10	7.62	0.98	\$0.043	\$332	1.72	1.52	4.06	1.39	
203	Fans - System Optimization	Printing	21%	10%	\$0.06	1.08	0.85	0.12	10	5.88	0.37	\$0.043	\$686	1.45	1.45	4.26	1.23	
204	Fans - Improve components	Printing	5%	5%	\$0.01	1.06	1.01	0.13	10	1.35	0.17	\$0.015	\$116	4.90	4.33	1.42	1.39	
205	Fans - Replace 1-5 HP motor	Printing	3%	3%	\$0.05	1.04	1.02	0.13	17	0.05	0.01	\$0.192	\$1,500	0.38	0.29	27.23	1.39	
206	Fans - ASD (1-5 hp)	Printing	6%	1%	\$0.09	1.04	0.98	0.13	17	0.11	0.00	\$0.154	\$12,560	0.35	0.33	23.40	1.10	
207	Fans - Motor practices-1 (1-5 HP)	Printing	5%	5%	\$0.02	1.04	0.99	0.13	17	0.09	0.01	\$0.045	\$348	1.64	1.24	6.33	1.39	
208	Fans - Replace 6-100 HP motor	Printing	3%	4%	\$0.03	1.05	1.02	0.13	20	0.39	0.06	\$0.091	\$625	0.86	0.59	13.50	1.45	
209	Fans - ASD (6-100 hp)	Printing	3%	1%	\$0.00	1.05	1.01	0.13	20	0.43	0.01	\$0.007	\$326	7.99	6.97	1.15	1.15	
210	Fans - Motor practices-1 (6-100 HP)	Printing	2%	2%	\$0.01	1.05	1.02	0.13	20	0.30	0.04	\$0.025	\$194	2.94	2.12	3.78	1.39	
211	Fans - Replace 100+ HP motor	Printing	3%	3%	\$0.01	1.05	1.01	0.13	20	0.67	0.09	\$0.027	\$211	2.70	1.95	4.11	1.39	
212	Fans - ASD (100+ hp)	Printing	5%	1%	\$0.01	1.05	0.99	0.13	20	1.16	0.02	\$0.012	\$877	4.59	4.06	1.97	1.13	
213	Fans - Motor practices-1 (100+ HP)	Printing	1%	2%	\$0.00	1.04	1.04	0.13	20	0.20	0.04	\$0.029	\$126	3.23	2.01	3.98	1.61	
300	Base Pumps	Printing	0%	0%	\$0.00	1.04	1.04	0.13	14	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
301	Pumps - O&M	Printing	10%	10%	\$0.01	1.14	1.02	0.13	2	0.54	0.07	\$0.034	\$266	2.14	2.37	0.79	1.39	
302	Pumps - Controls	Printing	30%	30%	\$0.03	1.41	0.99	0.13	10	1.56	0.20	\$0.010	\$78	7.26	6.42	0.96	1.39	
303	Pumps - System Optimization	Printing	33%	33%	\$0.08	1.45	0.97	0.12	10	1.92	0.25	\$0.026	\$203	2.80	2.48	2.49	1.39	
304	Pumps - Sizing	Printing	20%	20%	\$0.02	1.24	0.99	0.13	10	1.35	0.17	\$0.013	\$99	5.76	5.09	1.21	1.39	
305	Pumps - Replace 1-5 HP motor	Printing	3%	3%	\$0.05	1.05	1.02	0.13	17	0.03	0.00	\$0.192	\$1,496	0.38	0.29	27.16	1.39	
306	Pumps - ASD (1-5 hp)	Printing	6%	1%	\$0.09	1.04	0.98	0.13	17	0.08	0.00	\$0.154	\$12,562	0.35	0.33	23.40	1.10	
307	Pumps - Motor practices-1 (1-5 HP)	Printing	5%	5%	\$0.02	1.08	1.02	0.13	17	0.03	0.00	\$0.043	\$339	1.68	1.27	6.15	1.39	
308	Pumps - Replace 6-100 HP motor	Printing	3%	4%	\$0.03	1.05	1.01	0.13	20	0.34	0.04	\$0.080	\$626	0.91	0.66	12.19	1.39	
309	Pumps - ASD (6-100 hp)	Printing	6%	1%	\$0.00	1.05	0.98	0.13	20	0.60	0.01	\$0.005	\$389	11.29	10.30	0.78	1.10	
310	Pumps - Motor practices-1 (6-100 HP)	Printing	2%	2%	\$0.01	1.05	1.03	0.13	20	0.15	0.02	\$0.025	\$193	2.96	2.13	3.75	1.39	
311	Pumps - Replace 100+ HP motor	Printing	3%	3%	\$0.01	1.06	1.03	0.13	20	0.20	0.03	\$0.027	\$208	2.75	1.98	4.04	1.39	
312	Pumps - ASD (100+ hp)	Printing	6%	1%	\$0.01	1.04	0.98	0.13	20	1.02	0.01	\$0.011	\$880	4.99	4.55	1.76	1.10	
313	Pumps - Motor practices-1 (100+ HP)	Printing	1%	2%	\$0.00	1.04	1.03	0.13	20	0.25	0.03	\$0.016	\$126	4.51	3.25	2.46	1.39	
400	Base Drives	Printing	0%	0%	\$0.00	1.04	1.04	0.13	20	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
409	Efficient practices printing press	Printing	10%	10%	\$0.01	1.10	0.99	0.13	20	6.79	0.87	\$0.011	\$85	6.75	4.87	1.65	1.39	
410	Efficient Printing press (fewer cylinders)	Printing	20%	20%	\$0.06	1.24	0.99	0.13	10	6.15	0.79	\$0.038	\$297	1.92	1.70	3.63	1.39	
411	Light cylinders	Printing	10%	10%	\$0.07	1.14	1.02	0.13	10	2.81	0.36	\$0.097	\$759	0.75	0.66	9.29	1.39	
412	Efficient drives	Printing	3%	4%	\$0.01	1.07	1.03	0.13	10	1.39	0.18	\$0.024	\$184	3.09	2.73	2.26	1.39	
431	Custom Measures--Drives	Printing	4%	4%	\$0.02	1.04	1.00	0.13	15	5.44	0.70	\$0.042	\$331	1.72	1.36	5.59	1.39	
500	Base Process Heating	Printing	0%	0%	\$0.00	1.04	1.04	0.13	20	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
512	Custom Measures--Process Heating	Printing	4%	4%	\$0.02	1.04	1.00	0.13	15	0.63	0.08	\$0.042	\$331	1.72	1.36	5.59	1.39	
550	Base Process Cooling	Printing	0%	0%	\$0.00	1.04	1.04	0.13	20	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
553	Custom Measures--Process Cooling	Printing	4%	4%	\$0.02	1.04	1.00	0.13	15	0.84	0.11	\$0.042	\$331	1.72	1.36	5.59	1.39	
600	Base Other Process	Printing	0%	0%	\$0.00	1.04	1.04	0.13	15	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
605	Custom Measures--Other Process	Printing	4%	4%	\$0.02	1.04	1.00	0.13	15	0.14	0.02	\$0.042	\$331	1.72	1.36	5.59	1.39	
700	Base Space Cooling Centrifugal Chiller, 0.58 kW/ton, 500 tons	Printing	0%	0%	\$0.00	1.04	1.04	0.13	20	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
701	Centrifugal Chiller, 0.51 kW/ton, 500 tons	Printing	12%	12%	\$0.03	0.93	0.82	0.10	20	0.17	0.02	\$0.028	\$215	2.65	1.91	4.19	1.39	
702	Window Film - Chiller	Printing	10%	10%	\$0.06	1.10	0.99	0.13	10	0.07	0.01	\$0.080	\$622	0.92	0.81	7.61	1.39	
703	EMS - Chiller	Printing	10%	10%	\$0.11	1.08	0.98	0.12	10	0.11	0.01	\$0.155	\$1,210	0.47	0.42	14.81	1.39	

APPENDIX F

NON-ADDITIVE MEASURE LEVEL RESULTS

Industrial Electric																		
DSM ASSYST SUMMARY																		
Measure Number	Measure	Building Type	Energy Savings Fraction	Peak Reduction Fraction	Total Costs/ Base kWh	Base EUJ	EUJ	Peak Watts/ Base kWh	Service Life (yrs)	Technical Potential GWH	System Peak Tech. Potential MW	Levelized Cost of Conserved Energy \$/kWh	Levelized Cost of Avoided Peak Capacity \$/kW	Total Resource Cost Test (TRC)	Participant Test	Customer Payback (Years)	Revenue Test	
704	Cool Roof - Chiller	Printing	10%	10%	\$0.19	1.09	0.98	0.13	10	0.05	0.01	\$0.280	\$2,185	0.26	0.23	26.74	1.39	
705	Chiller Tune Up/Diagnostics	Printing	8%	8%	\$0.05	1.09	1.00	0.13	10	0.02	0.00	\$0.095	\$741	0.77	0.68	9.07	1.39	
706	Cooling Circ. Pumps - VSD	Printing	6%	6%	\$0.12	1.06	1.00	0.13	15	0.05	0.01	\$0.207	\$1,618	0.35	0.28	27.36	1.39	
710	Base Space Cooling DX Packaged System, EER=10.3, 10 tons	Printing	0%	0%	\$0.00	1.04	1.04	0.13	15	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
711	DX Tune Up/ Advanced Diagnostics	Printing	10%	10%	\$0.08	1.10	0.99	0.13	3	1.02	0.13	\$0.324	\$2,532	0.23	0.24	11.07	1.39	
712	DX Packaged System, EER=10.9, 10 tons	Printing	6%	6%	\$0.05	0.90	0.85	0.11	15	1.23	0.16	\$0.102	\$799	0.71	0.56	13.51	1.39	
713	Window Film - DX	Printing	10%	10%	\$0.03	1.12	1.01	0.13	10	0.66	0.08	\$0.045	\$355	1.60	1.42	4.35	1.39	
715	Prog. Thermostat - DX	Printing	10%	3%	\$0.01	1.10	1.00	0.14	10	0.89	0.03	\$0.009	\$255	6.72	7.14	0.86	1.15	
716	Cool Roof - DX	Printing	10%	10%	\$0.11	1.08	0.98	0.13	10	0.79	0.10	\$0.164	\$1,278	0.45	0.39	15.64	1.39	
800	Base Lighting	Printing	0%	0%	\$0.00	1.04	1.04	0.13	10	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
801	RET 2L4' Premium T8, 1EB	Printing	31%	31%	\$0.12	1.06	0.73	0.09	15	9.67	1.24	\$0.041	\$323	1.77	1.39	5.46	1.39	
802	CFL Hardwired, Modular 36W	Printing	72%	72%	\$0.10	1.04	0.29	0.04	4	0.15	0.02	\$0.045	\$352	1.62	1.69	2.00	1.39	
803	Metal Halide, 50W	Printing	58%	58%	\$0.80	1.23	0.52	0.07	5	12.83	1.64	\$0.307	\$2,400	0.24	0.24	16.60	1.39	
804	Occupancy Sensor, 4L4' Fluorescent Fixtures	Printing	18%	20%	\$0.05	1.05	0.87	0.11	9	1.22	0.18	\$0.045	\$310	1.73	1.50	3.92	1.45	
900	Base Other	Printing	0%	0%	\$0.00	1.04	1.04	0.13	15	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
901	Replace V-belts	Printing	0%	0%	\$0.00	1.04	1.04	0.13	5	0.00	0.00	\$0.044	\$342	1.67	1.68	2.37	1.39	
100	Base Compressed Air	Chemicals	0%	0%	\$0.00	1.04	1.04	0.12	14	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
101	Compressed Air-O&M	Chemicals	17%	17%	\$0.01	1.18	0.98	0.11	2	2.79	0.31	\$0.039	\$354	1.76	2.00	0.94	1.35	
102	Compressed Air - Controls	Chemicals	12%	12%	\$0.02	1.15	1.01	0.11	10	1.56	0.17	\$0.020	\$176	3.54	3.21	1.92	1.35	
103	Compressed Air - System Optimization	Chemicals	20%	20%	\$0.02	1.16	0.93	0.10	10	5.27	0.59	\$0.013	\$117	5.32	4.82	1.28	1.35	
104	Compressed Air- Sizing	Chemicals	9%	9%	\$0.00	1.13	1.03	0.11	10	0.45	0.05	\$0.007	\$63	9.87	8.95	0.69	1.35	
105	Comp Air - Replace 1-5 HP motor	Chemicals	3%	3%	\$0.05	1.05	1.02	0.11	17	0.06	0.01	\$0.191	\$1,722	0.36	0.28	27.84	1.35	
106	Comp Air - ASD (1-5 hp)	Chemicals	6%	1%	\$0.09	1.04	0.98	0.12	17	0.14	0.00	\$0.152	\$14,472	0.35	0.33	23.64	1.09	
107	Comp Air - Motor practices-1 (1-5 HP)	Chemicals	5%	5%	\$0.02	1.04	0.99	0.11	17	0.11	0.01	\$0.045	\$402	1.55	1.21	6.49	1.35	
108	Comp Air - Replace 6-100 HP motor	Chemicals	3%	4%	\$0.03	1.06	1.02	0.11	20	0.38	0.04	\$0.079	\$713	0.88	0.65	12.36	1.35	
109	Comp Air - ASD (6-100 hp)	Chemicals	6%	1%	\$0.00	1.04	0.98	0.12	20	2.79	0.03	\$0.004	\$377	13.27	12.14	0.66	1.09	
110	Comp Air - Motor practices-1 (6-100 HP)	Chemicals	2%	2%	\$0.01	1.07	1.04	0.12	20	0.06	0.01	\$0.024	\$219	2.85	2.11	3.80	1.35	
111	Comp Air - Replace 100+ HP motor	Chemicals	3%	3%	\$0.01	1.07	1.04	0.12	20	0.23	0.03	\$0.026	\$238	2.62	1.94	4.13	1.35	
112	Comp Air - ASD (100+ hp)	Chemicals	6%	1%	\$0.01	1.07	1.00	0.12	20	1.76	0.02	\$0.010	\$994	5.03	4.60	1.74	1.09	
113	Comp Air - Motor practices-1 (100+ HP)	Chemicals	1%	2%	\$0.00	1.05	1.03	0.11	20	0.27	0.03	\$0.016	\$145	4.31	3.19	2.51	1.35	
200	Base Fans	Chemicals	0%	0%	\$0.00	1.04	1.04	0.12	14	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
201	Fans - O&M	Chemicals	2%	2%	\$0.00	1.05	1.03	0.11	2	0.96	0.11	\$0.036	\$328	1.91	2.17	0.87	1.35	
202	Fans - Controls	Chemicals	30%	30%	\$0.09	1.14	0.80	0.09	10	11.09	1.23	\$0.043	\$382	1.63	1.48	4.17	1.35	
203	Fans - System Optimization	Chemicals	21%	10%	\$0.06	1.08	0.85	0.11	10	8.59	0.46	\$0.043	\$790	1.40	1.42	4.33	1.21	
204	Fans- Improve components	Chemicals	5%	5%	\$0.01	1.06	1.01	0.11	10	1.97	0.22	\$0.015	\$134	4.65	4.22	1.46	1.35	
205	Fans - Replace 1-5 HP motor	Chemicals	3%	3%	\$0.05	1.04	1.02	0.11	17	0.08	0.01	\$0.192	\$1,728	0.36	0.28	27.93	1.35	
206	Fans - ASD (1-5 hp)	Chemicals	6%	1%	\$0.09	1.04	0.98	0.12	17	0.17	0.00	\$0.152	\$14,469	0.35	0.33	23.64	1.09	
207	Fans - Motor practices-1 (1-5 HP)	Chemicals	5%	5%	\$0.02	1.04	0.99	0.11	17	0.13	0.01	\$0.045	\$401	1.56	1.21	6.49	1.35	
208	Fans - Replace 6-100 HP motor	Chemicals	3%	4%	\$0.03	1.05	1.02	0.11	20	0.56	0.07	\$0.092	\$720	0.81	0.57	13.96	1.41	
209	Fans - ASD (6-100 hp)	Chemicals	3%	1%	\$0.00	1.05	1.01	0.12	20	0.62	0.01	\$0.007	\$376	7.66	6.77	1.18	1.13	
210	Fans - Motor practices-1 (6-100 HP)	Chemicals	2%	2%	\$0.01	1.05	1.02	0.11	20	0.43	0.05	\$0.025	\$223	2.79	2.07	3.87	1.35	
211	Fans - Replace 100+ HP motor	Chemicals	3%	3%	\$0.01	1.05	1.01	0.11	20	0.98	0.11	\$0.027	\$243	2.56	1.90	4.22	1.35	
212	Fans - ASD (100+ hp)	Chemicals	5%	1%	\$0.01	1.05	0.99	0.12	20	1.69	0.02	\$0.012	\$1,010	4.50	3.99	2.01	1.13	
213	Fans - Motor practices-1 (100+ HP)	Chemicals	1%	2%	\$0.00	1.04	1.04	0.11	20	0.28	0.06	\$0.029	\$146	2.97	1.91	4.18	1.55	
300	Base Pumps	Chemicals	0%	0%	\$0.00	1.04	1.04	0.12	14	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
301	Pumps - O&M	Chemicals	10%	10%	\$0.01	1.14	1.02	0.11	2	2.45	0.27	\$0.034	\$306	2.04	2.31	0.81	1.35	
302	Pumps - Controls	Chemicals	30%	30%	\$0.03	1.41	0.99	0.11	10	7.02	0.78	\$0.010	\$90	6.90	6.26	0.98	1.35	
303	Pumps - System Optimization	Chemicals	33%	33%	\$0.08	1.45	0.97	0.11	10	8.67	0.96	\$0.026	\$234	2.66	2.41	2.55	1.35	
304	Pumps - Sizing	Chemicals	20%	20%	\$0.02	1.24	0.99	0.11	10	6.09	0.68	\$0.013	\$114	5.48	4.97	1.24	1.35	
305	Pumps - Replace 1-5 HP motor	Chemicals	3%	3%	\$0.05	1.05	1.02	0.11	17	0.16	0.02	\$0.192	\$1,723	0.36	0.28	27.86	1.35	
306	Pumps - ASD (1-5 hp)	Chemicals	6%	1%	\$0.09	1.04	0.98	0.12	17	0.38	0.00	\$0.152	\$14,472	0.35	0.33	23.64	1.09	
307	Pumps - Motor practices-1 (1-5 HP)	Chemicals	5%	5%	\$0.02	1.08	1.02	0.11	17	0.12	0.01	\$0.043	\$390	1.60	1.24	6.31	1.35	
308	Pumps - Replace 6-100 HP motor	Chemicals	3%	4%	\$0.03	1.05	1.01	0.11	20	1.55	0.17	\$0.080	\$722	0.87	0.64	12.51	1.35	
309	Pumps - ASD (6-100 hp)	Chemicals	6%	1%	\$0.00	1.05	0.98	0.12	20	2.74	0.03	\$0.005	\$448	11.14	10.19	0.79	1.09	
310	Pumps - Motor practices-1 (6-100 HP)	Chemicals	2%	2%	\$0.01	1.05	1.03	0.11	20	0.69	0.08	\$0.025	\$222	2.81	2.08	3.85	1.35	
311	Pumps - Replace 100+ HP motor	Chemicals	3%	3%	\$0.01	1.06	1.03	0.11	20	0.91	0.10	\$0.027	\$239	2.61	1.93	4.15	1.35	
312	Pumps - ASD (100+ hp)	Chemicals	6%	1%	\$0.01	1.04	0.98	0.12	20	4.64	0.05	\$0.011	\$1,014	4.93	4.51	1.78	1.09	
313	Pumps - Motor practices-1 (100+ HP)	Chemicals	1%	2%	\$0.00	1.04	1.03	0.11	20	1.14	0.13	\$0.016	\$146	4.29	3.17	2.52	1.35	
400	Base Drives	Chemicals	0%	0%	\$0.00	1.04	1.04	0.12	20	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
413	Clean Room - Controls	Chemicals	10%	10%	\$0.02	1.10	0.99	0.11	10	2.04	0.23	\$0.031	\$283	2.20	2.00	3.08	1.35	
414	Clean Room - New Designs	Chemicals	30%	30%	\$0.13	1.37	0.96	0.11	10	3.06	0.34	\$0.050	\$453	1.38	1.25	4.94	1.35	
415	Drives - Process Controls (batch + site)	Chemicals	8%	8%	\$0.02	1.09	1.00	0.11	10	4.63	0.51	\$0.043	\$391	1.60	1.45	4.26	1.35	
416	Process Drives - ASD	Chemicals	1%	1%	\$0.00	1.04	1.04	0.12	10	0.51	0.06	\$0.046	\$415	1.51	1.36	4.52	1.35	
431	Custom Measures--Drives	Chemicals	4%	4%	\$0.02	1.04	1.00	0.11	15	5.44	0.60	\$0.042	\$381	1.64	1.32	5.73	1.35	
500	Base Process Heating	Chemicals	0%	0%	\$0.00	1.04	1.04	0.12	20	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
512	Custom Measures--Process Heating	Chemicals	4%	4%	\$0.02	1.04	1.00	0.11	15	2.48	0.28	\$0.042	\$381	1.64	1.32	5.73	1.35	
550	Base Process Cooling	Chemicals	0%	0%	\$0.00	1.04	1.04	0.12	20	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	

APPENDIX F

NON-ADDITIVE MEASURE LEVEL RESULTS

Industrial Electric																		
DSM ASSYST SUMMARY																		
Measure Number	Measure	Building Type	Energy Savings Fraction	Peak Reduction Fraction	Total Costs/ Base kWh	Base EUI	EUI	Peak Watts/ Base kWh	Service Life (yrs)	Technical Potential GWH	System Peak Tech. Potential MW	Levelized Cost of Conserved Energy \$/kWh	Levelized Cost of Avoided Peak Capacity \$/kW	Total Resource Cost Test (TRC)	Participant Test	Customer Payback (Years)	Revenue Test	
553	Custom Measures--Process Cooling	Chemicals	4%	4%	\$0.02	1.04	1.00	0.11	15	1.76	0.20	\$0.042	\$381	1.64	1.32	5.73	1.35	
600	Base Other Process	Chemicals	0%	0%	\$0.00	1.04	1.04	0.12	15	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
601	Other Process Controls (batch + site)	Chemicals	8%	8%	\$0.02	1.09	1.00	0.11	10	3.38	0.38	\$0.043	\$391	1.60	1.45	4.26	1.35	
605	Custom Measures--Other Process	Chemicals	4%	4%	\$0.02	1.04	1.00	0.11	15	3.97	0.44	\$0.042	\$381	1.64	1.32	5.73	1.35	
700	Base Space Cooling Centrifugal Chiller, 0.58 kW/ton, 500 tons	Chemicals	0%	0%	\$0.00	1.04	1.04	0.12	20	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
701	Centrifugal Chiller, 0.51 kW/ton, 500 tons	Chemicals	12%	12%	\$0.03	0.93	0.82	0.09	20	0.08	0.01	\$0.028	\$248	2.52	1.86	4.30	1.35	
702	Window Film - Chiller	Chemicals	10%	10%	\$0.06	1.10	0.99	0.11	10	0.03	0.00	\$0.080	\$717	0.87	0.79	7.81	1.35	
703	EMS - Chiller	Chemicals	10%	10%	\$0.11	1.08	0.98	0.11	10	0.05	0.01	\$0.155	\$1,394	0.45	0.41	15.19	1.35	
704	Cool Roof - Chiller	Chemicals	10%	10%	\$0.19	1.09	0.98	0.11	10	0.02	0.00	\$0.280	\$2,518	0.25	0.22	27.43	1.35	
705	Chiller Tune Up/Diagnostics	Chemicals	8%	8%	\$0.05	1.09	1.00	0.11	10	0.01	0.00	\$0.095	\$854	0.73	0.66	9.30	1.35	
706	Cooling Circ. Pumps - VSD	Chemicals	6%	6%	\$0.12	1.06	1.00	0.11	15	0.03	0.00	\$0.207	\$1,864	0.33	0.27	28.06	1.35	
710	Base Space Cooling DX Packaged System, EER=10.3, 10 tons	Chemicals	0%	0%	\$0.00	1.04	1.04	0.12	15	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
711	DX Tune Up/ Advanced Diagnostics	Chemicals	10%	10%	\$0.08	1.10	0.99	0.11	3	0.50	0.06	\$0.324	\$2,917	0.21	0.24	11.36	1.35	
712	DX Packaged System, EER=10.9, 10 tons	Chemicals	6%	6%	\$0.05	0.90	0.85	0.09	15	0.60	0.07	\$0.102	\$921	0.68	0.55	13.86	1.35	
713	Window Film - DX	Chemicals	10%	10%	\$0.03	1.12	1.01	0.11	10	0.32	0.04	\$0.045	\$409	1.53	1.38	4.46	1.35	
715	Prog. Thermostat - DX	Chemicals	10%	3%	\$0.01	1.10	1.00	0.12	10	0.44	0.01	\$0.008	\$293	6.58	7.05	0.87	1.14	
716	Cool Roof - DX	Chemicals	10%	10%	\$0.11	1.08	0.98	0.11	10	0.39	0.04	\$0.164	\$1,473	0.42	0.38	16.04	1.35	
800	Base Lighting	Chemicals	0%	0%	\$0.00	1.04	1.04	0.12	10	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
801	RET 2L4' Premium T8, 1EB	Chemicals	31%	31%	\$0.12	1.06	0.73	0.08	15	3.66	0.41	\$0.041	\$372	1.68	1.36	5.60	1.35	
802	CFL Hardwired, Modular 36W	Chemicals	72%	72%	\$0.10	1.04	0.29	0.03	4	0.07	0.01	\$0.045	\$406	1.54	1.64	2.05	1.35	
803	Metal Halide, 50W	Chemicals	58%	58%	\$0.80	1.23	0.52	0.06	5	6.02	0.67	\$0.307	\$2,765	0.23	0.23	17.03	1.35	
804	Occupancy Sensor, 4L4' Fluorescent Fixtures	Chemicals	17%	20%	\$0.05	1.05	0.87	0.09	9	0.57	0.07	\$0.045	\$357	1.64	1.45	4.05	1.41	
900	Base Other	Chemicals	0%	0%	\$0.00	1.04	1.04	0.12	15	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
100	Base Compressed Air	Petroleum	0%	0%	\$0.00	1.04	1.04	0.12	14	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
101	Compressed Air-O&M	Petroleum	17%	17%	\$0.01	1.18	0.98	0.11	2	8.10	0.90	\$0.039	\$354	1.76	2.00	0.94	1.35	
102	Compressed Air - Controls	Petroleum	12%	12%	\$0.02	1.15	1.01	0.11	10	4.53	0.50	\$0.020	\$176	3.54	3.21	1.92	1.35	
103	Compressed Air - System Optimization	Petroleum	20%	20%	\$0.02	1.16	0.93	0.10	10	15.27	1.70	\$0.013	\$117	5.32	4.82	1.28	1.35	
104	Compressed Air - Sizing	Petroleum	9%	9%	\$0.00	1.13	1.03	0.11	10	1.31	0.15	\$0.007	\$63	9.87	8.95	0.69	1.35	
105	Comp Air - Replace 1-5 HP motor	Petroleum	3%	3%	\$0.05	1.05	1.02	0.11	17	0.16	0.02	\$0.191	\$1,722	0.36	0.28	27.84	1.35	
106	Comp Air - ASD (1-5 hp)	Petroleum	6%	1%	\$0.09	1.04	0.98	0.12	17	0.40	0.00	\$0.152	\$14,472	0.35	0.33	23.64	1.09	
107	Comp Air - Motor practices-1 (1-5 HP)	Petroleum	5%	5%	\$0.02	1.04	0.99	0.11	17	0.32	0.04	\$0.045	\$402	1.55	1.21	6.49	1.35	
108	Comp Air - Replace 6-100 HP motor	Petroleum	3%	4%	\$0.03	1.06	1.02	0.11	20	1.11	0.12	\$0.079	\$713	0.88	0.65	12.36	1.35	
109	Comp Air - ASD (6-100 hp)	Petroleum	6%	1%	\$0.00	1.04	0.98	0.12	20	8.08	0.09	\$0.004	\$377	13.27	12.14	0.66	1.09	
110	Comp Air - Motor practices-1 (6-100 HP)	Petroleum	2%	2%	\$0.01	1.07	1.04	0.12	20	0.17	0.02	\$0.024	\$219	2.85	2.11	3.80	1.35	
111	Comp Air - Replace 100+ HP motor	Petroleum	3%	3%	\$0.01	1.07	1.04	0.12	20	0.68	0.08	\$0.026	\$238	2.62	1.94	4.13	1.35	
112	Comp Air - ASD (100+ hp)	Petroleum	6%	1%	\$0.01	1.07	1.00	0.12	20	5.10	0.05	\$0.010	\$994	5.03	4.60	1.74	1.09	
113	Comp Air - Motor practices-1 (100+ HP)	Petroleum	1%	2%	\$0.00	1.05	1.03	0.11	20	0.79	0.09	\$0.016	\$145	4.31	3.19	2.51	1.35	
114	Power recovery	Petroleum	1%	1%	\$0.00	1.05	1.04	0.12	10	1.18	0.13	\$0.045	\$400	1.56	1.41	4.36	1.35	
200	Base Fans	Petroleum	0%	0%	\$0.00	1.04	1.04	0.12	14	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
201	Fans - O&M	Petroleum	2%	2%	\$0.00	1.05	1.03	0.11	2	4.74	0.53	\$0.036	\$328	1.91	2.17	0.87	1.35	
202	Fans - Controls	Petroleum	30%	30%	\$0.09	1.14	0.80	0.09	10	54.53	6.06	\$0.043	\$382	1.63	1.48	4.17	1.35	
203	Fans - System Optimization	Petroleum	21%	10%	\$0.06	1.08	0.85	0.11	10	42.26	2.28	\$0.043	\$790	1.40	1.42	4.33	1.21	
204	Fans - Improve components	Petroleum	5%	5%	\$0.01	1.06	1.01	0.11	10	9.67	1.08	\$0.015	\$134	4.65	4.22	1.46	1.35	
205	Fans - Replace 1-5 HP motor	Petroleum	3%	3%	\$0.05	1.04	1.02	0.11	17	0.37	0.04	\$0.192	\$1,728	0.36	0.28	27.93	1.35	
206	Fans - ASD (1-5 hp)	Petroleum	6%	1%	\$0.09	1.04	0.98	0.12	17	0.82	0.01	\$0.152	\$14,469	0.35	0.33	23.64	1.09	
207	Fans - Motor practices-1 (1-5 HP)	Petroleum	5%	5%	\$0.02	1.04	0.99	0.11	17	0.64	0.07	\$0.045	\$401	1.56	1.21	6.49	1.35	
208	Fans - Replace 6-100 HP motor	Petroleum	3%	4%	\$0.03	1.05	1.02	0.11	20	2.74	0.35	\$0.092	\$720	0.81	0.57	13.96	1.41	
209	Fans - ASD (6-100 hp)	Petroleum	3%	1%	\$0.00	1.05	1.01	0.12	20	3.03	0.06	\$0.007	\$376	7.66	6.77	1.18	1.13	
210	Fans - Motor practices-1 (6-100 HP)	Petroleum	2%	2%	\$0.01	1.05	1.02	0.11	20	2.14	0.24	\$0.025	\$223	2.79	2.07	3.87	1.35	
211	Fans - Replace 100+ HP motor	Petroleum	3%	3%	\$0.01	1.05	1.01	0.11	20	4.83	0.54	\$0.027	\$243	2.56	1.90	4.22	1.35	
212	Fans - ASD (100+ hp)	Petroleum	5%	1%	\$0.01	1.05	0.99	0.12	20	8.29	0.10	\$0.012	\$1,010	4.50	3.99	2.01	1.13	
213	Fans - Motor practices-1 (100+ HP)	Petroleum	1%	2%	\$0.00	1.04	1.04	0.11	20	1.38	0.28	\$0.029	\$146	2.97	1.91	4.18	1.55	
300	Base Pumps	Petroleum	0%	0%	\$0.00	1.04	1.04	0.12	14	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
301	Pumps - O&M	Petroleum	10%	10%	\$0.01	1.14	1.02	0.11	2	6.37	0.71	\$0.034	\$306	2.04	2.31	0.81	1.35	
302	Pumps - Controls	Petroleum	30%	30%	\$0.03	1.41	0.99	0.11	10	18.22	2.03	\$0.010	\$90	6.90	6.26	0.98	1.35	
303	Pumps - System Optimization	Petroleum	33%	33%	\$0.08	1.45	0.97	0.11	10	22.51	2.50	\$0.026	\$234	2.66	2.41	2.55	1.35	
304	Pumps - Sizing	Petroleum	20%	20%	\$0.02	1.24	0.99	0.11	10	15.81	1.76	\$0.013	\$114	5.48	4.97	1.24	1.35	
305	Pumps - Replace 1-5 HP motor	Petroleum	3%	3%	\$0.05	1.05	1.02	0.11	17	0.40	0.04	\$0.192	\$1,723	0.36	0.28	27.86	1.35	
306	Pumps - ASD (1-5 hp)	Petroleum	6%	1%	\$0.09	1.04	0.98	0.12	17	0.98	0.01	\$0.152	\$14,472	0.35	0.33	23.64	1.09	
307	Pumps - Motor practices-1 (1-5 HP)	Petroleum	5%	5%	\$0.02	1.08	1.02	0.11	17	0.32	0.04	\$0.043	\$390	1.60	1.24	6.31	1.35	
308	Pumps - Replace 6-100 HP motor	Petroleum	3%	4%	\$0.03	1.05	1.01	0.11	20	4.02	0.45	\$0.080	\$722	0.87	0.64	12.51	1.35	
309	Pumps - ASD (6-100 hp)	Petroleum	6%	1%	\$0.00	1.05	0.98	0.12	20	7.11	0.07	\$0.005	\$448	11.14	10.19	0.79	1.09	
310	Pumps - Motor practices-1 (6-100 HP)	Petroleum	2%	2%	\$0.01	1.05	1.03	0.11	20	1.80	0.20	\$0.025	\$222	2.81	2.08	3.85	1.35	
311	Pumps - Replace 100+ HP motor	Petroleum	3%	3%	\$0.01	1.06	1.03	0.11	20	2.36	0.26	\$0.027	\$239	2.61	1.93	4.15	1.35	
312	Pumps - ASD (100+ hp)	Petroleum	6%	1%	\$0.01	1.04	0.98	0.12	20	12.06	0.13	\$0.011	\$1,014	4.93	4.51	1.78	1.09	
313	Pumps - Motor practices-1 (100+ HP)	Petroleum	1%	2%	\$0.00	1.04	1.03	0.11	20	2.95	0.33	\$0.016	\$146	4.29	3.17	2.52	1.35	
400	Base Drives	Petroleum	0%	0%	\$0.00	1.04	1.04	0.12	20	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	

Industrial Electric

DSM ASSYST SUMMARY

Measure Number	Measure	Building Type	Energy Savings Fraction	Peak Reduction Fraction	Total Costs/ Base kWh	Base EUJ	EUJ	Peak Watts/ Base kWh	Service Life (yrs)	Technical Potential GWH	System Peak Tech. Potential MW	Levelized Cost of Conserved Energy \$/kWH	Levelized Cost of Avoided Peak Capacity \$/kW	Total Resource Cost Test (TRC)	Participant Test	Customer Payback (Years)	Revenue Test
431	Custom Measures--Drives	Petroleum	4%	4%	\$0.02	1.04	1.00	0.11	15	8.55	0.95	\$0.042	\$381	1.64	1.32	5.73	1.35
500	Base Process Heating	Petroleum	0%	0%	\$0.00	1.04	1.04	0.12	20	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
512	Custom Measures--Process Heating	Petroleum	4%	4%	\$0.02	1.04	1.00	0.11	15	2.65	0.29	\$0.042	\$381	1.64	1.32	5.73	1.35
550	Base Process Cooling	Petroleum	0%	0%	\$0.00	1.04	1.04	0.12	20	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
553	Custom Measures--Process Cooling	Petroleum	4%	4%	\$0.02	1.04	1.00	0.11	15	2.20	0.24	\$0.042	\$381	1.64	1.32	5.73	1.35
600	Base Other Process	Petroleum	0%	0%	\$0.00	1.04	1.04	0.12	15	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
602	Efficient desalter	Petroleum	20%	20%	\$0.04	1.16	0.93	0.10	10	0.88	0.10	\$0.027	\$244	2.56	2.32	2.66	1.35
605	Custom Measures--Other Process	Petroleum	4%	4%	\$0.02	1.04	1.00	0.11	15	0.33	0.04	\$0.042	\$381	1.64	1.32	5.73	1.35
700	Base Space Cooling Centrifugal Chiller, 0.58 kW/ton, 500 tons	Petroleum	0%	0%	\$0.00	1.04	1.04	0.12	20	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
710	Base Space Cooling DX Packaged System, EER=10.3, 10 tons	Petroleum	0%	0%	\$0.00	1.04	1.04	0.12	15	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
711	DX Tune Up/ Advanced Diagnostics	Petroleum	10%	10%	\$0.08	1.10	0.99	0.11	3	0.41	0.05	\$0.324	\$2,917	0.21	0.24	11.36	1.35
712	DX Packaged System, EER=10.9, 10 tons	Petroleum	6%	6%	\$0.05	0.90	0.85	0.09	15	0.49	0.05	\$0.102	\$921	0.68	0.55	13.86	1.35
713	Window Film - DX	Petroleum	10%	10%	\$0.03	1.12	1.01	0.11	10	0.26	0.03	\$0.045	\$409	1.53	1.38	4.46	1.35
715	Prog. Thermostat - DX	Petroleum	10%	3%	\$0.01	1.10	1.00	0.12	10	0.35	0.01	\$0.008	\$293	6.58	7.05	0.87	1.14
716	Cool Roof - DX	Petroleum	10%	10%	\$0.11	1.08	0.98	0.11	10	0.31	0.03	\$0.164	\$1,473	0.42	0.38	16.04	1.35
800	Base Lighting	Petroleum	0%	0%	\$0.00	1.04	1.04	0.12	10	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
801	RET 2L4' Premium T8, 1EB	Petroleum	31%	31%	\$0.12	1.06	0.73	0.08	15	2.39	0.27	\$0.041	\$372	1.68	1.36	5.60	1.35
802	CFL Hardwired, Modular 36W	Petroleum	72%	72%	\$0.10	1.04	0.29	0.03	4	0.05	0.01	\$0.045	\$406	1.54	1.64	2.05	1.35
803	Metal Halide, 50W	Petroleum	58%	58%	\$0.80	1.23	0.52	0.06	5	3.92	0.44	\$0.307	\$2,765	0.23	0.23	17.03	1.35
804	Occupancy Sensor, 4L4' Fluorescent Fixtures	Petroleum	17%	20%	\$0.05	1.05	0.87	0.09	9	0.37	0.05	\$0.045	\$357	1.64	1.45	4.05	1.41
900	Base Other	Petroleum	0%	0%	\$0.00	1.04	1.04	0.12	15	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
901	Replace V-belts	Petroleum	0%	0%	\$0.00	1.04	1.04	0.12	5	0.00	0.00	\$0.044	\$394	1.58	1.64	2.43	1.35
100	Base Compressed Air	Rubber-Plastics	0%	0%	\$0.00	1.04	1.04	0.14	14	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
101	Compressed Air-O&M	Rubber-Plastics	17%	17%	\$0.01	1.18	0.98	0.13	2	2.83	0.38	\$0.039	\$293	1.88	2.06	0.92	1.40
102	Compressed Air - Controls	Rubber-Plastics	12%	12%	\$0.02	1.15	1.01	0.14	10	1.58	0.21	\$0.020	\$146	3.78	3.30	1.87	1.40
103	Compressed Air - System Optimization	Rubber-Plastics	20%	20%	\$0.02	1.16	0.93	0.12	10	5.34	0.72	\$0.013	\$97	5.69	4.97	1.24	1.40
104	Compressed Air - Sizing	Rubber-Plastics	9%	9%	\$0.00	1.13	1.03	0.14	10	0.46	0.06	\$0.007	\$52	10.55	9.21	0.67	1.40
105	Comp Air - Replace 1-5 HP motor	Rubber-Plastics	3%	3%	\$0.05	1.05	1.02	0.14	17	0.06	0.01	\$0.191	\$1,422	0.39	0.29	27.03	1.40
106	Comp Air - ASD (1-5 hp)	Rubber-Plastics	6%	1%	\$0.09	1.04	0.98	0.14	17	0.14	0.00	\$0.154	\$11,952	0.35	0.33	23.44	1.10
107	Comp Air - Motor practices-1 (1-5 HP)	Rubber-Plastics	5%	5%	\$0.02	1.04	0.99	0.13	17	0.11	0.01	\$0.045	\$332	1.66	1.24	6.30	1.40
108	Comp Air - Replace 6-100 HP motor	Rubber-Plastics	3%	4%	\$0.03	1.06	1.02	0.14	20	0.39	0.05	\$0.079	\$589	0.94	0.67	12.00	1.40
109	Comp Air - ASD (6-100 hp)	Rubber-Plastics	6%	1%	\$0.00	1.04	0.98	0.14	20	2.80	0.04	\$0.004	\$311	13.46	12.24	0.65	1.10
110	Comp Air - Motor practices-1 (6-100 HP)	Rubber-Plastics	2%	2%	\$0.01	1.07	1.04	0.14	20	0.06	0.01	\$0.024	\$181	3.04	2.17	3.69	1.40
111	Comp Air - Replace 100+ HP motor	Rubber-Plastics	3%	3%	\$0.01	1.07	1.04	0.14	20	0.24	0.03	\$0.026	\$197	2.80	2.00	4.01	1.40
112	Comp Air - ASD (100+ hp)	Rubber-Plastics	6%	1%	\$0.01	1.06	1.00	0.14	20	1.76	0.02	\$0.011	\$821	5.10	4.64	1.73	1.10
113	Comp Air - Motor practices-1 (100+ HP)	Rubber-Plastics	1%	2%	\$0.00	1.05	1.03	0.14	20	0.28	0.04	\$0.016	\$120	4.61	3.28	2.44	1.40
200	Base Fans	Rubber-Plastics	0%	0%	\$0.00	1.04	1.04	0.14	14	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
201	Fans - O&M	Rubber-Plastics	2%	2%	\$0.00	1.05	1.03	0.14	2	0.73	0.10	\$0.036	\$270	2.04	2.23	0.85	1.40
202	Fans - Controls	Rubber-Plastics	30%	30%	\$0.09	1.14	0.80	0.11	10	8.38	1.13	\$0.043	\$316	1.74	1.52	4.04	1.40
203	Fans - System Optimization	Rubber-Plastics	21%	10%	\$0.06	1.08	0.86	0.13	10	6.46	0.42	\$0.043	\$653	1.46	1.45	4.25	1.24
204	Fans - Improve components	Rubber-Plastics	5%	5%	\$0.01	1.06	1.01	0.14	10	1.49	0.20	\$0.015	\$111	4.97	4.34	1.42	1.40
205	Fans - Replace 1-5 HP motor	Rubber-Plastics	3%	3%	\$0.05	1.04	1.02	0.14	17	0.06	0.01	\$0.192	\$1,427	0.39	0.29	27.12	1.40
206	Fans - ASD (1-5 hp)	Rubber-Plastics	6%	1%	\$0.09	1.04	0.98	0.14	17	0.12	0.00	\$0.154	\$11,950	0.35	0.33	23.43	1.10
207	Fans - Motor practices-1 (1-5 HP)	Rubber-Plastics	5%	5%	\$0.02	1.04	0.99	0.13	17	0.10	0.01	\$0.045	\$332	1.66	1.24	6.30	1.40
208	Fans - Replace 6-100 HP motor	Rubber-Plastics	3%	4%	\$0.03	1.05	1.02	0.14	20	0.43	0.06	\$0.091	\$595	0.87	0.60	13.41	1.46
209	Fans - ASD (6-100 hp)	Rubber-Plastics	3%	1%	\$0.00	1.05	1.01	0.14	20	0.47	0.01	\$0.007	\$310	8.04	7.01	1.14	1.15
210	Fans - Motor practices-1 (6-100 HP)	Rubber-Plastics	2%	2%	\$0.01	1.05	1.02	0.14	20	0.33	0.04	\$0.025	\$185	2.99	2.13	3.76	1.40
211	Fans - Replace 100+ HP motor	Rubber-Plastics	3%	3%	\$0.01	1.05	1.01	0.14	20	0.74	0.10	\$0.027	\$201	2.74	1.95	4.10	1.40
212	Fans - ASD (100+ hp)	Rubber-Plastics	5%	1%	\$0.01	1.05	0.99	0.14	20	1.27	0.02	\$0.012	\$834	4.61	4.06	1.97	1.13
213	Fans - Motor practices-1 (100+ HP)	Rubber-Plastics	1%	2%	\$0.00	1.04	1.04	0.14	20	0.22	0.05	\$0.028	\$120	3.31	2.04	3.93	1.62
300	Base Pumps	Rubber-Plastics	0%	0%	\$0.00	1.04	1.04	0.14	14	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
301	Pumps - O&M	Rubber-Plastics	10%	10%	\$0.01	1.14	1.02	0.14	2	0.60	0.08	\$0.034	\$253	2.18	2.38	0.79	1.40
302	Pumps - Controls	Rubber-Plastics	30%	30%	\$0.03	1.41	0.99	0.13	10	1.71	0.23	\$0.010	\$75	7.38	6.44	0.96	1.40
303	Pumps - System Optimization	Rubber-Plastics	33%	33%	\$0.08	1.45	0.97	0.13	10	2.12	0.28	\$0.026	\$193	2.85	2.49	2.48	1.40
304	Pumps - Sizing	Rubber-Plastics	20%	20%	\$0.02	1.24	0.99	0.13	10	1.49	0.20	\$0.013	\$94	5.85	5.11	1.21	1.40
305	Pumps - Replace 1-5 HP motor	Rubber-Plastics	3%	3%	\$0.05	1.05	1.02	0.14	17	0.04	0.01	\$0.192	\$1,423	0.39	0.29	27.05	1.40
306	Pumps - ASD (1-5 hp)	Rubber-Plastics	6%	1%	\$0.09	1.04	0.98	0.14	17	0.09	0.00	\$0.154	\$11,952	0.35	0.33	23.44	1.10
307	Pumps - Motor practices-1 (1-5 HP)	Rubber-Plastics	5%	5%	\$0.02	1.08	1.02	0.14	17	0.03	0.00	\$0.043	\$322	1.71	1.28	6.12	1.40
308	Pumps - Replace 6-100 HP motor	Rubber-Plastics	3%	4%	\$0.03	1.05	1.01	0.14	20	0.38	0.05	\$0.080	\$596	0.92	0.66	12.14	1.40
309	Pumps - ASD (6-100 hp)	Rubber-Plastics	6%	1%	\$0.00	1.05	0.98	0.14	20	0.66	0.01	\$0.005	\$370	11.31	10.28	0.78	1.10
310	Pumps - Motor practices-1 (6-100 HP)	Rubber-Plastics	2%	2%	\$0.01	1.05	1.03	0.14	20	0.17	0.02	\$0.025	\$183	3.00	2.14	3.74	1.40
311	Pumps - Replace 100+ HP motor	Rubber-Plastics	3%	3%	\$0.01	1.06	1.03	0.14	20	0.22	0.03	\$0.027	\$198	2.79	1.99	4.03	1.40
312	Pumps - ASD (100+ hp)	Rubber-Plastics	6%	1%	\$0.01	1.04	0.98	0.14	20	1.12	0.01	\$0.011	\$837	5.00	4.55	1.76	1.10
313	Pumps - Motor practices-1 (100+ HP)	Rubber-Plastics	1%	2%	\$0.00	1.04	1.03	0.14	20	0.28	0.04	\$0.016	\$120	4.58	3.27	2.45	1.40
400	Base Drives	Rubber-Plastics	0%	0%	\$0.00	1.04	1.04	0.14	20	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
417	O&M - Extruders/Injection Moulding	Rubber-Plastics	10%	10%	\$0.01	1.09	0.98	0.13	12	8.47	1.14	\$0.006	\$46	12.01	10.03	0.69	1.40
418	Extruders/injection Moulding-multipump	Rubber-Plastics	30%	30%	\$0.10	1.11	0.78	0.10	12	35.94	4.84	\$0.040	\$295	1.87	1.56	4.43	1.40

APPENDIX F

NON-ADDITIVE MEASURE LEVEL RESULTS

Industrial Electric																		
DSM ASSYST SUMMARY																		
Measure Number	Measure	Building Type	Energy Savings Fraction	Peak Reduction Fraction	Total Costs/ Base kWh	Base EUJ	EUJ	Peak Watts/ Base kWh	Service Life (yrs)	Technical Potential GWH	System Peak Tech. Potential MW	Levelized Cost of Conserved Energy \$/kWh	Levelized Cost of Avoided Peak Capacity \$/kW	Total Resource Cost Test (TRC)	Participant Test	Customer Payback (Years)	Revenue Test	
419	Direct drive Extruders	Rubber-Plastics	50%	50%	\$0.31	1.10	0.55	0.07	12	27.01	3.64	\$0.075	\$559	0.98	0.82	8.42	1.40	
420	Injection Moulding - Impulse Cooling	Rubber-Plastics	21%	21%	\$0.07	1.08	0.85	0.11	12	11.55	1.55	\$0.041	\$304	1.81	1.51	4.57	1.40	
421	Injection Moulding - Direct drive	Rubber-Plastics	20%	20%	\$0.10	1.07	0.85	0.11	12	12.07	1.62	\$0.061	\$452	1.22	1.02	6.80	1.40	
431	Custom Measures--Drives	Rubber-Plastics	4%	4%	\$0.02	1.04	1.00	0.13	15	5.99	0.81	\$0.042	\$315	1.75	1.36	5.57	1.40	
500	Base Process Heating	Rubber-Plastics	0%	0%	\$0.00	1.04	1.04	0.14	20	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
512	Custom Measures--Process Heating	Rubber-Plastics	4%	4%	\$0.02	1.04	1.00	0.13	15	3.13	0.42	\$0.042	\$315	1.75	1.36	5.57	1.40	
550	Base Process Cooling	Rubber-Plastics	0%	0%	\$0.00	1.04	1.04	0.14	20	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
553	Custom Measures--Process Cooling	Rubber-Plastics	4%	4%	\$0.02	1.04	1.00	0.13	15	1.45	0.20	\$0.042	\$315	1.75	1.36	5.57	1.40	
600	Base Other Process	Rubber-Plastics	0%	0%	\$0.00	1.04	1.04	0.14	15	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
605	Custom Measures--Other Process	Rubber-Plastics	4%	4%	\$0.02	1.04	1.00	0.13	15	0.34	0.05	\$0.042	\$315	1.75	1.36	5.57	1.40	
700	Base Space Cooling Centrifugal Chiller, 0.58 kW/ton, 500 tons	Rubber-Plastics	0%	0%	\$0.00	1.04	1.04	0.14	20	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
701	Centrifugal Chiller, 0.51 kW/ton, 500 tons	Rubber-Plastics	12%	12%	\$0.03	0.93	0.82	0.11	20	0.11	0.02	\$0.028	\$205	2.69	1.92	4.17	1.40	
702	Window Film - Chiller	Rubber-Plastics	10%	10%	\$0.06	1.10	0.99	0.13	10	0.04	0.01	\$0.080	\$592	0.93	0.81	7.58	1.40	
703	EMS - Chiller	Rubber-Plastics	10%	10%	\$0.11	1.08	0.98	0.13	10	0.07	0.01	\$0.155	\$1,151	0.48	0.42	14.75	1.40	
704	Cool Roof - Chiller	Rubber-Plastics	10%	10%	\$0.19	1.09	0.98	0.13	10	0.03	0.00	\$0.280	\$2,079	0.26	0.23	26.63	1.40	
705	Chiller Tune Up/Diagnostics	Rubber-Plastics	8%	8%	\$0.05	1.09	1.00	0.13	10	0.01	0.00	\$0.095	\$705	0.78	0.68	9.03	1.40	
706	Cooling Circ. Pumps - VSD	Rubber-Plastics	6%	6%	\$0.12	1.06	1.00	0.13	15	0.04	0.00	\$0.207	\$1,539	0.36	0.28	27.24	1.40	
710	Base Space Cooling DX Packaged System, EER=10.3, 10 tons	Rubber-Plastics	0%	0%	\$0.00	1.04	1.04	0.14	15	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
711	DX Tune Up/ Advanced Diagnostics	Rubber-Plastics	10%	10%	\$0.08	1.10	0.99	0.13	3	0.67	0.09	\$0.324	\$2,409	0.23	0.24	11.03	1.40	
712	DX Packaged System, EER=10.9, 10 tons	Rubber-Plastics	6%	6%	\$0.05	0.90	0.85	0.11	15	0.80	0.11	\$0.102	\$760	0.72	0.56	13.46	1.40	
713	Window Film - DX	Rubber-Plastics	10%	10%	\$0.03	1.12	1.01	0.14	10	0.43	0.06	\$0.045	\$338	1.63	1.42	4.33	1.40	
715	Prog. Thermostat - DX	Rubber-Plastics	10%	3%	\$0.01	1.10	1.00	0.14	10	0.58	0.02	\$0.009	\$242	6.75	7.14	0.86	1.16	
716	Cool Roof - DX	Rubber-Plastics	10%	10%	\$0.11	1.08	0.98	0.13	10	0.52	0.07	\$0.164	\$1,216	0.45	0.40	15.58	1.40	
800	Base Lighting	Rubber-Plastics	0%	0%	\$0.00	1.04	1.04	0.14	10	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
801	RET 2L4' Premium T8, 1EB	Rubber-Plastics	31%	31%	\$0.12	1.06	0.73	0.10	15	6.51	0.88	\$0.041	\$307	1.79	1.40	5.44	1.40	
802	CFL Hardwired, Modular 36W	Rubber-Plastics	72%	72%	\$0.10	1.04	0.29	0.04	4	0.12	0.02	\$0.045	\$335	1.64	1.69	1.99	1.40	
803	Metal Halide, 50W	Rubber-Plastics	58%	58%	\$0.80	1.23	0.52	0.07	5	10.32	1.39	\$0.307	\$2,284	0.24	0.24	16.53	1.40	
804	Occupancy Sensor, 4L4' Fluorescent Fixtures	Rubber-Plastics	18%	20%	\$0.05	1.05	0.86	0.11	9	0.98	0.15	\$0.045	\$295	1.76	1.51	3.89	1.46	
900	Base Other	Rubber-Plastics	0%	0%	\$0.00	1.04	1.04	0.14	15	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
901	Replace V-belts	Rubber-Plastics	0%	0%	\$0.00	1.04	1.04	0.14	5	0.00	0.00	\$0.044	\$325	1.69	1.69	2.36	1.40	
100	Base Compressed Air	Stone-Clay-Glass	0%	0%	\$0.00	1.04	1.04	0.11	14	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
101	Compressed Air-O&M	Stone-Clay-Glass	17%	17%	\$0.01	1.18	0.98	0.11	2	0.62	0.07	\$0.039	\$361	1.77	2.04	0.93	1.33	
102	Compressed Air - Controls	Stone-Clay-Glass	12%	12%	\$0.02	1.15	1.01	0.11	10	0.35	0.04	\$0.020	\$180	3.55	3.26	1.89	1.33	
103	Compressed Air - System Optimization	Stone-Clay-Glass	20%	20%	\$0.02	1.16	0.93	0.10	10	1.18	0.13	\$0.013	\$119	5.34	4.91	1.26	1.33	
104	Compressed Air- Sizing	Stone-Clay-Glass	9%	9%	\$0.00	1.13	1.03	0.11	10	0.10	0.01	\$0.007	\$64	9.91	9.10	0.68	1.33	
105	Comp Air - Replace 1-5 HP motor	Stone-Clay-Glass	3%	3%	\$0.05	1.05	1.02	0.11	17	0.01	0.00	\$0.191	\$1,754	0.36	0.29	27.36	1.33	
106	Comp Air - ASD (1-5 hp)	Stone-Clay-Glass	6%	1%	\$0.09	1.04	0.98	0.11	17	0.03	0.00	\$0.152	\$14,745	0.35	0.34	23.14	1.08	
107	Comp Air - Motor practices-1 (1-5 HP)	Stone-Clay-Glass	5%	5%	\$0.02	1.04	0.99	0.11	17	0.02	0.00	\$0.045	\$409	1.56	1.23	6.38	1.33	
108	Comp Air - Replace 6-100 HP motor	Stone-Clay-Glass	4%	4%	\$0.03	1.06	1.02	0.11	20	0.09	0.01	\$0.079	\$727	0.88	0.66	12.15	1.33	
109	Comp Air - ASD (6-100 hp)	Stone-Clay-Glass	6%	1%	\$0.00	1.04	0.98	0.11	20	0.62	0.01	\$0.004	\$384	13.43	12.40	0.65	1.08	
110	Comp Air - Motor practices-1 (6-100 HP)	Stone-Clay-Glass	2%	2%	\$0.01	1.07	1.04	0.11	20	0.01	0.00	\$0.024	\$223	2.86	2.14	3.74	1.33	
111	Comp Air - Replace 100+ HP motor	Stone-Clay-Glass	3%	3%	\$0.01	1.07	1.04	0.11	20	0.05	0.01	\$0.026	\$243	2.63	1.97	4.06	1.33	
112	Comp Air - ASD (100+ hp)	Stone-Clay-Glass	6%	1%	\$0.01	1.07	1.00	0.12	20	0.39	0.00	\$0.010	\$1,013	5.09	4.70	1.70	1.08	
113	Comp Air - Motor practices-1 (100+ HP)	Stone-Clay-Glass	2%	2%	\$0.00	1.05	1.03	0.11	20	0.06	0.01	\$0.016	\$148	4.33	3.25	2.47	1.33	
200	Base Fans	Stone-Clay-Glass	0%	0%	\$0.00	1.04	1.04	0.11	14	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
201	Fans - O&M	Stone-Clay-Glass	2%	2%	\$0.00	1.05	1.03	0.11	2	1.43	0.16	\$0.036	\$334	1.91	2.20	0.86	1.33	
202	Fans - Controls	Stone-Clay-Glass	30%	30%	\$0.09	1.14	0.80	0.09	10	16.45	1.79	\$0.043	\$390	1.64	1.51	4.09	1.33	
203	Fans - System Optimization	Stone-Clay-Glass	21%	10%	\$0.06	1.08	0.85	0.11	10	12.76	0.67	\$0.043	\$805	1.42	1.45	4.24	1.19	
204	Fans- Improve components	Stone-Clay-Glass	5%	5%	\$0.01	1.06	1.01	0.11	10	2.92	0.32	\$0.015	\$137	4.67	4.29	1.44	1.33	
205	Fans - Replace 1-5 HP motor	Stone-Clay-Glass	3%	3%	\$0.05	1.04	1.02	0.11	17	0.11	0.01	\$0.192	\$1,760	0.36	0.29	27.45	1.33	
206	Fans - ASD (1-5 hp)	Stone-Clay-Glass	6%	1%	\$0.09	1.04	0.98	0.11	17	0.25	0.00	\$0.152	\$14,742	0.35	0.34	23.13	1.08	
207	Fans - Motor practices-1 (1-5 HP)	Stone-Clay-Glass	5%	5%	\$0.02	1.04	0.99	0.11	17	0.19	0.02	\$0.045	\$409	1.56	1.23	6.38	1.33	
208	Fans - Replace 6-100 HP motor	Stone-Clay-Glass	3%	4%	\$0.03	1.05	1.02	0.11	20	0.83	0.10	\$0.091	\$734	0.82	0.59	13.68	1.39	
209	Fans - ASD (6-100 hp)	Stone-Clay-Glass	3%	1%	\$0.00	1.05	1.01	0.11	20	0.92	0.02	\$0.007	\$383	7.96	7.03	1.14	1.13	
210	Fans - Motor practices-1 (6-100 HP)	Stone-Clay-Glass	2%	2%	\$0.01	1.05	1.02	0.11	20	0.65	0.07	\$0.025	\$228	2.80	2.10	3.81	1.33	
211	Fans - Replace 100+ HP motor	Stone-Clay-Glass	3%	3%	\$0.01	1.05	1.01	0.11	20	1.46	0.16	\$0.027	\$248	2.57	1.93	4.15	1.33	
212	Fans - ASD (100+ hp)	Stone-Clay-Glass	5%	1%	\$0.01	1.05	0.99	0.11	20	2.51	0.03	\$0.012	\$1,029	4.57	4.09	1.96	1.12	
213	Fans - Motor practices-1 (100+ HP)	Stone-Clay-Glass	1%	2%	\$0.00	1.04	1.04	0.11	20	0.42	0.08	\$0.029	\$148	3.02	1.97	4.07	1.53	
300	Base Pumps	Stone-Clay-Glass	0%	0%	\$0.00	1.04	1.04	0.11	14	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
301	Pumps - O&M	Stone-Clay-Glass	10%	10%	\$0.01	1.14	1.02	0.11	2	0.37	0.04	\$0.034	\$312	2.04	2.36	0.80	1.33	
302	Pumps - Controls	Stone-Clay-Glass	30%	30%	\$0.03	1.41	0.99	0.11	10	1.05	0.11	\$0.010	\$92	6.93	6.37	0.97	1.33	
303	Pumps - System Optimization	Stone-Clay-Glass	33%	33%	\$0.08	1.45	0.97	0.11	10	1.29	0.14	\$0.026	\$239	2.67	2.46	2.51	1.33	
304	Pumps - Sizing	Stone-Clay-Glass	20%	20%	\$0.02	1.24	0.99	0.11	10	0.91	0.10	\$0.013	\$116	5.50	5.05	1.22	1.33	
305	Pumps - Replace 1-5 HP motor	Stone-Clay-Glass	3%	3%	\$0.05	1.05	1.02	0.11	17	0.02	0.00	\$0.192	\$1,756	0.36	0.29	27.38	1.33	
306	Pumps - ASD (1-5 hp)	Stone-Clay-Glass	6%	1%	\$0.09	1.04	0.98	0.11	17	0.06	0.00	\$0.152	\$14,745	0.35	0.34	23.14	1.08	
307	Pumps - Motor practices-1 (1-5 HP)	Stone-Clay-Glass	5%	5%	\$0.02	1.08	1.02	0.11	17	0.02	0.00	\$0.043	\$397	1.61	1.26	6.20	1.33	
308	Pumps - Replace 6-100 HP motor	Stone-Clay-Glass	4%	4%	\$0.03	1.05	1.01	0.11	20	0.23	0.03	\$0.080	\$735	0.87	0.65	12.29	1.33	

APPENDIX F

NON-ADDITIVE MEASURE LEVEL RESULTS

Industrial Electric

DSM ASSYST SUMMARY

Measure Number	Measure	Building Type	Energy Savings Fraction	Peak Reduction Fraction	Total Costs/ Base kWh	Base EUJ	EUJ	Peak Watts/ Base kWh	Service Life (yrs)	Technical Potential GWH	System Peak Tech. Potential MW	Levelized Cost of Conserved Energy \$/kWH	Levelized Cost of Avoided Peak Capacity \$/kW	Total Resource Cost Test (TRC)	Participant Test	Customer Payback (Years)	Revenue Test
309	Pumps - ASD (6-100 hp)	Stone-Clay-Glass	6%	1%	\$0.00	1.05	0.98	0.11	20	0.41	0.00	\$0.005	\$457	11.28	10.42	0.77	1.08
310	Pumps - Motor practices-1 (6-100 HP)	Stone-Clay-Glass	2%	2%	\$0.01	1.05	1.03	0.11	20	0.10	0.01	\$0.025	\$226	2.82	2.12	3.78	1.33
311	Pumps - Replace 100+ HP motor	Stone-Clay-Glass	3%	3%	\$0.01	1.06	1.03	0.11	20	0.14	0.01	\$0.027	\$244	2.62	1.96	4.07	1.33
312	Pumps - ASD (100+ hp)	Stone-Clay-Glass	6%	1%	\$0.01	1.04	0.98	0.11	20	0.69	0.01	\$0.011	\$1,033	4.99	4.61	1.74	1.08
313	Pumps - Motor practices-1 (100+ HP)	Stone-Clay-Glass	2%	2%	\$0.00	1.04	1.03	0.11	20	0.17	0.02	\$0.016	\$148	4.30	3.23	2.48	1.33
400	Base Drives	Stone-Clay-Glass	0%	0%	\$0.00	1.04	1.04	0.11	20	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
405	Drives - EE motor	Stone-Clay-Glass	4%	4%	\$0.01	1.06	1.02	0.11	10	0.81	0.09	\$0.022	\$205	3.12	2.86	2.15	1.33
415	Drives - Process Controls (batch + site)	Stone-Clay-Glass	2%	2%	\$0.02	1.05	1.03	0.11	10	0.50	0.05	\$0.179	\$1,645	0.39	0.36	17.28	1.33
422	Efficient grinding	Stone-Clay-Glass	21%	21%	\$0.23	1.26	0.99	0.11	15	2.50	0.27	\$0.100	\$916	0.70	0.57	13.30	1.33
423	Process control	Stone-Clay-Glass	2%	2%	\$0.00	1.05	1.03	0.11	10	0.50	0.05	\$0.015	\$135	4.74	4.35	1.42	1.33
424	Process optimization	Stone-Clay-Glass	10%	10%	\$0.04	1.13	1.02	0.11	10	0.33	0.04	\$0.050	\$461	1.38	1.27	4.84	1.33
431	Custom Measures--Drives	Stone-Clay-Glass	4%	4%	\$0.02	1.04	1.00	0.11	15	2.09	0.23	\$0.042	\$388	1.65	1.35	5.64	1.33
500	Base Process Heating	Stone-Clay-Glass	0%	0%	\$0.00	1.04	1.04	0.11	20	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
504	Top-heating (glass)	Stone-Clay-Glass	4%	4%	\$0.00	1.07	1.02	0.11	8	0.75	0.08	\$0.018	\$161	3.97	3.83	1.44	1.33
512	Custom Measures--Process Heating	Stone-Clay-Glass	4%	4%	\$0.02	1.04	1.00	0.11	15	1.84	0.20	\$0.042	\$388	1.65	1.35	5.64	1.33
550	Base Process Cooling	Stone-Clay-Glass	0%	0%	\$0.00	1.04	1.04	0.11	20	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
553	Custom Measures--Process Cooling	Stone-Clay-Glass	4%	4%	\$0.02	1.04	1.00	0.11	15	0.17	0.02	\$0.042	\$388	1.65	1.35	5.64	1.33
600	Base Other Process	Stone-Clay-Glass	0%	0%	\$0.00	1.04	1.04	0.11	15	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
605	Custom Measures--Other Process	Stone-Clay-Glass	4%	4%	\$0.02	1.04	1.00	0.11	15	0.32	0.03	\$0.042	\$388	1.65	1.35	5.64	1.33
700	Base Space Cooling Centrifugal Chiller, 0.58 kW/ton, 500 tons	Stone-Clay-Glass	0%	0%	\$0.00	1.04	1.04	0.11	20	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
710	Base Space Cooling DX Packaged System, EER=10.3, 10 tons	Stone-Clay-Glass	0%	0%	\$0.00	1.04	1.04	0.11	15	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
711	DX Tune Up/ Advanced Diagnostics	Stone-Clay-Glass	10%	10%	\$0.08	1.10	0.99	0.11	3	0.11	0.01	\$0.324	\$2,972	0.21	0.24	11.16	1.33
712	DX Packaged System, EER=10.9, 10 tons	Stone-Clay-Glass	6%	6%	\$0.05	0.90	0.85	0.09	15	0.14	0.01	\$0.102	\$938	0.68	0.56	13.62	1.33
713	Window Film - DX	Stone-Clay-Glass	10%	10%	\$0.03	1.12	1.01	0.11	10	0.07	0.01	\$0.045	\$417	1.53	1.41	4.38	1.33
715	Prog. Thermostat - DX	Stone-Clay-Glass	10%	3%	\$0.01	1.10	1.00	0.12	10	0.10	0.00	\$0.008	\$299	6.64	7.20	0.86	1.13
716	Cool Roof - DX	Stone-Clay-Glass	10%	10%	\$0.11	1.08	0.98	0.11	10	0.09	0.01	\$0.164	\$1,501	0.43	0.39	15.77	1.33
800	Base Lighting	Stone-Clay-Glass	0%	0%	\$0.00	1.04	1.04	0.11	10	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
801	RET 2L4' Premium T8, 1EB	Stone-Clay-Glass	31%	31%	\$0.12	1.06	0.73	0.08	15	0.67	0.07	\$0.041	\$379	1.68	1.38	5.50	1.33
802	CFL Hardwired, Modular 36W	Stone-Clay-Glass	72%	72%	\$0.10	1.04	0.29	0.03	4	0.02	0.00	\$0.045	\$413	1.54	1.67	2.01	1.33
803	Metal Halide, 50W	Stone-Clay-Glass	58%	58%	\$0.80	1.23	0.52	0.06	5	1.39	0.15	\$0.307	\$2,817	0.23	0.24	16.74	1.33
804	Occupancy Sensor, 4L4' Fluorescent Fixtures	Stone-Clay-Glass	18%	20%	\$0.05	1.05	0.87	0.09	9	0.13	0.02	\$0.045	\$364	1.64	1.48	3.97	1.39
900	Base Other	Stone-Clay-Glass	0%	0%	\$0.00	1.04	1.04	0.11	15	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
901	Replace V-belts	Stone-Clay-Glass	0%	0%	\$0.00	1.04	1.04	0.11	5	0.00	0.00	\$0.044	\$401	1.59	1.67	2.38	1.33
100	Base Compressed Air	Prim Metals	0%	0%	\$0.00	1.04	1.04	0.15	14	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
101	Compressed Air-O&M	Prim Metals	17%	17%	\$0.01	1.18	0.98	0.14	2	1.72	0.24	\$0.039	\$283	1.94	2.10	0.90	1.42
102	Compressed Air - Controls	Prim Metals	12%	12%	\$0.02	1.15	1.01	0.14	10	0.96	0.13	\$0.020	\$141	3.90	3.36	1.83	1.42
103	Compressed Air - System Optimization	Prim Metals	20%	20%	\$0.02	1.16	0.93	0.13	10	3.25	0.45	\$0.013	\$94	5.87	5.06	1.22	1.42
104	Compressed Air- Sizing	Prim Metals	9%	9%	\$0.00	1.13	1.03	0.14	10	0.28	0.04	\$0.007	\$50	10.88	9.38	0.66	1.42
105	Comp Air - Replace 1-5 HP motor	Prim Metals	3%	3%	\$0.05	1.05	1.02	0.14	17	0.03	0.00	\$0.191	\$1,374	0.40	0.29	26.55	1.42
106	Comp Air - ASD (1-5 hp)	Prim Metals	6%	1%	\$0.09	1.04	0.98	0.14	17	0.08	0.00	\$0.154	\$11,548	0.36	0.34	23.07	1.12
107	Comp Air - Motor practices-1 (1-5 HP)	Prim Metals	5%	5%	\$0.02	1.04	0.99	0.14	17	0.07	0.01	\$0.045	\$320	1.71	1.26	6.19	1.42
108	Comp Air - Replace 6-100 HP motor	Prim Metals	3%	4%	\$0.03	1.06	1.02	0.14	20	0.24	0.03	\$0.079	\$569	0.96	0.68	11.79	1.42
109	Comp Air - ASD (6-100 hp)	Prim Metals	6%	1%	\$0.00	1.04	0.98	0.14	20	1.70	0.02	\$0.004	\$300	13.87	12.44	0.64	1.12
110	Comp Air - Motor practices-1 (6-100 HP)	Prim Metals	2%	2%	\$0.01	1.07	1.04	0.14	20	0.04	0.00	\$0.024	\$175	3.14	2.21	3.63	1.42
111	Comp Air - Replace 100+ HP motor	Prim Metals	3%	3%	\$0.01	1.07	1.04	0.14	20	0.14	0.02	\$0.026	\$190	2.89	2.03	3.94	1.42
112	Comp Air - ASD (100+ hp)	Prim Metals	6%	1%	\$0.01	1.06	1.00	0.15	20	1.07	0.01	\$0.011	\$793	5.25	4.71	1.70	1.12
113	Comp Air - Motor practices-1 (100+ HP)	Prim Metals	1%	2%	\$0.00	1.05	1.03	0.14	20	0.17	0.02	\$0.016	\$116	4.75	3.34	2.39	1.42
200	Base Fans	Prim Metals	0%	0%	\$0.00	1.04	1.04	0.15	14	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
201	Fans - O&M	Prim Metals	2%	2%	\$0.00	1.05	1.03	0.14	2	0.55	0.08	\$0.036	\$261	2.10	2.27	0.83	1.42
202	Fans - Controls	Prim Metals	30%	30%	\$0.09	1.14	0.80	0.11	10	6.33	0.88	\$0.043	\$305	1.80	1.55	3.97	1.42
203	Fans - System Optimization	Prim Metals	20%	10%	\$0.06	1.08	0.86	0.13	10	4.87	0.33	\$0.043	\$631	1.51	1.47	4.18	1.25
204	Fans- Improve components	Prim Metals	5%	5%	\$0.01	1.06	1.01	0.14	10	1.12	0.16	\$0.015	\$107	5.13	4.42	1.39	1.42
205	Fans - Replace 1-5 HP motor	Prim Metals	3%	3%	\$0.05	1.04	1.02	0.14	17	0.04	0.01	\$0.192	\$1,379	0.40	0.29	26.63	1.42
206	Fans - ASD (1-5 hp)	Prim Metals	6%	1%	\$0.09	1.04	0.98	0.14	17	0.09	0.00	\$0.154	\$11,546	0.36	0.34	23.07	1.12
207	Fans - Motor practices-1 (1-5 HP)	Prim Metals	5%	5%	\$0.02	1.04	0.99	0.14	17	0.07	0.01	\$0.045	\$320	1.71	1.26	6.19	1.42
208	Fans - Replace 6-100 HP motor	Prim Metals	3%	4%	\$0.03	1.05	1.01	0.14	20	0.33	0.05	\$0.089	\$575	0.91	0.62	12.95	1.47
209	Fans - ASD (6-100 hp)	Prim Metals	3%	1%	\$0.00	1.05	1.01	0.14	20	0.37	0.01	\$0.007	\$300	8.58	7.39	1.08	1.16
210	Fans - Motor practices-1 (6-100 HP)	Prim Metals	2%	2%	\$0.01	1.05	1.02	0.14	20	0.25	0.03	\$0.025	\$178	3.08	2.17	3.69	1.42
211	Fans - Replace 100+ HP motor	Prim Metals	3%	3%	\$0.01	1.05	1.01	0.14	20	0.56	0.08	\$0.027	\$194	2.83	1.99	4.02	1.42
212	Fans - ASD (100+ hp)	Prim Metals	5%	1%	\$0.01	1.05	0.99	0.15	20	0.98	0.01	\$0.012	\$806	4.82	4.21	1.90	1.15
213	Fans - Motor practices-1 (100+ HP)	Prim Metals	1%	2%	\$0.00	1.04	1.04	0.14	20	0.17	0.04	\$0.027	\$116	3.48	2.14	3.74	1.63
300	Base Pumps	Prim Metals	0%	0%	\$0.00	1.04	1.04	0.15	14	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
301	Pumps - O&M	Prim Metals	10%	10%	\$0.01	1.14	1.02	0.14	2	0.44	0.06	\$0.034	\$245	2.25	2.43	0.78	1.42
302	Pumps - Controls	Prim Metals	30%	30%	\$0.03	1.41	0.99	0.14	10	1.25	0.17	\$0.010	\$72	7.61	6.56	0.94	1.42
303	Pumps - System Optimization	Prim Metals	33%	33%	\$0.08	1.45	0.97	0.14	10	1.55	0.22	\$0.026	\$187	2.94	2.53	2.43	1.42
304	Pumps - Sizing	Prim Metals	20%	20%	\$0.02	1.24	0.99	0.14	10	1.09	0.15	\$0.013	\$91	6.04	5.21	1.18	1.42
305	Pumps - Replace 1-5 HP motor	Prim Metals	3%	3%	\$0.05	1.05	1.02	0.14	17	0.03	0.00	\$0.192	\$1,375	0.40	0.29	26.57	1.42

Industrial Electric																		
DSM ASSYST SUMMARY																		
Measure Number	Measure	Building Type	Energy Savings Fraction	Peak Reduction Fraction	Total Costs/ Base kWh	Base EU	EU	Peak Watts/ Base kWh	Service Life (yrs)	Technical Potential GWH	System Peak Tech. Potential MW	Levelized Cost of Conserved Energy \$/kWh	Levelized Cost of Avoided Peak Capacity \$/kW	Total Resource Cost Test (TRC)	Participant Test	Customer Payback (Years)	Revenue Test	
306	Pumps - ASD (1-5 hp)	Prim Metals	6%	1%	\$0.09	1.04	0.98	0.14	17	0.07	0.00	\$0.154	\$11,548	0.36	0.34	23.07	1.12	
307	Pumps - Motor practices-1 (1-5 HP)	Prim Metals	5%	5%	\$0.02	1.08	1.02	0.14	17	0.02	0.00	\$0.043	\$311	1.76	1.30	6.01	1.42	
308	Pumps - Replace 6-100 HP motor	Prim Metals	3%	4%	\$0.03	1.05	1.01	0.14	20	0.28	0.04	\$0.080	\$576	0.95	0.67	11.93	1.42	
309	Pumps - ASD (6-100 hp)	Prim Metals	6%	1%	\$0.00	1.05	0.98	0.14	20	0.48	0.01	\$0.005	\$358	11.65	10.45	0.77	1.12	
310	Pumps - Motor practices-1 (6-100 HP)	Prim Metals	2%	2%	\$0.01	1.05	1.03	0.14	20	0.12	0.02	\$0.025	\$177	3.10	2.18	3.67	1.42	
311	Pumps - Replace 100+ HP motor	Prim Metals	3%	3%	\$0.01	1.06	1.03	0.14	20	0.16	0.02	\$0.027	\$191	2.88	2.03	3.95	1.42	
312	Pumps - ASD (100+ hp)	Prim Metals	6%	1%	\$0.01	1.04	0.98	0.14	20	0.82	0.01	\$0.011	\$809	5.15	4.62	1.73	1.12	
313	Pumps - Motor practices-1 (100+ HP)	Prim Metals	1%	2%	\$0.00	1.04	1.03	0.14	20	0.20	0.03	\$0.016	\$116	4.73	3.33	2.41	1.42	
400	Base Drives	Prim Metals	0%	0%	\$0.00	1.04	1.04	0.15	20	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
415	Drives - Process Controls (batch + site)	Prim Metals	5%	5%	\$0.02	1.07	1.02	0.14	10	0.84	0.12	\$0.071	\$507	1.08	0.93	6.61	1.42	
425	Drives - Process Control	Prim Metals	5%	5%	\$0.02	1.07	1.02	0.14	15	0.84	0.12	\$0.032	\$229	2.40	1.84	4.12	1.42	
426	Efficient drives - rolling	Prim Metals	6%	6%	\$0.01	1.08	1.01	0.14	10	0.93	0.13	\$0.023	\$168	3.27	2.82	2.19	1.42	
431	Custom Measures--Drives	Prim Metals	4%	4%	\$0.02	1.04	1.00	0.14	15	1.38	0.19	\$0.042	\$304	1.81	1.39	5.47	1.42	
500	Base Process Heating	Prim Metals	0%	0%	\$0.00	1.04	1.04	0.15	20	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
505	Efficient electric melting	Prim Metals	10%	10%	\$0.03	1.04	0.94	0.13	20	8.00	1.11	\$0.031	\$224	2.45	1.72	4.65	1.42	
506	Intelligent extruder (DOE)	Prim Metals	2%	2%	\$0.02	1.06	1.04	0.14	10	0.05	0.01	\$0.119	\$851	0.65	0.56	11.08	1.42	
507	Near Net Shape Casting	Prim Metals	12%	12%	\$0.01	1.15	1.01	0.14	15	0.59	0.08	\$0.010	\$71	7.69	5.91	1.28	1.42	
508	Heating - Process Control	Prim Metals	5%	5%	\$0.02	1.07	1.02	0.14	15	2.28	0.32	\$0.032	\$229	2.40	1.84	4.12	1.42	
512	Custom Measures--Process Heating	Prim Metals	4%	4%	\$0.02	1.04	1.00	0.14	15	3.76	0.52	\$0.042	\$304	1.81	1.39	5.47	1.42	
550	Base Process Cooling	Prim Metals	0%	0%	\$0.00	1.04	1.04	0.15	20	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
553	Custom Measures--Process Cooling	Prim Metals	4%	4%	\$0.02	1.04	1.00	0.14	15	0.10	0.01	\$0.042	\$304	1.81	1.39	5.47	1.42	
600	Base Other Process	Prim Metals	0%	0%	\$0.00	1.04	1.04	0.15	15	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
605	Custom Measures--Other Process	Prim Metals	4%	4%	\$0.02	1.04	1.00	0.14	15	4.28	0.60	\$0.042	\$304	1.81	1.39	5.47	1.42	
700	Base Space Cooling Centrifugal Chiller, 0.58 kW/ton, 500 tons	Prim Metals	0%	0%	\$0.00	1.04	1.04	0.15	20	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
701	Centrifugal Chiller, 0.51 kW/ton, 500 tons	Prim Metals	12%	12%	\$0.03	0.93	0.82	0.11	20	0.02	0.00	\$0.028	\$198	2.78	1.95	4.10	1.42	
702	Window Film - Chiller	Prim Metals	10%	10%	\$0.06	1.10	0.99	0.14	10	0.01	0.00	\$0.080	\$572	0.96	0.83	7.45	1.42	
703	EMS - Chiller	Prim Metals	10%	10%	\$0.11	1.08	0.98	0.14	10	0.01	0.00	\$0.155	\$1,112	0.49	0.43	14.48	1.42	
704	Cool Roof - Chiller	Prim Metals	10%	10%	\$0.19	1.09	0.98	0.14	10	0.01	0.00	\$0.280	\$2,009	0.27	0.24	26.16	1.42	
705	Chiller Tune Up/Diagnostics	Prim Metals	8%	8%	\$0.05	1.09	1.00	0.14	10	0.00	0.00	\$0.095	\$681	0.81	0.69	8.87	1.42	
706	Cooling Circ. Pumps - VSD	Prim Metals	6%	6%	\$0.12	1.06	1.00	0.14	15	0.01	0.00	\$0.207	\$1,487	0.37	0.28	26.76	1.42	
710	Base Space Cooling DX Packaged System, EER=10.3, 10 tons	Prim Metals	0%	0%	\$0.00	1.04	1.04	0.15	15	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
711	DX Tune Up/ Advanced Diagnostics	Prim Metals	10%	10%	\$0.08	1.10	0.99	0.14	3	0.14	0.02	\$0.324	\$2,328	0.24	0.25	10.83	1.42	
712	DX Packaged System, EER=10.9, 10 tons	Prim Metals	6%	6%	\$0.05	0.90	0.85	0.12	15	0.17	0.02	\$0.102	\$735	0.75	0.57	13.21	1.42	
713	Window Film - DX	Prim Metals	10%	10%	\$0.03	1.12	1.01	0.14	10	0.09	0.01	\$0.045	\$327	1.68	1.45	4.25	1.42	
715	Prog. Thermostat - DX	Prim Metals	10%	3%	\$0.01	1.10	1.00	0.15	10	0.12	0.00	\$0.009	\$234	6.96	7.25	0.85	1.17	
716	Cool Roof - DX	Prim Metals	10%	10%	\$0.11	1.08	0.98	0.14	10	0.11	0.02	\$0.164	\$1,175	0.47	0.40	15.30	1.42	
800	Base Lighting	Prim Metals	0%	0%	\$0.00	1.04	1.04	0.15	10	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
801	RET 2L4' Premium T8, 1EB	Prim Metals	31%	31%	\$0.12	1.06	0.73	0.10	15	1.45	0.20	\$0.041	\$297	1.85	1.42	5.34	1.42	
802	CFL Hardwired, Modular 36W	Prim Metals	72%	72%	\$0.10	1.04	0.29	0.04	4	0.03	0.00	\$0.045	\$324	1.70	1.72	1.95	1.42	
803	Metal Halide, 50W	Prim Metals	58%	58%	\$0.80	1.23	0.52	0.07	5	2.78	0.39	\$0.307	\$2,206	0.25	0.25	16.24	1.42	
804	Occupancy Sensor, 4L4' Fluorescent Fixtures	Prim Metals	18%	20%	\$0.05	1.05	0.86	0.12	9	0.27	0.04	\$0.044	\$285	1.84	1.56	3.76	1.47	
900	Base Other	Prim Metals	0%	0%	\$0.00	1.04	1.04	0.15	15	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
901	Replace V-belts	Prim Metals	0%	0%	\$0.00	1.04	1.04	0.15	5	0.00	0.00	\$0.044	\$314	1.75	1.72	2.31	1.42	
100	Base Compressed Air	Fab Metals	0%	0%	\$0.00	1.04	1.04	0.14	14	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
101	Compressed Air-O&M	Fab Metals	17%	17%	\$0.01	1.20	1.00	0.14	2	3.94	0.53	\$0.039	\$287	1.94	2.11	0.89	1.41	
102	Compressed Air - Controls	Fab Metals	12%	12%	\$0.02	1.15	1.01	0.14	10	3.05	0.41	\$0.020	\$145	3.84	3.33	1.85	1.41	
103	Compressed Air - System Optimization	Fab Metals	20%	20%	\$0.02	1.16	0.93	0.13	10	10.29	1.39	\$0.013	\$97	5.77	5.00	1.23	1.41	
104	Compressed Air- Sizing	Fab Metals	9%	9%	\$0.00	1.04	0.95	0.13	10	3.88	0.52	\$0.008	\$56	9.91	8.59	0.72	1.41	
105	Comp Air - Replace 1-5 HP motor	Fab Metals	3%	3%	\$0.05	1.05	1.02	0.14	17	0.11	0.01	\$0.191	\$1,417	0.39	0.29	26.85	1.41	
106	Comp Air - ASD (1-5 hp)	Fab Metals	6%	1%	\$0.09	1.04	0.98	0.14	17	0.27	0.00	\$0.155	\$11,912	0.35	0.34	23.37	1.11	
107	Comp Air - Motor practices-1 (1-5 HP)	Fab Metals	5%	5%	\$0.02	1.04	0.99	0.13	17	0.21	0.03	\$0.045	\$330	1.69	1.25	6.26	1.41	
108	Comp Air - Replace 6-100 HP motor	Fab Metals	4%	4%	\$0.03	1.07	1.04	0.14	20	0.25	0.03	\$0.078	\$578	0.96	0.68	11.74	1.41	
109	Comp Air - ASD (6-100 hp)	Fab Metals	6%	1%	\$0.00	1.04	0.98	0.14	20	2.00	0.03	\$0.004	\$310	13.63	12.28	0.65	1.11	
110	Comp Air - Motor practices-1 (6-100 HP)	Fab Metals	2%	2%	\$0.01	1.04	1.02	0.14	20	0.79	0.11	\$0.025	\$184	3.02	2.14	3.75	1.41	
111	Comp Air - Replace 100+ HP motor	Fab Metals	3%	3%	\$0.01	1.06	1.03	0.14	20	0.66	0.09	\$0.027	\$197	2.83	2.00	4.00	1.41	
112	Comp Air - ASD (100+ hp)	Fab Metals	6%	1%	\$0.01	1.04	0.98	0.14	20	5.59	0.07	\$0.011	\$834	5.06	4.56	1.76	1.11	
113	Comp Air - Motor practices-1 (100+ HP)	Fab Metals	2%	2%	\$0.00	1.05	1.04	0.14	20	0.33	0.04	\$0.016	\$119	4.69	3.32	2.41	1.41	
200	Base Fans	Fab Metals	0%	0%	\$0.00	1.04	1.04	0.14	14	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
201	Fans - O&M	Fab Metals	2%	2%	\$0.00	1.06	1.04	0.14	2	0.06	0.01	\$0.036	\$266	2.10	2.28	0.83	1.41	
202	Fans - Controls	Fab Metals	30%	30%	\$0.09	1.37	0.96	0.13	10	1.80	0.24	\$0.035	\$262	2.12	1.84	3.35	1.41	
203	Fans - System Optimization	Fab Metals	20%	10%	\$0.06	1.24	0.99	0.15	10	1.13	0.07	\$0.037	\$563	1.71	1.68	3.66	1.25	
204	Fans- Improve components	Fab Metals	5%	5%	\$0.01	1.08	1.03	0.14	10	0.45	0.06	\$0.015	\$109	5.13	4.45	1.39	1.41	
205	Fans - Replace 1-5 HP motor	Fab Metals	3%	3%	\$0.05	1.05	1.02	0.14	17	0.03	0.00	\$0.191	\$1,417	0.39	0.29	26.85	1.41	
206	Fans - ASD (1-5 hp)	Fab Metals	6%	1%	\$0.09	1.06	0.99	0.14	17	0.06	0.00	\$0.153	\$11,782	0.36	0.34	23.11	1.11	
207	Fans - Motor practices-1 (1-5 HP)	Fab Metals	5%	5%	\$0.02	1.04	0.99	0.13	17	0.06	0.01	\$0.045	\$330	1.69	1.25	6.26	1.41	
208	Fans - Replace 6-100 HP motor	Fab Metals	3%	4%	\$0.03	1.06	1.03	0.14	20	0.13	0.02	\$0.088	\$585	0.90	0.62	13.02	1.47	
209	Fans - ASD (6-100 hp)	Fab Metals	3%	1%	\$0.00	1.05	1.01	0.14	20	0.27	0.01	\$0.007	\$309	8.28	7.18	1.12	1.15	

Industrial Electric																	
DSM ASSYST SUMMARY																	
Measure Number	Measure	Building Type	Energy Savings Fraction	Peak Reduction Fraction	Total Costs/ Base kWh	Base EUJ	EUJ	Peak Watts/ Base kWh	Service Life (yrs)	Technical Potential GWH	System Peak Tech. Potential MW	Levelized Cost of Conserved Energy \$/kWH	Levelized Cost of Avoided Peak Capacity \$/kW	Total Resource Cost Test (TRC)	Participant Test	Customer Payback (Years)	Revenue Test
210	Fans - Motor practices-1 (6-100 HP)	Fab Metals	2%	2%	\$0.01	1.06	1.03	0.14	20	0.09	0.01	\$0.025	\$182	3.06	2.17	3.69	1.41
211	Fans - Replace 100+ HP motor	Fab Metals	3%	3%	\$0.01	1.05	1.02	0.14	20	0.40	0.05	\$0.027	\$200	2.78	1.97	4.06	1.41
212	Fans - ASD (100+ hp)	Fab Metals	5%	1%	\$0.01	1.10	1.04	0.15	20	0.09	0.00	\$0.012	\$795	4.92	4.31	1.86	1.14
213	Fans - Motor practices-1 (100+ HP)	Fab Metals	1%	2%	\$0.00	1.04	1.04	0.14	20	0.13	0.03	\$0.028	\$120	3.39	2.09	3.83	1.62
300	Base Pumps	Fab Metals	0%	0%	\$0.00	1.04	1.04	0.14	14	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
301	Pumps - O&M	Fab Metals	10%	10%	\$0.01	1.09	0.98	0.13	2	1.03	0.14	\$0.035	\$263	2.12	2.30	0.82	1.41
302	Pumps - Controls	Fab Metals	30%	30%	\$0.03	1.35	0.95	0.13	10	1.31	0.18	\$0.010	\$78	7.18	6.22	0.99	1.41
303	Pumps - System Optimization	Fab Metals	33%	33%	\$0.08	1.12	0.75	0.10	10	3.83	0.52	\$0.034	\$250	2.23	1.93	3.19	1.41
304	Pumps - Sizing	Fab Metals	20%	20%	\$0.02	1.24	0.99	0.13	10	0.84	0.11	\$0.013	\$94	5.94	5.15	1.20	1.41
305	Pumps - Replace 1-5 HP motor	Fab Metals	3%	3%	\$0.05	1.05	1.02	0.14	17	0.02	0.00	\$0.192	\$1,420	0.39	0.29	26.90	1.41
306	Pumps - ASD (1-5 hp)	Fab Metals	6%	1%	\$0.09	1.06	0.99	0.14	17	0.04	0.00	\$0.153	\$11,771	0.36	0.34	23.09	1.11
307	Pumps - Motor practices-1 (1-5 HP)	Fab Metals	5%	5%	\$0.02	1.07	1.02	0.14	17	0.02	0.00	\$0.044	\$323	1.72	1.28	6.12	1.41
308	Pumps - Replace 6-100 HP motor	Fab Metals	4%	4%	\$0.03	1.05	1.01	0.14	20	0.20	0.03	\$0.080	\$592	0.94	0.67	12.03	1.41
309	Pumps - ASD (6-100 hp)	Fab Metals	6%	1%	\$0.00	1.08	1.01	0.14	20	0.18	0.00	\$0.005	\$358	11.81	10.64	0.75	1.11
310	Pumps - Motor practices-1 (6-100 HP)	Fab Metals	2%	2%	\$0.01	1.05	1.02	0.14	20	0.12	0.02	\$0.025	\$184	3.03	2.15	3.73	1.41
311	Pumps - Replace 100+ HP motor	Fab Metals	3%	3%	\$0.01	1.06	1.03	0.14	20	0.13	0.02	\$0.027	\$197	2.83	2.00	4.00	1.41
312	Pumps - ASD (100+ hp)	Fab Metals	6%	1%	\$0.01	1.05	0.98	0.14	20	0.62	0.01	\$0.011	\$833	5.07	4.57	1.75	1.11
313	Pumps - Motor practices-1 (100+ HP)	Fab Metals	2%	2%	\$0.00	1.04	1.03	0.14	20	0.16	0.02	\$0.016	\$120	4.65	3.29	2.43	1.41
400	Base Drives	Fab Metals	0%	0%	\$0.00	1.04	1.04	0.14	20	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
427	Drives - Optimization process (M&T)	Fab Metals	10%	10%	\$0.01	1.10	0.99	0.13	10	1.19	0.16	\$0.014	\$101	5.49	4.76	1.29	1.41
428	Drives - Scheduling	Fab Metals	5%	1%	\$0.01	1.08	1.03	0.14	10	0.35	0.01	\$0.034	\$1,293	1.69	1.81	3.40	1.14
429	Machinery	Fab Metals	7%	7%	\$0.01	1.10	1.02	0.14	10	0.52	0.07	\$0.026	\$191	2.92	2.53	2.43	1.41
431	Custom Measures--Drives	Fab Metals	4%	4%	\$0.02	1.04	1.00	0.14	15	2.39	0.32	\$0.042	\$314	1.78	1.37	5.53	1.41
500	Base Process Heating	Fab Metals	0%	0%	\$0.00	1.04	1.04	0.14	20	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
509	Efficient Curing ovens	Fab Metals	20%	20%	\$0.08	1.23	0.98	0.13	15	2.18	0.29	\$0.037	\$275	2.03	1.57	4.85	1.41
510	Heating - Optimization process (M&T)	Fab Metals	10%	10%	\$0.01	1.10	0.99	0.13	10	1.12	0.15	\$0.014	\$101	5.49	4.76	1.29	1.41
511	Heating - Scheduling	Fab Metals	5%	1%	\$0.01	1.08	1.03	0.14	10	0.34	0.01	\$0.034	\$1,293	1.69	1.81	3.41	1.14
512	Custom Measures--Process Heating	Fab Metals	4%	4%	\$0.02	1.04	1.00	0.14	15	2.24	0.30	\$0.042	\$314	1.78	1.37	5.53	1.41
550	Base Process Cooling	Fab Metals	0%	0%	\$0.00	1.04	1.04	0.14	20	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
553	Custom Measures--Process Cooling	Fab Metals	4%	4%	\$0.02	1.04	1.00	0.14	15	0.33	0.04	\$0.042	\$314	1.78	1.37	5.53	1.41
600	Base Other Process	Fab Metals	0%	0%	\$0.00	1.04	1.04	0.14	15	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
603	New transformers welding	Fab Metals	25%	25%	\$0.05	1.19	0.90	0.12	15	1.88	0.25	\$0.019	\$142	3.93	3.04	2.50	1.41
605	Custom Measures--Other Process	Fab Metals	4%	4%	\$0.02	1.04	1.00	0.14	15	0.55	0.07	\$0.042	\$314	1.78	1.37	5.53	1.41
700	Base Space Cooling Centrifugal Chiller, 0.58 kW/ton, 500 tons	Fab Metals	0%	0%	\$0.00	1.04	1.04	0.14	20	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
701	Centrifugal Chiller, 0.51 kW/ton, 500 tons	Fab Metals	12%	12%	\$0.03	0.93	0.82	0.11	20	0.06	0.01	\$0.028	\$204	2.73	1.93	4.15	1.41
702	Window Film - Chiller	Fab Metals	10%	10%	\$0.06	1.10	0.99	0.13	10	0.02	0.00	\$0.080	\$590	0.94	0.82	7.53	1.41
703	EMS - Chiller	Fab Metals	10%	10%	\$0.11	1.08	0.98	0.13	10	0.04	0.00	\$0.155	\$1,147	0.49	0.42	14.65	1.41
704	Cool Roof - Chiller	Fab Metals	10%	10%	\$0.19	1.09	0.98	0.13	10	0.02	0.00	\$0.280	\$2,072	0.27	0.23	26.46	1.41
705	Chiller Tune Up/Diagnostics	Fab Metals	8%	8%	\$0.05	1.09	1.00	0.14	10	0.01	0.00	\$0.095	\$703	0.79	0.69	8.97	1.41
706	Cooling Circ. Pumps - VSD	Fab Metals	6%	6%	\$0.12	1.06	1.00	0.13	15	0.02	0.00	\$0.207	\$1,534	0.36	0.28	27.06	1.41
710	Base Space Cooling DX Packaged System, EER=10.3, 10 tons	Fab Metals	0%	0%	\$0.00	1.04	1.04	0.14	15	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
711	DX Tune Up/ Advanced Diagnostics	Fab Metals	10%	10%	\$0.08	1.10	0.99	0.13	3	0.36	0.05	\$0.324	\$2,401	0.23	0.24	10.96	1.41
712	DX Packaged System, EER=10.9, 10 tons	Fab Metals	6%	6%	\$0.05	0.90	0.85	0.12	15	0.43	0.06	\$0.102	\$758	0.74	0.57	13.37	1.41
713	Window Film - DX	Fab Metals	10%	10%	\$0.03	1.12	1.01	0.14	10	0.23	0.03	\$0.045	\$337	1.65	1.43	4.30	1.41
715	Prog. Thermostat - DX	Fab Metals	10%	3%	\$0.01	1.10	1.00	0.15	10	0.31	0.01	\$0.009	\$242	6.83	7.16	0.86	1.17
716	Cool Roof - DX	Fab Metals	10%	10%	\$0.11	1.08	0.98	0.13	10	0.28	0.04	\$0.164	\$1,212	0.46	0.40	15.48	1.41
800	Base Lighting	Fab Metals	0%	0%	\$0.00	1.04	1.04	0.14	10	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
801	RET 2L4' Premium T8, 1EB	Fab Metals	31%	31%	\$0.12	1.06	0.73	0.10	15	4.31	0.58	\$0.041	\$306	1.82	1.41	5.40	1.41
802	CFL Hardwired, Modular 36W	Fab Metals	72%	72%	\$0.10	1.04	0.29	0.04	4	0.08	0.01	\$0.045	\$334	1.67	1.70	1.98	1.41
803	Metal Halide, 50W	Fab Metals	58%	58%	\$0.80	1.23	0.52	0.07	5	6.47	0.87	\$0.307	\$2,276	0.24	0.24	16.43	1.41
804	Occupancy Sensor, 4L4' Fluorescent Fixtures	Fab Metals	18%	20%	\$0.05	1.05	0.86	0.11	9	0.62	0.09	\$0.044	\$294	1.80	1.54	3.83	1.47
900	Base Other	Fab Metals	0%	0%	\$0.00	1.04	1.04	0.14	15	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
901	Replace V-belts	Fab Metals	0%	0%	\$0.00	1.04	1.04	0.14	5	0.00	0.00	\$0.044	\$324	1.72	1.70	2.34	1.41
100	Base Compressed Air	Ind Mach	0%	0%	\$0.00	1.04	1.04	0.23	14	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
101	Compressed Air-O&M	Ind Mach	17%	17%	\$0.01	1.20	1.00	0.22	2	8.24	1.78	\$0.039	\$179	2.41	2.27	0.83	1.63
102	Compressed Air - Controls	Ind Mach	12%	12%	\$0.02	1.15	1.01	0.22	10	6.39	1.38	\$0.020	\$91	4.77	3.58	1.72	1.63
103	Compressed Air - System Optimization	Ind Mach	20%	20%	\$0.02	1.16	0.93	0.20	10	21.52	4.65	\$0.013	\$60	7.17	5.38	1.15	1.63
104	Compressed Air- Sizing	Ind Mach	9%	9%	\$0.00	1.04	0.95	0.21	10	8.11	1.75	\$0.008	\$35	12.32	9.25	0.67	1.63
105	Comp Air - Replace 1-5 HP motor	Ind Mach	3%	3%	\$0.05	1.05	1.02	0.22	17	0.23	0.05	\$0.191	\$885	0.49	0.31	24.95	1.63
106	Comp Air - ASD (1-5 hp)	Ind Mach	6%	1%	\$0.09	1.04	0.98	0.22	17	0.54	0.01	\$0.160	\$7,439	0.39	0.34	23.21	1.20
107	Comp Air - Motor practices-1 (1-5 HP)	Ind Mach	5%	5%	\$0.02	1.04	0.99	0.21	17	0.45	0.10	\$0.045	\$206	2.09	1.35	5.82	1.63
108	Comp Air - Replace 6-100 HP motor	Ind Mach	3%	4%	\$0.03	1.07	1.04	0.22	20	0.52	0.11	\$0.078	\$361	1.20	0.73	10.91	1.63
109	Comp Air - ASD (6-100 hp)	Ind Mach	6%	1%	\$0.00	1.04	0.98	0.22	20	4.05	0.09	\$0.004	\$194	14.85	12.36	0.65	1.20
110	Comp Air - Motor practices-1 (6-100 HP)	Ind Mach	2%	2%	\$0.01	1.04	1.02	0.22	20	1.66	0.36	\$0.025	\$115	3.75	2.30	3.48	1.63
111	Comp Air - Replace 100+ HP motor	Ind Mach	3%	3%	\$0.01	1.06	1.03	0.22	20	1.38	0.30	\$0.027	\$123	3.52	2.15	3.72	1.63
112	Comp Air - ASD (100+ hp)	Ind Mach	6%	1%	\$0.01	1.04	0.98	0.22	20	11.33	0.24	\$0.011	\$521	5.52	4.59	1.74	1.20
113	Comp Air - Motor practices-1 (100+ HP)	Ind Mach	1%	2%	\$0.00	1.05	1.04	0.22	20	0.69	0.15	\$0.016	\$74	5.83	3.57	2.24	1.63

Industrial Electric																		
DSM ASSYST SUMMARY																		
Measure Number	Measure	Building Type	Energy Savings Fraction	Peak Reduction Fraction	Total Costs/ Base kWh	Base EU	EU	Peak Watts/ Base kWh	Service Life (yrs)	Technical Potential GWH	System Peak Tech. Potential MW	Levelized Cost of Conserved Energy \$/kWh	Levelized Cost of Avoided Peak Capacity \$/kW	Total Resource Cost Test (TRC)	Participant Test	Customer Payback (Years)	Revenue Test	
200	Base Fans	Ind Mach	0%	0%	\$0.00	1.04	1.04	0.23	14	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
201	Fans - O&M	Ind Mach	2%	2%	\$0.00	1.06	1.04	0.23	2	0.09	0.02	\$0.036	\$166	2.61	2.45	0.77	1.63	
202	Fans - Controls	Ind Mach	30%	30%	\$0.09	1.37	0.96	0.21	10	2.45	0.53	\$0.035	\$164	2.64	1.98	3.11	1.63	
203	Fans - System Optimization	Ind Mach	20%	10%	\$0.06	1.24	0.99	0.24	10	1.50	0.16	\$0.038	\$353	2.00	1.74	3.54	1.40	
204	Fans - Improve components	Ind Mach	5%	5%	\$0.01	1.08	1.03	0.22	10	0.61	0.13	\$0.015	\$68	6.37	4.78	1.29	1.63	
205	Fans - Replace 1-5 HP motor	Ind Mach	3%	3%	\$0.05	1.05	1.02	0.22	17	0.04	0.01	\$0.191	\$885	0.49	0.31	24.95	1.63	
206	Fans - ASD (1-5 hp)	Ind Mach	6%	1%	\$0.09	1.06	0.99	0.23	17	0.08	0.00	\$0.158	\$7,361	0.39	0.34	22.97	1.20	
207	Fans - Motor practices-1 (1-5 HP)	Ind Mach	5%	5%	\$0.02	1.04	0.99	0.21	17	0.08	0.02	\$0.045	\$206	2.09	1.35	5.82	1.63	
208	Fans - Replace 6-100 HP motor	Ind Mach	3%	4%	\$0.03	1.06	1.03	0.22	20	0.19	0.04	\$0.082	\$365	1.17	0.70	11.40	1.66	
209	Fans - ASD (6-100 hp)	Ind Mach	4%	1%	\$0.00	1.05	1.01	0.23	20	0.40	0.01	\$0.007	\$193	9.90	8.07	0.99	1.23	
210	Fans - Motor practices-1 (6-100 HP)	Ind Mach	2%	2%	\$0.01	1.06	1.03	0.22	20	0.12	0.03	\$0.025	\$114	3.81	2.33	3.43	1.63	
211	Fans - Replace 100+ HP motor	Ind Mach	3%	3%	\$0.01	1.05	1.02	0.22	20	0.55	0.12	\$0.027	\$125	3.46	2.12	3.78	1.63	
212	Fans - ASD (100+ hp)	Ind Mach	6%	1%	\$0.01	1.10	1.04	0.24	20	0.13	0.00	\$0.011	\$495	5.65	4.64	1.73	1.22	
213	Fans - Motor practices-1 (100+ HP)	Ind Mach	1%	2%	\$0.00	1.04	1.03	0.22	20	0.20	0.06	\$0.024	\$75	4.61	2.53	3.16	1.82	
300	Base Pumps	Ind Mach	0%	0%	\$0.00	1.04	1.04	0.23	14	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
301	Pumps - O&M	Ind Mach	10%	10%	\$0.01	1.09	0.98	0.21	2	1.39	0.30	\$0.035	\$164	2.64	2.48	0.76	1.63	
302	Pumps - Controls	Ind Mach	30%	30%	\$0.03	1.35	0.95	0.20	10	1.78	0.39	\$0.010	\$48	8.92	6.70	0.92	1.63	
303	Pumps - System Optimization	Ind Mach	33%	33%	\$0.08	1.12	0.75	0.16	10	5.21	1.13	\$0.034	\$156	2.77	2.08	2.96	1.63	
304	Pumps - Sizing	Ind Mach	20%	20%	\$0.02	1.24	0.99	0.22	10	1.15	0.25	\$0.013	\$59	7.38	5.54	1.11	1.63	
305	Pumps - Replace 1-5 HP motor	Ind Mach	3%	3%	\$0.05	1.05	1.02	0.22	17	0.03	0.01	\$0.192	\$887	0.49	0.31	24.99	1.63	
306	Pumps - ASD (1-5 hp)	Ind Mach	6%	1%	\$0.09	1.06	0.99	0.23	17	0.06	0.00	\$0.158	\$7,354	0.39	0.34	22.95	1.20	
307	Pumps - Motor practices-1 (1-5 HP)	Ind Mach	5%	5%	\$0.02	1.07	1.02	0.22	17	0.03	0.01	\$0.044	\$202	2.14	1.38	5.69	1.63	
308	Pumps - Replace 6-100 HP motor	Ind Mach	3%	4%	\$0.03	1.05	1.01	0.22	20	0.27	0.06	\$0.080	\$370	1.17	0.72	11.18	1.63	
309	Pumps - ASD (6-100 hp)	Ind Mach	6%	1%	\$0.00	1.08	1.01	0.23	20	0.24	0.01	\$0.005	\$224	12.86	10.70	0.75	1.20	
310	Pumps - Motor practices-1 (6-100 HP)	Ind Mach	2%	2%	\$0.01	1.05	1.02	0.22	20	0.17	0.04	\$0.025	\$115	3.77	2.31	3.46	1.63	
311	Pumps - Replace 100+ HP motor	Ind Mach	3%	3%	\$0.01	1.06	1.03	0.22	20	0.17	0.04	\$0.027	\$123	3.52	2.15	3.72	1.63	
312	Pumps - ASD (100+ hp)	Ind Mach	6%	1%	\$0.01	1.05	0.98	0.22	20	0.82	0.02	\$0.011	\$520	5.52	4.60	1.74	1.20	
313	Pumps - Motor practices-1 (100+ HP)	Ind Mach	1%	2%	\$0.00	1.04	1.03	0.22	20	0.21	0.05	\$0.016	\$75	5.78	3.54	2.26	1.63	
400	Base Drives	Ind Mach	0%	0%	\$0.00	1.04	1.04	0.23	20	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
427	Drives - Optimization process (M&T)	Ind Mach	10%	10%	\$0.01	1.10	0.99	0.21	10	1.72	0.37	\$0.014	\$63	6.83	5.13	1.20	1.63	
428	Drives - Scheduling	Ind Mach	5%	1%	\$0.01	1.08	1.03	0.23	10	0.49	0.02	\$0.035	\$808	1.88	1.84	3.36	1.25	
429	Machinery	Ind Mach	7%	7%	\$0.01	1.10	1.02	0.22	10	0.75	0.16	\$0.026	\$119	3.63	2.73	2.26	1.63	
431	Custom Measures--Drives	Ind Mach	4%	4%	\$0.02	1.04	1.00	0.22	15	3.44	0.74	\$0.042	\$196	2.21	1.48	5.14	1.63	
500	Base Process Heating	Ind Mach	0%	0%	\$0.00	1.04	1.04	0.23	20	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
509	Efficient Curing ovens	Ind Mach	20%	20%	\$0.08	1.23	0.98	0.21	15	0.94	0.20	\$0.037	\$172	2.52	1.69	4.50	1.63	
510	Heating - Optimization process (M&T)	Ind Mach	10%	10%	\$0.01	1.10	0.99	0.21	10	0.67	0.15	\$0.014	\$63	6.83	5.13	1.20	1.63	
511	Heating - Scheduling	Ind Mach	5%	1%	\$0.01	1.08	1.03	0.23	10	0.20	0.01	\$0.035	\$809	1.88	1.83	3.36	1.25	
512	Custom Measures--Process Heating	Ind Mach	4%	4%	\$0.02	1.04	1.00	0.22	15	1.35	0.29	\$0.042	\$196	2.21	1.48	5.14	1.63	
550	Base Process Cooling	Ind Mach	0%	0%	\$0.00	1.04	1.04	0.23	20	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
553	Custom Measures--Process Cooling	Ind Mach	4%	4%	\$0.02	1.04	1.00	0.22	15	0.45	0.10	\$0.042	\$196	2.21	1.48	5.14	1.63	
600	Base Other Process	Ind Mach	0%	0%	\$0.00	1.04	1.04	0.23	15	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
603	New transformers welding	Ind Mach	25%	25%	\$0.05	1.19	0.90	0.19	15	0.84	0.18	\$0.019	\$88	4.89	3.27	2.32	1.63	
605	Custom Measures--Other Process	Ind Mach	4%	4%	\$0.02	1.04	1.00	0.22	15	0.50	0.11	\$0.042	\$196	2.21	1.48	5.14	1.63	
700	Base Space Cooling Centrifugal Chiller, 0.58 kW/ton, 500 tons	Ind Mach	0%	0%	\$0.00	1.04	1.04	0.23	20	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
701	Centrifugal Chiller, 0.51 kW/ton, 500 tons	Ind Mach	12%	12%	\$0.03	0.93	0.82	0.18	20	0.23	0.05	\$0.028	\$127	3.39	2.08	3.85	1.63	
702	Window Film - Chiller	Ind Mach	10%	10%	\$0.06	1.10	0.99	0.21	10	0.09	0.02	\$0.080	\$369	1.17	0.88	7.00	1.63	
703	EMS - Chiller	Ind Mach	10%	10%	\$0.11	1.08	0.98	0.21	10	0.14	0.03	\$0.155	\$717	0.60	0.45	13.61	1.63	
704	Cool Roof - Chiller	Ind Mach	10%	10%	\$0.19	1.09	0.98	0.21	10	0.06	0.01	\$0.280	\$1,294	0.33	0.25	24.58	1.63	
705	Chiller Tune Up/Diagnostics	Ind Mach	8%	8%	\$0.05	1.09	1.00	0.22	10	0.02	0.00	\$0.095	\$439	0.98	0.74	8.34	1.63	
706	Cooling Circ. Pumps - VSD	Ind Mach	6%	6%	\$0.12	1.06	1.00	0.22	15	0.07	0.02	\$0.207	\$958	0.45	0.30	25.14	1.63	
710	Base Space Cooling DX Packaged System, EER=10.3, 10 tons	Ind Mach	0%	0%	\$0.00	1.04	1.04	0.23	15	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
711	DX Tune Up/ Advanced Diagnostics	Ind Mach	10%	10%	\$0.08	1.10	0.99	0.21	3	1.36	0.29	\$0.324	\$1,500	0.29	0.26	10.18	1.63	
712	DX Packaged System, EER=10.9, 10 tons	Ind Mach	6%	6%	\$0.05	0.90	0.85	0.18	15	1.64	0.35	\$0.102	\$473	0.91	0.61	12.42	1.63	
713	Window Film - DX	Ind Mach	10%	10%	\$0.03	1.12	1.01	0.22	10	0.88	0.19	\$0.045	\$210	2.06	1.54	4.00	1.63	
715	Prog. Thermostat - DX	Ind Mach	9%	3%	\$0.01	1.10	1.00	0.23	10	1.14	0.07	\$0.009	\$151	7.69	7.30	0.84	1.29	
716	Cool Roof - DX	Ind Mach	10%	10%	\$0.11	1.08	0.98	0.21	10	1.06	0.23	\$0.164	\$757	0.57	0.43	14.38	1.63	
800	Base Lighting	Ind Mach	0%	0%	\$0.00	1.04	1.04	0.23	10	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
801	RET 2L4' Premium T8, 1EB	Ind Mach	31%	31%	\$0.12	1.06	0.73	0.16	15	11.76	2.54	\$0.041	\$191	2.26	1.51	5.02	1.63	
802	CFL Hardwired, Modular 36W	Ind Mach	72%	72%	\$0.10	1.04	0.29	0.06	4	0.21	0.04	\$0.045	\$208	2.07	1.83	1.84	1.63	
803	Metal Halide, 50W	Ind Mach	58%	58%	\$0.80	1.23	0.52	0.11	5	17.27	3.73	\$0.307	\$1,421	0.30	0.26	15.26	1.63	
804	Occupancy Sensor, 4L4' Fluorescent Fixtures	Ind Mach	19%	20%	\$0.05	1.05	0.85	0.18	9	1.79	0.40	\$0.041	\$183	2.32	1.75	3.35	1.66	
900	Base Other	Ind Mach	0%	0%	\$0.00	1.04	1.04	0.23	15	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
901	Replace V-belts	Ind Mach	0%	0%	\$0.00	1.04	1.04	0.23	5	0.00	0.00	\$0.044	\$202	2.14	1.83	2.17	1.63	
100	Base Compressed Air	Electronics	0%	0%	\$0.00	1.04	1.04	0.13	14	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
101	Compressed Air-O&M	Electronics	17%	17%	\$0.01	1.20	1.00	0.12	2	5.51	0.68	\$0.039	\$312	1.88	2.09	0.90	1.38	
102	Compressed Air - Controls	Electronics	12%	12%	\$0.02	1.15	1.01	0.13	10	4.27	0.53	\$0.020	\$158	3.71	3.30	1.87	1.38	
103	Compressed Air - System Optimization	Electronics	20%	20%	\$0.02	1.16	0.93	0.12	10	14.40	1.79	\$0.013	\$105	5.58	4.96	1.24	1.38	

APPENDIX F

NON-ADDITIVE MEASURE LEVEL RESULTS

Industrial Electric																		
DSM ASSYST SUMMARY																		
Measure Number	Measure	Building Type	Energy Savings Fraction	Peak Reduction Fraction	Total Costs/ Base kWh	Base EU	EU	Peak Watts/ Base kWh	Service Life (yrs)	Technical Potential GWH	System Peak Tech. Potential MW	Levelized Cost of Conserved Energy \$/kWh	Levelized Cost of Avoided Peak Capacity \$/kW	Total Resource Cost Test (TRC)	Participant Test	Customer Payback (Years)	Revenue Test	
104	Compressed Air- Sizing	Electronics	9%	9%	\$0.00	1.04	0.95	0.12	10	5.42	0.67	\$0.008	\$61	9.59	8.52	0.72	1.38	
105	Comp Air - Replace 1-5 HP motor	Electronics	3%	3%	\$0.05	1.05	1.02	0.13	17	0.15	0.02	\$0.191	\$1,544	0.38	0.29	27.09	1.38	
106	Comp Air - ASD (1-5 hp)	Electronics	6%	1%	\$0.09	1.04	0.98	0.13	17	0.38	0.00	\$0.153	\$12,974	0.35	0.34	23.27	1.10	
107	Comp Air - Motor practices-1 (1-5 HP)	Electronics	5%	5%	\$0.02	1.04	0.99	0.12	17	0.30	0.04	\$0.045	\$360	1.63	1.24	6.32	1.38	
108	Comp Air - Replace 6-100 HP motor	Electronics	3%	4%	\$0.03	1.07	1.04	0.13	20	0.35	0.04	\$0.078	\$630	0.93	0.68	11.85	1.38	
109	Comp Air - ASD (6-100 hp)	Electronics	6%	1%	\$0.00	1.04	0.98	0.13	20	2.81	0.03	\$0.004	\$338	13.55	12.33	0.65	1.10	
110	Comp Air - Motor practices-1 (6-100 HP)	Electronics	2%	2%	\$0.01	1.04	1.02	0.13	20	1.11	0.14	\$0.025	\$201	2.92	2.12	3.78	1.38	
111	Comp Air - Replace 100+ HP motor	Electronics	3%	3%	\$0.01	1.06	1.03	0.13	20	0.92	0.11	\$0.027	\$214	2.74	1.98	4.03	1.38	
112	Comp Air - ASD (100+ hp)	Electronics	6%	1%	\$0.01	1.04	0.98	0.13	20	7.88	0.09	\$0.011	\$909	5.03	4.58	1.75	1.10	
113	Comp Air - Motor practices-1 (100+ HP)	Electronics	1%	2%	\$0.00	1.05	1.04	0.13	20	0.46	0.06	\$0.016	\$129	4.54	3.29	2.43	1.38	
200	Base Fans	Electronics	0%	0%	\$0.00	1.04	1.04	0.13	14	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
201	Fans - O&M	Electronics	2%	2%	\$0.00	1.06	1.04	0.13	2	0.05	0.01	\$0.036	\$289	2.03	2.26	0.84	1.38	
202	Fans - Controls	Electronics	30%	30%	\$0.09	1.37	0.96	0.12	10	1.37	0.17	\$0.035	\$286	2.05	1.82	3.38	1.38	
203	Fans - System Optimization	Electronics	21%	10%	\$0.06	1.24	0.99	0.14	10	0.86	0.05	\$0.037	\$613	1.68	1.68	3.67	1.23	
204	Fans - Improve components	Electronics	5%	5%	\$0.01	1.08	1.03	0.13	10	0.34	0.04	\$0.015	\$118	4.96	4.41	1.40	1.38	
205	Fans - Replace 1-5 HP motor	Electronics	3%	3%	\$0.05	1.05	1.02	0.13	17	0.02	0.00	\$0.191	\$1,544	0.38	0.29	27.09	1.38	
206	Fans - ASD (1-5 hp)	Electronics	6%	1%	\$0.09	1.06	0.99	0.13	17	0.04	0.00	\$0.152	\$12,832	0.36	0.34	23.02	1.10	
207	Fans - Motor practices-1 (1-5 HP)	Electronics	5%	5%	\$0.02	1.04	0.99	0.12	17	0.04	0.01	\$0.045	\$360	1.63	1.24	6.32	1.38	
208	Fans - Replace 6-100 HP motor	Electronics	3%	4%	\$0.03	1.06	1.03	0.13	20	0.10	0.01	\$0.089	\$637	0.87	0.60	13.24	1.44	
209	Fans - ASD (6-100 hp)	Electronics	3%	1%	\$0.00	1.05	1.01	0.13	20	0.20	0.00	\$0.007	\$337	8.13	7.09	1.13	1.15	
210	Fans - Motor practices-1 (6-100 HP)	Electronics	2%	2%	\$0.01	1.06	1.03	0.13	20	0.07	0.01	\$0.025	\$198	2.96	2.15	3.73	1.38	
211	Fans - Replace 100+ HP motor	Electronics	3%	3%	\$0.01	1.05	1.02	0.13	20	0.31	0.04	\$0.027	\$218	2.69	1.95	4.10	1.38	
212	Fans - ASD (100+ hp)	Electronics	5%	1%	\$0.01	1.10	1.04	0.14	20	0.07	0.00	\$0.012	\$866	4.86	4.29	1.86	1.13	
213	Fans - Motor practices-1 (100+ HP)	Electronics	1%	2%	\$0.00	1.04	1.04	0.13	20	0.09	0.02	\$0.028	\$131	3.22	2.03	3.94	1.59	
300	Base Pumps	Electronics	0%	0%	\$0.00	1.04	1.04	0.13	14	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
301	Pumps - O&M	Electronics	10%	10%	\$0.01	1.09	0.98	0.12	2	0.78	0.10	\$0.035	\$286	2.05	2.28	0.83	1.38	
302	Pumps - Controls	Electronics	30%	30%	\$0.03	1.35	0.95	0.12	10	1.00	0.12	\$0.010	\$85	6.95	6.17	1.00	1.38	
303	Pumps - System Optimization	Electronics	33%	33%	\$0.08	1.12	0.75	0.09	10	2.92	0.36	\$0.034	\$272	2.16	1.92	3.22	1.38	
304	Pumps - Sizing	Electronics	20%	20%	\$0.02	1.24	0.99	0.12	10	0.64	0.08	\$0.013	\$102	5.75	5.10	1.21	1.38	
305	Pumps - Replace 1-5 HP motor	Electronics	3%	3%	\$0.05	1.05	1.02	0.13	17	0.02	0.00	\$0.192	\$1,546	0.38	0.29	27.14	1.38	
306	Pumps - ASD (1-5 hp)	Electronics	6%	1%	\$0.09	1.06	0.99	0.13	17	0.03	0.00	\$0.152	\$12,820	0.36	0.34	23.00	1.10	
307	Pumps - Motor practices-1 (1-5 HP)	Electronics	5%	5%	\$0.02	1.07	1.02	0.13	17	0.02	0.00	\$0.044	\$352	1.67	1.27	6.18	1.38	
308	Pumps - Replace 6-100 HP motor	Electronics	3%	4%	\$0.03	1.05	1.01	0.13	20	0.15	0.02	\$0.080	\$645	0.91	0.66	12.14	1.38	
309	Pumps - ASD (6-100 hp)	Electronics	6%	1%	\$0.00	1.08	1.01	0.13	20	0.14	0.00	\$0.005	\$389	11.75	10.69	0.75	1.10	
310	Pumps - Motor practices-1 (6-100 HP)	Electronics	2%	2%	\$0.01	1.05	1.02	0.13	20	0.09	0.01	\$0.025	\$200	2.94	2.13	3.76	1.38	
311	Pumps - Replace 100+ HP motor	Electronics	3%	3%	\$0.01	1.06	1.03	0.13	20	0.10	0.01	\$0.027	\$214	2.74	1.98	4.03	1.38	
312	Pumps - ASD (100+ hp)	Electronics	6%	1%	\$0.01	1.05	0.98	0.13	20	0.48	0.01	\$0.011	\$908	5.04	4.59	1.75	1.10	
313	Pumps - Motor practices-1 (100+ HP)	Electronics	1%	2%	\$0.00	1.04	1.03	0.13	20	0.12	0.01	\$0.016	\$131	4.50	3.26	2.46	1.38	
400	Base Drives	Electronics	0%	0%	\$0.00	1.04	1.04	0.13	20	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
413	Clean Room - Controls	Electronics	10%	10%	\$0.03	1.10	0.99	0.12	10	1.15	0.14	\$0.039	\$317	1.85	1.64	3.75	1.38	
428	Drives - Scheduling	Electronics	5%	1%	\$0.01	1.08	1.03	0.13	10	0.21	0.00	\$0.037	\$1,545	1.53	1.65	3.73	1.13	
429	Machinery	Electronics	3%	4%	\$0.01	1.07	1.03	0.13	10	0.16	0.02	\$0.026	\$213	2.75	2.44	2.52	1.38	
431	Custom Measures--Drives	Electronics	4%	4%	\$0.02	1.04	1.00	0.12	15	1.54	0.19	\$0.042	\$341	1.72	1.36	5.58	1.38	
500	Base Process Heating	Electronics	0%	0%	\$0.00	1.04	1.04	0.13	20	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
509	Efficient Curing ovens	Electronics	20%	20%	\$0.08	1.23	0.98	0.12	15	1.96	0.24	\$0.037	\$299	1.96	1.55	4.89	1.38	
512	Custom Measures--Process Heating	Electronics	4%	4%	\$0.02	1.04	1.00	0.12	15	2.81	0.35	\$0.042	\$341	1.72	1.36	5.58	1.38	
550	Base Process Cooling	Electronics	0%	0%	\$0.00	1.04	1.04	0.13	20	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
553	Custom Measures--Process Cooling	Electronics	4%	4%	\$0.02	1.04	1.00	0.12	15	1.32	0.16	\$0.042	\$341	1.72	1.36	5.58	1.38	
600	Base Other Process	Electronics	0%	0%	\$0.00	1.04	1.04	0.13	15	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
604	Efficient processes (welding, etc.)	Electronics	25%	25%	\$0.05	1.19	0.90	0.11	15	5.02	0.62	\$0.019	\$154	3.81	3.01	2.52	1.38	
605	Custom Measures--Other Process	Electronics	4%	4%	\$0.02	1.04	1.00	0.12	15	1.48	0.18	\$0.042	\$341	1.72	1.36	5.58	1.38	
700	Base Space Cooling Centrifugal Chiller, 0.58 kW/ton, 500 tons	Electronics	0%	0%	\$0.00	1.04	1.04	0.13	20	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
701	Centrifugal Chiller, 0.51 kW/ton, 500 tons	Electronics	12%	12%	\$0.03	0.93	0.82	0.10	20	0.23	0.03	\$0.028	\$222	2.64	1.91	4.18	1.38	
702	Window Film - Chiller	Electronics	10%	10%	\$0.06	1.10	0.99	0.12	10	0.09	0.01	\$0.080	\$643	0.91	0.81	7.60	1.38	
703	EMS - Chiller	Electronics	10%	10%	\$0.11	1.08	0.98	0.12	10	0.14	0.02	\$0.155	\$1,250	0.47	0.42	14.78	1.38	
704	Cool Roof - Chiller	Electronics	10%	10%	\$0.19	1.09	0.98	0.12	10	0.06	0.01	\$0.280	\$2,257	0.26	0.23	26.69	1.38	
705	Chiller Tune Up/Diagnostics	Electronics	8%	8%	\$0.05	1.09	1.00	0.12	10	0.02	0.00	\$0.095	\$766	0.77	0.68	9.05	1.38	
706	Cooling Circ. Pumps - VSD	Electronics	6%	6%	\$0.12	1.06	1.00	0.12	15	0.07	0.01	\$0.207	\$1,671	0.35	0.28	27.30	1.38	
710	Base Space Cooling DX Packaged System, EER=10.3, 10 tons	Electronics	0%	0%	\$0.00	1.04	1.04	0.13	15	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
711	DX Tune Up/ Advanced Diagnostics	Electronics	10%	10%	\$0.08	1.10	0.99	0.12	3	1.39	0.17	\$0.324	\$2,615	0.22	0.24	11.05	1.38	
712	DX Packaged System, EER=10.9, 10 tons	Electronics	6%	6%	\$0.05	0.90	0.85	0.11	15	1.67	0.21	\$0.102	\$825	0.71	0.56	13.49	1.38	
713	Window Film - DX	Electronics	10%	10%	\$0.03	1.12	1.01	0.13	10	0.90	0.11	\$0.045	\$367	1.60	1.42	4.34	1.38	
715	Prog. Thermostat - DX	Electronics	10%	3%	\$0.01	1.10	1.00	0.13	10	1.21	0.04	\$0.009	\$263	6.75	7.17	0.86	1.15	
716	Cool Roof - DX	Electronics	10%	10%	\$0.11	1.08	0.98	0.12	10	1.08	0.13	\$0.164	\$1,320	0.44	0.39	15.61	1.38	
800	Base Lighting	Electronics	0%	0%	\$0.00	1.04	1.04	0.13	10	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
801	RET 2L4' Premium T8, 1EB	Electronics	31%	31%	\$0.12	1.06	0.73	0.09	15	9.30	1.15	\$0.041	\$333	1.76	1.39	5.45	1.38	
802	CFL Hardwired, Modular 36W	Electronics	72%	72%	\$0.10	1.04	0.29	0.04	4	0.16	0.02	\$0.045	\$364	1.61	1.69	1.99	1.38	

Industrial Electric																		
DSM ASSYST SUMMARY																		
Measure Number	Measure	Building Type	Energy Savings Fraction	Peak Reduction Fraction	Total Costs/ Base kWh	Base EUJ	EUJ	Peak Watts/ Base kWh	Service Life (yrs)	Technical Potential GWH	System Peak Tech. Potential MW	Levelized Cost of Conserved Energy \$/kWh	Levelized Cost of Avoided Peak Capacity \$/kW	Total Resource Cost Test (TRC)	Participant Test	Customer Payback (Years)	Revenue Test	
803	Metal Halide, 50W	Electronics	58%	58%	\$0.80	1.23	0.52	0.06	5	13.12	1.63	\$0.307	\$2,479	0.24	0.24	16.57	1.38	
804	Occupancy Sensor, 4L4' Fluorescent Fixtures	Electronics	18%	20%	\$0.05	1.05	0.86	0.10	9	1.25	0.18	\$0.045	\$320	1.73	1.51	3.89	1.44	
900	Base Other	Electronics	0%	0%	\$0.00	1.04	1.04	0.13	15	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
901	Replace V-belts	Electronics	0%	0%	\$0.00	1.04	1.04	0.13	5	0.00	0.00	\$0.044	\$353	1.66	1.69	2.36	1.38	
100	Base Compressed Air	Transp Equip	0%	0%	\$0.00	1.04	1.04	0.14	14	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
101	Compressed Air-O&M	Transp Equip	17%	17%	\$0.01	1.20	1.00	0.13	2	1.86	0.25	\$0.039	\$289	1.94	2.11	0.89	1.41	
102	Compressed Air - Controls	Transp Equip	12%	12%	\$0.02	1.15	1.01	0.14	10	1.44	0.19	\$0.020	\$146	3.84	3.33	1.85	1.41	
103	Compressed Air - System Optimization	Transp Equip	20%	20%	\$0.02	1.16	0.93	0.12	10	4.85	0.65	\$0.013	\$97	5.77	5.01	1.23	1.41	
104	Compressed Air- Sizing	Transp Equip	9%	9%	\$0.00	1.04	0.95	0.13	10	1.83	0.24	\$0.008	\$57	9.92	8.60	0.72	1.41	
105	Comp Air - Replace 1-5 HP motor	Transp Equip	3%	3%	\$0.05	1.05	1.02	0.14	17	0.05	0.01	\$0.191	\$1,427	0.39	0.29	26.82	1.41	
106	Comp Air - ASD (1-5 hp)	Transp Equip	6%	1%	\$0.09	1.04	0.98	0.14	17	0.13	0.00	\$0.155	\$11,990	0.36	0.34	23.32	1.11	
107	Comp Air - Motor practices-1 (1-5 HP)	Transp Equip	5%	5%	\$0.02	1.04	0.99	0.13	17	0.10	0.01	\$0.045	\$333	1.69	1.25	6.25	1.41	
108	Comp Air - Replace 6-100 HP motor	Transp Equip	3%	4%	\$0.03	1.07	1.04	0.14	20	0.12	0.02	\$0.078	\$582	0.96	0.68	11.73	1.41	
109	Comp Air - ASD (6-100 hp)	Transp Equip	6%	1%	\$0.00	1.04	0.98	0.14	20	0.94	0.01	\$0.004	\$312	13.66	12.30	0.65	1.11	
110	Comp Air - Motor practices-1 (6-100 HP)	Transp Equip	2%	2%	\$0.01	1.04	1.02	0.14	20	0.37	0.05	\$0.025	\$186	3.02	2.14	3.74	1.41	
111	Comp Air - Replace 100+ HP motor	Transp Equip	3%	3%	\$0.01	1.06	1.03	0.14	20	0.31	0.04	\$0.027	\$198	2.83	2.00	3.99	1.41	
112	Comp Air - ASD (100+ hp)	Transp Equip	6%	1%	\$0.01	1.04	0.98	0.14	20	2.63	0.03	\$0.011	\$840	5.07	4.57	1.75	1.11	
113	Comp Air - Motor practices-1 (100+ HP)	Transp Equip	1%	2%	\$0.00	1.05	1.04	0.14	20	0.16	0.02	\$0.016	\$120	4.69	3.32	2.41	1.41	
200	Base Fans	Transp Equip	0%	0%	\$0.00	1.04	1.04	0.14	14	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
201	Fans - O&M	Transp Equip	2%	2%	\$0.00	1.06	1.04	0.14	2	0.02	0.00	\$0.036	\$267	2.10	2.28	0.83	1.41	
202	Fans - Controls	Transp Equip	30%	30%	\$0.09	1.37	0.96	0.13	10	0.68	0.09	\$0.035	\$264	2.12	1.84	3.35	1.41	
203	Fans - System Optimization	Transp Equip	20%	10%	\$0.06	1.24	0.99	0.15	10	0.43	0.03	\$0.037	\$567	1.72	1.69	3.66	1.25	
204	Fans - Improve components	Transp Equip	5%	5%	\$0.01	1.08	1.03	0.14	10	0.17	0.02	\$0.015	\$109	5.13	4.45	1.38	1.41	
205	Fans - Replace 1-5 HP motor	Transp Equip	3%	3%	\$0.05	1.05	1.02	0.14	17	0.01	0.00	\$0.191	\$1,427	0.39	0.29	26.82	1.41	
206	Fans - ASD (1-5 hp)	Transp Equip	6%	1%	\$0.09	1.06	0.99	0.14	17	0.02	0.00	\$0.153	\$11,859	0.36	0.34	23.07	1.11	
207	Fans - Motor practices-1 (1-5 HP)	Transp Equip	5%	5%	\$0.02	1.04	0.99	0.13	17	0.02	0.00	\$0.045	\$333	1.69	1.25	6.25	1.41	
208	Fans - Replace 6-100 HP motor	Transp Equip	3%	4%	\$0.03	1.06	1.03	0.14	20	0.05	0.01	\$0.088	\$589	0.91	0.62	12.99	1.47	
209	Fans - ASD (6-100 hp)	Transp Equip	3%	1%	\$0.00	1.05	1.01	0.14	20	0.10	0.00	\$0.007	\$311	8.32	7.19	1.11	1.16	
210	Fans - Motor practices-1 (6-100 HP)	Transp Equip	2%	2%	\$0.01	1.06	1.03	0.14	20	0.03	0.00	\$0.025	\$183	3.07	2.17	3.69	1.41	
211	Fans - Replace 100+ HP motor	Transp Equip	3%	3%	\$0.01	1.05	1.02	0.14	20	0.15	0.02	\$0.027	\$201	2.79	1.97	4.06	1.41	
212	Fans - ASD (100+ hp)	Transp Equip	5%	1%	\$0.01	1.10	1.04	0.15	20	0.03	0.00	\$0.012	\$800	4.94	4.32	1.85	1.14	
213	Fans - Motor practices-1 (100+ HP)	Transp Equip	1%	2%	\$0.00	1.04	1.04	0.14	20	0.05	0.01	\$0.028	\$121	3.40	2.09	3.83	1.62	
300	Base Pumps	Transp Equip	0%	0%	\$0.00	1.04	1.04	0.14	14	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
301	Pumps - O&M	Transp Equip	10%	10%	\$0.01	1.09	0.98	0.13	2	0.39	0.05	\$0.035	\$264	2.12	2.31	0.82	1.41	
302	Pumps - Controls	Transp Equip	30%	30%	\$0.03	1.35	0.95	0.13	10	0.50	0.07	\$0.010	\$78	7.18	6.23	0.99	1.41	
303	Pumps - System Optimization	Transp Equip	33%	33%	\$0.08	1.12	0.75	0.10	10	1.45	0.19	\$0.034	\$251	2.23	1.94	3.18	1.41	
304	Pumps - Sizing	Transp Equip	20%	20%	\$0.02	1.24	0.99	0.13	10	0.32	0.04	\$0.013	\$94	5.94	5.15	1.20	1.41	
305	Pumps - Replace 1-5 HP motor	Transp Equip	3%	3%	\$0.05	1.05	1.02	0.14	17	0.01	0.00	\$0.192	\$1,429	0.39	0.29	26.86	1.41	
306	Pumps - ASD (1-5 hp)	Transp Equip	6%	1%	\$0.09	1.06	0.99	0.14	17	0.02	0.00	\$0.153	\$11,848	0.36	0.34	23.05	1.11	
307	Pumps - Motor practices-1 (1-5 HP)	Transp Equip	5%	5%	\$0.02	1.07	1.02	0.14	17	0.01	0.00	\$0.044	\$325	1.72	1.28	6.11	1.41	
308	Pumps - Replace 6-100 HP motor	Transp Equip	3%	4%	\$0.03	1.05	1.01	0.14	20	0.07	0.01	\$0.080	\$596	0.94	0.67	12.01	1.41	
309	Pumps - ASD (6-100 hp)	Transp Equip	6%	1%	\$0.00	1.08	1.01	0.14	20	0.07	0.00	\$0.005	\$360	11.84	10.66	0.75	1.11	
310	Pumps - Motor practices-1 (6-100 HP)	Transp Equip	2%	2%	\$0.01	1.05	1.02	0.14	20	0.05	0.01	\$0.025	\$185	3.04	2.15	3.72	1.41	
311	Pumps - Replace 100+ HP motor	Transp Equip	3%	3%	\$0.01	1.06	1.03	0.14	20	0.05	0.01	\$0.027	\$198	2.83	2.00	3.99	1.41	
312	Pumps - ASD (100+ hp)	Transp Equip	6%	1%	\$0.01	1.05	0.98	0.14	20	0.23	0.00	\$0.011	\$839	5.08	4.58	1.75	1.11	
313	Pumps - Motor practices-1 (100+ HP)	Transp Equip	1%	2%	\$0.00	1.04	1.03	0.14	20	0.06	0.01	\$0.016	\$121	4.65	3.29	2.43	1.41	
400	Base Drives	Transp Equip	0%	0%	\$0.00	1.04	1.04	0.14	20	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
427	Drives - Optimization process (M&T)	Transp Equip	10%	10%	\$0.01	1.11	1.00	0.13	10	0.24	0.03	\$0.014	\$101	5.56	4.82	1.28	1.41	
428	Drives - Scheduling	Transp Equip	5%	1%	\$0.01	1.08	1.03	0.14	10	0.09	0.00	\$0.034	\$1,301	1.70	1.81	3.40	1.14	
429	Machinery	Transp Equip	11%	11%	\$0.02	1.14	1.02	0.14	10	0.16	0.02	\$0.025	\$185	3.03	2.63	2.34	1.41	
431	Custom Measures--Drives	Transp Equip	4%	4%	\$0.02	1.04	1.00	0.13	15	0.59	0.08	\$0.042	\$316	1.78	1.37	5.52	1.41	
500	Base Process Heating	Transp Equip	0%	0%	\$0.00	1.04	1.04	0.14	20	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
509	Efficient Curing ovens	Transp Equip	20%	20%	\$0.08	1.23	0.98	0.13	15	0.51	0.07	\$0.037	\$277	2.03	1.57	4.84	1.41	
510	Heating - Optimization process (M&T)	Transp Equip	10%	10%	\$0.01	1.11	1.00	0.13	10	0.30	0.04	\$0.014	\$101	5.56	4.82	1.28	1.41	
512	Custom Measures--Process Heating	Transp Equip	4%	4%	\$0.02	1.04	1.00	0.13	15	0.74	0.10	\$0.042	\$316	1.78	1.37	5.52	1.41	
550	Base Process Cooling	Transp Equip	0%	0%	\$0.00	1.04	1.04	0.14	20	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
553	Custom Measures--Process Cooling	Transp Equip	4%	4%	\$0.02	1.04	1.00	0.13	15	0.26	0.04	\$0.042	\$316	1.78	1.37	5.52	1.41	
600	Base Other Process	Transp Equip	0%	0%	\$0.00	1.04	1.04	0.14	15	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
603	New transformers welding	Transp Equip	25%	25%	\$0.05	1.19	0.90	0.12	15	0.60	0.08	\$0.019	\$142	3.94	3.04	2.49	1.41	
605	Custom Measures--Other Process	Transp Equip	4%	4%	\$0.02	1.04	1.00	0.13	15	0.18	0.02	\$0.042	\$316	1.78	1.37	5.52	1.41	
700	Base Space Cooling Centrifugal Chiller, 0.58 kW/ton, 500 tons	Transp Equip	0%	0%	\$0.00	1.04	1.04	0.14	20	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
701	Centrifugal Chiller, 0.51 kW/ton, 500 tons	Transp Equip	12%	12%	\$0.03	0.93	0.82	0.11	20	0.05	0.01	\$0.028	\$205	2.73	1.93	4.14	1.41	
702	Window Film - Chiller	Transp Equip	10%	10%	\$0.06	1.10	0.99	0.13	10	0.02	0.00	\$0.080	\$594	0.94	0.82	7.52	1.41	
703	EMS - Chiller	Transp Equip	10%	10%	\$0.11	1.08	0.98	0.13	10	0.03	0.00	\$0.155	\$1,155	0.49	0.42	14.63	1.41	
704	Cool Roof - Chiller	Transp Equip	10%	10%	\$0.19	1.09	0.98	0.13	10	0.01	0.00	\$0.280	\$2,086	0.27	0.23	26.42	1.41	
705	Chiller Tune Up/Diagnostics	Transp Equip	8%	8%	\$0.05	1.09	1.00	0.13	10	0.01	0.00	\$0.095	\$708	0.79	0.69	8.96	1.41	
706	Cooling Circ. Pumps - VSD	Transp Equip	6%	6%	\$0.12	1.06	1.00	0.13	15	0.02	0.00	\$0.207	\$1,544	0.36	0.28	27.03	1.41	

Industrial Electric																		
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Measure Number	Measure	Building Type	Energy Savings Fraction	Peak Reduction Fraction	Total Costs/ Base kWh	Base EU	EU	Peak Watts/ Base kWh	Service Life (yrs)	Technical Potential GWH	System Peak Tech. Potential MW	Levelized Cost of Conserved Energy \$/kWh	Levelized Cost of Avoided Peak Capacity \$/kW	Total Resource Cost Test (TRC)	Participant Test	Customer Payback (Years)	Revenue Test	
710	Base Space Cooling DX Packaged System, EER=10.3, 10 tons	Transp Equip	0%	0%	\$0.00	1.04	1.04	0.14	15	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
711	DX Tune Up/ Advanced Diagnostics	Transp Equip	10%	10%	\$0.08	1.10	0.99	0.13	3	0.31	0.04	\$0.324	\$2,417	0.23	0.24	10.94	1.41	
712	DX Packaged System, EER=10.9, 10 tons	Transp Equip	6%	6%	\$0.05	0.90	0.85	0.11	15	0.37	0.05	\$0.102	\$763	0.74	0.57	13.35	1.41	
713	Window Film - DX	Transp Equip	10%	10%	\$0.03	1.12	1.01	0.14	10	0.20	0.03	\$0.045	\$339	1.65	1.44	4.29	1.41	
715	Prog. Thermostat - DX	Transp Equip	10%	3%	\$0.01	1.10	1.00	0.14	10	0.27	0.01	\$0.009	\$243	6.85	7.17	0.86	1.17	
716	Cool Roof - DX	Transp Equip	10%	10%	\$0.11	1.08	0.98	0.13	10	0.24	0.03	\$0.164	\$1,220	0.46	0.40	15.45	1.41	
800	Base Lighting	Transp Equip	0%	0%	\$0.00	1.04	1.04	0.14	10	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
801	RET 2L4' Premium T8, 1EB	Transp Equip	31%	31%	\$0.12	1.06	0.73	0.10	15	3.20	0.43	\$0.041	\$308	1.82	1.41	5.39	1.41	
802	CFL Hardwired, Modular 36W	Transp Equip	72%	72%	\$0.10	1.04	0.29	0.04	4	0.05	0.01	\$0.045	\$336	1.67	1.71	1.97	1.41	
803	Metal Halide, 50W	Transp Equip	58%	58%	\$0.80	1.23	0.52	0.07	5	4.57	0.61	\$0.307	\$2,291	0.24	0.24	16.40	1.41	
804	Occupancy Sensor, 4L4' Fluorescent Fixtures	Transp Equip	18%	20%	\$0.05	1.05	0.86	0.11	9	0.44	0.07	\$0.044	\$296	1.80	1.54	3.82	1.47	
900	Base Other	Transp Equip	0%	0%	\$0.00	1.04	1.04	0.14	15	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
901	Replace V-belts	Transp Equip	0%	0%	\$0.00	1.04	1.04	0.14	5	0.00	0.00	\$0.044	\$326	1.72	1.71	2.34	1.41	
100	Base Compressed Air	Misc Ind	0%	0%	\$0.00	1.04	1.04	0.11	14	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
101	Compressed Air-O&M	Misc Ind	17%	17%	\$0.01	1.20	1.00	0.11	2	2.86	0.31	\$0.039	\$352	1.80	2.07	0.91	1.34	
102	Compressed Air - Controls	Misc Ind	12%	12%	\$0.02	1.15	1.01	0.11	10	2.22	0.24	\$0.020	\$178	3.56	3.27	1.89	1.34	
103	Compressed Air - System Optimization	Misc Ind	20%	20%	\$0.02	1.16	0.93	0.10	10	7.47	0.82	\$0.013	\$119	5.36	4.91	1.25	1.34	
104	Compressed Air- Sizing	Misc Ind	9%	9%	\$0.00	1.04	0.95	0.10	10	2.81	0.31	\$0.008	\$69	9.20	8.44	0.73	1.34	
105	Comp Air - Replace 1-5 HP motor	Misc Ind	3%	3%	\$0.05	1.05	1.02	0.11	17	0.08	0.01	\$0.191	\$1,740	0.36	0.29	27.33	1.34	
106	Comp Air - ASD (1-5 hp)	Misc Ind	6%	1%	\$0.09	1.04	0.98	0.11	17	0.20	0.00	\$0.152	\$14,624	0.35	0.34	23.13	1.08	
107	Comp Air - Motor practices-1 (1-5 HP)	Misc Ind	5%	5%	\$0.02	1.04	0.99	0.11	17	0.15	0.02	\$0.045	\$406	1.56	1.23	6.37	1.34	
108	Comp Air - Replace 6-100 HP motor	Misc Ind	3%	4%	\$0.03	1.07	1.04	0.11	20	0.18	0.02	\$0.078	\$710	0.89	0.67	11.95	1.34	
109	Comp Air - ASD (6-100 hp)	Misc Ind	6%	1%	\$0.00	1.04	0.98	0.11	20	1.47	0.02	\$0.004	\$380	13.44	12.41	0.65	1.08	
110	Comp Air - Motor practices-1 (6-100 HP)	Misc Ind	2%	2%	\$0.01	1.04	1.02	0.11	20	0.58	0.06	\$0.025	\$226	2.81	2.10	3.81	1.34	
111	Comp Air - Replace 100+ HP motor	Misc Ind	3%	3%	\$0.01	1.06	1.03	0.11	20	0.48	0.05	\$0.027	\$242	2.63	1.97	4.07	1.34	
112	Comp Air - ASD (100+ hp)	Misc Ind	6%	1%	\$0.01	1.04	0.98	0.11	20	4.12	0.04	\$0.011	\$1,024	4.99	4.61	1.74	1.08	
113	Comp Air - Motor practices-1 (100+ HP)	Misc Ind	1%	2%	\$0.00	1.05	1.04	0.11	20	0.24	0.03	\$0.016	\$146	4.36	3.26	2.46	1.34	
200	Base Fans	Misc Ind	0%	0%	\$0.00	1.04	1.04	0.11	14	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
201	Fans - O&M	Misc Ind	2%	2%	\$0.00	1.06	1.04	0.11	2	0.12	0.01	\$0.036	\$326	1.95	2.24	0.84	1.34	
202	Fans - Controls	Misc Ind	30%	30%	\$0.09	1.37	0.96	0.11	10	3.27	0.36	\$0.035	\$322	1.97	1.81	3.41	1.34	
203	Fans - System Optimization	Misc Ind	21%	10%	\$0.06	1.24	0.99	0.12	10	2.07	0.11	\$0.037	\$690	1.64	1.68	3.67	1.20	
204	Fans- Improve components	Misc Ind	5%	5%	\$0.01	1.08	1.03	0.11	10	0.82	0.09	\$0.015	\$133	4.76	4.37	1.41	1.34	
205	Fans - Replace 1-5 HP motor	Misc Ind	3%	3%	\$0.05	1.05	1.02	0.11	17	0.05	0.01	\$0.191	\$1,740	0.36	0.29	27.33	1.34	
206	Fans - ASD (1-5 hp)	Misc Ind	6%	1%	\$0.09	1.06	0.99	0.12	17	0.11	0.00	\$0.151	\$14,462	0.35	0.34	22.88	1.08	
207	Fans - Motor practices-1 (1-5 HP)	Misc Ind	5%	5%	\$0.02	1.04	0.99	0.11	17	0.10	0.01	\$0.045	\$406	1.56	1.23	6.37	1.34	
208	Fans - Replace 6-100 HP motor	Misc Ind	3%	4%	\$0.03	1.06	1.03	0.11	20	0.23	0.03	\$0.090	\$718	0.83	0.59	13.50	1.40	
209	Fans - ASD (6-100 hp)	Misc Ind	3%	1%	\$0.00	1.05	1.01	0.11	20	0.48	0.01	\$0.007	\$379	7.96	7.01	1.14	1.14	
210	Fans - Motor practices-1 (6-100 HP)	Misc Ind	2%	2%	\$0.01	1.06	1.03	0.11	20	0.16	0.02	\$0.025	\$223	2.85	2.13	3.76	1.34	
211	Fans - Replace 100+ HP motor	Misc Ind	3%	3%	\$0.01	1.05	1.02	0.11	20	0.73	0.08	\$0.027	\$246	2.58	1.94	4.14	1.34	
212	Fans - ASD (100+ hp)	Misc Ind	5%	1%	\$0.01	1.10	1.04	0.12	20	0.16	0.00	\$0.012	\$976	4.79	4.28	1.87	1.12	
213	Fans - Motor practices-1 (100+ HP)	Misc Ind	1%	2%	\$0.00	1.04	1.04	0.11	20	0.22	0.04	\$0.029	\$147	3.03	1.96	4.08	1.54	
300	Base Pumps	Misc Ind	0%	0%	\$0.00	1.04	1.04	0.11	14	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
301	Pumps - O&M	Misc Ind	10%	10%	\$0.01	1.09	0.98	0.11	2	2.25	0.25	\$0.035	\$322	1.97	2.26	0.83	1.34	
302	Pumps - Controls	Misc Ind	30%	30%	\$0.03	1.35	0.95	0.10	10	2.88	0.32	\$0.010	\$95	6.67	6.11	1.01	1.34	
303	Pumps - System Optimization	Misc Ind	33%	33%	\$0.08	1.12	0.75	0.08	10	8.42	0.93	\$0.034	\$307	2.07	1.90	3.24	1.34	
304	Pumps - Sizing	Misc Ind	20%	20%	\$0.02	1.24	0.99	0.11	10	1.85	0.20	\$0.013	\$115	5.51	5.06	1.22	1.34	
305	Pumps - Replace 1-5 HP motor	Misc Ind	3%	3%	\$0.05	1.05	1.02	0.11	17	0.05	0.01	\$0.192	\$1,743	0.36	0.29	27.37	1.34	
306	Pumps - ASD (1-5 hp)	Misc Ind	6%	1%	\$0.09	1.06	0.99	0.12	17	0.09	0.00	\$0.150	\$14,448	0.35	0.34	22.86	1.08	
307	Pumps - Motor practices-1 (1-5 HP)	Misc Ind	5%	5%	\$0.02	1.07	1.02	0.11	17	0.05	0.01	\$0.044	\$397	1.60	1.26	6.23	1.34	
308	Pumps - Replace 6-100 HP motor	Misc Ind	3%	4%	\$0.03	1.05	1.01	0.11	20	0.43	0.05	\$0.080	\$727	0.87	0.65	12.25	1.34	
309	Pumps - ASD (6-100 hp)	Misc Ind	6%	1%	\$0.00	1.08	1.01	0.12	20	0.41	0.00	\$0.005	\$439	11.66	10.76	0.74	1.08	
310	Pumps - Motor practices-1 (6-100 HP)	Misc Ind	2%	2%	\$0.01	1.05	1.02	0.11	20	0.27	0.03	\$0.025	\$225	2.82	2.11	3.79	1.34	
311	Pumps - Replace 100+ HP motor	Misc Ind	3%	3%	\$0.01	1.06	1.03	0.11	20	0.28	0.03	\$0.027	\$242	2.63	1.97	4.07	1.34	
312	Pumps - ASD (100+ hp)	Misc Ind	6%	1%	\$0.01	1.05	0.98	0.11	20	1.38	0.01	\$0.011	\$1,023	5.00	4.61	1.74	1.08	
313	Pumps - Motor practices-1 (100+ HP)	Misc Ind	1%	2%	\$0.00	1.04	1.03	0.11	20	0.35	0.04	\$0.016	\$147	4.32	3.23	2.48	1.34	
400	Base Drives	Misc Ind	0%	0%	\$0.00	1.04	1.04	0.11	20	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
428	Drives - Scheduling	Misc Ind	5%	1%	\$0.01	1.08	1.03	0.12	10	1.09	0.02	\$0.036	\$1,741	1.51	1.66	3.71	1.11	
430	Efficient Machinery	Misc Ind	3%	4%	\$0.01	1.07	1.03	0.11	10	0.85	0.09	\$0.026	\$240	2.64	2.42	2.55	1.34	
431	Custom Measures--Drives	Misc Ind	4%	4%	\$0.02	1.04	1.00	0.11	15	7.98	0.88	\$0.042	\$385	1.65	1.35	5.63	1.34	
500	Base Process Heating	Misc Ind	0%	0%	\$0.00	1.04	1.04	0.11	20	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
509	Efficient Curing ovens	Misc Ind	20%	20%	\$0.08	1.23	0.98	0.11	15	1.17	0.13	\$0.037	\$337	1.88	1.54	4.93	1.34	
512	Custom Measures--Process Heating	Misc Ind	4%	4%	\$0.02	1.04	1.00	0.11	15	1.68	0.18	\$0.042	\$385	1.65	1.35	5.63	1.34	
550	Base Process Cooling	Misc Ind	0%	0%	\$0.00	1.04	1.04	0.11	20	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
553	Custom Measures--Process Cooling	Misc Ind	4%	4%	\$0.02	1.04	1.00	0.11	15	1.17	0.13	\$0.042	\$385	1.65	1.35	5.63	1.34	
600	Base Other Process	Misc Ind	0%	0%	\$0.00	1.04	1.04	0.11	15	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
700	Base Space Cooling Centrifugal Chiller, 0.58 kW/ton, 500 tons	Misc Ind	0%	0%	\$0.00	1.04	1.04	0.11	20	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
701	Centrifugal Chiller, 0.51 kW/ton, 500 tons	Misc Ind	12%	12%	\$0.03	0.93	0.82	0.09	20	0.05	0.01	\$0.028	\$251	2.53	1.90	4.22	1.34	

APPENDIX F

NON-ADDITIVE MEASURE LEVEL RESULTS

Industrial Electric																		
DSM ASSYST SUMMARY																		
Measure		Building	Energy	Peak	Total	Base	EUJ	Peak	Service	Technical	System	Levelized Cost	Levelized Cost	Total	Participant	Customer	Revenue	
Number	Measure	Type	Savings Fraction	Reduction Fraction	Costs/ Base kWh	EUJ		Watts/ Base kWh	Life (yrs)	Potential GWH	Peak Tech. Potential MW	of Conserved Energy \$/kWh	of Avoided Peak Capacity \$/kW	Resource Cost Test (TRC)	Test	Payback (Years)	Test	
702	Window Film - Chiller	Misc Ind	10%	10%	\$0.06	1.10	0.99	0.11	10	0.02	0.00	\$0.080	\$724	0.88	0.80	7.67	1.34	
703	EMS - Chiller	Misc Ind	10%	10%	\$0.11	1.08	0.98	0.11	10	0.03	0.00	\$0.155	\$1,409	0.45	0.41	14.91	1.34	
704	Cool Roof - Chiller	Misc Ind	10%	10%	\$0.19	1.09	0.98	0.11	10	0.01	0.00	\$0.280	\$2,544	0.25	0.23	26.93	1.34	
705	Chiller Tune Up/Diagnostics	Misc Ind	8%	8%	\$0.05	1.09	1.00	0.11	10	0.01	0.00	\$0.095	\$863	0.74	0.67	9.13	1.34	
706	Cooling Circ. Pumps - VSD	Misc Ind	6%	6%	\$0.12	1.06	1.00	0.11	15	0.02	0.00	\$0.207	\$1,883	0.34	0.28	27.54	1.34	
710	Base Space Cooling DX Packaged System, EER=10.3, 10 tons	Misc Ind	0%	0%	\$0.00	1.04	1.04	0.11	15	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
711	DX Tune Up/ Advanced Diagnostics	Misc Ind	10%	10%	\$0.08	1.10	0.99	0.11	3	0.76	0.08	\$0.324	\$2,948	0.22	0.24	11.15	1.34	
712	DX Packaged System, EER=10.9, 10 tons	Misc Ind	6%	6%	\$0.05	0.90	0.85	0.09	15	0.92	0.10	\$0.102	\$930	0.68	0.56	13.60	1.34	
713	Window Film - DX	Misc Ind	10%	10%	\$0.03	1.12	1.01	0.11	10	0.49	0.05	\$0.045	\$414	1.54	1.41	4.38	1.34	
715	Prog. Thermostat - DX	Misc Ind	10%	3%	\$0.01	1.10	1.00	0.12	10	0.67	0.02	\$0.008	\$296	6.65	7.20	0.86	1.13	
716	Cool Roof - DX	Misc Ind	10%	10%	\$0.11	1.08	0.98	0.11	10	0.59	0.07	\$0.164	\$1,488	0.43	0.39	15.75	1.34	
800	Base Lighting	Misc Ind	0%	0%	\$0.00	1.04	1.04	0.11	10	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
801	RET 2L4' Premium T8, 1EB	Misc Ind	31%	31%	\$0.12	1.06	0.73	0.08	15	3.37	0.37	\$0.041	\$376	1.69	1.38	5.50	1.34	
802	CFL Hardwired, Modular 36W	Misc Ind	72%	72%	\$0.10	0.61	0.17	0.02	4	0.06	0.01	\$0.078	\$705	0.90	0.97	3.46	1.34	
803	Metal Halide, 50W	Misc Ind	58%	58%	\$0.80	1.23	0.52	0.06	5	4.60	0.51	\$0.307	\$2,794	0.23	0.24	16.72	1.34	
804	Occupancy Sensor, 4L4' Fluorescent Fixtures	Misc Ind	17%	20%	\$0.05	1.05	0.87	0.09	9	0.43	0.05	\$0.045	\$361	1.65	1.48	3.97	1.40	
900	Base Other	Misc Ind	0%	0%	\$0.00	1.04	1.04	0.11	15	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
100	Base Compressed Air	Water/WW	0%	0%	\$0.00	1.04	1.04	0.11	14	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
101	Compressed Air-O&M	Water/WW	17%	17%	\$0.01	1.18	0.98	0.11	2	0.01	0.00	\$0.039	\$358	1.77	2.04	0.93	1.34	
102	Compressed Air - Controls	Water/WW	12%	12%	\$0.02	1.15	1.01	0.11	10	0.01	0.00	\$0.020	\$178	3.56	3.27	1.89	1.34	
103	Compressed Air - System Optimization	Water/WW	20%	20%	\$0.02	1.16	0.93	0.10	10	0.02	0.00	\$0.013	\$119	5.36	4.91	1.25	1.34	
104	Compressed Air- Sizing	Water/WW	9%	9%	\$0.00	1.13	1.03	0.11	10	0.00	0.00	\$0.007	\$64	9.94	9.11	0.68	1.34	
105	Comp Air - Replace 1-5 HP motor	Water/WW	3%	3%	\$0.05	1.05	1.02	0.11	17	0.00	0.00	\$0.191	\$1,740	0.36	0.29	27.33	1.34	
106	Comp Air - ASD (1-5 hp)	Water/WW	6%	1%	\$0.09	1.04	0.98	0.11	17	0.00	0.00	\$0.152	\$14,624	0.35	0.34	23.13	1.08	
107	Comp Air - Motor practices-1 (1-5 HP)	Water/WW	5%	5%	\$0.02	1.04	0.99	0.11	17	0.00	0.00	\$0.045	\$406	1.56	1.23	6.37	1.34	
108	Comp Air - Replace 6-100 HP motor	Water/WW	3%	4%	\$0.03	1.06	1.02	0.11	20	0.00	0.00	\$0.079	\$721	0.88	0.66	12.14	1.34	
109	Comp Air - ASD (6-100 hp)	Water/WW	6%	1%	\$0.00	1.04	0.98	0.11	20	0.00	0.00	\$0.004	\$380	13.44	12.41	0.65	1.08	
110	Comp Air - Motor practices-1 (6-100 HP)	Water/WW	2%	2%	\$0.01	1.07	1.04	0.11	20	0.00	0.00	\$0.024	\$222	2.86	2.14	3.73	1.34	
111	Comp Air - Replace 100+ HP motor	Water/WW	3%	3%	\$0.01	1.07	1.04	0.11	20	0.00	0.00	\$0.026	\$241	2.64	1.97	4.05	1.34	
112	Comp Air - ASD (100+ hp)	Water/WW	6%	1%	\$0.01	1.07	1.00	0.12	20	0.00	0.00	\$0.010	\$1,004	5.09	4.70	1.70	1.08	
113	Comp Air - Motor practices-1 (100+ HP)	Water/WW	1%	2%	\$0.00	1.05	1.03	0.11	20	0.00	0.00	\$0.016	\$146	4.34	3.25	2.46	1.34	
200	Base Fans	Water/WW	0%	0%	\$0.00	1.04	1.04	0.11	14	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
201	Fans - O&M	Water/WW	2%	2%	\$0.00	1.05	1.03	0.11	2	0.60	0.07	\$0.036	\$331	1.92	2.21	0.85	1.34	
202	Fans - Controls	Water/WW	30%	30%	\$0.09	1.14	0.80	0.09	10	8.34	0.92	\$0.043	\$386	1.64	1.51	4.09	1.34	
203	Fans - System Optimization	Water/WW	21%	10%	\$0.06	1.08	0.85	0.11	10	6.45	0.34	\$0.043	\$798	1.42	1.45	4.24	1.20	
204	Fans - Improve components	Water/WW	5%	5%	\$0.01	1.06	1.01	0.11	10	1.22	0.13	\$0.015	\$136	4.68	4.30	1.43	1.34	
205	Fans - Replace 1-5 HP motor	Water/WW	3%	3%	\$0.05	1.04	1.02	0.11	17	0.05	0.01	\$0.192	\$1,746	0.36	0.29	27.42	1.34	
206	Fans - ASD (1-5 hp)	Water/WW	6%	1%	\$0.09	1.04	0.98	0.11	17	0.10	0.00	\$0.152	\$14,621	0.35	0.34	23.13	1.08	
207	Fans - Motor practices-1 (1-5 HP)	Water/WW	5%	5%	\$0.02	1.04	0.99	0.11	17	0.08	0.01	\$0.045	\$406	1.57	1.23	6.37	1.34	
208	Fans - Replace 6-100 HP motor	Water/WW	3%	4%	\$0.03	1.05	1.02	0.11	20	0.35	0.04	\$0.092	\$728	0.82	0.59	13.68	1.40	
209	Fans - ASD (6-100 hp)	Water/WW	3%	1%	\$0.00	1.05	1.01	0.11	20	0.39	0.01	\$0.007	\$380	7.96	7.00	1.14	1.14	
210	Fans - Motor practices-1 (6-100 HP)	Water/WW	2%	2%	\$0.01	1.05	1.02	0.11	20	0.27	0.03	\$0.025	\$226	2.81	2.11	3.80	1.34	
211	Fans - Replace 100+ HP motor	Water/WW	3%	3%	\$0.01	1.05	1.01	0.11	20	0.61	0.07	\$0.027	\$246	2.58	1.93	4.14	1.34	
212	Fans - ASD (100+ hp)	Water/WW	5%	1%	\$0.01	1.05	0.99	0.11	20	1.05	0.01	\$0.012	\$1,021	4.57	4.09	1.96	1.12	
213	Fans - Motor practices-1 (100+ HP)	Water/WW	1%	2%	\$0.00	1.04	1.04	0.11	20	0.18	0.03	\$0.029	\$147	3.03	1.96	4.08	1.54	
300	Base Pumps	Water/WW	0%	0%	\$0.00	1.04	1.04	0.11	14	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
301	Pumps - O&M	Water/WW	10%	10%	\$0.01	1.14	1.02	0.11	2	0.94	0.10	\$0.034	\$310	2.05	2.36	0.80	1.34	
302	Pumps - Controls	Water/WW	30%	30%	\$0.03	1.41	0.99	0.11	10	2.70	0.30	\$0.010	\$91	6.95	6.37	0.97	1.34	
303	Pumps - System Optimization	Water/WW	33%	33%	\$0.08	1.45	0.97	0.11	10	3.38	0.37	\$0.026	\$237	2.68	2.46	2.51	1.34	
304	Pumps - Sizing	Water/WW	20%	20%	\$0.02	1.24	0.99	0.11	10	2.34	0.26	\$0.013	\$115	5.51	5.06	1.22	1.34	
305	Pumps - Replace 1-5 HP motor	Water/WW	3%	3%	\$0.05	1.05	1.02	0.11	17	0.06	0.01	\$0.192	\$1,741	0.36	0.29	27.35	1.34	
306	Pumps - ASD (1-5 hp)	Water/WW	6%	1%	\$0.09	1.04	0.98	0.11	17	0.14	0.00	\$0.152	\$14,624	0.35	0.34	23.13	1.08	
307	Pumps - Motor practices-1 (1-5 HP)	Water/WW	5%	5%	\$0.02	1.08	1.02	0.11	17	0.05	0.01	\$0.043	\$394	1.61	1.26	6.19	1.34	
308	Pumps - Replace 6-100 HP motor	Water/WW	3%	4%	\$0.03	1.05	1.01	0.11	20	0.59	0.07	\$0.080	\$729	0.87	0.65	12.28	1.34	
309	Pumps - ASD (6-100 hp)	Water/WW	6%	1%	\$0.00	1.05	0.98	0.11	20	1.05	0.01	\$0.005	\$453	11.29	10.42	0.77	1.08	
310	Pumps - Motor practices-1 (6-100 HP)	Water/WW	2%	2%	\$0.01	1.05	1.03	0.11	20	0.27	0.03	\$0.025	\$224	2.83	2.12	3.78	1.34	
311	Pumps - Replace 100+ HP motor	Water/WW	3%	3%	\$0.01	1.06	1.03	0.11	20	0.35	0.04	\$0.027	\$242	2.63	1.97	4.07	1.34	
312	Pumps - ASD (100+ hp)	Water/WW	6%	1%	\$0.01	1.04	0.98	0.11	20	1.78	0.02	\$0.011	\$1,024	4.99	4.61	1.74	1.08	
313	Pumps - Motor practices-1 (100+ HP)	Water/WW	1%	2%	\$0.00	1.04	1.03	0.11	20	0.44	0.05	\$0.016	\$147	4.32	3.23	2.48	1.34	
400	Base Drives	Water/WW	0%	0%	\$0.00	1.04	1.04	0.11	20	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
500	Base Process Heating	Water/WW	0%	0%	\$0.00	1.04	1.04	0.11	20	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
512	Custom Measures--Process Heating	Water/WW	4%	4%	\$0.02	1.04	1.00	0.11	15	0.02	0.00	\$0.042	\$385	1.65	1.35	5.63	1.34	
550	Base Process Cooling	Water/WW	0%	0%	\$0.00	1.04	1.04	0.11	20	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
553	Custom Measures--Process Cooling	Water/WW	4%	4%	\$0.02	1.04	1.00	0.11	15	0.00	0.00	\$0.042	\$385	1.65	1.35	5.63	1.34	
600	Base Other Process	Water/WW	0%	0%	\$0.00	1.04	1.04	0.11	15	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
700	Base Space Cooling Centrifugal Chiller, 0.58 kW/ton, 500 tons	Water/WW	0%	0%	\$0.00	1.04	1.04	0.11	20	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	
701	Centrifugal Chiller, 0.51 kW/ton, 500 tons	Water/WW	12%	12%	\$0.03	0.93	0.82	0.09	20	0.00	0.00	\$0.028	\$251	2.53	1.90	4.22	1.34	

Industrial Electric																	
DSM ASSYST SUMMARY																	
Measure Number	Measure	Building Type	Energy Savings Fraction	Peak Reduction Fraction	Total Costs/ Base kWh	Base EUI	EUI	Peak Watts/ Base kWh	Service Life (yrs)	Technical Potential GWH	System Peak Tech. Potential MW	Levelized Cost of Conserved Energy \$/kWH	Levelized Cost of Avoided Peak Capacity \$/kW	Total Resource Cost Test (TRC)	Participant Test	Customer Payback (Years)	Revenue Test
702	Window Film - Chiller	Water/WW	10%	10%	\$0.06	1.10	0.99	0.11	10	0.00	0.00	\$0.080	\$724	0.88	0.80	7.67	1.34
703	EMS - Chiller	Water/WW	10%	10%	\$0.11	1.08	0.98	0.11	10	0.00	0.00	\$0.155	\$1,409	0.45	0.41	14.91	1.34
704	Cool Roof - Chiller	Water/WW	10%	10%	\$0.19	1.09	0.98	0.11	10	0.00	0.00	\$0.280	\$2,544	0.25	0.23	26.93	1.34
705	Chiller Tune Up/Diagnostics	Water/WW	8%	8%	\$0.05	1.09	1.00	0.11	10	0.00	0.00	\$0.095	\$863	0.74	0.67	9.13	1.34
706	Cooling Circ. Pumps - VSD	Water/WW	6%	6%	\$0.12	1.06	1.00	0.11	15	0.00	0.00	\$0.207	\$1,883	0.34	0.28	27.54	1.34
710	Base Space Cooling DX Packaged System, EER=10.3, 10 tons	Water/WW	0%	0%	\$0.00	1.04	1.04	0.11	15	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
711	DX Tune Up/ Advanced Diagnostics	Water/WW	10%	10%	\$0.08	1.10	0.99	0.11	3	0.01	0.00	\$0.324	\$2,948	0.22	0.24	11.15	1.34
712	DX Packaged System, EER=10.9, 10 tons	Water/WW	6%	6%	\$0.05	0.90	0.85	0.09	15	0.01	0.00	\$0.102	\$930	0.68	0.56	13.60	1.34
713	Window Film - DX	Water/WW	10%	10%	\$0.03	1.12	1.01	0.11	10	0.00	0.00	\$0.045	\$414	1.54	1.41	4.38	1.34
715	Prog. Thermostat - DX	Water/WW	10%	3%	\$0.01	1.10	1.00	0.12	10	0.00	0.00	\$0.008	\$296	6.65	7.20	0.86	1.13
716	Cool Roof - DX	Water/WW	10%	10%	\$0.11	1.08	0.98	0.11	10	0.00	0.00	\$0.164	\$1,488	0.43	0.39	15.75	1.34
800	Base Lighting	Water/WW	0%	0%	\$0.00	1.04	1.04	0.11	10	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A
801	RET 2L4' Premium T8, 1EB	Water/WW	31%	31%	\$0.12	1.06	0.73	0.08	15	0.07	0.01	\$0.041	\$376	1.69	1.38	5.50	1.34
802	CFL Hardwired, Modular 36W	Water/WW	72%	72%	\$0.10	0.43	0.12	0.01	4	0.00	0.00	\$0.110	\$1,000	0.63	0.69	4.91	1.34
803	Metal Halide, 50W	Water/WW	58%	58%	\$0.80	1.23	0.52	0.06	5	0.00	0.00	\$0.307	\$2,794	0.23	0.24	16.72	1.34
804	Occupancy Sensor, 4L4' Fluorescent Fixtures	Water/WW	17%	20%	\$0.05	1.05	0.87	0.09	9	0.01	0.00	\$0.045	\$361	1.65	1.48	3.97	1.40
900	Base Other	Water/WW	0%	0%	\$0.00	1.04	1.04	0.11	15	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A

G. Appendix G: Supply Curve Data

APPENDIX G

Residential Electric Existing Construction

Energy Supply Curve

Measure Number	Measure	Measure GWH Savings	Cumulative Measure GWH Savings	Levelized Energy Cost \$/kWh
506	Pipe Wrap	6.5	6.5	\$0.002
951	Energy Star Desktop PC	75.8	82.3	\$0.003
931	Energy Star Set-Top Box	45.6	127.9	\$0.003
901	Energy Star Plasma TV	6.1	134.0	\$0.003
211	Self Install Weatherization (base space heating)	5.2	139.2	\$0.005
911	Energy Star LCD TV	16.1	155.3	\$0.006
921	Energy Star LCD TV	52.7	208.0	\$0.006
331	CFL 15W (base HE incandescent >5 hrs/day)	135.9	343.9	\$0.007
321	CFL 15W (base HE incandescent 2.15-5 hrs/day)	89.9	433.8	\$0.008
171	Energy Star Dehumidifier (ROB)	10.7	444.5	\$0.009
311	CFL 15W (base HE incandescent 1.15-2.15 hrs/day)	207.3	651.8	\$0.009
210	Comprehensive Shell Air Sealing - Inf. Reduction (base space heating)	43.6	695.4	\$0.012
301	CFL 15W (base HE incandescent<1.15 hrs/day)	48.1	743.5	\$0.013
941	Energy Star DVD Player	10.2	753.7	\$0.014
961	Energy Star Laptop PC	13.1	766.8	\$0.020
216	Programmable Thermostat (base space heating)	13.1	780.0	\$0.026
208	Basement insulation R-11 (base space heating)	9.4	789.4	\$0.027
381	ROB 2L4' Premium T8	31.1	820.5	\$0.032
120	Self Install Weatherization (base split-system)	10.4	830.9	\$0.037
421	Refrigerator Recycling - second refrigerator	197.3	1,028.2	\$0.038
501	Drain Water Heat Recovery (GFX)	10.4	1,038.6	\$0.040
201	Ceiling R-0 to R-38 Insulation (base space heating)	1.1	1,039.7	\$0.046
991	Indirect feedback	167.6	1,207.3	\$0.049
505	Low Flow Showerhead 1.5 Gal/Min	11.8	1,219.1	\$0.049
503	HE Water Heater (EF=0.93)	13.1	1,232.1	\$0.050
508	Tankless Water Heater	52.3	1,284.4	\$0.075
551	Early Replacement Water Heating to Heat Pump Water Heater	2.0	1,286.5	\$0.075
401	HE Refrigerator (CEE Tier 2)	134.7	1,421.1	\$0.078
153	Self Install Weatherization (base RAC)	1.5	1,422.6	\$0.080
181	Variable speed furnace fans	210.6	1,633.2	\$0.088
161	EER 8.5 AC Early Replacement, CEE Tier 1 EER 11.3	4.1	1,637.3	\$0.095
504	Heat Pump Water Heater - Energy Star	30.9	1,668.2	\$0.096
431	Freezer (Energy Star)	27.5	1,695.6	\$0.096
333	LEDs (base HE incandescent >5 hrs/day)	52.7	1,748.3	\$0.096
502	Faucet Aerators (1.5 GPM)	4.3	1,752.6	\$0.097
371	LEDs (base CFL >5 hrs/day)	33.9	1,786.4	\$0.106
207	Wall Blow-in R-0 to R-13 Insulation (base space heating)	32.3	1,818.8	\$0.106
117	Proper Refrigerant Charging and Air Flow	71.1	1,889.9	\$0.107
155	Ductless Split Heat Pump	3.3	1,893.3	\$0.107
322	CFL 15W - Specialty (base HE incandescent 2.15-5 hrs/day)	3.9	1,897.2	\$0.114
441	Freezer - Early Replacement (Energy Star)	5.1	1,902.3	\$0.120
118	Proper Sizing and Quality Install	7.0	1,909.3	\$0.129
312	CFL 15W - Specialty (base HE incandescent 1.15-2.15 hrs/day)	9.0	1,918.3	\$0.132
801	Variable Speed Pool Pump (1.5 hp)	2.8	1,921.1	\$0.138
323	LEDs (base HE incandescent 2.15-5 hrs/day)	32.5	1,953.5	\$0.156
203	Ceiling R-11 to R-38 Insulation (base space heating)	1.6	1,955.1	\$0.159
361	LEDs (base CFL 2.15-5 hrs/day)	22.4	1,977.5	\$0.160
202	Ceiling R-0 to R-49 Insulation (base space heating)	0.0	1,977.6	\$0.170
116	Programmable Thermostat (base split-system)	5.0	1,982.6	\$0.170
101	15 SEER (12.72 EER) Split-System Air Conditioner w/ quality install	277.3	2,259.8	\$0.172
205	Ceiling R-19 to R-38 Insulation (base space heating)	4.3	2,264.2	\$0.181
612	High Efficiency CD (EF=3.01 w/moisture sensor)	31.0	2,295.1	\$0.211
212	Single Pane Windows to Double Pane with Gas (base space heating)	55.5	2,350.6	\$0.234
981	Plug Load Controls - Smart Power Strip	27.2	2,377.8	\$0.238
302	CFL 15W - Specialty (base HE incandescent<1.15 hrs/day)	2.1	2,379.9	\$0.241
131	15 SEER (12.72 EER) Split-System Air Conditioner--early replacement	43.5	2,423.4	\$0.251
332	CFL 15W - Specialty (base HE incandescent >5 hrs/day)	2.4	2,425.7	\$0.259
509	Energy Star CW CEE Tier 2 (MEF=2.0) (base WH)	4.4	2,430.2	\$0.287
313	LEDs (base HE incandescent 1.15-2.15 hrs/day)	74.9	2,505.1	\$0.291
351	LEDs (base CFL 1.15-2.15 hrs/day)	25.7	2,530.8	\$0.298
507	Solar Domestic Water Heating	76.3	2,607.1	\$0.326

SUPPLY CURVE DATA

Residential Electric Existing Construction

Capacity Supply Curve

Measure Number	Measure	Measure MW Savings	Cumulative Measure MW Savings	Levelized Capacity Cost \$/kW
506	Pipe Wrap	0.6	0.6	\$25
951	Energy Star Desktop PC	5.7	6.4	\$25
931	Energy Star Set-Top Box	0.8	7.1	\$25
901	Energy Star Plasma TV	8.3	15.5	\$28
211	Self Install Weatherization (base space heating)	11.1	26.5	\$35
911	Energy Star LCD TV	2.0	28.6	\$48
921	Energy Star LCD TV	6.6	35.2	\$50
331	CFL 15W (base HE incandescent >5 hrs/day)	1.6	36.8	\$75
321	CFL 15W (base HE incandescent 2.15-5 hrs/day)	12.3	49.1	\$75
171	Energy Star Dehumidifier (ROB)	1.2	50.3	\$78
311	CFL 15W (base HE incandescent 1.15-2.15 hrs/day)	8.2	58.4	\$83
210	Comprehensive Shell Air Sealing - Inf. Reduction (base space heating)	4.4	62.8	\$89
301	CFL 15W (base HE incandescent<1.15 hrs/day)	18.8	81.6	\$95
941	Energy Star DVD Player	75.9	157.5	\$100
961	Energy Star Laptop PC	3.6	161.1	\$100
216	Programmable Thermostat (base space heating)	8.9	170.0	\$101
208	Basement insulation R-11 (base space heating)	1.3	171.3	\$109
381	ROB 2L4' Premium T8	4.4	175.6	\$145
120	Self Install Weatherization (base split-system)	295.9	471.5	\$162
421	Refrigerator Recycling - second refrigerator	4.8	476.3	\$178
501	Drain Water Heat Recovery (GFX)	1.4	477.7	\$181
201	Ceiling R-0 to R-38 Insulation (base space heating)	45.4	523.1	\$182
991	Indirect feedback	46.4	569.5	\$235
505	Low Flow Showerhead 1.5 Gal/Min	26.7	596.2	\$283
503	HE Water Heater (EF=0.93)	55.5	651.7	\$335
508	Tankless Water Heater	4.9	656.6	\$348
551	Early Replacement Water Heating to Heat Pump Water Heater	4.7	661.4	\$353
401	HE Refrigerator (CEE Tier 2)	2.8	664.2	\$353
153	Self Install Weatherization (base RAC)	18.9	683.1	\$392
181	Variable speed furnace fans	1.0	684.1	\$403
161	EER 8.5 AC Early Replacement, CEE Tier 1 EER 11.3	23.8	707.9	\$451
504	Heat Pump Water Heater - Energy Star	0.2	708.1	\$491
431	Freezer (Energy Star)	1.2	709.3	\$497
333	LEDs (base HE incandescent >5 hrs/day)	1.3	710.6	\$505
502	Faucet Aerators (1.5 GPM)	1.0	711.6	\$543
371	LEDs (base CFL >5 hrs/day)	12.1	723.6	\$567
207	Wall Blow-in R-0 to R-13 Insulation (base space heating)	1.2	724.9	\$572
117	Proper Refrigerant Charging and Air Flow	18.2	743.1	\$577
155	Ductless Split Heat Pump	3.8	746.9	\$700
322	CFL 15W - Specialty (base HE incandescent 2.15-5 hrs/day)	17.6	764.5	\$747
441	Freezer - Early Replacement (Energy Star)	5.2	769.7	\$750
118	Proper Sizing and Quality Install	0.2	769.9	\$751
312	CFL 15W - Specialty (base HE incandescent 1.15-2.15 hrs/day)	0.7	770.6	\$872
801	Variable Speed Pool Pump (1.5 hp)	0.6	771.2	\$887
323	LEDs (base HE incandescent 2.15-5 hrs/day)	13.2	784.4	\$895
203	Ceiling R-11 to R-38 Insulation (base space heating)	3.1	787.5	\$959
361	LEDs (base CFL 2.15-5 hrs/day)	0.4	787.9	\$972
202	Ceiling R-0 to R-49 Insulation (base space heating)	1.7	789.6	\$994
116	Programmable Thermostat (base split-system)	4.5	794.0	\$1,026
101	15 SEER (12.72 EER) Split-System Air Conditioner w/ quality install	4.8	798.8	\$1,063
205	Ceiling R-19 to R-38 Insulation (base space heating)	3.1	801.9	\$1,166
612	High Efficiency CD (EF=3.01 w/moisture sensor)	0.5	802.4	\$1,237
212	Single Pane Windows to Double Pane with Gas (base space heating)	0.4	802.8	\$1,257
981	Plug Load Controls - Smart Power Strip	22.7	825.4	\$1,260
302	CFL 15W - Specialty (base HE incandescent<1.15 hrs/day)	0.3	825.7	\$1,273
131	15 SEER (12.72 EER) Split-System Air Conditioner--early replacement	0.8	826.6	\$1,449
332	CFL 15W - Specialty (base HE incandescent >5 hrs/day)	4.0	830.5	\$1,640
509	Energy Star CW CEE Tier 2 (MEF=2.0) (base WH)	2.9	833.5	\$1,721
313	LEDs (base HE incandescent 1.15-2.15 hrs/day)	1.3	834.8	\$1,730
351	LEDs (base CFL 1.15-2.15 hrs/day)	2.0	836.8	\$1,760
507	Solar Domestic Water Heating	1.3	838.1	\$1,860

APPENDIX G

SUPPLY CURVE DATA

Residential Electric Existing Construction				
Energy Supply Curve				
Measure Number	Measure	Measure GWH Savings	Cumulative Measure GWH Savings	Levelized Energy Cost \$/kWh
411	Refrigerator - Early Replacement (Energy Star)	30.8	2,637.9	\$0.327
213	Double Pane with Glazing to Energy Star (base space heating)	13.6	2,651.5	\$0.338
206	Ceiling R-19 to R-49 Insulation (base space heating)	0.6	2,652.1	\$0.363
142	HE Room Air Conditioner - CEE Tier 1 EER 11.3	4.6	2,656.7	\$0.371
154	Infiltration Reduction (base RAC)	4.4	2,661.1	\$0.377
204	Ceiling R-11 to R-49 Insulation (base space heating)	0.2	2,661.3	\$0.400
104	AC Maintenance (Outdoor Coil Cleaning)	17.7	2,679.0	\$0.419
611	Heat Pump Dryer	187.6	2,866.6	\$0.426
113	Comprehensive Shell Air Sealing - Inf. Reduction (base split-system)	22.3	2,888.8	\$0.481
146	Ceiling R-0 to R-38 Insulation (base RAC)	0.2	2,889.0	\$0.524
372	Photocell/timeclock (outdoor) (base CFL >5 hrs/day)	3.4	2,892.4	\$0.535
115	Duct Repair	1.0	2,893.4	\$0.580
402	HE Refrigerator (Energy Star)	36.8	2,930.2	\$0.582
105	AC Maintenance and/or tune-up	11.3	2,941.5	\$0.605
107	Ceiling R-0 to R-38 Insulation (base split-system)	1.2	2,942.7	\$0.611
982	Energy Star Ventilating Fans	9.3	2,952.0	\$0.716
601	Energy Star CW CEE Tier 2 (MEF=2.0) (base CW)	20.1	2,972.1	\$0.737
811	Variable Speed Pool Pump (1.5 hp)	0.5	2,972.6	\$0.760
510	Tier 3 CW (MEF=2.20) (base WH)	1.9	2,974.4	\$0.773
303	LEDs (base HE incandescent<1.15 hrs/day)	17.4	2,991.8	\$0.791
103	AC Maintenance (Indoor Coil Cleaning)	16.5	3,008.3	\$0.798
341	LEDs (base CFL < 1.15 hrs/day)	3.2	3,011.5	\$0.810
511	Energy Star Dishwasher (EF=0.72) (base WH)	0.9	3,012.4	\$0.812
215	Double Pane- Add storm windows (base space heating)	27.7	3,040.1	\$0.818
152	Wall 2x4 R-0 to Blow-In R-13 Insulation (base RAC)	0.5	3,040.6	\$0.946
114	Duct Insulation	12.3	3,053.0	\$0.955
143	Ceiling Fans (base RAC)	1.6	3,054.5	\$1.060
106	Ceiling Fans (base split-system)	4.2	3,058.7	\$1.095
362	Photocell/timeclock (outdoor) (base CFL 2.15-5 hrs/day)	2.2	3,061.0	\$1.178
148	Ceiling R-11 to R-38 Insulation (base RAC)	0.5	3,061.5	\$1.320
121	Wall Blow-in R-0 to R-13 Insulation (base split-system)	21.3	3,082.7	\$1.344
150	Ceiling R-19 to R-38 Insulation (base RAC)	1.2	3,083.9	\$1.846
109	Ceiling R-11 to R-38 Insulation (base split-system)	1.3	3,085.2	\$1.985
144	Single Pane Windows to Double Pane with Gas (base RAC)	1.0	3,086.2	\$2.082
111	Ceiling R-19 to R-38 Insulation (base split-system)	4.7	3,090.9	\$2.364
352	Photocell/timeclock (outdoor) (base CFL 1.15-2.15 hrs/day)	2.6	3,093.5	\$2.437
214	Single Pane- Add storm windows (base space heating)	6.0	3,099.5	\$2.605
145	Double Pane with Glazing to Energy Star (base RAC)	5.7	3,105.3	\$2.685
102	17 SEER (12.28 EER) Split-System Air Conditioner w/ quality install	2.7	3,108.0	\$2.873
122	Single Pane Windows to Double Pane with Gas (base split-system)	4.0	3,112.0	\$2.903
119	Sealed Attic w/Sprayed Foam Insulated Roof Deck (base split-system)	4.6	3,116.6	\$2.980
602	Tier 3 CW (MEF=2.20) (base CW)	1.2	3,117.8	\$3.388
209	Floor R-0 to R-19 Insulation-Batts (base space heating)	0.8	3,118.6	\$4.225
123	Double Pane with Glazing to Energy Star (base split-system)	19.1	3,137.7	\$4.587
701	Energy Star Dishwasher (EF=0.72) (base DW)	0.3	3,138.0	\$5.349
342	Photocell/timeclock (outdoor) (base CFL < 1.15 hrs/day)	0.3	3,138.3	\$6.722
108	Ceiling R-0 to R-49 Insulation (base split-system)	0.0	3,138.3	N/A
110	Ceiling R-11 to R-49 Insulation (base split-system)	0.0	3,138.3	N/A
112	Ceiling R-19 to R-49 Insulation (base split-system)	0.0	3,138.3	N/A
147	Ceiling R-0 to R-49 Insulation (base RAC)	0.0	3,138.3	N/A
149	Ceiling R-11 to R-49 Insulation (base RAC)	0.0	3,138.3	N/A
151	Ceiling R-19 to R-49 Insulation (base RAC)	0.0	3,138.3	N/A

Residential Electric Existing Construction				
Capacity Supply Curve				
Measure Number	Measure	Measure MW Savings	Cumulative Measure MW Savings	Levelized Capacity Cost \$/kW
411	Refrigerator - Early Replacement (Energy Star)	1.1	839.3	\$1,951
213	Double Pane with Glazing to Energy Star (base space heating)	0.6	839.9	\$2,121
206	Ceiling R-19 to R-49 Insulation (base space heating)	3.0	842.8	\$2,171
142	HE Room Air Conditioner - CEE Tier 1 EER 11.3	5.0	847.9	\$2,215
154	Infiltration Reduction (base RAC)	4.2	852.0	\$2,418
204	Ceiling R-11 to R-49 Insulation (base space heating)	6.1	858.1	\$2,516
104	AC Maintenance (Outdoor Coil Cleaning)	0.2	858.3	\$2,656
611	Heat Pump Dryer	2.9	861.2	\$2,692
113	Comprehensive Shell Air Sealing - Inf. Reduction (base split-system)	4.3	865.5	\$2,720
146	Ceiling R-0 to R-38 Insulation (base RAC)	4.9	870.4	\$2,793
372	Photocell/timeclock (outdoor) (base CFL >5 hrs/day)	0.2	870.6	\$2,857
115	Duct Repair	6.8	877.4	\$3,212
402	HE Refrigerator (Energy Star)	7.6	885.0	\$3,276
105	AC Maintenance and/or tune-up	2.3	887.3	\$3,285
107	Ceiling R-0 to R-38 Insulation (base split-system)	24.1	911.4	\$3,312
982	Energy Star Ventilating Fans	20.4	931.9	\$4,298
601	Energy Star CW CEE Tier 2 (MEF=2.0) (base CW)	5.0	936.8	\$4,303
811	Variable Speed Pool Pump (1.5 hp)	0.4	937.2	\$5,141
510	Tier 3 CW (MEF=2.20) (base WH)	2.7	939.9	\$5,454
303	LEDs (base HE incandescent<1.15 hrs/day)	0.1	940.0	\$5,611
103	AC Maintenance (Indoor Coil Cleaning)	0.3	940.3	\$5,721
341	LEDs (base CFL < 1.15 hrs/day)	1.0	941.3	\$6,534
511	Energy Star Dishwasher (EF=0.72) (base WH)	0.1	941.4	\$7,018
215	Double Pane- Add storm windows (base space heating)	1.6	942.9	\$8,720
152	Wall 2x4 R-0 to Blow-In R-13 Insulation (base RAC)	0.3	943.2	\$8,920
114	Duct Insulation	0.2	943.5	\$11,331
143	Ceiling Fans (base RAC)	0.3	943.7	\$23,437
106	Ceiling Fans (base split-system)	0.2	943.9	\$25,072
362	Photocell/timeclock (outdoor) (base CFL 2.15-5 hrs/day)	0.0	943.9	\$36,968
148	Ceiling R-11 to R-38 Insulation (base RAC)	0.0	944.0	\$64,638
121	Wall Blow-in R-0 to R-13 Insulation (base split-system)	0.0	944.0	N/A
150	Ceiling R-19 to R-38 Insulation (base RAC)	0.0	944.0	N/A
109	Ceiling R-11 to R-38 Insulation (base split-system)	0.0	944.0	N/A
144	Single Pane Windows to Double Pane with Gas (base RAC)	0.0	944.0	N/A
111	Ceiling R-19 to R-38 Insulation (base split-system)	0.0	944.0	N/A
352	Photocell/timeclock (outdoor) (base CFL 1.15-2.15 hrs/day)	0.0	944.0	N/A
214	Single Pane- Add storm windows (base space heating)	0.0	944.0	N/A
145	Double Pane with Glazing to Energy Star (base RAC)	0.0	944.0	N/A
102	17 SEER (12.28 EER) Split-System Air Conditioner w/ quality install	0.0	944.0	N/A
122	Single Pane Windows to Double Pane with Gas (base split-system)	0.0	944.0	N/A
119	Sealed Attic w/Sprayed Foam Insulated Roof Deck (base split-system)	0.0	944.0	N/A
602	Tier 3 CW (MEF=2.20) (base CW)	0.0	944.0	N/A
209	Floor R-0 to R-19 Insulation-Batts (base space heating)	0.0	944.0	N/A
123	Double Pane with Glazing to Energy Star (base split-system)	0.0	944.0	N/A
701	Energy Star Dishwasher (EF=0.72) (base DW)	0.0	944.0	N/A
342	Photocell/timeclock (outdoor) (base CFL < 1.15 hrs/day)	0.0	944.0	N/A
108	Ceiling R-0 to R-49 Insulation (base split-system)	0.0	944.0	N/A
110	Ceiling R-11 to R-49 Insulation (base split-system)	0.0	944.0	N/A
112	Ceiling R-19 to R-49 Insulation (base split-system)	0.0	944.0	N/A
147	Ceiling R-0 to R-49 Insulation (base RAC)	0.0	944.0	N/A
149	Ceiling R-11 to R-49 Insulation (base RAC)	0.0	944.0	N/A
151	Ceiling R-19 to R-49 Insulation (base RAC)	0.0	944.0	N/A

APPENDIX G

SUPPLY CURVE DATA

Residential Electric New Construction

Energy Supply Curve

Measure Number	Measure	Measure GWH Savings	Cumulative Measure GWH Savings	Levelized Energy Cost \$/kWH
101	2011 ENERGY STAR Home	720.3	720.3	\$0.024

Residential Electric New Construction

Capacity Supply Curve

Measure Number	Measure	Measure MW Savings	Cumulative Measure MW Savings	Levelized Capacity Cost \$/kW
101	2011 ENERGY STAR Home	195.1	195.1	\$90

APPENDIX G

SUPPLY CURVE DATA

Commercial Electric Existing Construction Energy Supply Curve

Measure Number	Measure	Measure GWH Savings	Cumulative Measure GWH Savings	Levelized Energy Cost \$/kWh
528	Energy-Star Refrigerator, glass door	10.9	10.9	\$0.000
651	Data Center Improved Operations	24.2	35.1	\$0.002
529	Energy-Star Freezer, glass door	8.2	43.3	\$0.002
509	Demand Defrost Electric	0.3	43.6	\$0.003
530	Energy Star Ice Machines	1.9	45.5	\$0.004
652	Data Center Best Practices	27.9	73.3	\$0.004
523	Freezer-Cooler Replacement Gaskets (self-contained)	4.7	78.0	\$0.008
653	Data Center State of the Art practices	10.8	88.8	\$0.008
105	Occupancy Sensor, 4L4' Fluorescent Fixtures	201.5	290.3	\$0.009
504	Efficient compressor motor retrofit	0.1	290.4	\$0.011
602	PC Network Power Management Enabling	305.0	595.4	\$0.011
506	Floating head pressure controls	0.1	595.5	\$0.013
508	Demand Hot Gas Defrost	3.4	598.9	\$0.013
522	Night covers for display cases (self-contained)	1.3	600.2	\$0.013
511	Freezer-Cooler Replacement Gaskets (built-up systems)	4.6	604.9	\$0.014
201	Outdoor Lighting Controls (Photocell/Timeclock)	79.4	684.3	\$0.015
611	Energy Star or Better Monitor-CRT	3.5	687.8	\$0.015
526	Energy-Star Refrigerator, solid door	2.6	690.4	\$0.016
123	Occupancy Sensor, 4L8' Fluorescent Fixtures	4.2	694.6	\$0.016
115	Occupancy Sensor, 2L4' Fluorescent Fixtures	13.4	708.0	\$0.016
186	Parking Garage Low Wattage T8 Lamps replacing 32W lamps	3.4	711.4	\$0.017
401	Fan Motor, 5hp, 1800rpm, 89.5%	20.8	732.2	\$0.017
631	Energy Star or Better Copier	3.3	735.5	\$0.018
422	Variable Speed Drive Control, 40 HP	39.8	775.3	\$0.021
161	High Bay T5	31.2	806.5	\$0.022
181	High-efficiency fluorescent parking garage fixture (Base MH)	106.0	912.5	\$0.022
517	Oversized Air Cooled Condenser	13.4	926.0	\$0.024
702	Efficient Fryer	5.6	931.6	\$0.025
131	CFL Screw-in 18W	58.1	989.6	\$0.026
510	Anti-sweat (humidistat) controls	0.5	990.1	\$0.026
402	Variable Speed Drive Control, 5 HP	279.1	1,269.2	\$0.027
703	Efficient Steamer	44.0	1,313.2	\$0.028
621	Energy Star or Better Monitor-LCD	86.0	1,399.1	\$0.028
603	Energy Star or Better PC	88.0	1,487.1	\$0.029
114	Lighting Control Tuneup	7.6	1,494.8	\$0.032
111	ROB 2L4' Premium T8	42.8	1,537.5	\$0.035
501	High-efficiency fan motors	11.6	1,549.2	\$0.035
104	Lighting Control Tuneup	83.6	1,632.8	\$0.036
107	High Performance Lighting R/R - 25% Savings, Base 4L4'T8	198.4	1,831.2	\$0.039
641	Printer Power Management Enabling	6.8	1,838.0	\$0.040
503	Night covers for display cases (built-up systems)	3.4	1,841.4	\$0.041
101	ROB 4L4' Premium T8	423.1	2,264.5	\$0.042
332	Aerosol Duct Sealing - DX	36.5	2,301.0	\$0.043
165	Occupancy Sensor, High Bay T5	2.1	2,303.1	\$0.044
612	Monitor Power Management Enabling-CRT	1.1	2,304.2	\$0.045
413	Electronically Commutated Motors (ECM) on an Air Handler Unit	33.5	2,337.7	\$0.046
527	Energy-Star Freezer, solid door	3.2	2,340.9	\$0.047
141	CFL Hardwired, Modular 18W	118.6	2,459.4	\$0.049
507	Refrigeration Commissioning	1.6	2,461.0	\$0.050
411	Fan Motor, 15hp, 1800rpm, 92.4%	3.0	2,463.9	\$0.051
306	VSD for Chiller Pumps and Towers	13.0	2,477.0	\$0.055
122	Lighting Control Tuneup	1.4	2,478.4	\$0.058
322	DX Packaged System, EER=10.3, 10 tons, with Automated Fault Detection and Diagnostics	114.6	2,592.9	\$0.060
309	Ceiling/roof Insulation - Chiller	1.9	2,594.8	\$0.061
505	Compressor VSD retrofit	7.1	2,601.9	\$0.062
666	Heat Recovery Unit	11.0	2,613.0	\$0.062
311	High Efficiency Chiller Motors	3.5	2,616.5	\$0.063
132	Cold Cathode Lamps	3.4	2,619.9	\$0.064
125	High Performance Lighting R/R - 25% Savings, Base Other Fluorescent	3.3	2,623.2	\$0.065
667	Heat Trap	7.2	2,630.3	\$0.065
424	Demand Controlled Ventilation	36.0	2,666.4	\$0.066
622	Monitor Power Management Enabling-LCD	26.8	2,693.2	\$0.067
421	Fan Motor, 40hp, 1800rpm, 94.1%	1.7	2,695.0	\$0.072
301	Centrifugal Chiller, 0.51 kW/ton, 500 tons	36.4	2,731.3	\$0.073
106	Continuous Dimming, 4L4' Fluorescent Fixtures	258.9	2,990.3	\$0.073
121	ROB Premium T8 (base other fluorescent)	6.8	2,997.0	\$0.075
423	Air Handler Tuneups	15.2	3,012.2	\$0.077
112	Delamping 1L4' F32T8	31.0	3,043.2	\$0.081
412	Variable Speed Drive Control, 15 HP	32.1	3,075.2	\$0.084
117	High Performance Lighting R/R - 25% Savings, Base 2L4'T8	13.6	3,088.8	\$0.090
333	Ceiling/roof Insulation - DX	5.4	3,094.2	\$0.101
632	Copier Power Management Enabling	1.1	3,095.4	\$0.109
202	LED Outdoor Area Lighting	261.9	3,357.3	\$0.113
124	Continuous Dimming, 4L8' Fluorescent Fixtures	4.6	3,361.9	\$0.114
143	LED fixture replacement (base incandescent flood)	42.1	3,404.0	\$0.118

Commercial Electric Existing Construction Capacity Supply Curve

Measure Number	Measure	Measure MW Savings	Cumulative Measure MW Savings	Levelized Capacity Cost \$/kW
528	Energy-Star Refrigerator, glass door	1.3	1.3	\$2
529	Energy-Star Freezer, glass door	1.0	2.3	\$17
651	Data Center Improved Operations	1.9	4.3	\$21
509	Demand Defrost Electric	0.0	4.3	\$23
530	Energy Star Ice Machines	0.2	4.5	\$31
652	Data Center Best Practices	2.5	7.0	\$46
523	Freezer-Cooler Replacement Gaskets (self-contained)	0.6	7.6	\$63
653	Data Center State of the Art practices	1.3	8.9	\$66
504	Efficient compressor motor retrofit	0.0	8.9	\$85
332	Aerosol Duct Sealing - DX	17.0	25.9	\$93
401	Fan Motor, 5hp, 1800rpm, 89.5%	3.4	29.3	\$101
508	Demand Hot Gas Defrost	0.4	29.7	\$106
511	Freezer-Cooler Replacement Gaskets (built-up systems)	0.6	30.3	\$114
322	DX Packaged System, EER=10.3, 10 tons, with Automated Fault Detection and Diagnostics	53.3	83.6	\$129
186	Parking Garage Low Wattage T8 Lamps replacing 32W lamps	0.4	84.0	\$130
526	Energy-Star Refrigerator, solid door	0.3	84.3	\$133
602	PC Network Power Management Enabling	24.1	108.4	\$141
702	Efficient Fryer	1.0	109.4	\$147
306	VSD for Chiller Pumps and Towers	4.9	114.3	\$147
611	Energy Star or Better Monitor-CRT	0.4	114.6	\$148
161	High Bay T5	4.4	119.0	\$154
309	Ceiling/roof Insulation - Chiller	0.7	119.7	\$164
131	CFL Screw-in 18W	9.0	128.7	\$168
311	High Efficiency Chiller Motors	1.3	130.0	\$169
517	Oversized Air Cooled Condenser	1.9	131.9	\$174
703	Efficient Steamer	6.9	138.8	\$178
181	High-efficiency fluorescent parking garage fixture (Base MH)	12.9	151.7	\$179
631	Energy Star or Better Copier	0.3	152.0	\$186
301	Centrifugal Chiller, 0.51 kW/ton, 500 tons	13.6	165.6	\$195
333	Ceiling/roof Insulation - DX	2.5	168.2	\$217
105	Occupancy Sensor, 4L4' Fluorescent Fixtures	7.6	175.8	\$231
111	ROB 2L4' Premium T8	6.5	182.2	\$233
501	High-efficiency fan motors	1.6	183.8	\$258
201	Outdoor Lighting Controls (Photocell/Timeclock)	4.5	188.3	\$266
101	ROB 4L4' Premium T8	63.2	251.5	\$279
621	Energy Star or Better Monitor-LCD	7.7	259.2	\$312
411	Fan Motor, 15hp, 1800rpm, 92.4%	0.5	259.7	\$318
603	Energy Star or Better PC	7.9	267.6	\$319
335	DX Coil Cleaning	15.5	283.1	\$329
141	CFL Hardwired, Modular 18W	17.4	300.4	\$332
507	Refrigeration Commissioning	0.2	300.7	\$354
303	EMS - Chiller	1.7	302.4	\$364
527	Energy-Star Freezer, solid door	0.4	302.8	\$380
421	Fan Motor, 40hp, 1800rpm, 94.1%	0.3	303.1	\$402
510	Anti-sweat (humidistat) controls	0.0	303.1	\$403
132	Cold Cathode Lamps	0.5	303.6	\$414
115	Occupancy Sensor, 2L4' Fluorescent Fixtures	0.5	304.2	\$425
123	Occupancy Sensor, 4L8' Fluorescent Fixtures	0.2	304.3	\$425
422	Variable Speed Drive Control, 40 HP	1.8	306.1	\$458
324	DX Packaged System, EER=13.4, 10 tons	94.4	400.5	\$462
612	Monitor Power Management Enabling-CRT	0.1	400.6	\$476
121	ROB Premium T8 (base other fluorescent)	1.0	401.6	\$489
641	Printer Power Management Enabling	0.6	402.2	\$493
666	Heat Recovery Unit	1.4	403.5	\$495
107	High Performance Lighting R/R - 25% Savings, Base 4L4'T8	14.7	418.3	\$526
112	Delamping 1L4' F32T8	4.7	422.9	\$536
667	Heat Trap	0.9	423.8	\$542
329	Cool Roof - DX	18.3	442.1	\$561
342	Hotel Room Controllers	2.0	444.1	\$569
402	Variable Speed Drive Control, 5 HP	11.8	455.9	\$631
341	HE PTAC, EER=9.6, 1 ton	4.8	460.7	\$632
321	DX Tune Up/ Advanced Diagnostics	2.3	463.0	\$763
133	LED screw-in PAR replacement (base incandescent)	5.2	468.2	\$767
330	Optimize Controls - DX	1.9	470.1	\$768
143	LED fixture replacement (base incandescent flood)	6.2	476.3	\$809
114	Lighting Control Tuneup	0.3	476.6	\$824
102	Delamping 3L4' F32T8	11.9	488.5	\$831
125	High Performance Lighting R/R - 25% Savings, Base Other Fluorescent	0.3	488.7	\$846
304	Cool Roof - Chiller	2.3	491.0	\$847
622	Monitor Power Management Enabling-LCD	2.1	493.1	\$859
191	LED Exit Sign	1.1	494.3	\$924
423	Air Handler Tuneups	1.3	495.5	\$932
331	Economizer - DX	12.0	507.5	\$941
104	Lighting Control Tuneup	3.1	510.6	\$980
305	Chiller Tune Up/Diagnostics	0.2	510.8	\$991

APPENDIX G

SUPPLY CURVE DATA

Commercial Electric Existing Construction Energy Supply Curve				
Measure Number	Measure	Measure GWH Savings	Cumulative Measure GWH Savings	Levelized Energy Cost \$/kWh
212	LED Streetlighting	72.4	3,476.4	\$0.119
133	LED screw-in PAR replacement (base incandescent)	33.6	3,510.0	\$0.119
191	LED Exit Sign	8.5	3,518.5	\$0.123
102	Delamping 3L4' F32T8	79.7	3,598.2	\$0.124
330	Optimize Controls - DX	11.5	3,609.6	\$0.127
662	High Efficiency Water Heater (electric)	2.5	3,612.2	\$0.130
116	Continuous Dimming, 2L4' Fluorescent Fixtures	17.9	3,630.1	\$0.140
331	Economizer - DX	74.8	3,704.8	\$0.151
516	Multiplex Compressor System	0.7	3,705.5	\$0.152
335	DX Coil Cleaning	33.3	3,738.8	\$0.153
308	Economizer - Chiller	19.3	3,758.1	\$0.157
671	Vending Misers	3.4	3,761.5	\$0.163
303	EMS - Chiller	3.7	3,765.1	\$0.170
151	LED screw-in replacement (base CFL)	66.0	3,831.1	\$0.207
324	DX Packaged System, EER=13.4, 10 tons	202.8	4,033.9	\$0.215
664	Tankless Water Heater	7.6	4,041.5	\$0.216
321	DX Tune Up/ Advanced Diagnostics	7.3	4,048.7	\$0.244
668	Solar Water Heater	36.3	4,085.0	\$0.245
329	Cool Roof - DX	39.4	4,124.4	\$0.261
342	Hotel Room Controllers	4.3	4,128.7	\$0.266
524	Bi-level LED Case Lighting (self-contained units)	1.0	4,129.7	\$0.292
341	HE PTAC, EER=9.6, 1 ton	10.2	4,139.9	\$0.295
326	Prog. Thermostat - DX	14.9	4,154.7	\$0.300
305	Chiller Tune Up/Diagnostics	0.5	4,155.3	\$0.311
304	Cool Roof - Chiller	6.0	4,161.3	\$0.320
704	Energy Star Hot Food Holding Cabinets	6.5	4,167.9	\$0.346
514	Fiber Optic Case Lighting (built-up systems)	15.7	4,183.5	\$0.361
661	Demand controlled circulating systems	2.0	4,185.5	\$0.476
414	Energy Recovery Ventilation (ERV)	8.5	4,194.0	\$0.538
337	Geothermal Heat Pump, EER=13, 10 tons - DX	11.3	4,205.3	\$0.569
701	Convection Oven	1.3	4,206.6	\$0.625
103	LED Troffer (Base 4L4'T8)	241.4	4,448.0	\$0.646
302	Window Film (Standard) - Chiller	0.8	4,448.8	\$0.709
325	Window Film (Standard) - DX	11.6	4,460.4	\$1.064
512	High R-Value Glass Doors	0.7	4,461.1	\$1.068
663	Hot Water Pipe Insulation	0.8	4,461.9	\$1.102
203	Bi-Level LED Outdoor Lighting	44.1	4,506.0	\$1.354
521	Strip curtains for walk-ins	0.4	4,506.4	\$1.791
334	Duct/Pipe Insulation - DX	7.5	4,513.9	\$2.372
310	Duct/Pipe Insulation - Chiller	3.0	4,516.9	\$3.439
182	Bi-Level LED Parking Garage Fixtures (Base MH)	0.7	4,517.5	\$5.514

Commercial Electric Existing Construction Capacity Supply Curve				
Measure Number	Measure	Measure MW Savings	Cumulative Measure MW Savings	Levelized Capacity Cost \$/kW
662	High Efficiency Water Heater (electric)	0.3	511.1	\$1,096
308	Economizer - Chiller	2.4	513.5	\$1,101
117	High Performance Lighting R/R - 25% Savings, Base 2L4'T8	1.0	514.5	\$1,177
413	Electronically Commutated Motors (ECM) on an Air Handler Unit	1.3	515.8	\$1,177
516	Multiplex Compressor System	0.1	515.9	\$1,183
337	Geothermal Heat Pump, EER=13, 10 tons - DX	5.3	521.2	\$1,218
632	Copier Power Management Enabling	0.1	521.3	\$1,258
165	Occupancy Sensor, High Bay T5	0.1	521.4	\$1,291
151	LED screw-in replacement (base CFL)	9.4	530.8	\$1,456
122	Lighting Control Tuneup	0.1	530.8	\$1,504
302	Window Film (Standard) - Chiller	0.4	531.2	\$1,563
424	Demand Controlled Ventilation	1.4	532.5	\$1,750
326	Prog. Thermostat - DX	2.5	535.0	\$1,773
664	Tankless Water Heater	0.9	535.9	\$1,818
212	LED Streetlighting	4.7	540.6	\$1,842
671	Vending Misers	0.3	540.9	\$1,847
106	Continuous Dimming, 4L4' Fluorescent Fixtures	9.6	550.5	\$1,962
505	Compressor VSD retrofit	0.2	550.8	\$1,981
668	Solar Water Heater	4.2	554.9	\$2,138
325	Window Film (Standard) - DX	5.6	560.5	\$2,210
412	Variable Speed Drive Control, 15 HP	1.1	561.6	\$2,449
704	Energy Star Hot Food Holding Cabinets	0.8	562.4	\$2,837
124	Continuous Dimming, 4L8' Fluorescent Fixtures	0.2	562.6	\$2,941
514	Fiber Optic Case Lighting (built-up systems)	1.9	564.5	\$2,968
524	Bi-level LED Case Lighting (self-contained units)	0.1	564.6	\$3,106
202	LED Outdoor Area Lighting	9.0	573.5	\$3,301
116	Continuous Dimming, 2L4' Fluorescent Fixtures	0.7	574.3	\$3,535
414	Energy Recovery Ventilation (ERV)	1.2	575.5	\$3,691
103	LED Troffer (Base 4L4'T8)	36.0	611.5	\$4,331
334	Duct/Pipe Insulation - DX	3.3	614.8	\$5,349
701	Convection Oven	0.1	615.0	\$5,737
512	High R-Value Glass Doors	0.1	615.1	\$8,380
663	Hot Water Pipe Insulation	0.1	615.2	\$8,796
310	Duct/Pipe Insulation - Chiller	1.2	616.3	\$8,911
661	Demand controlled circulating systems	0.1	616.4	\$14,844
521	Strip curtains for walk-ins	0.0	616.4	\$15,131
203	Bi-Level LED Outdoor Lighting	1.5	618.0	\$39,113
182	Bi-Level LED Parking Garage Fixtures (Base MH)	0.1	618.0	\$46,708
503	Night covers for display cases (built-up systems)	0.0	618.0	N/A
506	Floating head pressure controls	0.0	618.0	N/A
522	Night covers for display cases (self-contained)	0.0	618.0	N/A

Commercial Electric New Construction

Energy Supply Curve

Measure Number	Measure	Measure GWH Savings	Cumulative Measure GWH Savings	Levelized Energy Cost \$/kWh
206	High Performance Building/Int Design - Tier 2 30% - Grocery	13.7	13.7	\$0.032
306	High Performance Building/Int Design - Tier 3 50% - Grocery	5.1	18.8	\$0.034
406	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Grocery	0.8	19.6	\$0.038
203	High Performance Building/Int Design - Tier 2 30% - Restaurant	13.9	33.5	\$0.038
303	High Performance Building/Int Design - Tier 3 50% - Restaurant	5.2	38.7	\$0.040
106	High Performance Building/Int Design - Tier 1 15% - Grocery	8.6	47.3	\$0.045
403	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Restaurant	0.8	48.1	\$0.045
103	High Performance Building/Int Design - Tier 1 15% - Restaurant	8.7	56.8	\$0.054
202	High Performance Building/Int Design - Tier 2 30% - Large Office	50.0	106.8	\$0.066
302	High Performance Building/Int Design - Tier 3 50% - Large Office	18.7	125.5	\$0.069
201	High Performance Building/Int Design - Tier 2 30% - Small Office	63.0	188.6	\$0.077
402	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Large Office	2.9	191.5	\$0.077
301	High Performance Building/Int Design - Tier 3 50% - Small Office	23.6	215.1	\$0.081
204	High Performance Building/Int Design - Tier 2 30% - Small Retail	26.2	241.3	\$0.082
304	High Performance Building/Int Design - Tier 3 50% - Small Retail	9.8	251.1	\$0.087
401	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Small Office	3.7	254.8	\$0.091
102	High Performance Building/Int Design - Tier 1 15% - Large Office	31.2	286.1	\$0.092
205	High Performance Building/Int Design - Tier 2 30% - Large Retail	6.9	293.0	\$0.094
404	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Small Retail	1.5	294.5	\$0.097
305	High Performance Building/Int Design - Tier 3 50% - Large Retail	2.6	297.1	\$0.099
101	High Performance Building/Int Design - Tier 1 15% - Small Office	39.4	336.5	\$0.108
405	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Large Retail	0.4	336.9	\$0.111
104	High Performance Building/Int Design - Tier 1 15% - Small Retail	16.4	353.3	\$0.115
210	High Performance Building/Int Design - Tier 2 30% - Health	9.6	362.9	\$0.117
310	High Performance Building/Int Design - Tier 3 50% - Health	3.6	366.5	\$0.123
209	High Performance Building/Int Design - Tier 2 30% - College	6.0	372.5	\$0.124
309	High Performance Building/Int Design - Tier 3 50% - College	2.2	374.7	\$0.130
105	High Performance Building/Int Design - Tier 1 15% - Large Retail	4.3	379.1	\$0.132
410	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Health	0.6	379.6	\$0.138
409	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - College	0.3	380.0	\$0.146
211	High Performance Building/Int Design - Tier 2 30% - Lodging	7.5	387.5	\$0.147
311	High Performance Building/Int Design - Tier 3 50% - Lodging	2.8	390.3	\$0.154
207	High Performance Building/Int Design - Tier 2 30% - Warehouse	24.4	414.7	\$0.160
110	High Performance Building/Int Design - Tier 1 15% - Health	6.0	420.7	\$0.164
307	High Performance Building/Int Design - Tier 3 50% - Warehouse	9.2	429.9	\$0.168
109	High Performance Building/Int Design - Tier 1 15% - College	3.7	433.6	\$0.173
411	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Lodging	0.4	434.0	\$0.173
212	High Performance Building/Int Design - Tier 2 30% - Miscellaneous	24.0	458.1	\$0.174
208	High Performance Building/Int Design - Tier 2 30% - School	11.6	469.6	\$0.180
312	High Performance Building/Int Design - Tier 3 50% - Miscellaneous	9.0	478.6	\$0.182
407	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Warehouse	1.4	480.1	\$0.188
308	High Performance Building/Int Design - Tier 3 50% - School	4.3	484.4	\$0.189
412	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Miscellaneous	1.4	485.8	\$0.205
111	High Performance Building/Int Design - Tier 1 15% - Lodging	4.7	490.5	\$0.206
408	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - School	0.7	491.2	\$0.212
107	High Performance Building/Int Design - Tier 1 15% - Warehouse	15.3	506.4	\$0.224
112	High Performance Building/Int Design - Tier 1 15% - Miscellaneous	15.0	521.5	\$0.243
108	High Performance Building/Int Design - Tier 1 15% - School	7.2	528.7	\$0.252

Commercial Electric New Construction

Capacity Supply Curve

Measure Number	Measure	Measure MW Savings	Cumulative Measure MW Savings	Levelized Capacity Cost \$/kW
203	High Performance Building/Int Design - Tier 2 30% - Restaurant	2.4	2.4	\$218
206	High Performance Building/Int Design - Tier 2 30% - Grocery	1.9	4.4	\$228
303	High Performance Building/Int Design - Tier 3 50% - Restaurant	0.9	5.3	\$229
306	High Performance Building/Int Design - Tier 3 50% - Grocery	0.7	6.0	\$240
403	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Restaurant	0.1	6.2	\$257
406	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Grocery	0.1	6.3	\$269
103	High Performance Building/Int Design - Tier 1 15% - Restaurant	1.5	7.8	\$306
106	High Performance Building/Int Design - Tier 1 15% - Grocery	1.2	9.0	\$320
202	High Performance Building/Int Design - Tier 2 30% - Large Office	9.7	18.7	\$339
302	High Performance Building/Int Design - Tier 3 50% - Large Office	3.6	22.3	\$356
201	High Performance Building/Int Design - Tier 2 30% - Small Office	12.2	34.5	\$399
402	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Large Office	0.6	35.0	\$400
301	High Performance Building/Int Design - Tier 3 50% - Small Office	4.6	39.6	\$419
204	High Performance Building/Int Design - Tier 2 30% - Small Retail	5.1	44.7	\$422
304	High Performance Building/Int Design - Tier 3 50% - Small Retail	1.9	46.6	\$443
401	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Small Office	0.7	47.4	\$471
102	High Performance Building/Int Design - Tier 1 15% - Large Office	6.0	53.4	\$475
205	High Performance Building/Int Design - Tier 2 30% - Large Retail	1.4	54.8	\$482
404	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Small Retail	0.3	55.1	\$498
305	High Performance Building/Int Design - Tier 3 50% - Large Retail	0.5	55.6	\$506
101	High Performance Building/Int Design - Tier 1 15% - Small Office	7.6	63.2	\$559
405	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Large Retail	0.1	63.3	\$568
104	High Performance Building/Int Design - Tier 1 15% - Small Retail	3.2	66.5	\$591
105	High Performance Building/Int Design - Tier 1 15% - Large Retail	0.8	67.3	\$674
209	High Performance Building/Int Design - Tier 2 30% - College	1.1	68.4	\$694
309	High Performance Building/Int Design - Tier 3 50% - College	0.4	68.8	\$728
210	High Performance Building/Int Design - Tier 2 30% - Health	1.5	70.3	\$749
310	High Performance Building/Int Design - Tier 3 50% - Health	0.6	70.8	\$787
409	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - College	0.1	70.9	\$818
410	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Health	0.1	71.0	\$883
211	High Performance Building/Int Design - Tier 2 30% - Lodging	1.2	72.2	\$914
311	High Performance Building/Int Design - Tier 3 50% - Lodging	0.5	72.6	\$960
109	High Performance Building/Int Design - Tier 1 15% - College	0.7	73.3	\$971
207	High Performance Building/Int Design - Tier 2 30% - Warehouse	4.0	77.3	\$978
307	High Performance Building/Int Design - Tier 3 50% - Warehouse	1.5	78.8	\$1,027
212	High Performance Building/Int Design - Tier 2 30% - Miscellaneous	4.0	82.8	\$1,040
110	High Performance Building/Int Design - Tier 1 15% - Health	0.9	83.7	\$1,049
411	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Lodging	0.1	83.8	\$1,077
312	High Performance Building/Int Design - Tier 3 50% - Miscellaneous	1.5	85.3	\$1,092
407	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Warehouse	0.2	85.5	\$1,153
412	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - Miscellaneous	0.2	85.8	\$1,226
111	High Performance Building/Int Design - Tier 1 15% - Lodging	0.8	86.5	\$1,280
107	High Performance Building/Int Design - Tier 1 15% - Warehouse	2.5	89.0	\$1,370
208	High Performance Building/Int Design - Tier 2 30% - School	1.5	90.5	\$1,418
112	High Performance Building/Int Design - Tier 1 15% - Miscellaneous	2.5	93.0	\$1,456
308	High Performance Building/Int Design - Tier 3 50% - School	0.6	93.6	\$1,489
408	High Performance Building/Int Design - Tier 4 Near Zero Energy (60-75%) - School	0.1	93.6	\$1,672
108	High Performance Building/Int Design - Tier 1 15% - School	0.9	94.6	\$1,986

APPENDIX G

Industrial Electric

Energy Supply Curve

Measure Number	Measure	Measure GWH Savings	Cumulative Measure GWH Savings	Levelized Energy Cost \$/kWh
109	Comp Air - ASD (6-100 hp)	34.8	34.8	\$0.004
309	Pumps - ASD (6-100 hp)	16.9	51.7	\$0.005
417	O&M - Extruders/Injection Moulding	8.5	60.2	\$0.006
209	Fans - ASD (6-100 hp)	12.6	72.8	\$0.007
104	Compressed Air - Sizing	25.5	98.3	\$0.008
403	Air conveying systems	3.2	101.4	\$0.008
715	Prog. Thermostat - DX	7.0	108.5	\$0.009
406	Gap Forming papermachine	1.1	109.6	\$0.009
401	Bakery - Process (Mixing) - O&M	13.1	122.6	\$0.009
551	Efficient Refrigeration - Operations	21.2	143.8	\$0.009
407	High Consistency forming	1.1	144.9	\$0.009
507	Near Net Shape Casting	0.6	145.5	\$0.010
302	Pumps - Controls	47.8	193.3	\$0.010
409	Efficient practices printing press	6.8	200.0	\$0.011
501	Bakery - Process	19.3	219.3	\$0.012
312	Pumps - ASD (100+ hp)	26.9	246.3	\$0.012
212	Fans - ASD (100+ hp)	28.6	274.9	\$0.013
112	Comp Air - ASD (100+ hp)	38.9	313.8	\$0.013
510	Heating - Optimization process (M&T)	2.1	315.9	\$0.014
427	Drives - Optimization process (M&T)	3.2	319.0	\$0.014
304	Pumps - Sizing	37.3	356.3	\$0.014
103	Compressed Air - System Optimization	97.0	453.4	\$0.014
423	Process control	0.5	453.9	\$0.015
204	Fans- Improve components	36.5	490.4	\$0.015
504	Top-heating (glass)	0.7	491.2	\$0.018
313	Pumps - Motor practices-1 (100+ HP)	6.4	497.6	\$0.019
603	New transformers welding	3.3	500.9	\$0.019
604	Efficient processes (welding, etc.)	5.0	505.9	\$0.019
113	Comp Air - Motor practices-1 (100+ HP)	3.4	509.3	\$0.020
426	Efficient drives - rolling	0.9	510.2	\$0.023
701	Centrifugal Chiller, 0.51 kW/ton, 500 tons	1.2	511.4	\$0.025
412	Efficient drives	1.3	512.7	\$0.025
102	Compressed Air - Controls	24.2	536.9	\$0.025
405	Drives - EE motor	2.8	539.6	\$0.026
429	Machinery	1.6	541.2	\$0.026
430	Efficient Machinery	0.9	542.1	\$0.026
210	Fans - Motor practices-1 (6-100 HP)	7.5	549.6	\$0.027
602	Efficient desalter	0.9	550.5	\$0.027
211	Fans - Replace 100+ HP motor	18.2	568.7	\$0.029
310	Pumps - Motor practices-1 (6-100 HP)	4.0	572.7	\$0.029
213	Fans - Motor practices-1 (100+ HP)	5.4	578.1	\$0.031
505	Efficient electric melting	7.9	586.0	\$0.031
402	O&M/drives spinning machines	0.4	586.4	\$0.033
425	Drives - Process Control	0.8	587.2	\$0.033
110	Comp Air - Motor practices-1 (6-100 HP)	3.8	591.0	\$0.033
311	Pumps - Replace 100+ HP motor	4.8	595.8	\$0.034
303	Pumps - System Optimization	61.8	657.6	\$0.034

SUPPLY CURVE DATA

Industrial Electric

Capacity Supply Curve

Measure Number	Measure	Measure MW Savings	Cumulative Measure MW Savings	Levelized Capacity Cost \$/kW
417	O&M - Extruders/Injection Moulding	1.1	1.1	\$46
104	Compressed Air- Sizing	3.9	5.1	\$50
507	Near Net Shape Casting	0.1	5.2	\$71
401	Bakery - Process (Mixing) - O&M	1.5	6.7	\$75
551	Efficient Refrigeration - Operations	2.5	9.2	\$75
427	Drives - Optimization process (M&T)	0.6	9.8	\$76
402	O&M/drives spinning machines	0.1	9.9	\$81
409	Efficient practices printing press	0.9	10.8	\$85
510	Heating - Optimization process (M&T)	0.3	11.1	\$85
902	Membranes for wastewater	0.0	11.1	\$87
302	Pumps - Controls	5.7	16.8	\$87
103	Compressed Air - System Optimization	13.8	30.6	\$98
501	Bakery - Process	2.3	32.9	\$102
406	Gap Forming papermachine	0.1	32.9	\$112
407	High Consistency forming	0.1	33.0	\$114
304	Pumps - Sizing	4.4	37.4	\$117
603	New transformers welding	0.5	37.9	\$123
204	Fans- Improve components	4.2	42.1	\$133
423	Process control	0.1	42.1	\$135
113	Comp Air - Motor practices-1 (100+ HP)	0.5	42.6	\$146
213	Fans - Motor practices-1 (100+ HP)	1.1	43.7	\$149
429	Machinery	0.3	44.0	\$153
604	Efficient processes (welding, etc.)	0.6	44.6	\$154
504	Top-heating (glass)	0.1	44.7	\$161
313	Pumps - Motor practices-1 (100+ HP)	0.8	45.4	\$163
701	Centrifugal Chiller, 0.51 kW/ton, 500 tons	0.2	45.6	\$166
426	Efficient drives - rolling	0.1	45.7	\$168
102	Compressed Air - Controls	3.4	49.2	\$175
502	Drying (UV/IR)	0.0	49.2	\$186
412	Efficient drives	0.2	49.4	\$195
110	Comp Air - Motor practices-1 (6-100 HP)	0.6	50.0	\$211
403	Air conveying systems	0.1	50.1	\$211
505	Efficient electric melting	1.1	51.2	\$226
715	Prog. Thermostat - DX	0.3	51.5	\$234
425	Drives - Process Control	0.1	51.6	\$235
210	Fans - Motor practices-1 (6-100 HP)	0.9	52.4	\$236
430	Efficient Machinery	0.1	52.5	\$240
111	Comp Air - Replace 100+ HP motor	0.6	53.2	\$241
602	Efficient desalter	0.1	53.3	\$244
310	Pumps - Motor practices-1 (6-100 HP)	0.5	53.7	\$249
211	Fans - Replace 100+ HP motor	2.1	55.8	\$253
508	Heating - Process Control	0.3	56.1	\$253
509	Efficient Curing ovens	0.9	57.1	\$271
303	Pumps - System Optimization	7.7	64.7	\$277
311	Pumps - Replace 100+ HP motor	0.6	65.3	\$288
405	Drives - EE motor	0.2	65.5	\$290
801	RET 2L4' Premium T8, 1EB	9.3	74.8	\$291

APPENDIX G

SUPPLY CURVE DATA

Industrial Electric

Energy Supply Curve

Measure Number	Measure	Measure GWH Savings	Cumulative Measure GWH Savings	Levelized Energy Cost \$/kWh
413	Clean Room - Controls	3.2	660.8	\$0.034
902	Membranes for wastewater	0.0	660.8	\$0.035
111	Comp Air - Replace 100+ HP motor	4.4	665.1	\$0.035
508	Heating - Process Control	2.1	667.2	\$0.035
509	Efficient Curing ovens	6.7	673.9	\$0.038
511	Heating - Scheduling	0.5	674.4	\$0.038
428	Drives - Scheduling	2.1	676.5	\$0.038
201	Fans - O&M	15.3	691.8	\$0.041
410	Efficient Printing press (fewer cylinders)	5.8	697.6	\$0.041
801	RET 2L4' Premium T8, 1EB	65.1	762.7	\$0.042
418	Extruders/injection Moulding-multipump	33.8	796.5	\$0.042
605	Custom Measures--Other Process	12.6	809.1	\$0.044
901	Replace V-belts	0.0	809.1	\$0.044
553	Custom Measures--Process Cooling	18.3	827.4	\$0.044
512	Custom Measures--Process Heating	27.6	855.0	\$0.045
431	Custom Measures--Drives	57.5	912.5	\$0.045
601	Other Process Controls (batch + site)	3.2	915.7	\$0.045
301	Pumps - O&M	15.1	930.8	\$0.047
713	Window Film - DX	5.1	935.9	\$0.047
202	Fans - Controls	182.3	1,118.2	\$0.047
502	Drying (UV/IR)	0.2	1,118.3	\$0.048
408	Optimization control PM	2.9	1,121.2	\$0.048
804	Occupancy Sensor, 4L4' Fluorescent Fixture	8.5	1,129.7	\$0.050
214	Optimize drying process	5.7	1,135.4	\$0.050
416	Process Drives - ASD	0.5	1,135.9	\$0.051
101	Compressed Air-O&M	34.8	1,170.7	\$0.052
552	Optimization Refrigeration	44.8	1,215.5	\$0.053
424	Process optimization	0.3	1,215.8	\$0.054
802	CFL Hardwired, Modular 36W	1.0	1,216.8	\$0.055
414	Clean Room - New Designs	2.8	1,219.6	\$0.056
420	Injection Moulding - Impulse Cooling	8.1	1,227.7	\$0.058
307	Pumps - Motor practices-1 (1-5 HP)	0.6	1,228.3	\$0.059
203	Fans - System Optimization	112.4	1,340.7	\$0.059
207	Fans - Motor practices-1 (1-5 HP)	1.9	1,342.6	\$0.062
114	Power recovery	0.8	1,343.4	\$0.062
107	Comp Air - Motor practices-1 (1-5 HP)	1.5	1,345.0	\$0.063
415	Drives - Process Controls (batch + site)	5.6	1,350.5	\$0.063
503	Heat Pumps - Drying	0.7	1,351.2	\$0.075
702	Window Film - Chiller	0.3	1,351.6	\$0.091
712	DX Packaged System, EER=10.9, 10 tons	10.6	1,362.2	\$0.094
421	Injection Moulding - Direct drive	7.5	1,369.7	\$0.098
422	Efficient grinding	2.3	1,372.0	\$0.108
308	Pumps - Replace 6-100 HP motor	7.5	1,379.5	\$0.108
108	Comp Air - Replace 6-100 HP motor	3.3	1,382.8	\$0.111
705	Chiller Tune Up/Diagnostics	0.1	1,382.9	\$0.113
411	Light cylinders	2.4	1,385.3	\$0.114
419	Direct drive Extruders	15.3	1,400.6	\$0.133

Industrial Electric

Capacity Supply Curve

Measure Number	Measure	Measure MW Savings	Cumulative Measure MW Savings	Levelized Capacity Cost \$/kW
413	Clean Room - Controls	0.4	75.2	\$297
804	Occupancy Sensor, 4L4' Fluorescent Fixtures	1.4	76.5	\$308
418	Extruders/injection Moulding-multipump	4.5	81.1	\$313
410	Efficient Printing press (fewer cylinders)	0.7	81.8	\$317
109	Comp Air - ASD (6-100 hp)	0.4	82.3	\$317
901	Replace V-belts	0.0	82.3	\$334
713	Window Film - DX	0.7	83.0	\$337
605	Custom Measures--Other Process	1.6	84.6	\$342
214	Optimize drying process	0.8	85.4	\$344
512	Custom Measures--Process Heating	3.5	88.9	\$354
209	Fans - ASD (6-100 hp)	0.3	89.2	\$359
553	Custom Measures--Process Cooling	2.2	91.4	\$362
201	Fans - O&M	1.7	93.1	\$364
431	Custom Measures--Drives	7.1	100.2	\$367
101	Compressed Air-O&M	4.8	105.0	\$374
301	Pumps - O&M	1.8	106.9	\$385
802	CFL Hardwired, Modular 36W	0.1	107.0	\$388
601	Other Process Controls (batch + site)	0.4	107.4	\$409
202	Fans - Controls	20.6	128.0	\$420
420	Injection Moulding - Impulse Cooling	1.1	129.1	\$433
309	Pumps - ASD (6-100 hp)	0.2	129.3	\$433
107	Comp Air - Motor practices-1 (1-5 HP)	0.2	129.5	\$440
552	Optimization Refrigeration	5.3	134.8	\$446
416	Process Drives - ASD	0.1	134.8	\$456
424	Process optimization	0.0	134.8	\$494
414	Clean Room - New Designs	0.3	135.2	\$501
307	Pumps - Motor practices-1 (1-5 HP)	0.1	135.2	\$504
503	Heat Pumps - Drying	0.1	135.3	\$518
207	Fans - Motor practices-1 (1-5 HP)	0.2	135.6	\$526
415	Drives - Process Controls (batch + site)	0.6	136.2	\$549
114	Power recovery	0.1	136.3	\$558
408	Optimization control PM	0.2	136.5	\$609
702	Window Film - Chiller	0.1	136.6	\$611
712	DX Packaged System, EER=10.9, 10 tons	1.5	138.1	\$672
421	Injection Moulding - Direct drive	1.0	139.1	\$732
705	Chiller Tune Up/Diagnostics	0.0	139.1	\$759
108	Comp Air - Replace 6-100 HP motor	0.4	139.5	\$844
411	Light cylinders	0.3	139.8	\$888
112	Comp Air - ASD (100+ hp)	0.6	140.4	\$916
308	Pumps - Replace 6-100 HP motor	0.9	141.2	\$934
422	Efficient grinding	0.3	141.5	\$989
419	Direct drive Extruders	2.1	143.5	\$989
506	Intelligent extruder (DOE)	0.0	143.5	\$1,008
212	Fans - ASD (100+ hp)	0.3	143.9	\$1,052
203	Fans - System Optimization	6.1	150.0	\$1,083
312	Pumps - ASD (100+ hp)	0.3	150.3	\$1,096
208	Fans - Replace 6-100 HP motor	0.9	151.2	\$1,129

APPENDIX G

SUPPLY CURVE DATA

Industrial Electric

Energy Supply Curve

Measure Number	Measure	Measure GWH Savings	Cumulative Measure GWH Savings	Levelized Energy Cost \$/kWh
506	Intelligent extruder (DOE)	0.0	1,400.6	\$0.140
208	Fans - Replace 6-100 HP motor	6.5	1,407.2	\$0.147
716	Cool Roof - DX	5.6	1,412.8	\$0.184
703	EMS - Chiller	0.5	1,413.3	\$0.186
306	Pumps - ASD (1-5 hp)	1.8	1,415.1	\$0.208
106	Comp Air - ASD (1-5 hp)	1.9	1,417.0	\$0.219
206	Fans - ASD (1-5 hp)	2.0	1,419.0	\$0.246
305	Pumps - Replace 1-5 HP motor	0.8	1,419.8	\$0.263
706	Cooling Circ. Pumps - VSD	0.3	1,420.0	\$0.266
105	Comp Air - Replace 1-5 HP motor	0.8	1,420.8	\$0.270
205	Fans - Replace 1-5 HP motor	0.9	1,421.7	\$0.309
803	Metal Halide, 50W	82.9	1,504.6	\$0.363
704	Cool Roof - Chiller	0.2	1,504.9	\$0.372
711	DX Tune Up/ Advanced Diagnostics	7.0	1,511.8	\$0.376

Industrial Electric

Capacity Supply Curve

Measure Number	Measure	Measure MW Savings	Cumulative Measure MW Savings	Levelized Capacity Cost \$/kW
511	Heating - Scheduling	0.0	151.2	\$1,167
703	EMS - Chiller	0.1	151.3	\$1,251
716	Cool Roof - DX	0.8	152.1	\$1,317
428	Drives - Scheduling	0.1	152.1	\$1,400
706	Cooling Circ. Pumps - VSD	0.0	152.2	\$1,791
105	Comp Air - Replace 1-5 HP motor	0.1	152.3	\$1,900
305	Pumps - Replace 1-5 HP motor	0.1	152.4	\$2,258
704	Cool Roof - Chiller	0.0	152.4	\$2,505
803	Metal Halide, 50W	11.8	164.2	\$2,549
205	Fans - Replace 1-5 HP motor	0.1	164.3	\$2,638
711	DX Tune Up/ Advanced Diagnostics	1.0	165.3	\$2,692
106	Comp Air - ASD (1-5 hp)	0.0	165.3	\$15,984
306	Pumps - ASD (1-5 hp)	0.0	165.3	\$18,986
206	Fans - ASD (1-5 hp)	0.0	165.3	\$22,215

H. **Appendix H: Achievable Program Potential**

Electricity
All Segments
Total
Base

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Cumulative Market Energy Savings - kWh	522,959,107	1,142,061,125	1,728,875,932	2,232,112,872	2,641,571,889	2,972,125,890	3,237,729,255	3,453,149,954	3,629,766,338	3,777,850,349
Cumulative Market Peak Demand Savings - kW	63,266	139,277	213,900	280,992	338,793	388,213	430,351	466,723	498,366	526,318
Cumulative Program Energy Savings - kWh	398,473,341	924,408,126	1,436,211,404	1,876,737,421	2,234,801,906	2,522,265,237	2,751,718,938	2,937,111,403	3,088,063,130	3,213,372,280
Cumulative Program Peak Demand Savings - kW	49,526	115,370	181,958	242,451	294,901	339,940	378,488	411,842	440,856	466,436
New Program Energy Savings - kWh	398,473,341	525,934,785	511,803,278	440,526,017	358,064,485	287,463,330	229,453,701	185,392,465	150,951,728	125,309,149
New Program Peak Demand Savings - kW	49,526	65,843	66,588	60,494	52,450	45,039	38,547	33,355	29,014	25,580

Administration Costs	\$13,343,540	\$17,944,226	\$19,410,419	\$19,295,134	\$18,525,651	\$17,604,856	\$16,597,940	\$15,696,730	\$14,889,394	\$14,187,760
Marketing Costs	\$12,083,418	\$12,001,534	\$11,776,652	\$11,578,071	\$11,402,715	\$11,377,773	\$11,353,301	\$11,329,290	\$11,305,731	\$11,282,616
Incentives Costs	\$28,736,156	\$41,007,644	\$43,558,898	\$41,485,667	\$37,765,512	\$33,868,546	\$30,235,831	\$27,094,864	\$24,405,490	\$22,113,538
Total Costs	\$54,163,113	\$70,953,404	\$74,745,968	\$72,358,872	\$67,693,878	\$62,851,174	\$58,187,071	\$54,120,884	\$50,600,615	\$47,583,915

PV Net Avoided Cost Benefits	\$297,200,328	\$378,107,461	\$358,484,958	\$301,220,532	\$239,002,201	\$186,954,640	\$145,829,169	\$115,095,882	\$91,631,938	\$74,336,990
PV Annual Program Marketing and Admin Costs	\$25,426,958	\$28,412,510	\$28,075,217	\$26,369,659	\$24,253,816	\$22,284,819	\$20,391,383	\$18,706,906	\$17,203,413	\$15,870,981
PV Net Measure Costs	\$93,580,912	\$121,992,033	\$120,705,299	\$107,318,457	\$91,136,409	\$76,451,537	\$63,861,829	\$53,660,493	\$45,282,413	\$38,512,701
TRC Ratio	2.50	2.51	2.41	2.25	2.07	1.89	1.73	1.59	1.47	1.37

Other Naturally Occurring - kWh	124,485,766	217,652,999	292,664,528	355,375,451	406,769,982	449,860,654	486,010,317	516,038,551	541,703,208	564,478,069
Other Naturally Occurring - kW	13,739	23,908	31,942	38,541	43,892	48,273	51,863	54,881	57,510	59,882

Cost per First-Year Net kWh	\$0.14	\$0.13	\$0.15	\$0.16	\$0.19	\$0.22	\$0.25	\$0.29	\$0.34	\$0.38
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PV Annual Program Costs	\$54,163,113	\$67,320,526	\$67,287,796	\$61,803,716	\$54,858,820	\$48,326,432	\$42,449,453	\$37,461,464	\$33,231,499	\$29,650,265
PV Lost Revenue	\$380,953,668	\$474,586,828	\$438,940,819	\$359,492,200	\$277,766,200	\$211,866,994	\$160,653,864	\$123,267,390	\$95,285,107	\$75,204,640
RIM	0.68	0.70	0.71	0.71	0.72	0.72	0.72	0.72	0.71	0.71

Electricity
Commercial
Total
Base

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Cumulative Market Energy Savings - kWh	251,053,871	548,133,040	831,674,003	1,079,239,326	1,286,194,710	1,455,180,563	1,590,062,889	1,697,178,096	1,782,225,395	1,850,986,027
Cumulative Market Peak Demand Savings - kW	24,675	54,046	82,108	106,663	127,308	144,311	158,048	169,293	178,566	186,420
Cumulative Program Energy Savings - kWh	199,435,924	462,778,973	721,453,113	948,648,874	1,137,766,996	1,291,619,048	1,414,755,857	1,513,641,790	1,592,657,741	1,656,549,662
Cumulative Program Peak Demand Savings - kW	20,335	46,854	72,810	95,634	114,762	130,527	143,377	153,994	162,781	170,219
New Program Energy Savings - kWh	199,435,924	263,343,049	258,674,140	227,195,761	189,118,122	153,852,053	123,136,808	98,885,933	79,015,952	63,891,921
New Program Peak Demand Savings - kW	20,335	26,519	25,956	22,823	19,128	15,765	12,850	10,617	8,788	7,438

Administration Costs	\$5,359,736	\$6,860,647	\$7,036,571	\$6,641,340	\$6,067,125	\$5,470,397	\$4,918,416	\$4,477,397	\$4,105,953	\$3,807,128
Marketing Costs	\$3,159,900	\$3,305,668	\$3,305,668	\$3,305,668	\$3,305,668	\$3,305,668	\$3,305,668	\$3,305,668	\$3,305,668	\$3,305,668
Incentives Costs	\$11,935,202	\$16,427,095	\$16,756,184	\$15,325,914	\$13,377,241	\$11,426,597	\$9,671,826	\$8,223,943	\$7,018,853	\$6,041,855
Total Costs	\$20,454,838	\$26,593,410	\$27,098,422	\$25,272,921	\$22,750,033	\$20,202,662	\$17,895,910	\$16,007,008	\$14,430,474	\$13,154,651

PV Net Avoided Cost Benefits	\$138,558,504	\$175,589,371	\$166,356,049	\$140,769,926	\$112,676,338	\$87,990,944	\$67,796,234	\$52,494,038	\$40,554,508	\$31,829,873
PV Annual Program Marketing and Admin Costs	\$8,519,636	\$9,645,790	\$9,310,287	\$8,496,014	\$7,595,670	\$6,747,939	\$5,999,750	\$5,387,292	\$4,867,515	\$4,432,092
PV Net Measure Costs	\$41,087,508	\$52,254,012	\$50,384,280	\$43,834,774	\$36,405,121	\$29,658,281	\$23,916,198	\$19,424,428	\$15,778,261	\$12,960,118
TRC Ratio	2.79	2.84	2.79	2.69	2.56	2.42	2.27	2.12	1.96	1.83

Other Naturally Occurring - kWh	51,617,947	85,354,067	110,220,891	130,590,452	148,427,715	163,561,515	175,307,032	183,536,307	189,567,654	194,436,365
Other Naturally Occurring - kW	4,339	7,191	9,298	11,029	12,546	13,784	14,671	15,299	15,785	16,201

Cost per First-Year Net kWh	\$0.10	\$0.10	\$0.10	\$0.11	\$0.12	\$0.13	\$0.15	\$0.16	\$0.18	\$0.21
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PV Annual Program Costs	\$20,454,838	\$25,231,803	\$24,394,535	\$21,586,302	\$18,436,526	\$15,533,880	\$13,055,677	\$11,079,752	\$9,477,084	\$8,196,864
PV Lost Revenue	\$164,465,997	\$205,976,112	\$191,891,684	\$159,844,542	\$126,204,802	\$97,392,726	\$73,952,569	\$56,344,797	\$42,725,703	\$32,789,375
RIM	0.75	0.76	0.77	0.78	0.78	0.78	0.78	0.78	0.78	0.78

Electricity
Residential
Total
Base

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Cumulative Market Energy Savings - kWh	165,657,074	347,428,391	518,590,595	667,417,345	790,900,443	892,630,896	976,344,668	1,046,042,700	1,104,454,565	1,154,702,594
Cumulative Market Peak Demand Savings - kW	27,831	60,073	92,792	123,853	152,263	177,943	200,993	221,684	240,253	257,036
Cumulative Program Energy Savings - kWh	104,526,635	237,288,967	367,774,961	481,972,405	575,514,962	650,838,897	711,034,694	759,601,928	798,974,236	831,882,914
Cumulative Program Peak Demand Savings - kW	19,580	45,507	73,197	100,129	125,077	147,776	168,217	186,590	203,078	217,966
New Program Energy Savings - kWh	104,526,635	132,762,332	130,485,994	114,197,444	93,542,557	75,323,935	60,195,798	48,567,234	39,372,308	32,908,678
New Program Peak Demand Savings - kW	19,580	25,927	27,690	26,933	24,947	22,699	20,441	18,372	16,488	14,888
Administration Costs	\$6,364,234	\$8,854,319	\$10,029,472	\$10,405,942	\$10,342,032	\$10,060,401	\$9,687,307	\$9,289,438	\$8,899,984	\$8,534,140
Marketing Costs	\$6,174,040	\$6,174,040	\$6,174,040	\$6,174,040	\$6,174,040	\$6,174,040	\$6,174,040	\$6,174,040	\$6,174,040	\$6,174,040
Incentives Costs	\$11,843,066	\$17,524,731	\$19,842,096	\$20,277,358	\$19,749,838	\$18,786,074	\$17,666,910	\$16,532,788	\$15,449,255	\$14,443,725
Total Costs	\$24,381,340	\$32,553,090	\$36,045,608	\$36,857,340	\$36,265,910	\$35,020,514	\$33,528,257	\$31,996,266	\$30,523,279	\$29,151,906
PV Net Avoided Cost Benefits	\$91,492,700	\$113,334,378	\$110,378,028	\$96,445,320	\$79,363,667	\$64,168,764	\$51,643,880	\$41,827,921	\$34,050,932	\$28,280,818
PV Annual Program Marketing and Admin Costs	\$12,538,274	\$14,258,894	\$14,586,721	\$14,161,422	\$13,384,552	\$12,482,704	\$11,571,394	\$10,703,530	\$9,899,730	\$9,164,892
PV Net Measure Costs	\$29,541,436	\$38,739,901	\$40,933,597	\$39,485,458	\$36,402,145	\$32,819,668	\$29,240,653	\$25,915,289	\$22,912,455	\$20,263,506
TRC Ratio	2.17	2.14	1.99	1.80	1.59	1.42	1.27	1.14	1.04	0.96
Other Naturally Occurring - kWh	61,130,439	110,139,424	150,815,635	185,444,941	215,385,481	241,791,999	265,309,973	286,440,772	305,480,329	322,819,680
Other Naturally Occurring - kW	8,251	14,566	19,595	23,724	27,186	30,167	32,776	35,095	37,175	39,070
Cost per First-Year Net kWh	\$0.23	\$0.25	\$0.28	\$0.32	\$0.39	\$0.46	\$0.56	\$0.66	\$0.78	\$0.89
PV Annual Program Costs	\$24,381,340	\$30,886,343	\$32,448,968	\$31,480,875	\$29,389,734	\$26,927,365	\$24,460,007	\$22,147,217	\$20,045,889	\$18,164,998
PV Lost Revenue	\$139,001,476	\$167,587,923	\$156,459,318	\$130,131,185	\$101,359,079	\$77,633,511	\$59,029,436	\$45,317,111	\$34,962,763	\$27,797,952
RIM	0.56	0.57	0.58	0.60	0.61	0.61	0.62	0.62	0.62	0.62

Electricity
Industrial
Total
Base

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Cumulative Market Energy Savings - kWh	106,248,162	246,499,694	378,611,333	485,456,201	564,476,735	624,314,431	671,321,698	709,929,158	743,086,378	772,161,728
Cumulative Market Peak Demand Savings - kW	10,760	25,159	39,000	50,476	59,223	65,959	71,309	75,746	79,547	82,861
Cumulative Program Energy Savings - kWh	94,510,782	224,340,186	346,983,331	446,116,143	521,519,949	579,807,292	625,928,386	663,867,685	696,431,153	724,939,704
Cumulative Program Peak Demand Savings - kW	9,611	23,008	35,951	46,688	55,063	61,637	66,894	71,259	74,996	78,250
New Program Energy Savings - kWh	94,510,782	129,829,404	122,643,145	99,132,812	75,403,806	58,287,343	46,121,095	37,939,298	32,563,468	28,508,551
New Program Peak Demand Savings - kW	9,611	13,397	12,942	10,738	8,375	6,575	5,256	4,365	3,738	3,254
Administration Costs	\$1,619,570	\$2,229,260	\$2,344,376	\$2,247,853	\$2,116,494	\$2,074,058	\$1,992,217	\$1,929,895	\$1,883,457	\$1,846,492
Marketing Costs	\$2,749,478	\$2,521,826	\$2,296,944	\$2,098,363	\$1,923,007	\$1,898,065	\$1,873,593	\$1,849,582	\$1,826,024	\$1,802,909
Incentives Costs	\$4,957,888	\$7,055,818	\$6,960,617	\$5,882,395	\$4,638,434	\$3,655,875	\$2,897,094	\$2,338,132	\$1,937,382	\$1,627,958
Total Costs	\$9,326,935	\$11,806,904	\$11,601,938	\$10,228,611	\$8,677,935	\$7,627,998	\$6,762,904	\$6,117,610	\$5,646,862	\$5,277,359
PV Net Avoided Cost Benefits	\$67,149,123	\$89,183,712	\$81,750,881	\$64,005,287	\$46,962,196	\$34,794,932	\$26,389,055	\$20,773,923	\$17,026,498	\$14,226,299
PV Annual Program Marketing and Admin Costs	\$4,369,048	\$4,507,826	\$4,178,208	\$3,712,223	\$3,273,594	\$3,054,176	\$2,820,240	\$2,616,084	\$2,436,168	\$2,273,997
PV Net Measure Costs	\$22,951,967	\$30,998,121	\$29,387,423	\$23,998,225	\$18,329,143	\$13,973,588	\$10,704,978	\$8,320,777	\$6,591,697	\$5,289,076
TRC Ratio	2.46	2.51	2.44	2.31	2.17	2.04	1.95	1.90	1.89	1.88
Other Naturally Occurring - kWh	11,737,380	22,159,508	31,628,003	39,340,058	42,956,787	44,507,139	45,393,311	46,061,473	46,655,225	47,222,024
Other Naturally Occurring - kW	1,149	2,151	3,049	3,788	4,160	4,322	4,416	4,487	4,550	4,611
Cost per First-Year Net kWh	\$0.10	\$0.09	\$0.09	\$0.10	\$0.12	\$0.13	\$0.15	\$0.16	\$0.17	\$0.19
PV Annual Program Costs	\$9,326,935	\$11,202,380	\$10,444,294	\$8,736,540	\$7,032,560	\$5,865,188	\$4,933,769	\$4,234,495	\$3,708,526	\$3,288,403
PV Lost Revenue	\$77,486,195	\$101,022,793	\$90,589,817	\$69,516,473	\$50,202,319	\$36,840,758	\$27,671,858	\$21,605,481	\$17,596,641	\$14,617,313
RIM	0.77	0.79	0.81	0.82	0.82	0.81	0.81	0.80	0.80	0.79

Electricity
Commercial
Existing
RET
Base

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Cumulative Market Energy Savings - kWh	227,772,125	499,298,951	756,473,884	977,494,553	1,158,754,404	1,302,706,448	1,413,912,241	1,497,698,276	1,560,414,159	1,607,214,661
Cumulative Market Peak Demand Savings - kW	20,750	45,804	69,404	89,475	105,746	118,478	128,146	135,381	140,783	144,826
Cumulative Program Energy Savings - kWh	181,165,376	421,879,013	656,027,968	858,031,055	1,022,525,067	1,152,300,170	1,252,639,395	1,329,049,290	1,386,551,250	1,429,295,256
Cumulative Program Peak Demand Savings - kW	17,159	39,797	61,566	80,108	95,023	106,662	115,575	122,310	127,351	131,100
New Program Energy Savings - kWh	181,165,376	240,713,637	234,148,955	202,003,087	164,494,013	129,775,103	100,339,225	76,409,895	57,501,960	42,744,007
New Program Peak Demand Savings - kW	17,159	22,638	21,769	18,542	14,915	11,639	8,913	6,735	5,040	3,750

Administration Costs	\$4,185,752	\$5,421,690	\$5,468,054	\$5,018,993	\$4,431,042	\$3,856,987	\$3,350,551	\$2,923,207	\$2,570,375	\$2,282,779
Marketing Costs	\$2,302,163	\$2,410,893	\$2,410,893	\$2,410,893	\$2,410,893	\$2,410,893	\$2,410,893	\$2,410,893	\$2,410,893	\$2,410,893
Incentives Costs	\$10,507,983	\$14,644,944	\$14,800,136	\$13,297,026	\$11,329,023	\$9,407,533	\$7,712,380	\$6,281,963	\$5,100,958	\$4,138,309
Total Costs	\$16,995,899	\$22,477,527	\$22,679,083	\$20,726,911	\$18,170,957	\$15,675,412	\$13,473,824	\$11,616,062	\$10,082,226	\$8,831,981

PV Net Avoided Cost Benefits	\$122,879,631	\$156,999,757	\$146,973,618	\$121,647,590	\$94,710,053	\$71,205,812	\$52,563,137	\$38,158,199	\$27,406,273	\$19,475,794
PV Annual Program Marketing and Admin Costs	\$6,487,915	\$7,431,548	\$7,092,784	\$6,346,071	\$5,544,673	\$4,819,389	\$4,203,170	\$3,692,164	\$3,271,403	\$2,924,699
PV Net Measure Costs	\$35,645,458	\$45,916,919	\$43,842,566	\$37,419,709	\$30,352,761	\$24,022,643	\$18,783,455	\$14,600,035	\$11,318,683	\$8,768,435
TRC Ratio	2.92	2.94	2.89	2.78	2.64	2.47	2.29	2.09	1.88	1.67

Other Naturally Occurring - kWh	46,606,749	77,419,937	100,445,916	119,463,499	136,229,337	150,406,278	161,272,846	168,648,986	173,862,910	177,919,405
Other Naturally Occurring - kW	3,591	6,006	7,838	9,367	10,722	11,816	12,571	13,070	13,432	13,725

Cost per First-Year Net kWh	\$0.09	\$0.09	\$0.10	\$0.10	\$0.11	\$0.12	\$0.13	\$0.15	\$0.18	\$0.21
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PV Annual Program Costs	\$16,995,899	\$21,326,658	\$20,416,158	\$17,703,429	\$14,725,663	\$12,052,865	\$9,829,614	\$8,040,421	\$6,621,411	\$5,503,342
PV Lost Revenue	\$149,372,155	\$188,256,958	\$173,675,659	\$142,097,541	\$109,741,182	\$82,114,612	\$60,218,480	\$43,497,492	\$31,052,008	\$21,901,361
RIM	0.74	0.75	0.76	0.76	0.76	0.76	0.75	0.74	0.73	0.71

Electricity
Commercial
Existing
ROB
Base

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Cumulative Market Energy Savings - kWh	21,300,237	44,963,254	69,460,716	94,141,596	117,972,370	141,137,794	162,940,931	184,390,901	204,836,815	224,904,826
Cumulative Market Peak Demand Savings - kW	3,563	7,535	11,656	15,800	19,833	23,762	27,489	31,157	34,683	38,149
Cumulative Program Energy Savings - kWh	16,492,829	37,343,781	60,083,281	83,483,316	106,308,544	128,580,979	149,568,885	170,230,446	189,925,441	209,250,062
Cumulative Program Peak Demand Savings - kW	2,851	6,407	10,268	14,222	18,106	21,902	25,509	29,059	32,474	35,828
New Program Energy Savings - kWh	16,492,829	20,850,952	22,739,501	23,400,035	22,825,228	22,272,435	20,987,906	20,661,561	19,694,995	19,324,621
New Program Peak Demand Savings - kW	2,851	3,556	3,861	3,954	3,884	3,796	3,607	3,550	3,415	3,355
Administration Costs	\$1,146,167	\$1,410,845	\$1,540,233	\$1,593,945	\$1,607,592	\$1,584,847	\$1,539,240	\$1,525,512	\$1,506,853	\$1,495,581
Marketing Costs	\$784,219	\$821,257	\$821,257	\$821,257	\$821,257	\$821,257	\$821,257	\$821,257	\$821,257	\$821,257
Incentives Costs	\$1,139,597	\$1,490,480	\$1,662,008	\$1,733,214	\$1,751,305	\$1,721,152	\$1,660,691	\$1,642,493	\$1,617,755	\$1,602,813
Total Costs	\$3,069,983	\$3,722,583	\$4,023,498	\$4,148,417	\$4,180,154	\$4,127,256	\$4,021,189	\$3,989,263	\$3,945,865	\$3,919,651
PV Net Avoided Cost Benefits	\$14,128,501	\$17,097,540	\$17,938,973	\$17,728,518	\$16,625,429	\$15,500,590	\$14,001,501	\$13,157,117	\$12,019,651	\$11,273,368
PV Annual Program Marketing and Admin Costs	\$1,930,386	\$2,117,817	\$2,125,860	\$2,062,892	\$1,968,329	\$1,850,060	\$1,722,063	\$1,624,390	\$1,528,965	\$1,443,657
PV Net Measure Costs	\$4,276,851	\$5,231,536	\$5,488,760	\$5,412,337	\$5,097,839	\$4,727,316	\$4,268,612	\$4,002,472	\$3,677,929	\$3,448,427
TRC Ratio	2.28	2.33	2.36	2.37	2.35	2.36	2.34	2.34	2.31	2.30
Other Naturally Occurring - kWh	4,807,408	7,619,473	9,377,435	10,658,280	11,663,826	12,556,815	13,372,046	14,160,456	14,911,374	15,654,765
Other Naturally Occurring - kW	711	1,128	1,388	1,578	1,727	1,860	1,981	2,098	2,210	2,320
Cost per First-Year Net kWh	\$0.19	\$0.18	\$0.18	\$0.18	\$0.18	\$0.19	\$0.19	\$0.19	\$0.20	\$0.20
PV Annual Program Costs	\$3,069,983	\$3,531,983	\$3,622,033	\$3,543,277	\$3,387,578	\$3,173,458	\$2,933,594	\$2,761,293	\$2,591,412	\$2,442,394
PV Lost Revenue	\$13,621,229	\$16,321,357	\$16,884,408	\$16,478,644	\$15,256,012	\$14,128,749	\$12,640,453	\$11,806,912	\$10,684,112	\$9,946,881
RIM	0.85	0.86	0.87	0.89	0.89	0.90	0.90	0.90	0.91	0.91

Electricity
Commercial
New Construction
New
Base

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Cumulative Market Energy Savings - kWh	1,981,509	3,870,836	5,739,403	7,603,176	9,467,936	11,336,322	13,209,717	15,088,919	16,974,421	18,866,540
Cumulative Market Peak Demand Savings - kW	362	707	1,049	1,389	1,730	2,071	2,413	2,756	3,100	3,445
Cumulative Program Energy Savings - kWh	1,777,719	3,556,179	5,341,863	7,134,503	8,933,384	10,737,899	12,547,577	14,362,054	16,181,051	18,004,344
Cumulative Program Peak Demand Savings - kW	325	650	976	1,304	1,633	1,962	2,293	2,625	2,957	3,290
New Program Energy Savings - kWh	1,777,719	1,778,460	1,785,684	1,792,639	1,798,881	1,804,515	1,809,677	1,814,478	1,818,997	1,823,293
New Program Peak Demand Savings - kW	325	325	326	328	329	330	331	332	332	333

Administration Costs	\$27,817	\$28,111	\$28,283	\$28,402	\$28,491	\$28,564	\$28,625	\$28,678	\$28,725	\$28,768
Marketing Costs	\$73,517	\$73,517	\$73,517	\$73,517	\$73,517	\$73,517	\$73,517	\$73,517	\$73,517	\$73,517
Incentives Costs	\$287,621	\$291,671	\$294,040	\$295,674	\$296,913	\$297,913	\$298,755	\$299,487	\$300,140	\$300,733
Total Costs	\$388,956	\$393,300	\$395,841	\$397,593	\$398,922	\$399,994	\$400,897	\$401,683	\$402,383	\$403,019

PV Net Avoided Cost Benefits	\$1,550,372	\$1,492,074	\$1,443,459	\$1,393,818	\$1,340,855	\$1,284,542	\$1,231,596	\$1,178,722	\$1,128,584	\$1,080,711
PV Annual Program Marketing and Admin Costs	\$101,335	\$96,425	\$91,643	\$87,052	\$82,668	\$78,491	\$74,516	\$70,738	\$67,147	\$63,736
PV Net Measure Costs	\$1,165,199	\$1,105,557	\$1,052,955	\$1,002,729	\$954,521	\$908,322	\$864,130	\$821,921	\$781,648	\$743,255
TRC Ratio	1.22	1.24	1.26	1.28	1.29	1.30	1.31	1.32	1.33	1.34

Other Naturally Occurring - kWh	203,790	314,657	397,540	468,673	534,552	598,423	662,140	726,865	793,370	862,196
Other Naturally Occurring - kW	37	57	72	85	97	108	120	131	143	155

Cost per First-Year Net kWh	\$0.22	\$0.22	\$0.22	\$0.22	\$0.22	\$0.22	\$0.22	\$0.22	\$0.22	\$0.22
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PV Annual Program Costs	\$388,956	\$373,162	\$356,344	\$339,595	\$323,285	\$307,557	\$292,468	\$278,037	\$264,261	\$251,127
PV Lost Revenue	\$1,472,614	\$1,397,797	\$1,331,616	\$1,268,358	\$1,207,607	\$1,149,365	\$1,093,636	\$1,040,394	\$989,583	\$941,134
RIM	0.83	0.84	0.86	0.87	0.88	0.88	0.89	0.89	0.90	0.91

Electricity
Industrial
Existing
RET
Base

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Cumulative Market Energy Savings - kWh	96,823,870	223,580,890	340,785,716	432,335,409	495,814,873	539,957,680	571,183,756	593,956,440	611,253,506	624,451,779
Cumulative Market Peak Demand Savings - kW	9,703	22,596	34,773	44,538	51,542	56,516	60,094	62,751	64,770	66,300
Cumulative Program Energy Savings - kWh	86,776,234	204,343,572	313,037,972	397,669,050	458,226,449	501,454,302	532,394,045	555,077,070	572,346,046	585,535,513
Cumulative Program Peak Demand Savings - kW	8,744	20,772	32,157	41,269	47,977	52,858	56,406	59,054	61,070	62,599
New Program Energy Savings - kWh	86,776,234	117,567,338	108,694,399	84,631,078	60,557,399	43,227,853	30,939,743	22,683,025	17,268,976	13,189,466
New Program Peak Demand Savings - kW	8,744	12,028	11,384	9,112	6,708	4,881	3,548	2,648	2,016	1,529

Administration Costs	\$725,827	\$928,465	\$890,546	\$745,385	\$583,748	\$522,555	\$430,184	\$361,448	\$311,415	\$272,186
Marketing Costs	\$2,177,482	\$1,922,816	\$1,697,934	\$1,499,353	\$1,323,997	\$1,299,055	\$1,274,583	\$1,250,572	\$1,227,013	\$1,203,899
Incentives Costs	\$4,656,330	\$6,571,136	\$6,407,088	\$5,306,985	\$4,049,402	\$3,058,405	\$2,294,887	\$1,733,040	\$1,330,672	\$1,020,229
Total Costs	\$7,559,640	\$9,422,417	\$8,995,568	\$7,551,722	\$5,957,147	\$4,880,015	\$3,999,653	\$3,345,060	\$2,869,101	\$2,496,314

PV Net Avoided Cost Benefits	\$61,560,084	\$80,656,167	\$72,384,117	\$54,616,215	\$37,732,548	\$25,842,222	\$17,749,267	\$12,478,372	\$9,076,465	\$6,613,675
PV Annual Program Marketing and Admin Costs	\$2,903,310	\$2,705,293	\$2,330,201	\$1,917,292	\$1,546,028	\$1,400,640	\$1,243,685	\$1,115,810	\$1,010,349	\$919,771
PV Net Measure Costs	\$21,351,492	\$28,610,742	\$26,819,212	\$21,473,360	\$15,881,382	\$11,620,447	\$8,455,994	\$6,177,496	\$4,553,376	\$3,352,224
TRC Ratio	2.54	2.58	2.48	2.33	2.17	1.98	1.83	1.71	1.63	1.55

Other Naturally Occurring - kWh	10,047,636	19,237,317	27,747,745	34,666,359	37,588,424	38,503,378	38,789,712	38,879,370	38,907,460	38,916,266
Other Naturally Occurring - kW	959	1,824	2,617	3,269	3,565	3,658	3,688	3,697	3,700	3,701

Cost per First-Year Net kWh	\$0.09	\$0.08	\$0.08	\$0.09	\$0.10	\$0.11	\$0.13	\$0.15	\$0.17	\$0.19
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PV Annual Program Costs	\$7,559,640	\$8,939,980	\$8,097,988	\$6,450,135	\$4,827,646	\$3,752,256	\$2,917,883	\$2,315,388	\$1,884,257	\$1,555,491
PV Lost Revenue	\$71,117,442	\$91,443,358	\$80,248,053	\$59,315,195	\$40,293,292	\$27,304,119	\$18,550,231	\$12,908,144	\$9,323,917	\$6,755,523
RIM	0.78	0.80	0.82	0.83	0.84	0.83	0.83	0.82	0.81	0.80

Electricity
Industrial
Existing
ROB
Base

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Cumulative Market Energy Savings - kWh	9,424,292	22,918,804	37,825,617	53,120,791	68,661,863	84,356,751	100,137,941	115,972,718	131,832,871	147,709,949
Cumulative Market Peak Demand Savings - kW	1,057	2,563	4,226	5,938	7,681	9,443	11,215	12,995	14,777	16,562
Cumulative Program Energy Savings - kWh	7,734,548	19,996,614	33,945,359	48,447,093	63,293,500	78,352,990	93,534,342	108,790,615	124,085,107	139,404,191
Cumulative Program Peak Demand Savings - kW	867	2,236	3,794	5,419	7,086	8,779	10,487	12,204	13,926	15,651
New Program Energy Savings - kWh	7,734,548	12,262,065	13,948,745	14,501,734	14,846,407	15,059,490	15,181,352	15,256,273	15,294,492	15,319,085
New Program Peak Demand Savings - kW	867	1,369	1,558	1,625	1,667	1,693	1,708	1,717	1,722	1,725

Administration Costs	\$893,743	\$1,300,795	\$1,453,831	\$1,502,468	\$1,532,746	\$1,551,503	\$1,562,033	\$1,568,447	\$1,572,041	\$1,574,306
Marketing Costs	\$571,995	\$599,010	\$599,010	\$599,010	\$599,010	\$599,010	\$599,010	\$599,010	\$599,010	\$599,010
Incentives Costs	\$301,557	\$484,682	\$553,529	\$575,410	\$589,032	\$597,470	\$602,207	\$605,093	\$606,710	\$607,729
Total Costs	\$1,767,295	\$2,384,487	\$2,606,370	\$2,676,889	\$2,720,788	\$2,747,983	\$2,763,251	\$2,772,550	\$2,777,761	\$2,781,045

PV Net Avoided Cost Benefits	\$5,589,040	\$8,527,545	\$9,366,764	\$9,389,072	\$9,229,648	\$8,952,710	\$8,639,788	\$8,295,551	\$7,950,032	\$7,612,623
PV Annual Program Marketing and Admin Costs	\$1,465,738	\$1,802,534	\$1,848,008	\$1,794,931	\$1,727,566	\$1,653,535	\$1,576,555	\$1,500,273	\$1,425,818	\$1,354,227
PV Net Measure Costs	\$1,600,475	\$2,387,378	\$2,568,211	\$2,524,864	\$2,447,761	\$2,353,141	\$2,248,984	\$2,143,281	\$2,038,322	\$1,936,852
TRC Ratio	1.82	2.04	2.12	2.17	2.21	2.23	2.26	2.28	2.29	2.31

Other Naturally Occurring - kWh	1,689,744	2,922,190	3,880,258	4,673,699	5,368,363	6,003,761	6,603,600	7,182,103	7,747,765	8,305,758
Other Naturally Occurring - kW	190	327	433	519	595	663	728	790	851	910

Cost per First-Year Net kWh	\$0.23	\$0.19	\$0.19	\$0.18	\$0.18	\$0.18	\$0.18	\$0.18	\$0.18	\$0.18
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PV Annual Program Costs	\$1,767,295	\$2,262,400	\$2,346,306	\$2,286,405	\$2,204,915	\$2,112,931	\$2,015,886	\$1,919,107	\$1,824,270	\$1,732,912
PV Lost Revenue	\$6,368,753	\$9,579,435	\$10,341,764	\$10,201,278	\$9,909,027	\$9,536,639	\$9,121,628	\$8,697,337	\$8,272,724	\$7,861,790
RIM	0.69	0.72	0.74	0.75	0.76	0.77	0.78	0.78	0.79	0.79

Electricity
Residential
Existing
LIRET
Base

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Cumulative Market Energy Savings - kWh	4,385,765	10,151,108	16,176,509	21,947,640	27,258,436	32,048,005	36,319,938	40,104,382	43,440,776	46,371,664
Cumulative Market Peak Demand Savings - kW	875	2,073	3,343	4,569	5,704	6,731	7,651	8,470	9,194	9,832
Cumulative Program Energy Savings - kWh	3,931,877	9,186,523	14,687,424	19,940,866	24,750,285	29,058,861	32,871,627	36,218,920	39,139,779	41,684,654
Cumulative Program Peak Demand Savings - kW	846	2,011	3,247	4,439	5,541	6,537	7,427	8,217	8,913	9,527
New Program Energy Savings - kWh	3,931,877	5,254,646	5,500,902	5,253,442	4,809,419	4,308,576	3,812,766	3,347,293	2,920,859	2,544,875
New Program Peak Demand Savings - kW	846	1,165	1,236	1,193	1,102	996	890	789	697	613

Administration Costs	\$376,715	\$499,245	\$536,568	\$533,087	\$511,776	\$483,736	\$454,099	\$425,139	\$397,790	\$372,399
Marketing Costs	\$437,476	\$437,476	\$437,476	\$437,476	\$437,476	\$437,476	\$437,476	\$437,476	\$437,476	\$437,476
Incentives Costs	\$4,178,475	\$5,990,589	\$6,542,570	\$6,491,084	\$6,175,912	\$5,761,217	\$5,322,919	\$4,894,623	\$4,490,154	\$4,114,647
Total Costs	\$4,992,666	\$6,927,310	\$7,516,614	\$7,461,647	\$7,125,164	\$6,682,428	\$6,214,494	\$5,757,238	\$5,325,420	\$4,924,522

PV Net Avoided Cost Benefits	\$3,564,589	\$4,628,650	\$4,687,980	\$4,317,907	\$3,799,510	\$3,260,722	\$2,767,450	\$2,327,553	\$1,947,447	\$1,626,613
PV Annual Program Marketing and Admin Costs	\$814,191	\$888,760	\$876,854	\$828,985	\$769,269	\$708,322	\$650,434	\$597,086	\$548,553	\$504,646
PV Net Measure Costs	\$5,044,948	\$6,814,883	\$7,043,911	\$6,621,001	\$5,970,902	\$5,280,725	\$4,626,434	\$4,034,567	\$3,510,588	\$3,051,810
TRC Ratio	0.61	0.60	0.59	0.58	0.56	0.54	0.52	0.50	0.48	0.46

Other Naturally Occurring - kWh	453,888	964,586	1,489,084	2,006,773	2,508,150	2,989,144	3,448,311	3,885,462	4,300,996	4,687,010
Other Naturally Occurring - kW	29	62	96	130	163	194	224	253	280	306

Cost per First-Year Net kWh	\$1.27	\$1.32	\$1.37	\$1.42	\$1.48	\$1.55	\$1.63	\$1.72	\$1.82	\$1.94
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PV Annual Program Costs	\$4,992,666	\$6,572,625	\$6,766,605	\$6,373,199	\$5,774,201	\$5,138,136	\$4,533,685	\$3,985,052	\$3,497,422	\$3,068,545
PV Lost Revenue	\$5,227,824	\$6,631,393	\$6,588,046	\$5,970,504	\$5,186,818	\$4,409,462	\$3,702,888	\$3,084,962	\$2,554,649	\$2,112,276
RIM	0.35	0.35	0.35	0.35	0.35	0.34	0.34	0.33	0.32	0.31

Electricity
Residential
Existing
LIROB
Base

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Cumulative Market Energy Savings - kWh	424,901	1,044,544	1,774,532	2,564,549	3,373,354	4,190,963	5,000,516	5,796,950	6,571,862	7,331,986
Cumulative Market Peak Demand Savings - kW	106	267	459	669	886	1,106	1,326	1,544	1,759	1,970
Cumulative Program Energy Savings - kWh	290,088	746,778	1,298,581	1,902,905	2,528,394	3,163,561	3,795,994	4,420,915	5,032,935	5,634,637
Cumulative Program Peak Demand Savings - kW	90	231	403	590	785	984	1,183	1,381	1,576	1,768
New Program Energy Savings - kWh	290,088	456,689	551,803	604,324	625,489	635,167	632,433	624,921	612,020	601,702
New Program Peak Demand Savings - kW	90	142	171	188	195	199	199	198	195	192

Administration Costs	\$248,566	\$359,253	\$424,514	\$462,534	\$484,223	\$496,125	\$502,167	\$504,704	\$505,150	\$504,351
Marketing Costs	\$288,336	\$288,336	\$288,336	\$288,336	\$288,336	\$288,336	\$288,336	\$288,336	\$288,336	\$288,336
Incentives Costs	\$546,136	\$870,397	\$1,061,582	\$1,172,963	\$1,236,501	\$1,271,369	\$1,289,069	\$1,296,502	\$1,297,807	\$1,295,467
Total Costs	\$1,083,038	\$1,517,986	\$1,774,432	\$1,923,834	\$2,009,060	\$2,055,830	\$2,079,572	\$2,089,542	\$2,091,293	\$2,088,155

PV Net Avoided Cost Benefits	\$311,075	\$470,627	\$546,859	\$574,980	\$571,408	\$554,223	\$528,221	\$498,931	\$467,948	\$439,760
PV Annual Program Marketing and Admin Costs	\$536,902	\$614,432	\$641,722	\$641,339	\$626,079	\$603,174	\$576,699	\$548,928	\$521,115	\$493,936
PV Net Measure Costs	\$621,691	\$938,312	\$1,085,176	\$1,137,333	\$1,137,274	\$1,109,339	\$1,066,982	\$1,018,033	\$966,720	\$915,494
TRC Ratio	0.27	0.30	0.32	0.32	0.32	0.32	0.32	0.32	0.31	0.31

Other Naturally Occurring - kWh	134,812	297,767	475,952	661,645	844,961	1,027,403	1,204,522	1,376,035	1,538,927	1,697,350
Other Naturally Occurring - kW	16	35	56	79	100	122	143	163	183	202

Cost per First-Year Net kWh	\$3.73	\$3.32	\$3.22	\$3.18	\$3.21	\$3.24	\$3.29	\$3.34	\$3.42	\$3.47
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PV Annual Program Costs	\$1,083,038	\$1,440,264	\$1,597,379	\$1,643,200	\$1,628,133	\$1,580,733	\$1,517,119	\$1,446,342	\$1,373,438	\$1,301,161
PV Lost Revenue	\$388,905	\$580,930	\$665,991	\$692,041	\$679,702	\$654,913	\$618,770	\$580,170	\$539,191	\$502,995
RIM	0.21	0.23	0.24	0.25	0.25	0.25	0.25	0.25	0.24	0.24

Electricity
Residential
Existing
RET
Base

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Cumulative Market Energy Savings - kWh	143,372,844	298,061,460	439,298,673	556,613,123	648,922,423	719,556,685	773,033,620	813,498,166	844,261,073	867,760,910
Cumulative Market Peak Demand Savings - kW	22,289	47,751	72,917	95,959	116,206	133,626	148,459	161,028	171,649	180,600
Cumulative Program Energy Savings - kWh	88,177,144	198,890,820	304,070,834	391,115,215	457,529,005	505,682,009	539,422,929	562,432,281	577,668,318	587,300,649
Cumulative Program Peak Demand Savings - kW	15,179	35,199	56,085	75,678	93,085	108,118	120,915	131,724	140,808	148,406
New Program Energy Savings - kWh	88,177,144	110,713,676	105,180,014	87,044,380	66,413,790	48,153,004	33,740,920	23,009,353	15,236,037	9,632,331
New Program Peak Demand Savings - kW	15,179	20,021	20,886	19,593	17,406	15,033	12,797	10,809	9,084	7,597
Administration Costs	\$4,057,016	\$5,647,594	\$6,248,606	\$6,248,996	\$5,936,149	\$5,489,540	\$5,008,052	\$4,540,451	\$4,107,902	\$3,717,342
Marketing Costs	\$3,523,198	\$3,523,198	\$3,523,198	\$3,523,198	\$3,523,198	\$3,523,198	\$3,523,198	\$3,523,198	\$3,523,198	\$3,523,198
Incentives Costs	\$5,329,529	\$8,115,494	\$9,168,192	\$9,168,875	\$8,620,911	\$7,838,656	\$6,995,308	\$6,176,286	\$5,418,657	\$4,734,575
Total Costs	\$12,909,743	\$17,286,287	\$18,939,996	\$18,941,070	\$18,080,259	\$16,851,395	\$15,526,558	\$14,239,936	\$13,049,757	\$11,975,115
PV Net Avoided Cost Benefits	\$75,107,844	\$92,161,932	\$86,968,152	\$72,265,037	\$55,937,740	\$41,625,412	\$30,464,892	\$22,108,663	\$15,986,435	\$11,493,758
PV Annual Program Marketing and Admin Costs	\$7,580,215	\$8,701,240	\$8,796,771	\$8,346,702	\$7,665,814	\$6,929,918	\$6,223,838	\$5,581,508	\$5,011,656	\$4,511,691
PV Net Measure Costs	\$19,666,618	\$25,602,759	\$26,745,488	\$25,318,881	\$22,779,151	\$19,938,280	\$17,189,874	\$14,695,395	\$12,501,582	\$10,603,315
TRC Ratio	2.76	2.69	2.45	2.15	1.84	1.55	1.30	1.09	0.91	0.76
Other Naturally Occurring - kWh	55,195,701	99,170,640	135,227,839	165,497,909	191,393,418	213,874,676	233,610,691	251,065,885	266,592,755	280,460,261
Other Naturally Occurring - kW	7,110	12,552	16,831	20,280	23,122	25,508	27,544	29,304	30,841	32,194
Cost per First-Year Net kWh	\$0.15	\$0.16	\$0.18	\$0.22	\$0.27	\$0.35	\$0.46	\$0.62	\$0.86	\$1.24
PV Annual Program Costs	\$12,909,743	\$16,401,213	\$17,050,159	\$16,178,092	\$14,652,162	\$12,957,081	\$11,327,154	\$9,856,617	\$8,570,311	\$7,461,877
PV Lost Revenue	\$117,142,336	\$139,622,095	\$126,002,435	\$99,119,843	\$71,943,506	\$49,670,668	\$33,184,595	\$21,615,100	\$13,707,729	\$8,340,064
RIM	0.58	0.59	0.61	0.63	0.65	0.66	0.68	0.70	0.72	0.73

Electricity
Residential
Existing
ROB
Base

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Cumulative Market Energy Savings - kWh	9,972,841	23,379,606	39,194,798	56,677,971	74,139,316	91,910,723	109,228,070	125,928,369	141,406,211	156,303,120
Cumulative Market Peak Demand Savings - kW	2,529	5,975	10,074	14,634	19,388	24,311	29,264	34,195	39,021	43,793
Cumulative Program Energy Savings - kWh	6,051,349	15,967,673	28,609,461	43,156,223	57,992,097	73,269,449	88,250,194	102,737,859	116,182,522	129,100,020
Cumulative Program Peak Demand Savings - kW	1,819	4,680	8,286	12,417	16,803	21,392	26,043	30,696	35,269	39,801
New Program Energy Savings - kWh	6,051,349	9,916,324	12,641,788	14,546,762	14,835,874	15,277,352	14,980,744	14,487,666	13,444,663	12,917,498
New Program Peak Demand Savings - kW	1,819	2,861	3,605	4,131	4,386	4,589	4,651	4,653	4,573	4,532

Administration Costs	\$1,123,481	\$1,741,007	\$2,192,827	\$2,522,892	\$2,763,657	\$2,939,032	\$3,066,600	\$3,159,263	\$3,226,477	\$3,275,156
Marketing Costs	\$975,655	\$975,655	\$975,655	\$975,655	\$975,655	\$975,655	\$975,655	\$975,655	\$975,655	\$975,655
Incentives Costs	\$893,909	\$1,549,030	\$2,028,356	\$2,378,515	\$2,633,938	\$2,819,990	\$2,955,324	\$3,053,629	\$3,124,934	\$3,176,577
Total Costs	\$2,993,045	\$4,265,692	\$5,196,837	\$5,877,062	\$6,373,249	\$6,734,677	\$6,997,579	\$7,188,548	\$7,327,066	\$7,427,389

PV Net Avoided Cost Benefits	\$6,368,084	\$9,838,789	\$12,000,076	\$13,233,975	\$13,163,934	\$13,030,650	\$12,378,273	\$11,588,685	\$10,542,830	\$9,809,056
PV Annual Program Marketing and Admin Costs	\$2,099,136	\$2,577,567	\$2,852,330	\$2,988,206	\$3,030,322	\$3,010,013	\$2,948,963	\$2,862,113	\$2,759,712	\$2,648,745
PV Net Measure Costs	\$2,446,334	\$3,616,396	\$4,332,316	\$4,736,243	\$4,902,980	\$4,941,798	\$4,870,687	\$4,743,100	\$4,570,931	\$4,390,533
TRC Ratio	1.40	1.59	1.67	1.71	1.66	1.64	1.58	1.52	1.44	1.39

Other Naturally Occurring - kWh	3,921,492	7,411,933	10,585,337	13,521,748	16,147,219	18,641,274	20,977,877	23,190,510	25,223,689	27,203,100
Other Naturally Occurring - kW	710	1,294	1,788	2,217	2,585	2,919	3,221	3,499	3,751	3,992

Cost per First-Year Net kWh	\$0.49	\$0.43	\$0.41	\$0.40	\$0.43	\$0.44	\$0.47	\$0.50	\$0.54	\$0.57
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PV Annual Program Costs	\$2,993,045	\$4,047,284	\$4,678,295	\$5,019,761	\$5,164,853	\$5,178,311	\$5,104,973	\$4,975,778	\$4,811,985	\$4,628,119
PV Lost Revenue	\$8,111,362	\$12,600,963	\$15,238,246	\$16,635,347	\$16,111,847	\$15,747,545	\$14,661,171	\$13,462,237	\$11,869,806	\$10,828,709
RIM	0.57	0.59	0.60	0.61	0.62	0.62	0.63	0.63	0.63	0.63

Electricity
Residential
New Construction
New
Base

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Cumulative Market Energy Savings - kWh	7,500,722	14,791,673	22,146,083	29,614,062	37,206,913	44,924,519	52,762,524	60,714,834	68,774,644	76,934,914
Cumulative Market Peak Demand Savings - kW	2,032	4,007	5,999	8,022	10,079	12,169	14,293	16,447	18,630	20,841
Cumulative Program Energy Savings - kWh	6,076,176	12,497,173	19,108,660	25,857,196	32,715,181	39,665,016	46,693,952	53,791,952	60,950,682	68,162,954
Cumulative Program Peak Demand Savings - kW	1,646	3,385	5,176	7,004	8,862	10,745	12,649	14,572	16,511	18,464
New Program Energy Savings - kWh	6,076,176	6,420,997	6,611,487	6,748,536	6,857,985	6,949,836	7,028,935	7,098,001	7,158,730	7,212,272
New Program Peak Demand Savings - kW	1,646	1,739	1,791	1,828	1,858	1,883	1,904	1,923	1,939	1,954

Administration Costs	\$558,456	\$607,220	\$626,957	\$638,433	\$646,227	\$651,967	\$656,389	\$659,879	\$662,665	\$664,891
Marketing Costs	\$949,375	\$949,375	\$949,375	\$949,375	\$949,375	\$949,375	\$949,375	\$949,375	\$949,375	\$949,375
Incentives Costs	\$895,018	\$999,222	\$1,041,397	\$1,065,921	\$1,082,576	\$1,094,842	\$1,104,290	\$1,111,749	\$1,117,702	\$1,122,459
Total Costs	\$2,402,848	\$2,555,817	\$2,617,728	\$2,653,728	\$2,678,179	\$2,696,184	\$2,710,054	\$2,721,003	\$2,729,743	\$2,736,725

PV Net Avoided Cost Benefits	\$6,141,108	\$6,234,381	\$6,174,962	\$6,053,421	\$5,891,075	\$5,697,756	\$5,505,044	\$5,304,089	\$5,106,272	\$4,911,630
PV Annual Program Marketing and Admin Costs	\$1,507,830	\$1,476,896	\$1,419,045	\$1,356,190	\$1,293,069	\$1,231,276	\$1,171,459	\$1,113,895	\$1,058,693	\$1,005,874
PV Net Measure Costs	\$1,761,845	\$1,767,551	\$1,726,706	\$1,671,999	\$1,611,839	\$1,549,527	\$1,486,676	\$1,424,194	\$1,362,634	\$1,302,355
TRC Ratio	1.88	1.92	1.96	2.00	2.03	2.05	2.07	2.09	2.11	2.13

Other Naturally Occurring - kWh	1,424,546	2,294,499	3,037,422	3,756,866	4,491,733	5,259,503	6,068,572	6,922,881	7,823,961	8,771,960
Other Naturally Occurring - kW	386	622	823	1,018	1,217	1,425	1,644	1,875	2,119	2,376

Cost per First-Year Net kWh	\$0.40	\$0.40	\$0.40	\$0.39	\$0.39	\$0.39	\$0.39	\$0.38	\$0.38	\$0.38
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PV Annual Program Costs	\$2,402,848	\$2,424,956	\$2,356,531	\$2,266,623	\$2,170,384	\$2,073,103	\$1,977,077	\$1,883,427	\$1,792,734	\$1,705,295
PV Lost Revenue	\$8,131,050	\$8,152,542	\$7,964,600	\$7,713,450	\$7,437,207	\$7,150,924	\$6,862,011	\$6,574,643	\$6,291,387	\$6,013,908
RIM	0.58	0.59	0.60	0.61	0.61	0.62	0.62	0.63	0.63	0.64

Electricity
All Segments
Total
50 Percent

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Cumulative Market Energy Savings - kWh	617,517,221	1,338,394,686	1,984,067,873	2,499,503,082	2,898,990,749	3,208,255,325	3,448,682,785	3,638,521,188	3,790,349,471	3,915,762,624
Cumulative Market Peak Demand Savings - kW	71,563	156,481	235,965	303,481	359,727	406,703	446,212	479,990	509,197	534,957
Cumulative Program Energy Savings - kWh	493,031,455	1,120,741,687	1,691,403,345	2,144,127,630	2,492,220,766	2,758,394,672	2,962,672,467	3,122,482,637	3,248,646,263	3,351,284,556
Cumulative Program Peak Demand Savings - kW	57,824	132,573	204,023	264,940	315,835	358,431	394,349	425,109	451,688	475,075
New Program Energy Savings - kWh	493,031,455	627,710,232	570,661,658	452,724,285	348,093,136	266,173,905	204,277,796	159,810,170	126,163,626	102,638,293
New Program Peak Demand Savings - kW	57,824	74,749	71,450	60,917	50,895	42,596	35,918	30,760	26,579	23,387

Administration Costs	\$14,616,893	\$19,330,962	\$20,427,468	\$19,944,735	\$18,965,595	\$17,943,836	\$16,882,415	\$15,965,915	\$15,159,215	\$14,471,370
Marketing Costs	\$13,035,824	\$12,933,859	\$12,664,001	\$12,425,704	\$12,215,277	\$12,185,346	\$12,155,980	\$12,127,167	\$12,098,896	\$12,071,158
Incentives Costs	\$47,611,327	\$65,760,938	\$65,540,134	\$57,667,137	\$49,832,467	\$42,910,775	\$37,163,223	\$32,508,270	\$28,690,732	\$25,585,489
Total Costs	\$75,264,044	\$98,025,759	\$98,631,603	\$90,037,576	\$81,013,339	\$73,039,957	\$66,201,617	\$60,601,352	\$55,948,843	\$52,128,017

PV Net Avoided Cost Benefits	\$360,483,637	\$443,690,304	\$394,449,497	\$307,226,719	\$232,108,543	\$174,429,501	\$132,115,733	\$101,941,516	\$79,567,204	\$63,834,529
PV Annual Program Marketing and Admin Costs	\$27,652,717	\$30,612,834	\$29,789,594	\$27,648,488	\$25,268,841	\$23,166,407	\$21,184,499	\$19,445,506	\$17,901,519	\$16,539,055
PV Net Measure Costs	\$118,717,360	\$149,254,669	\$138,664,621	\$114,171,904	\$92,446,326	\$74,747,411	\$60,780,548	\$50,059,221	\$41,589,453	\$35,021,562
TRC Ratio	2.46	2.47	2.34	2.17	1.97	1.78	1.61	1.47	1.34	1.24

Other Naturally Occurring - kWh	124,485,766	217,652,999	292,664,528	355,375,451	406,769,982	449,860,654	486,010,317	516,038,551	541,703,208	564,478,069
Other Naturally Occurring - kW	13,739	23,908	31,942	38,541	43,892	48,273	51,863	54,881	57,510	59,882

Cost per First-Year Net kWh	\$0.15	\$0.16	\$0.17	\$0.20	\$0.23	\$0.27	\$0.32	\$0.38	\$0.44	\$0.51
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PV Annual Program Costs	\$75,264,044	\$93,006,753	\$88,790,117	\$76,903,587	\$65,652,852	\$56,160,614	\$48,296,338	\$41,947,123	\$36,743,899	\$32,481,764
PV Lost Revenue	\$452,662,156	\$546,761,273	\$475,585,738	\$362,024,799	\$266,028,684	\$194,142,341	\$141,967,071	\$105,675,838	\$79,330,775	\$61,408,615
RIM	0.68	0.69	0.70	0.70	0.70	0.70	0.69	0.69	0.69	0.68

Electricity
Commercial
Total
50 Percent

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Cumulative Market Energy Savings - kWh	312,936,901	679,082,463	1,013,195,623	1,288,668,407	1,505,245,493	1,671,598,597	1,796,718,065	1,890,932,797	1,962,134,925	2,017,493,509
Cumulative Market Peak Demand Savings - kW	29,812	64,971	97,298	124,282	145,892	162,891	176,074	186,532	194,968	202,019
Cumulative Program Energy Savings - kWh	261,318,953	593,728,396	902,974,733	1,158,077,955	1,356,817,778	1,508,037,082	1,621,411,033	1,707,396,491	1,772,567,271	1,823,057,143
Cumulative Program Peak Demand Savings - kW	25,473	57,780	88,000	113,252	133,346	149,108	161,402	171,232	179,183	185,819
New Program Energy Savings - kWh	261,318,953	332,409,443	309,246,337	255,103,222	198,739,823	151,219,304	113,373,950	85,985,458	65,170,780	50,489,873
New Program Peak Demand Savings - kW	25,473	32,307	30,221	25,252	20,093	15,762	12,295	9,830	7,951	6,635

Administration Costs	\$6,482,666	\$8,142,015	\$8,070,503	\$7,349,956	\$6,497,818	\$5,695,443	\$5,013,094	\$4,504,357	\$4,105,054	\$3,805,994
Marketing Costs	\$3,713,458	\$3,884,675	\$3,884,675	\$3,884,675	\$3,884,675	\$3,884,675	\$3,884,675	\$3,884,675	\$3,884,675	\$3,884,675
Incentives Costs	\$21,049,393	\$28,055,655	\$27,268,339	\$23,599,601	\$19,449,915	\$15,701,278	\$12,606,758	\$10,222,181	\$8,377,596	\$6,982,105
Total Costs	\$31,245,517	\$40,082,345	\$39,223,518	\$34,834,233	\$29,832,409	\$25,281,397	\$21,504,528	\$18,611,213	\$16,367,325	\$14,672,775

PV Net Avoided Cost Benefits	\$178,918,174	\$219,128,921	\$197,187,500	\$157,284,630	\$118,361,748	\$86,941,629	\$63,200,907	\$46,624,036	\$34,550,164	\$26,285,217
PV Annual Program Marketing and Admin Costs	\$10,196,124	\$11,410,913	\$10,762,288	\$9,595,810	\$8,413,927	\$7,366,178	\$6,491,226	\$5,806,731	\$5,247,183	\$4,792,174
PV Net Measure Costs	\$54,808,845	\$67,419,379	\$61,956,333	\$51,070,920	\$40,143,546	\$30,997,367	\$23,790,691	\$18,520,165	\$14,519,113	\$11,616,852
TRC Ratio	2.75	2.78	2.71	2.59	2.44	2.27	2.09	1.92	1.75	1.60

Other Naturally Occurring - kWh	51,617,947	85,354,067	110,220,891	130,590,452	148,427,715	163,561,515	175,307,032	183,536,307	189,567,654	194,436,365
Other Naturally Occurring - kW	4,339	7,191	9,298	11,029	12,546	13,784	14,671	15,299	15,785	16,201

Cost per First-Year Net kWh	\$0.12	\$0.12	\$0.13	\$0.14	\$0.15	\$0.17	\$0.19	\$0.22	\$0.25	\$0.29
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PV Annual Program Costs	\$31,245,517	\$38,030,093	\$35,309,785	\$29,752,883	\$24,176,052	\$19,438,932	\$15,688,287	\$12,882,334	\$10,749,094	\$9,142,830
PV Lost Revenue	\$215,390,959	\$259,882,071	\$229,311,519	\$179,408,794	\$132,578,700	\$95,698,757	\$68,077,691	\$48,995,188	\$35,250,969	\$25,927,602
RIM	0.73	0.74	0.75	0.75	0.76	0.76	0.75	0.75	0.75	0.75

Electricity
Residential
Total
50 Percent

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Cumulative Market Energy Savings - kWh	153,826,668	320,670,927	476,724,944	611,651,673	722,800,551	813,657,457	887,736,788	948,843,882	999,563,151	1,042,918,425
Cumulative Market Peak Demand Savings - kW	26,249	56,437	87,021	116,069	142,654	166,700	188,281	207,642	224,995	240,661
Cumulative Program Energy Savings - kWh	92,696,229	210,531,502	325,909,309	426,206,732	507,415,070	571,865,457	622,426,814	662,403,110	694,082,822	720,098,746
Cumulative Program Peak Demand Savings - kW	17,998	41,872	67,426	92,345	115,468	136,533	155,505	172,547	187,820	201,591
New Program Energy Savings - kWh	92,696,229	117,835,273	115,377,807	100,297,423	81,208,338	64,450,387	50,561,357	39,976,296	31,679,712	26,015,924
New Program Peak Demand Savings - kW	17,998	23,874	25,555	24,919	23,123	21,065	18,972	17,042	15,273	13,771
Administration Costs	\$5,934,317	\$8,337,116	\$9,559,487	\$10,043,466	\$10,094,962	\$9,909,995	\$9,606,485	\$9,252,425	\$8,885,977	\$8,527,962
Marketing Costs	\$6,022,992	\$6,022,992	\$6,022,992	\$6,022,992	\$6,022,992	\$6,022,992	\$6,022,992	\$6,022,992	\$6,022,992	\$6,022,992
Incentives Costs	\$12,636,350	\$18,950,720	\$21,674,464	\$22,332,064	\$21,879,841	\$20,880,338	\$19,648,111	\$18,352,237	\$17,080,451	\$15,876,296
Total Costs	\$24,593,659	\$33,310,829	\$37,256,943	\$38,398,523	\$37,997,795	\$36,813,325	\$35,277,588	\$33,627,655	\$31,989,421	\$30,427,250
PV Net Avoided Cost Benefits	\$82,478,234	\$102,304,920	\$99,576,856	\$86,865,458	\$71,198,476	\$57,273,224	\$45,772,470	\$36,792,394	\$29,700,259	\$24,508,708
PV Annual Program Marketing and Admin Costs	\$11,957,309	\$13,624,858	\$14,027,656	\$13,722,807	\$13,061,919	\$12,250,916	\$11,402,237	\$10,573,359	\$9,791,332	\$9,066,922
PV Net Measure Costs	\$28,720,675	\$37,436,139	\$39,458,000	\$37,996,852	\$34,958,317	\$31,430,850	\$27,902,253	\$24,622,225	\$21,663,018	\$19,059,228
TRC Ratio	2.03	2.00	1.86	1.68	1.48	1.31	1.16	1.05	0.94	0.87
Other Naturally Occurring - kWh	61,130,439	110,139,424	150,815,635	185,444,941	215,385,481	241,791,999	265,309,973	286,440,772	305,480,329	322,819,680
Other Naturally Occurring - kW	8,251	14,566	19,595	23,724	27,186	30,167	32,776	35,095	37,175	39,070
Cost per First-Year Net kWh	\$0.27	\$0.28	\$0.32	\$0.38	\$0.47	\$0.57	\$0.70	\$0.84	\$1.01	\$1.17
PV Annual Program Costs	\$24,593,659	\$31,605,285	\$33,539,436	\$32,797,242	\$30,793,246	\$28,305,862	\$25,736,204	\$23,276,435	\$21,008,764	\$18,959,685
PV Lost Revenue	\$123,258,391	\$148,743,180	\$138,360,874	\$114,330,410	\$88,054,515	\$66,504,091	\$49,672,432	\$37,399,882	\$28,235,283	\$22,077,200
RIM	0.56	0.57	0.58	0.59	0.60	0.60	0.61	0.61	0.60	0.60

Electricity
Industrial
Total
50 Percent

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Cumulative Market Energy Savings - kWh	150,753,653	338,641,296	494,147,306	599,183,001	670,944,705	722,999,271	764,227,932	798,744,510	828,651,395	855,350,690
Cumulative Market Peak Demand Savings - kW	15,502	35,073	51,646	63,131	71,181	77,112	81,857	85,816	89,234	92,276
Cumulative Program Energy Savings - kWh	139,016,273	316,481,788	462,519,303	559,842,943	627,987,918	678,492,132	718,834,620	752,683,037	781,996,170	808,128,667
Cumulative Program Peak Demand Savings - kW	14,353	32,922	48,597	59,343	67,021	72,790	77,442	81,330	84,684	87,665
New Program Energy Savings - kWh	139,016,273	177,465,516	146,037,515	97,323,640	68,144,975	50,504,214	40,342,488	33,848,417	29,313,134	26,132,496
New Program Peak Demand Savings - kW	14,353	18,569	15,675	10,746	7,678	5,769	4,652	3,888	3,355	2,981
Administration Costs	\$2,199,911	\$2,851,832	\$2,797,478	\$2,551,313	\$2,372,815	\$2,338,398	\$2,262,836	\$2,209,133	\$2,168,183	\$2,137,414
Marketing Costs	\$3,299,373	\$3,026,191	\$2,756,333	\$2,518,036	\$2,307,609	\$2,277,678	\$2,248,312	\$2,219,499	\$2,191,228	\$2,163,491
Incentives Costs	\$13,925,584	\$18,754,563	\$16,597,331	\$11,735,472	\$8,502,710	\$6,329,158	\$4,908,353	\$3,933,852	\$3,232,685	\$2,727,087
Total Costs	\$19,424,867	\$24,632,586	\$22,151,142	\$16,804,820	\$13,183,134	\$10,945,235	\$9,419,501	\$8,362,483	\$7,592,097	\$7,027,992
PV Net Avoided Cost Benefits	\$99,087,229	\$122,256,464	\$97,685,140	\$63,076,631	\$42,548,319	\$30,214,648	\$23,142,355	\$18,525,086	\$15,316,781	\$13,040,604
PV Annual Program Marketing and Admin Costs	\$5,499,284	\$5,577,063	\$4,999,650	\$4,329,871	\$3,792,995	\$3,549,313	\$3,291,036	\$3,065,416	\$2,863,004	\$2,679,959
PV Net Measure Costs	\$35,187,840	\$44,399,151	\$37,250,287	\$25,104,132	\$17,344,463	\$12,319,195	\$9,087,603	\$6,916,831	\$5,407,323	\$4,345,481
TRC Ratio	2.44	2.45	2.31	2.14	2.01	1.90	1.87	1.86	1.85	1.86
Other Naturally Occurring - kWh	11,737,380	22,159,508	31,628,003	39,340,058	42,956,787	44,507,139	45,393,311	46,061,473	46,655,225	47,222,024
Other Naturally Occurring - kW	1,149	2,151	3,049	3,788	4,160	4,322	4,416	4,487	4,550	4,611
Cost per First-Year Net kWh	\$0.14	\$0.14	\$0.15	\$0.17	\$0.19	\$0.22	\$0.23	\$0.25	\$0.26	\$0.27
PV Annual Program Costs	\$19,424,867	\$23,371,375	\$19,940,895	\$14,353,462	\$10,683,554	\$8,415,820	\$6,871,847	\$5,788,355	\$4,986,041	\$4,379,249
PV Lost Revenue	\$114,012,805	\$138,136,022	\$107,913,346	\$68,285,595	\$45,395,469	\$31,939,493	\$24,216,948	\$19,280,769	\$15,844,524	\$13,403,814
RIM	0.74	0.76	0.76	0.76	0.76	0.75	0.74	0.74	0.74	0.73

Electricity
Commercial
Existing
RET
50 Percent

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Cumulative Market Energy Savings - kWh	286,900,038	624,168,268	928,548,239	1,174,033,443	1,361,554,839	1,499,663,102	1,598,086,620	1,666,033,598	1,712,066,696	1,742,657,783
Cumulative Market Peak Demand Savings - kW	25,454	55,775	83,122	105,094	121,814	134,048	142,693	148,686	152,810	155,613
Cumulative Program Energy Savings - kWh	240,293,290	546,748,330	828,102,322	1,054,569,944	1,225,325,502	1,349,256,824	1,436,813,774	1,497,384,612	1,538,203,787	1,564,738,378
Cumulative Program Peak Demand Savings - kW	21,863	49,769	75,284	95,727	111,091	122,232	130,122	135,616	139,378	141,887
New Program Energy Savings - kWh	240,293,290	306,455,041	281,353,992	226,467,622	170,755,557	123,931,323	87,556,950	60,570,838	40,819,175	26,534,592
New Program Peak Demand Savings - kW	21,863	27,906	25,515	20,443	15,365	11,141	7,890	5,494	3,762	2,509

Administration Costs	\$5,210,346	\$6,574,608	\$6,370,403	\$5,590,192	\$4,723,739	\$3,954,613	\$3,327,879	\$2,837,631	\$2,460,588	\$2,173,856
Marketing Costs	\$2,762,596	\$2,893,071	\$2,893,071	\$2,893,071	\$2,893,071	\$2,893,071	\$2,893,071	\$2,893,071	\$2,893,071	\$2,893,071
Incentives Costs	\$18,832,500	\$25,407,226	\$24,423,110	\$20,663,071	\$16,487,413	\$12,780,798	\$9,760,406	\$7,397,776	\$5,580,708	\$4,198,869
Total Costs	\$26,805,443	\$34,874,905	\$33,686,585	\$29,146,334	\$24,104,224	\$19,628,483	\$15,981,357	\$13,128,478	\$10,934,368	\$9,265,796

PV Net Avoided Cost Benefits	\$160,949,489	\$197,886,498	\$175,229,447	\$135,631,389	\$98,023,974	\$67,990,794	\$46,018,846	\$30,477,958	\$19,728,648	\$12,347,308
PV Annual Program Marketing and Admin Costs	\$7,972,943	\$8,982,926	\$8,339,163	\$7,245,790	\$6,172,630	\$5,265,203	\$4,538,396	\$3,966,685	\$3,515,968	\$3,157,280
PV Net Measure Costs	\$48,216,051	\$59,848,541	\$54,225,337	\$43,500,100	\$32,997,606	\$24,358,380	\$17,738,434	\$12,835,334	\$9,254,972	\$6,662,397
TRC Ratio	2.86	2.87	2.80	2.67	2.50	2.30	2.07	1.81	1.54	1.26

Other Naturally Occurring - kWh	46,606,749	77,419,937	100,445,916	119,463,499	136,229,337	150,406,278	161,272,846	168,648,986	173,862,910	177,919,405
Other Naturally Occurring - kW	3,591	6,006	7,838	9,367	10,722	11,816	12,571	13,070	13,432	13,725

Cost per First-Year Net kWh	\$0.11	\$0.11	\$0.12	\$0.13	\$0.14	\$0.16	\$0.18	\$0.22	\$0.27	\$0.35
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PV Annual Program Costs	\$26,805,443	\$33,089,279	\$30,325,329	\$24,894,691	\$19,533,957	\$15,092,392	\$11,658,945	\$9,087,287	\$7,181,048	\$5,773,659
PV Lost Revenue	\$198,042,155	\$239,582,153	\$208,618,343	\$159,259,336	\$113,890,180	\$78,402,220	\$52,542,086	\$34,484,246	\$22,052,499	\$13,607,971
RIM	0.72	0.73	0.73	0.74	0.73	0.73	0.72	0.70	0.67	0.64

Electricity
Commercial
Existing
ROB
50 Percent

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Cumulative Market Energy Savings - kWh	22,934,534	48,818,411	75,574,886	102,582,476	128,647,854	153,888,942	177,566,109	200,799,170	222,917,066	244,616,664
Cumulative Market Peak Demand Savings - kW	3,791	8,080	12,516	16,982	21,325	25,541	29,526	33,436	37,190	40,878
Cumulative Program Energy Savings - kWh	18,127,126	41,198,937	66,197,452	91,924,195	116,984,028	141,332,127	164,194,063	186,638,714	208,005,692	228,961,899
Cumulative Program Peak Demand Savings - kW	3,079	6,952	11,128	15,404	19,598	23,681	27,545	31,338	34,980	38,558
New Program Energy Savings - kWh	18,127,126	23,071,812	24,998,514	25,726,744	25,059,833	24,348,099	22,861,936	22,444,650	21,366,978	20,956,208
New Program Peak Demand Savings - kW	3,079	3,873	4,176	4,277	4,194	4,083	3,864	3,793	3,643	3,578

Administration Costs	\$1,231,348	\$1,525,934	\$1,658,304	\$1,717,724	\$1,731,835	\$1,698,409	\$1,642,633	\$1,623,994	\$1,601,595	\$1,589,133
Marketing Costs	\$862,641	\$903,383	\$903,383	\$903,383	\$903,383	\$903,383	\$903,383	\$903,383	\$903,383	\$903,383
Incentives Costs	\$1,306,223	\$1,722,888	\$1,910,113	\$1,994,157	\$2,014,117	\$1,966,837	\$1,887,948	\$1,861,586	\$1,829,903	\$1,812,277
Total Costs	\$3,400,212	\$4,152,205	\$4,471,801	\$4,615,264	\$4,649,335	\$4,568,629	\$4,433,964	\$4,388,963	\$4,334,881	\$4,304,793

PV Net Avoided Cost Benefits	\$15,438,707	\$18,822,131	\$19,617,116	\$19,389,985	\$18,156,540	\$16,856,806	\$15,169,807	\$14,215,687	\$12,968,792	\$12,159,450
PV Annual Program Marketing and Admin Costs	\$2,093,989	\$2,304,934	\$2,306,081	\$2,238,760	\$2,135,569	\$2,000,524	\$1,857,406	\$1,749,404	\$1,645,122	\$1,553,125
PV Net Measure Costs	\$4,681,113	\$5,768,457	\$6,015,180	\$5,935,198	\$5,586,468	\$5,152,200	\$4,634,922	\$4,333,852	\$3,976,543	\$3,727,375
TRC Ratio	2.28	2.33	2.36	2.37	2.35	2.36	2.34	2.34	2.31	2.30

Other Naturally Occurring - kWh	4,807,408	7,619,473	9,377,435	10,658,280	11,663,826	12,556,815	13,372,046	14,160,456	14,911,374	15,654,765
Other Naturally Occurring - kW	711	1,128	1,388	1,578	1,727	1,860	1,981	2,098	2,210	2,320

Cost per First-Year Net kWh	\$0.19	\$0.18	\$0.18	\$0.18	\$0.19	\$0.19	\$0.19	\$0.20	\$0.20	\$0.21
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PV Annual Program Costs	\$3,400,212	\$3,939,608	\$4,025,603	\$3,942,025	\$3,767,801	\$3,512,831	\$3,234,728	\$3,037,958	\$2,846,894	\$2,682,382
PV Lost Revenue	\$14,947,746	\$18,034,329	\$18,535,203	\$18,091,344	\$16,725,326	\$15,424,019	\$13,749,787	\$12,808,011	\$11,574,756	\$10,771,596
RIM	0.84	0.86	0.87	0.88	0.89	0.89	0.89	0.90	0.90	0.90

Electricity
Commercial
New Construction
New
50 Percent

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Cumulative Market Energy Savings - kWh	3,102,328	6,095,785	9,072,498	12,052,489	15,042,800	18,046,553	21,065,335	24,100,030	27,151,162	30,219,061
Cumulative Market Peak Demand Savings - kW	568	1,116	1,661	2,206	2,753	3,303	3,855	4,410	4,968	5,528
Cumulative Program Energy Savings - kWh	2,898,538	5,781,128	8,674,959	11,583,815	14,508,248	17,448,131	20,403,195	23,373,165	26,357,793	29,356,865
Cumulative Program Peak Demand Savings - kW	531	1,059	1,589	2,121	2,656	3,195	3,735	4,279	4,825	5,373
New Program Energy Savings - kWh	2,898,538	2,882,590	2,893,831	2,908,856	2,924,433	2,939,883	2,955,064	2,969,970	2,984,628	2,999,073
New Program Peak Demand Savings - kW	531	528	530	533	535	538	541	543	546	549

Administration Costs	\$40,971	\$41,473	\$41,796	\$42,041	\$42,244	\$42,421	\$42,582	\$42,731	\$42,871	\$43,005
Marketing Costs	\$88,221	\$88,221	\$88,221	\$88,221	\$88,221	\$88,221	\$88,221	\$88,221	\$88,221	\$88,221
Incentives Costs	\$910,671	\$925,541	\$935,116	\$942,373	\$948,385	\$953,643	\$958,404	\$962,820	\$966,984	\$970,960
Total Costs	\$1,039,863	\$1,055,235	\$1,065,133	\$1,072,634	\$1,078,850	\$1,084,285	\$1,089,207	\$1,093,771	\$1,098,076	\$1,102,186

PV Net Avoided Cost Benefits	\$2,529,977	\$2,420,291	\$2,340,936	\$2,263,256	\$2,181,234	\$2,094,029	\$2,012,254	\$1,930,391	\$1,852,724	\$1,778,459
PV Annual Program Marketing and Admin Costs	\$129,192	\$123,053	\$117,044	\$111,260	\$105,728	\$100,451	\$95,425	\$90,642	\$86,094	\$81,769
PV Net Measure Costs	\$1,911,681	\$1,802,381	\$1,715,816	\$1,635,621	\$1,559,472	\$1,486,786	\$1,417,336	\$1,350,979	\$1,287,598	\$1,227,081
TRC Ratio	1.24	1.26	1.28	1.30	1.31	1.32	1.33	1.34	1.35	1.36

Other Naturally Occurring - kWh	203,790	314,657	397,540	468,673	534,552	598,423	662,140	726,865	793,370	862,196
Other Naturally Occurring - kW	37	57	72	85	97	108	120	131	143	155

Cost per First-Year Net kWh	\$0.36	\$0.37	\$0.37	\$0.37	\$0.37	\$0.37	\$0.37	\$0.37	\$0.37	\$0.37
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PV Annual Program Costs	\$1,039,863	\$1,001,206	\$958,853	\$916,167	\$874,295	\$833,709	\$794,613	\$757,088	\$721,152	\$686,789
PV Lost Revenue	\$2,401,058	\$2,265,589	\$2,157,972	\$2,058,114	\$1,963,194	\$1,872,518	\$1,785,818	\$1,702,930	\$1,623,713	\$1,548,034
RIM	0.74	0.74	0.75	0.76	0.77	0.77	0.78	0.78	0.79	0.80

Electricity
Industrial
Existing
RET
50 Percent

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Cumulative Market Energy Savings - kWh	137,583,336	307,614,049	444,357,420	530,133,551	582,414,069	614,849,836	636,373,067	651,129,800	661,256,877	668,161,265
Cumulative Market Peak Demand Savings - kW	14,015	31,581	46,035	55,338	61,178	64,879	67,383	69,094	70,261	71,049
Cumulative Program Energy Savings - kWh	127,535,700	288,376,732	416,609,675	495,467,192	544,825,645	576,346,458	597,583,356	612,250,430	622,349,417	629,244,999
Cumulative Program Peak Demand Savings - kW	13,057	29,757	43,418	52,070	57,612	61,220	63,696	65,397	66,561	67,348
New Program Energy Savings - kWh	127,535,700	160,841,032	128,232,943	78,857,517	49,358,453	31,520,813	21,236,898	14,667,075	10,098,986	6,895,582
New Program Peak Demand Savings - kW	13,057	16,700	13,662	8,651	5,543	3,608	2,475	1,702	1,164	787

Administration Costs	\$981,522	\$1,201,334	\$1,047,829	\$746,480	\$541,845	\$491,566	\$406,209	\$346,463	\$302,473	\$269,711
Marketing Costs	\$2,612,979	\$2,307,379	\$2,037,521	\$1,799,224	\$1,588,796	\$1,558,866	\$1,529,500	\$1,500,687	\$1,472,416	\$1,444,678
Incentives Costs	\$12,980,039	\$17,361,892	\$15,102,065	\$10,183,104	\$6,923,296	\$4,733,331	\$3,302,391	\$2,321,636	\$1,617,323	\$1,109,664
Total Costs	\$16,574,540	\$20,870,605	\$18,187,415	\$12,728,808	\$9,053,937	\$6,783,763	\$5,238,099	\$4,168,786	\$3,392,212	\$2,824,054

PV Net Avoided Cost Benefits	\$90,776,274	\$110,675,926	\$85,685,231	\$51,078,599	\$30,827,476	\$18,888,665	\$12,229,744	\$8,057,111	\$5,292,658	\$3,445,964
PV Annual Program Marketing and Admin Costs	\$3,594,501	\$3,329,064	\$2,777,493	\$2,174,356	\$1,726,662	\$1,576,582	\$1,412,165	\$1,278,562	\$1,165,642	\$1,068,262
PV Net Measure Costs	\$32,691,877	\$41,010,143	\$33,831,480	\$21,753,277	\$14,119,111	\$9,232,469	\$6,143,303	\$4,114,093	\$2,744,042	\$1,815,962
TRC Ratio	2.50	2.50	2.34	2.13	1.95	1.75	1.62	1.49	1.35	1.19

Other Naturally Occurring - kWh	10,047,636	19,237,317	27,747,745	34,666,359	37,588,424	38,503,378	38,789,712	38,879,370	38,907,460	38,916,266
Other Naturally Occurring - kW	959	1,824	2,617	3,269	3,565	3,658	3,688	3,697	3,700	3,701

Cost per First-Year Net kWh	\$0.13	\$0.13	\$0.14	\$0.16	\$0.18	\$0.22	\$0.25	\$0.28	\$0.34	\$0.41
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PV Annual Program Costs	\$16,574,540	\$19,802,012	\$16,372,670	\$10,872,027	\$7,337,271	\$5,216,053	\$3,821,372	\$2,885,556	\$2,227,805	\$1,759,711
PV Lost Revenue	\$104,556,488	\$125,141,703	\$94,709,110	\$55,291,693	\$32,853,582	\$19,915,434	\$12,735,323	\$8,343,953	\$5,450,004	\$3,529,859
RIM	0.75	0.76	0.77	0.77	0.77	0.75	0.74	0.72	0.69	0.65

Electricity
Industrial
Existing
ROB
50 Percent

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Cumulative Market Energy Savings - kWh	13,170,317	31,027,247	49,789,887	69,049,450	88,530,636	108,149,435	127,854,864	147,614,709	167,394,519	187,189,426
Cumulative Market Peak Demand Savings - kW	1,486	3,492	5,611	7,792	10,004	12,233	14,474	16,722	18,974	21,227
Cumulative Program Energy Savings - kWh	11,480,573	28,105,057	45,909,629	64,375,752	83,162,273	102,145,674	121,251,265	140,432,606	159,646,754	178,883,668
Cumulative Program Peak Demand Savings - kW	1,297	3,165	5,178	7,273	9,409	11,570	13,746	15,932	18,123	20,317
New Program Energy Savings - kWh	11,480,573	16,624,484	17,804,572	18,466,123	18,786,521	18,983,401	19,105,590	19,181,342	19,214,147	19,236,914
New Program Peak Demand Savings - kW	1,297	1,868	2,013	2,095	2,136	2,161	2,177	2,186	2,191	2,194

Administration Costs	\$1,218,388	\$1,650,498	\$1,749,648	\$1,804,832	\$1,830,970	\$1,846,833	\$1,856,627	\$1,862,670	\$1,865,711	\$1,867,703
Marketing Costs	\$686,394	\$718,812	\$718,812	\$718,812	\$718,812	\$718,812	\$718,812	\$718,812	\$718,812	\$718,812
Incentives Costs	\$945,545	\$1,392,670	\$1,495,266	\$1,552,368	\$1,579,414	\$1,595,828	\$1,605,962	\$1,612,215	\$1,615,362	\$1,617,423
Total Costs	\$2,850,328	\$3,761,980	\$3,963,727	\$4,076,012	\$4,129,197	\$4,161,472	\$4,181,402	\$4,193,698	\$4,199,884	\$4,203,938

PV Net Avoided Cost Benefits	\$8,310,955	\$11,580,538	\$11,999,910	\$11,998,032	\$11,720,842	\$11,325,983	\$10,912,612	\$10,467,975	\$10,024,123	\$9,594,641
PV Annual Program Marketing and Admin Costs	\$1,904,783	\$2,247,999	\$2,222,157	\$2,155,515	\$2,066,333	\$1,972,731	\$1,878,871	\$1,786,854	\$1,697,362	\$1,611,697
PV Net Measure Costs	\$2,495,964	\$3,389,008	\$3,418,808	\$3,350,855	\$3,225,352	\$3,086,726	\$2,944,300	\$2,802,738	\$2,663,280	\$2,529,519
TRC Ratio	1.89	2.05	2.13	2.18	2.21	2.24	2.26	2.28	2.30	2.32

Other Naturally Occurring - kWh	1,689,744	2,922,190	3,880,258	4,673,699	5,368,363	6,003,761	6,603,600	7,182,103	7,747,765	8,305,758
Other Naturally Occurring - kW	190	327	433	519	595	663	728	790	851	910

Cost per First-Year Net kWh	\$0.25	\$0.23	\$0.22	\$0.22	\$0.22	\$0.22	\$0.22	\$0.22	\$0.22	\$0.22
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PV Annual Program Costs	\$2,850,328	\$3,569,363	\$3,568,225	\$3,481,435	\$3,346,283	\$3,199,767	\$3,050,475	\$2,902,799	\$2,758,236	\$2,619,538
PV Lost Revenue	\$9,456,317	\$12,994,318	\$13,204,236	\$12,993,902	\$12,541,887	\$12,024,059	\$11,481,625	\$10,936,817	\$10,394,520	\$9,873,955
RIM	0.68	0.70	0.72	0.73	0.74	0.74	0.75	0.76	0.76	0.77

Electricity
Residential
Existing
LIRET
50 Percent

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Cumulative Market Energy Savings - kWh	4,461,194	10,327,432	16,452,208	22,309,887	27,691,099	32,535,158	36,847,199	40,659,290	44,012,776	46,951,425
Cumulative Market Peak Demand Savings - kW	891	2,111	3,402	4,647	5,797	6,836	7,766	8,590	9,318	9,959
Cumulative Program Energy Savings - kWh	4,007,307	9,362,847	14,963,123	20,303,114	25,182,948	29,546,014	33,398,888	36,773,828	39,711,779	42,264,416
Cumulative Program Peak Demand Savings - kW	862	2,048	3,306	4,517	5,634	6,642	7,541	8,337	9,038	9,653
New Program Energy Savings - kWh	4,007,307	5,355,540	5,600,277	5,339,990	4,879,835	4,363,065	3,852,874	3,374,940	2,937,951	2,552,637
New Program Peak Demand Savings - kW	862	1,186	1,257	1,211	1,117	1,008	899	796	701	615

Administration Costs	\$382,135	\$506,158	\$543,522	\$539,439	\$517,312	\$488,436	\$458,022	\$428,370	\$400,418	\$374,506
Marketing Costs	\$481,223	\$481,223	\$481,223	\$481,223	\$481,223	\$481,223	\$481,223	\$481,223	\$481,223	\$481,223
Incentives Costs	\$4,260,878	\$6,104,714	\$6,660,202	\$6,599,503	\$6,270,541	\$5,841,236	\$5,389,079	\$4,948,240	\$4,532,678	\$4,147,459
Total Costs	\$5,124,237	\$7,092,095	\$7,684,948	\$7,620,166	\$7,269,077	\$6,810,895	\$6,328,324	\$5,857,833	\$5,414,318	\$5,003,188

PV Net Avoided Cost Benefits	\$3,632,552	\$4,716,290	\$4,771,311	\$4,387,853	\$3,854,213	\$3,301,311	\$2,796,170	\$2,346,616	\$1,958,884	\$1,631,867
PV Annual Program Marketing and Admin Costs	\$863,359	\$936,827	\$922,496	\$871,776	\$809,209	\$745,573	\$685,212	\$629,603	\$579,010	\$533,218
PV Net Measure Costs	\$5,141,948	\$6,942,062	\$7,167,863	\$6,728,930	\$6,059,819	\$5,351,631	\$4,681,653	\$4,076,649	\$3,541,898	\$3,074,387
TRC Ratio	0.60	0.60	0.59	0.58	0.56	0.54	0.52	0.50	0.48	0.45

Other Naturally Occurring - kWh	453,888	964,586	1,489,084	2,006,773	2,508,150	2,989,144	3,448,311	3,885,462	4,300,996	4,687,010
Other Naturally Occurring - kW	29	62	96	130	163	194	224	253	280	306

Cost per First-Year Net kWh	\$1.28	\$1.32	\$1.37	\$1.43	\$1.49	\$1.56	\$1.64	\$1.74	\$1.84	\$1.96
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PV Annual Program Costs	\$5,124,237	\$6,728,974	\$6,918,142	\$6,508,595	\$5,890,828	\$5,236,915	\$4,616,728	\$4,054,682	\$3,555,805	\$3,117,563
PV Lost Revenue	\$5,328,053	\$6,758,609	\$6,706,943	\$6,068,763	\$5,262,676	\$4,465,166	\$3,741,798	\$3,110,418	\$2,569,589	\$2,118,726
RIM	0.35	0.35	0.35	0.35	0.35	0.34	0.33	0.33	0.32	0.31

Electricity
Residential
Existing
LIROB
50 Percent

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Cumulative Market Energy Savings - kWh	439,342	1,081,848	1,839,550	2,660,015	3,500,032	4,349,274	5,190,028	6,017,019	6,821,445	7,610,451
Cumulative Market Peak Demand Savings - kW	110	277	476	694	919	1,148	1,377	1,603	1,826	2,046
Cumulative Program Energy Savings - kWh	304,530	784,082	1,363,599	1,998,371	2,655,071	3,321,871	3,985,506	4,640,984	5,282,518	5,913,101
Cumulative Program Peak Demand Savings - kW	94	241	420	615	819	1,026	1,234	1,440	1,643	1,844
New Program Energy Savings - kWh	304,530	479,552	579,517	634,772	656,701	666,800	663,634	655,478	641,534	630,583
New Program Peak Demand Savings - kW	94	148	179	196	204	207	208	206	203	201

Administration Costs	\$257,846	\$372,709	\$440,476	\$480,000	\$502,591	\$515,036	\$521,404	\$524,137	\$524,701	\$523,974
Marketing Costs	\$317,170	\$317,170	\$317,170	\$317,170	\$317,170	\$317,170	\$317,170	\$317,170	\$317,170	\$317,170
Incentives Costs	\$566,916	\$903,642	\$1,102,304	\$1,218,170	\$1,284,397	\$1,320,879	\$1,339,546	\$1,347,560	\$1,349,213	\$1,347,083
Total Costs	\$1,141,933	\$1,593,521	\$1,859,950	\$2,015,339	\$2,104,159	\$2,153,084	\$2,178,120	\$2,188,867	\$2,191,084	\$2,188,227

PV Net Avoided Cost Benefits	\$325,487	\$492,569	\$572,466	\$602,018	\$598,123	\$580,139	\$552,769	\$521,984	\$489,375	\$459,860
PV Annual Program Marketing and Admin Costs	\$575,016	\$654,557	\$682,048	\$680,885	\$664,331	\$639,885	\$611,768	\$582,337	\$552,891	\$524,130
PV Net Measure Costs	\$645,281	\$974,116	\$1,126,784	\$1,181,157	\$1,181,312	\$1,152,522	\$1,108,735	\$1,058,087	\$1,004,964	\$951,919
TRC Ratio	0.27	0.30	0.32	0.32	0.32	0.32	0.32	0.32	0.31	0.31

Other Naturally Occurring - kWh	134,812	297,767	475,952	661,645	844,961	1,027,403	1,204,522	1,376,035	1,538,927	1,697,350
Other Naturally Occurring - kW	16	35	56	79	100	122	143	163	183	202

Cost per First-Year Net kWh	\$3.75	\$3.32	\$3.21	\$3.17	\$3.20	\$3.23	\$3.28	\$3.34	\$3.42	\$3.47
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PV Annual Program Costs	\$1,141,933	\$1,511,932	\$1,674,363	\$1,721,357	\$1,705,201	\$1,655,512	\$1,589,013	\$1,515,093	\$1,438,975	\$1,363,518
PV Lost Revenue	\$408,206	\$609,923	\$699,338	\$726,803	\$713,521	\$687,437	\$649,215	\$608,466	\$565,132	\$527,084
RIM	0.21	0.23	0.24	0.25	0.25	0.25	0.25	0.25	0.24	0.24

Electricity
Residential
Existing
RET
50 Percent

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Cumulative Market Energy Savings - kWh	132,314,813	272,890,041	399,895,601	504,254,380	585,240,149	646,072,562	691,042,569	724,094,001	748,387,684	766,259,214
Cumulative Market Peak Demand Savings - kW	20,958	44,644	67,979	89,337	108,112	124,267	138,019	149,659	159,479	167,736
Cumulative Program Energy Savings - kWh	77,119,113	173,719,400	264,667,762	338,756,472	393,846,730	432,197,886	457,431,878	473,028,116	481,794,929	485,798,953
Cumulative Program Peak Demand Savings - kW	13,848	32,092	51,148	69,057	84,990	98,759	110,475	120,355	128,638	135,542
New Program Energy Savings - kWh	77,119,113	96,600,288	90,948,362	74,088,710	55,090,259	38,351,155	25,233,992	15,596,239	8,766,813	4,004,024
New Program Peak Demand Savings - kW	13,848	18,244	19,056	17,909	15,934	13,769	11,715	9,880	8,283	6,904

Administration Costs	\$3,676,559	\$5,185,982	\$5,839,554	\$5,952,638	\$5,760,050	\$5,414,524	\$5,006,586	\$4,586,341	\$4,179,961	\$3,800,062
Marketing Costs	\$3,347,038	\$3,347,038	\$3,347,038	\$3,347,038	\$3,347,038	\$3,347,038	\$3,347,038	\$3,347,038	\$3,347,038	\$3,347,038
Incentives Costs	\$6,285,022	\$9,725,469	\$11,215,164	\$11,472,919	\$11,033,950	\$10,246,388	\$9,316,570	\$8,358,699	\$7,432,433	\$6,566,523
Total Costs	\$13,308,619	\$18,258,489	\$20,401,757	\$20,772,596	\$20,141,039	\$19,007,951	\$17,670,194	\$16,292,078	\$14,959,432	\$13,713,623

PV Net Avoided Cost Benefits	\$66,942,072	\$82,011,545	\$77,085,012	\$63,635,619	\$48,744,167	\$35,709,709	\$25,574,230	\$18,046,824	\$12,597,317	\$8,666,951
PV Annual Program Marketing and Admin Costs	\$7,023,597	\$8,096,122	\$8,269,952	\$7,943,112	\$7,380,344	\$6,736,788	\$6,094,254	\$5,491,337	\$4,943,289	\$4,453,467
PV Net Measure Costs	\$19,028,949	\$24,465,116	\$25,448,031	\$24,028,887	\$21,553,789	\$18,783,904	\$16,097,374	\$13,655,477	\$11,508,960	\$9,656,607
TRC Ratio	2.57	2.52	2.29	1.99	1.68	1.40	1.15	0.94	0.77	0.61

Other Naturally Occurring - kWh	55,195,701	99,170,640	135,227,839	165,497,909	191,393,418	213,874,676	233,610,691	251,065,885	266,592,755	280,460,261
Other Naturally Occurring - kW	7,110	12,552	16,831	20,280	23,122	25,508	27,544	29,304	30,841	32,194

Cost per First-Year Net kWh	\$0.17	\$0.19	\$0.22	\$0.28	\$0.37	\$0.50	\$0.70	\$1.04	\$1.71	\$3.42
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PV Annual Program Costs	\$13,308,619	\$17,323,638	\$18,366,064	\$17,742,449	\$16,322,209	\$14,615,263	\$12,891,010	\$11,277,072	\$9,824,473	\$8,545,168
PV Lost Revenue	\$102,436,769	\$121,815,566	\$108,965,551	\$84,404,220	\$59,740,697	\$39,649,484	\$24,933,616	\$14,793,869	\$8,060,137	\$3,678,119
RIM	0.58	0.59	0.61	0.62	0.64	0.66	0.68	0.69	0.70	0.71

Electricity
Residential
Existing
ROB
50 Percent

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Cumulative Market Energy Savings - kWh	9,912,324	23,235,246	38,949,808	56,320,410	73,660,821	91,305,571	108,492,473	125,059,960	140,403,661	155,165,855
Cumulative Market Peak Demand Savings - kW	2,476	5,847	9,858	14,319	18,966	23,777	28,614	33,429	38,135	42,789
Cumulative Program Energy Savings - kWh	5,990,832	15,823,313	28,364,471	42,798,662	57,513,602	72,664,297	87,514,596	101,869,450	115,179,972	127,962,755
Cumulative Program Peak Demand Savings - kW	1,766	4,553	8,069	12,102	16,381	20,858	25,393	29,929	34,384	38,797
New Program Energy Savings - kWh	5,990,832	9,832,481	12,541,158	14,434,191	14,714,941	15,150,694	14,850,300	14,354,854	13,310,522	12,782,783
New Program Peak Demand Savings - kW	1,766	2,787	3,516	4,032	4,279	4,477	4,536	4,536	4,455	4,413

Administration Costs	\$1,114,585	\$1,727,234	\$2,175,497	\$2,502,973	\$2,741,856	\$2,915,868	\$3,042,450	\$3,134,403	\$3,201,106	\$3,249,422
Marketing Costs	\$975,655	\$975,655	\$975,655	\$975,655	\$975,655	\$975,655	\$975,655	\$975,655	\$975,655	\$975,655
Incentives Costs	\$843,138	\$1,461,065	\$1,913,188	\$2,243,484	\$2,484,426	\$2,659,936	\$2,787,608	\$2,880,353	\$2,947,631	\$2,996,362
Total Costs	\$2,933,378	\$4,163,954	\$5,064,340	\$5,722,112	\$6,201,937	\$6,551,460	\$6,805,714	\$6,990,412	\$7,124,393	\$7,221,439

PV Net Avoided Cost Benefits	\$6,247,311	\$9,678,911	\$11,816,479	\$13,037,598	\$12,962,504	\$12,829,700	\$12,181,008	\$11,397,277	\$10,358,596	\$9,632,712
PV Annual Program Marketing and Admin Costs	\$2,090,240	\$2,564,499	\$2,836,729	\$2,971,192	\$3,012,655	\$2,992,202	\$2,931,345	\$2,844,905	\$2,743,051	\$2,632,710
PV Net Measure Costs	\$2,375,501	\$3,522,744	\$4,224,941	\$4,621,433	\$4,785,038	\$4,823,633	\$4,754,232	\$4,629,608	\$4,461,182	\$4,284,984
TRC Ratio	1.40	1.59	1.67	1.72	1.66	1.64	1.58	1.52	1.44	1.39

Other Naturally Occurring - kWh	3,921,492	7,411,933	10,585,337	13,521,748	16,147,219	18,641,274	20,977,877	23,190,510	25,223,689	27,203,100
Other Naturally Occurring - kW	710	1,294	1,788	2,217	2,585	2,919	3,221	3,499	3,751	3,992

Cost per First-Year Net kWh	\$0.49	\$0.42	\$0.40	\$0.40	\$0.42	\$0.43	\$0.46	\$0.49	\$0.54	\$0.56
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PV Annual Program Costs	\$2,933,378	\$3,950,756	\$4,559,019	\$4,887,414	\$5,026,022	\$5,037,434	\$4,965,000	\$4,838,632	\$4,678,881	\$4,499,789
PV Lost Revenue	\$8,027,175	\$12,490,311	\$15,112,242	\$16,501,607	\$15,975,527	\$15,612,080	\$14,528,797	\$13,334,359	\$11,747,259	\$10,711,937
RIM	0.57	0.59	0.60	0.61	0.62	0.62	0.62	0.63	0.63	0.63

Electricity
Residential
New Construction
New
50 Percent

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Cumulative Market Energy Savings - kWh	6,698,994	13,136,360	19,587,777	26,106,980	32,708,451	39,394,892	46,164,519	53,013,613	59,937,585	66,931,480
Cumulative Market Peak Demand Savings - kW	1,815	3,558	5,306	7,072	8,860	10,672	12,505	14,361	16,236	18,131
Cumulative Program Energy Savings - kWh	5,274,448	10,841,861	16,550,354	22,350,115	28,216,718	34,135,390	40,095,947	46,090,731	52,113,623	58,159,521
Cumulative Program Peak Demand Savings - kW	1,429	2,937	4,483	6,054	7,644	9,247	10,861	12,485	14,117	15,755
New Program Energy Savings - kWh	5,274,448	5,567,413	5,708,494	5,799,760	5,866,603	5,918,672	5,960,557	5,994,784	6,022,892	6,045,897
New Program Peak Demand Savings - kW	1,429	1,508	1,546	1,571	1,589	1,603	1,615	1,624	1,632	1,638

Administration Costs	\$503,191	\$545,033	\$560,438	\$568,416	\$573,152	\$576,131	\$578,022	\$579,175	\$579,791	\$579,998
Marketing Costs	\$901,906	\$901,906	\$901,906	\$901,906	\$901,906	\$901,906	\$901,906	\$901,906	\$901,906	\$901,906
Incentives Costs	\$680,396	\$755,831	\$783,605	\$797,988	\$806,527	\$811,898	\$815,308	\$817,385	\$818,496	\$818,870
Total Costs	\$2,085,493	\$2,202,770	\$2,245,949	\$2,268,310	\$2,281,585	\$2,289,936	\$2,295,236	\$2,298,466	\$2,300,193	\$2,300,774

PV Net Avoided Cost Benefits	\$5,330,812	\$5,405,604	\$5,331,589	\$5,202,372	\$5,039,469	\$4,852,366	\$4,668,294	\$4,479,694	\$4,296,087	\$4,117,317
PV Annual Program Marketing and Admin Costs	\$1,405,097	\$1,372,854	\$1,316,431	\$1,255,842	\$1,195,380	\$1,136,467	\$1,079,658	\$1,025,176	\$973,091	\$923,397
PV Net Measure Costs	\$1,528,996	\$1,532,101	\$1,490,381	\$1,436,445	\$1,378,359	\$1,319,159	\$1,260,260	\$1,202,405	\$1,146,014	\$1,091,332
TRC Ratio	1.82	1.86	1.90	1.93	1.96	1.98	2.00	2.01	2.03	2.04

Other Naturally Occurring - kWh	1,424,546	2,294,499	3,037,422	3,756,866	4,491,733	5,259,503	6,068,572	6,922,881	7,823,961	8,771,960
Other Naturally Occurring - kW	386	622	823	1,018	1,217	1,425	1,644	1,875	2,119	2,376

Cost per First-Year Net kWh	\$0.40	\$0.40	\$0.39	\$0.39	\$0.39	\$0.39	\$0.39	\$0.38	\$0.38	\$0.38
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PV Annual Program Costs	\$2,085,493	\$2,089,986	\$2,021,848	\$1,937,426	\$1,848,986	\$1,760,738	\$1,674,453	\$1,590,955	\$1,510,631	\$1,433,647
PV Lost Revenue	\$7,058,189	\$7,068,772	\$6,876,799	\$6,629,017	\$6,362,094	\$6,089,924	\$5,819,005	\$5,552,770	\$5,293,166	\$5,041,334
RIM	0.58	0.59	0.60	0.61	0.61	0.62	0.62	0.63	0.63	0.64

Electricity
All Segments
Total
75 Percent

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Cumulative Market Energy Savings - kWh	825,059,126	1,746,728,516	2,487,092,765	3,037,740,686	3,438,383,821	3,734,155,257	3,956,259,541	4,129,447,381	4,269,613,140	4,389,620,024
Cumulative Market Peak Demand Savings - kW	100,667	215,826	314,855	395,113	459,483	511,790	554,889	591,446	623,093	651,291
Cumulative Program Energy Savings - kWh	700,573,361	1,529,075,516	2,194,428,237	2,682,365,235	3,031,613,838	3,284,294,603	3,470,249,223	3,613,408,830	3,727,909,933	3,825,141,955
Cumulative Program Peak Demand Savings - kW	86,928	191,918	282,913	356,572	415,591	463,517	503,026	536,565	565,583	591,409
New Program Energy Savings - kWh	700,573,361	828,502,156	665,352,721	487,936,998	349,248,604	252,680,765	185,954,620	143,159,607	114,501,103	97,232,022
New Program Peak Demand Savings - kW	86,928	104,991	90,995	73,660	59,019	47,926	39,509	33,539	29,018	25,825

Administration Costs	\$19,159,867	\$24,357,806	\$24,493,493	\$23,051,803	\$21,318,806	\$19,784,177	\$18,391,672	\$17,316,465	\$16,468,390	\$15,824,830
Marketing Costs	\$14,339,406	\$14,227,245	\$13,930,401	\$13,668,274	\$13,436,804	\$13,403,881	\$13,371,578	\$13,339,883	\$13,308,786	\$13,278,274
Incentives Costs	\$104,308,975	\$134,700,578	\$118,748,720	\$96,903,425	\$78,499,657	\$64,302,851	\$53,632,201	\$45,855,438	\$40,161,468	\$36,104,855
Total Costs	\$137,808,248	\$173,285,629	\$157,172,614	\$133,623,502	\$113,255,267	\$97,490,908	\$85,395,450	\$76,511,786	\$69,938,644	\$65,207,960

PV Net Avoided Cost Benefits	\$520,241,530	\$595,838,417	\$471,696,513	\$343,038,299	\$244,304,144	\$175,914,119	\$129,263,342	\$98,910,044	\$78,144,839	\$64,761,658
PV Annual Program Marketing and Admin Costs	\$33,499,273	\$36,609,462	\$34,589,948	\$31,363,634	\$28,165,793	\$25,518,384	\$23,172,374	\$21,219,752	\$19,555,893	\$18,134,589
PV Net Measure Costs	\$184,274,956	\$214,735,235	\$177,214,089	\$136,465,018	\$104,482,220	\$80,905,704	\$63,764,001	\$51,659,292	\$42,786,626	\$36,371,122
TRC Ratio	2.39	2.37	2.23	2.04	1.84	1.65	1.49	1.36	1.25	1.19

Other Naturally Occurring - kWh	124,485,766	217,652,999	292,664,528	355,375,451	406,769,982	449,860,654	486,010,317	516,038,551	541,703,208	564,478,069
Other Naturally Occurring - kW	13,739	23,908	31,942	38,541	43,892	48,273	51,863	54,881	57,510	59,882

Cost per First-Year Net kWh	\$0.20	\$0.21	\$0.24	\$0.27	\$0.32	\$0.39	\$0.46	\$0.53	\$0.61	\$0.67
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PV Annual Program Costs	\$137,808,248	\$164,413,250	\$141,489,890	\$114,131,533	\$91,781,568	\$74,961,014	\$62,298,894	\$52,960,029	\$45,931,576	\$40,632,077
PV Lost Revenue	\$643,502,857	\$724,043,355	\$562,070,130	\$398,038,107	\$274,043,957	\$190,305,381	\$134,218,633	\$98,676,364	\$75,102,749	\$60,496,184
RIM	0.67	0.67	0.67	0.67	0.67	0.66	0.66	0.65	0.65	0.64

Electricity
Commercial
Total
75 Percent

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Cumulative Market Energy Savings - kWh	416,854,466	885,593,736	1,280,691,360	1,577,565,807	1,790,160,500	1,939,849,645	2,044,334,082	2,119,128,786	2,174,603,999	2,218,889,170
Cumulative Market Peak Demand Savings - kW	40,621	86,608	125,716	155,669	177,829	194,149	206,259	215,779	223,571	230,365
Cumulative Program Energy Savings - kWh	365,236,519	800,239,668	1,170,470,469	1,446,975,354	1,641,732,785	1,776,288,130	1,869,027,050	1,935,592,479	1,985,036,345	2,024,452,805
Cumulative Program Peak Demand Savings - kW	36,281	79,417	116,418	144,640	165,283	180,366	191,587	200,480	207,786	214,164
New Program Energy Savings - kWh	365,236,519	435,003,149	370,230,801	276,504,885	194,757,431	134,555,345	92,738,919	66,565,429	49,443,866	39,416,460
New Program Peak Demand Savings - kW	36,281	43,135	37,001	28,221	20,643	15,083	11,222	8,892	7,307	6,378

Administration Costs	\$8,534,595	\$10,240,533	\$9,502,475	\$8,128,230	\$6,855,364	\$5,814,025	\$5,057,036	\$4,580,831	\$4,266,340	\$4,080,172
Marketing Costs	\$4,084,804	\$4,273,143	\$4,273,143	\$4,273,143	\$4,273,143	\$4,273,143	\$4,273,143	\$4,273,143	\$4,273,143	\$4,273,143
Incentives Costs	\$47,808,131	\$59,618,049	\$52,502,029	\$40,650,757	\$30,028,794	\$21,910,652	\$16,237,466	\$12,542,221	\$10,161,504	\$8,763,773
Total Costs	\$60,427,531	\$74,131,725	\$66,277,647	\$53,052,129	\$41,157,301	\$31,997,820	\$25,567,645	\$21,396,195	\$18,700,987	\$17,117,088

PV Net Avoided Cost Benefits	\$251,474,277	\$288,502,886	\$237,714,202	\$172,161,637	\$117,811,575	\$79,281,738	\$53,700,557	\$38,181,648	\$28,155,824	\$22,260,944
PV Annual Program Marketing and Admin Costs	\$12,619,399	\$13,770,563	\$12,401,083	\$10,592,356	\$9,018,493	\$7,756,050	\$6,806,684	\$6,128,555	\$5,608,229	\$5,205,078
PV Net Measure Costs	\$83,192,159	\$95,210,120	\$79,597,548	\$59,235,636	\$42,234,164	\$29,852,390	\$21,390,732	\$16,043,869	\$12,479,190	\$10,241,451
TRC Ratio	2.62	2.65	2.58	2.47	2.30	2.11	1.90	1.72	1.56	1.44

Other Naturally Occurring - kWh	51,617,947	85,354,067	110,220,891	130,590,452	148,427,715	163,561,515	175,307,032	183,536,307	189,567,654	194,436,365
Other Naturally Occurring - kW	4,339	7,191	9,298	11,029	12,546	13,784	14,671	15,299	15,785	16,201

Cost per First-Year Net kWh	\$0.17	\$0.17	\$0.18	\$0.19	\$0.21	\$0.24	\$0.28	\$0.32	\$0.38	\$0.43
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PV Annual Program Costs	\$60,427,531	\$70,336,115	\$59,664,446	\$45,313,293	\$33,353,695	\$24,603,207	\$18,652,469	\$14,810,046	\$12,281,705	\$10,665,919
PV Lost Revenue	\$301,181,376	\$340,212,697	\$274,576,836	\$194,443,338	\$129,885,433	\$85,127,809	\$55,688,580	\$37,949,734	\$26,779,766	\$20,275,263
RIM	0.70	0.70	0.71	0.72	0.72	0.72	0.72	0.72	0.72	0.72

Electricity
Residential
Total
75 Percent

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Cumulative Market Energy Savings - kWh	192,386,541	400,608,229	591,027,372	750,707,799	878,405,832	980,397,443	1,062,470,750	1,129,975,937	1,186,346,936	1,235,124,289
Cumulative Market Peak Demand Savings - kW	37,528	80,842	123,987	163,853	199,207	230,145	257,065	280,568	301,181	319,496
Cumulative Program Energy Savings - kWh	131,256,102	290,468,805	440,211,737	565,262,858	663,020,351	738,605,444	797,160,777	843,535,165	880,866,607	912,304,610
Cumulative Program Peak Demand Savings - kW	29,276	66,277	104,392	140,129	172,021	199,978	224,289	245,473	264,006	280,426
New Program Energy Savings - kWh	131,256,102	159,212,703	149,742,932	125,051,121	97,757,492	75,585,093	58,555,333	46,374,388	37,331,442	31,438,002
New Program Peak Demand Savings - kW	29,276	37,001	38,115	35,737	31,892	27,957	24,312	21,184	18,533	16,419
Administration Costs	\$7,623,276	\$10,501,760	\$11,744,717	\$11,998,234	\$11,725,164	\$11,216,983	\$10,638,625	\$10,074,905	\$9,564,501	\$9,121,103
Marketing Costs	\$6,625,292	\$6,625,292	\$6,625,292	\$6,625,292	\$6,625,292	\$6,625,292	\$6,625,292	\$6,625,292	\$6,625,292	\$6,625,292
Incentives Costs	\$24,433,658	\$36,201,137	\$40,530,025	\$40,524,879	\$38,330,651	\$35,253,204	\$32,006,742	\$28,942,484	\$26,208,317	\$23,845,496
Total Costs	\$38,682,226	\$53,328,188	\$58,900,033	\$59,148,405	\$56,681,107	\$53,095,478	\$49,270,659	\$45,642,681	\$42,398,110	\$39,591,891
PV Net Avoided Cost Benefits	\$122,845,037	\$145,441,888	\$136,386,397	\$114,706,124	\$90,980,420	\$71,163,297	\$55,717,069	\$44,207,750	\$35,502,130	\$29,320,853
PV Annual Program Marketing and Admin Costs	\$14,248,568	\$16,250,131	\$16,537,044	\$15,906,869	\$14,871,128	\$13,718,971	\$12,594,616	\$11,559,564	\$10,632,501	\$9,811,819
PV Net Measure Costs	\$46,464,616	\$57,601,894	\$58,449,954	\$54,135,665	\$47,844,610	\$41,335,021	\$35,345,259	\$30,164,541	\$25,804,981	\$22,212,368
TRC Ratio	2.02	1.97	1.82	1.64	1.45	1.29	1.16	1.06	0.97	0.92
Other Naturally Occurring - kWh	61,130,439	110,139,424	150,815,635	185,444,941	215,385,481	241,791,999	265,309,973	286,440,772	305,480,329	322,819,680
Other Naturally Occurring - kW	8,251	14,566	19,595	23,724	27,186	30,167	32,776	35,095	37,175	39,070
Cost per First-Year Net kWh	\$0.29	\$0.33	\$0.39	\$0.47	\$0.58	\$0.70	\$0.84	\$0.98	\$1.14	\$1.26
PV Annual Program Costs	\$38,682,226	\$50,597,737	\$53,022,973	\$50,520,290	\$45,934,119	\$40,825,252	\$35,944,626	\$31,593,011	\$27,844,578	\$24,670,312
PV Lost Revenue	\$174,901,639	\$201,416,369	\$180,014,995	\$142,950,802	\$106,338,021	\$78,258,623	\$57,714,408	\$43,502,594	\$33,326,583	\$26,682,415
RIM	0.58	0.58	0.59	0.59	0.60	0.60	0.59	0.59	0.58	0.57

Electricity
Industrial
Total
75 Percent

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Cumulative Market Energy Savings - kWh	215,818,119	460,526,551	615,374,033	709,467,080	769,817,489	813,908,168	849,454,708	880,342,658	908,662,205	935,606,564
Cumulative Market Peak Demand Savings - kW	22,518	48,375	65,152	75,592	82,448	87,496	91,565	95,099	98,341	101,430
Cumulative Program Energy Savings - kWh	204,080,739	438,367,043	583,746,031	670,127,022	726,860,703	769,401,029	804,061,397	834,281,185	862,006,980	888,384,540
Cumulative Program Peak Demand Savings - kW	21,370	46,224	62,103	71,804	78,288	83,174	87,149	90,612	93,791	96,819
New Program Energy Savings - kWh	204,080,739	234,286,304	145,378,987	86,380,991	56,733,681	42,540,326	34,660,367	30,219,789	27,725,795	26,377,560
New Program Peak Demand Savings - kW	21,370	24,855	15,879	9,701	6,484	4,886	3,976	3,463	3,178	3,028
Administration Costs	\$3,001,996	\$3,615,514	\$3,246,302	\$2,925,339	\$2,738,278	\$2,753,168	\$2,696,010	\$2,660,730	\$2,637,549	\$2,623,556
Marketing Costs	\$3,629,310	\$3,328,810	\$3,031,966	\$2,769,839	\$2,538,369	\$2,505,446	\$2,473,143	\$2,441,449	\$2,410,351	\$2,379,840
Incentives Costs	\$32,067,186	\$38,881,392	\$25,716,665	\$15,727,790	\$10,140,212	\$7,138,995	\$5,387,992	\$4,370,732	\$3,791,647	\$3,495,586
Total Costs	\$38,698,492	\$45,825,716	\$31,994,934	\$21,422,968	\$15,416,859	\$12,397,610	\$10,557,146	\$9,472,911	\$8,839,547	\$8,498,981
PV Net Avoided Cost Benefits	\$145,922,216	\$161,893,643	\$97,595,914	\$56,170,538	\$35,512,150	\$25,469,083	\$19,845,716	\$16,520,646	\$14,486,886	\$13,179,862
PV Annual Program Marketing and Admin Costs	\$6,631,306	\$6,588,769	\$5,651,821	\$4,864,410	\$4,276,172	\$4,043,363	\$3,771,074	\$3,531,633	\$3,315,163	\$3,117,692
PV Net Measure Costs	\$54,618,180	\$61,923,222	\$39,166,587	\$23,093,718	\$14,403,446	\$9,718,293	\$7,028,010	\$5,450,882	\$4,502,455	\$3,917,303
TRC Ratio	2.38	2.36	2.18	2.01	1.90	1.85	1.84	1.84	1.85	1.87
Other Naturally Occurring - kWh	11,737,380	22,159,508	31,628,003	39,340,058	42,956,787	44,507,139	45,393,311	46,061,473	46,655,225	47,222,024
Other Naturally Occurring - kW	1,149	2,151	3,049	3,788	4,160	4,322	4,416	4,487	4,550	4,611
Cost per First-Year Net kWh	\$0.19	\$0.20	\$0.22	\$0.25	\$0.27	\$0.29	\$0.30	\$0.31	\$0.32	\$0.32
PV Annual Program Costs	\$38,698,492	\$43,479,398	\$28,802,471	\$18,297,950	\$12,493,755	\$9,532,554	\$7,701,798	\$6,556,972	\$5,805,293	\$5,295,845
PV Lost Revenue	\$167,419,842	\$182,414,289	\$107,478,299	\$60,643,967	\$37,820,503	\$26,918,948	\$20,815,644	\$17,224,036	\$14,996,401	\$13,538,505
RIM	0.71	0.72	0.72	0.71	0.71	0.70	0.70	0.69	0.70	0.70

Electricity
Commercial
Existing
RET
75 Percent

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Cumulative Market Energy Savings - kWh	381,224,130	809,730,307	1,163,417,246	1,418,417,852	1,590,502,433	1,701,571,151	1,770,150,220	1,809,881,544	1,831,817,223	1,843,139,644
Cumulative Market Peak Demand Savings - kW	34,535	73,646	105,671	128,476	143,668	153,309	159,137	162,515	164,382	165,338
Cumulative Program Energy Savings - kWh	334,617,381	732,310,370	1,062,971,330	1,298,954,354	1,454,273,096	1,551,164,873	1,608,877,374	1,641,232,558	1,657,954,313	1,665,220,240
Cumulative Program Peak Demand Savings - kW	30,944	67,639	97,833	119,110	132,945	141,493	146,566	149,445	150,949	151,613
New Program Energy Savings - kWh	334,617,381	397,692,988	330,660,960	235,983,024	155,318,742	96,891,777	57,712,501	32,355,184	16,721,755	7,265,926
New Program Peak Demand Savings - kW	30,944	36,695	30,194	21,276	13,836	8,548	5,072	2,879	1,504	663
Administration Costs	\$6,844,836	\$8,145,859	\$7,232,003	\$5,774,471	\$4,484,861	\$3,526,329	\$2,867,213	\$2,429,585	\$2,149,325	\$1,983,727
Marketing Costs	\$3,038,856	\$3,182,379	\$3,182,379	\$3,182,379	\$3,182,379	\$3,182,379	\$3,182,379	\$3,182,379	\$3,182,379	\$3,182,379
Incentives Costs	\$42,560,987	\$53,347,281	\$45,770,845	\$33,686,986	\$22,995,311	\$15,048,482	\$9,583,998	\$5,955,789	\$3,632,260	\$2,259,342
Total Costs	\$52,444,679	\$64,675,518	\$56,185,227	\$42,643,835	\$30,662,551	\$21,757,189	\$15,633,590	\$11,567,752	\$8,963,964	\$7,425,447
PV Net Avoided Cost Benefits	\$225,130,679	\$257,728,576	\$206,304,168	\$141,257,053	\$88,897,681	\$52,873,862	\$30,132,097	\$16,201,823	\$8,011,793	\$3,336,168
PV Annual Program Marketing and Admin Costs	\$9,883,692	\$10,748,221	\$9,375,232	\$7,650,293	\$6,213,497	\$5,158,343	\$4,413,383	\$3,884,496	\$3,501,549	\$3,219,079
PV Net Measure Costs	\$72,894,648	\$83,566,758	\$67,819,231	\$47,715,133	\$31,366,165	\$19,924,830	\$12,436,464	\$7,677,544	\$4,724,809	\$2,941,458
TRC Ratio	2.72	2.73	2.67	2.55	2.37	2.11	1.79	1.40	0.97	0.54
Other Naturally Occurring - kWh	46,606,749	77,419,937	100,445,916	119,463,499	136,229,337	150,406,278	161,272,846	168,648,986	173,862,910	177,919,405
Other Naturally Occurring - kW	3,591	6,006	7,838	9,367	10,722	11,816	12,571	13,070	13,432	13,725
Cost per First-Year Net kWh	\$0.16	\$0.16	\$0.17	\$0.18	\$0.20	\$0.22	\$0.27	\$0.36	\$0.54	\$1.02
PV Annual Program Costs	\$52,444,679	\$61,364,074	\$50,579,050	\$36,423,280	\$24,848,796	\$16,729,160	\$11,405,237	\$8,006,982	\$5,887,003	\$4,626,910
PV Lost Revenue	\$275,914,657	\$311,024,589	\$245,210,239	\$165,919,563	\$103,535,066	\$61,234,079	\$34,585,368	\$18,390,392	\$9,018,313	\$3,714,969
RIM	0.69	0.69	0.70	0.70	0.69	0.68	0.66	0.61	0.54	0.40

Electricity
Commercial
Existing
ROB
75 Percent

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Cumulative Market Energy Savings - kWh	30,483,132	65,692,047	102,065,487	138,859,970	174,238,590	207,671,043	238,329,793	268,086,742	296,259,356	323,794,289
Cumulative Market Peak Demand Savings - kW	5,140	11,093	17,250	23,466	29,492	35,219	40,538	45,707	50,649	55,491
Cumulative Program Energy Savings - kWh	25,675,724	58,072,574	92,688,052	128,201,690	162,574,764	195,114,228	224,957,747	253,926,286	281,347,981	308,139,525
Cumulative Program Peak Demand Savings - kW	4,428	9,965	15,862	21,888	27,765	33,360	38,558	43,609	48,439	53,170
New Program Energy Savings - kWh	25,675,724	32,396,851	34,615,478	35,513,637	34,373,075	32,539,464	29,843,519	28,968,539	27,421,695	26,791,543
New Program Peak Demand Savings - kW	4,428	5,537	5,897	6,026	5,877	5,595	5,198	5,051	4,830	4,731

Administration Costs	\$1,624,790	\$2,028,585	\$2,203,542	\$2,286,112	\$2,302,203	\$2,218,784	\$2,120,324	\$2,081,179	\$2,046,393	\$2,025,279
Marketing Costs	\$948,905	\$993,721	\$993,721	\$993,721	\$993,721	\$993,721	\$993,721	\$993,721	\$993,721	\$993,721
Incentives Costs	\$2,928,327	\$3,898,664	\$4,319,093	\$4,517,511	\$4,556,180	\$4,355,721	\$4,119,117	\$4,025,049	\$3,941,458	\$3,890,719
Total Costs	\$5,502,023	\$6,920,970	\$7,516,356	\$7,797,344	\$7,852,105	\$7,568,226	\$7,233,163	\$7,099,949	\$6,981,573	\$6,909,719

PV Net Avoided Cost Benefits	\$22,022,081	\$26,642,941	\$27,396,685	\$27,002,741	\$25,130,844	\$22,753,643	\$20,035,074	\$18,569,099	\$16,850,280	\$15,743,650
PV Annual Program Marketing and Admin Costs	\$2,573,695	\$2,867,561	\$2,878,240	\$2,801,396	\$2,671,003	\$2,470,104	\$2,271,803	\$2,128,388	\$1,996,568	\$1,881,185
PV Net Measure Costs	\$6,999,439	\$8,537,372	\$8,809,732	\$8,675,880	\$8,140,437	\$7,311,926	\$6,446,083	\$5,961,425	\$5,448,799	\$5,089,914
TRC Ratio	2.30	2.34	2.34	2.35	2.32	2.33	2.30	2.30	2.26	2.26

Other Naturally Occurring - kWh	4,807,408	7,619,473	9,377,435	10,658,280	11,663,826	12,556,815	13,372,046	14,160,456	14,911,374	15,654,765
Other Naturally Occurring - kW	711	1,128	1,388	1,578	1,727	1,860	1,981	2,098	2,210	2,320

Cost per First-Year Net kWh	\$0.21	\$0.21	\$0.22	\$0.22	\$0.23	\$0.23	\$0.24	\$0.25	\$0.25	\$0.26
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PV Annual Program Costs	\$5,502,023	\$6,566,610	\$6,766,372	\$6,659,928	\$6,363,311	\$5,819,229	\$5,276,839	\$4,914,452	\$4,585,085	\$4,305,552
PV Lost Revenue	\$21,171,783	\$25,326,493	\$25,672,083	\$24,980,314	\$22,949,805	\$20,630,023	\$17,971,077	\$16,553,855	\$14,877,908	\$13,794,154
RIM	0.83	0.84	0.84	0.85	0.86	0.86	0.86	0.86	0.87	0.87

Electricity
Commercial
New Construction
New
75 Percent

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Cumulative Market Energy Savings - kWh	5,147,204	10,171,381	15,208,627	20,287,984	25,419,477	30,607,452	35,854,069	41,160,500	46,527,420	51,955,236
Cumulative Market Peak Demand Savings - kW	946	1,869	2,794	3,727	4,669	5,621	6,584	7,557	8,541	9,536
Cumulative Program Energy Savings - kWh	4,943,414	9,856,725	14,811,087	19,819,311	24,884,924	30,009,029	35,191,929	40,433,635	45,734,050	51,093,041
Cumulative Program Peak Demand Savings - kW	909	1,812	2,722	3,642	4,572	5,513	6,464	7,426	8,398	9,381
New Program Energy Savings - kWh	4,943,414	4,913,311	4,954,363	5,008,223	5,065,614	5,124,105	5,182,899	5,241,706	5,300,416	5,358,990
New Program Peak Demand Savings - kW	909	903	910	920	930	941	951	962	972	983

Administration Costs	\$64,970	\$66,089	\$66,930	\$67,648	\$68,300	\$68,912	\$69,499	\$70,067	\$70,622	\$71,166
Marketing Costs	\$97,043	\$97,043	\$97,043	\$97,043	\$97,043	\$97,043	\$97,043	\$97,043	\$97,043	\$97,043
Incentives Costs	\$2,318,817	\$2,372,105	\$2,412,092	\$2,446,260	\$2,477,302	\$2,506,449	\$2,534,350	\$2,561,383	\$2,587,785	\$2,613,712
Total Costs	\$2,480,829	\$2,535,237	\$2,576,064	\$2,610,950	\$2,642,645	\$2,672,404	\$2,700,892	\$2,728,493	\$2,755,450	\$2,781,922

PV Net Avoided Cost Benefits	\$4,321,517	\$4,131,369	\$4,013,349	\$3,901,843	\$3,783,050	\$3,654,233	\$3,533,386	\$3,410,726	\$3,293,751	\$3,181,126
PV Annual Program Marketing and Admin Costs	\$162,013	\$154,780	\$147,611	\$140,667	\$133,993	\$127,604	\$121,498	\$115,670	\$110,112	\$104,814
PV Net Measure Costs	\$3,298,072	\$3,105,990	\$2,968,585	\$2,844,623	\$2,727,562	\$2,615,634	\$2,508,185	\$2,404,900	\$2,305,582	\$2,210,078
TRC Ratio	1.25	1.27	1.29	1.31	1.32	1.33	1.34	1.35	1.36	1.37

Other Naturally Occurring - kWh	203,790	314,657	397,540	468,673	534,552	598,423	662,140	726,865	793,370	862,196
Other Naturally Occurring - kW	37	57	72	85	97	108	120	131	143	155

Cost per First-Year Net kWh	\$0.50	\$0.52	\$0.52	\$0.52	\$0.52	\$0.52	\$0.52	\$0.52	\$0.52	\$0.52
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PV Annual Program Costs	\$2,480,829	\$2,405,430	\$2,319,024	\$2,230,085	\$2,141,588	\$2,054,819	\$1,970,393	\$1,888,612	\$1,809,617	\$1,733,458
PV Lost Revenue	\$4,094,936	\$3,861,616	\$3,694,513	\$3,543,461	\$3,400,562	\$3,263,707	\$3,132,135	\$3,005,487	\$2,883,544	\$2,766,140
RIM	0.66	0.66	0.67	0.68	0.68	0.69	0.69	0.70	0.70	0.71

Electricity
Industrial
Existing
RET
75 Percent

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Cumulative Market Energy Savings - kWh	197,747,759	419,359,932	549,940,374	619,286,341	654,595,315	673,519,966	683,832,623	689,444,111	692,483,520	694,138,324
Cumulative Market Peak Demand Savings - kW	20,467	43,706	57,717	65,326	69,312	71,472	72,643	73,273	73,610	73,792
Cumulative Program Energy Savings - kWh	187,700,123	400,122,614	522,192,629	584,619,982	617,006,891	635,016,588	645,042,911	650,564,740	653,576,059	655,222,058
Cumulative Program Peak Demand Savings - kW	19,508	41,882	55,101	62,058	65,747	67,814	68,956	69,577	69,910	70,091
New Program Energy Savings - kWh	187,700,123	212,422,492	122,070,015	62,427,353	32,386,909	18,009,697	10,026,323	5,521,830	3,011,319	1,645,999
New Program Peak Demand Savings - kW	19,508	22,374	13,219	6,957	3,689	2,067	1,142	621	333	181

Administration Costs	\$1,358,950	\$1,524,857	\$1,034,413	\$660,205	\$440,695	\$439,938	\$373,984	\$333,323	\$307,871	\$292,195
Marketing Costs	\$2,874,276	\$2,538,117	\$2,241,273	\$1,979,146	\$1,747,676	\$1,714,753	\$1,682,450	\$1,650,755	\$1,619,658	\$1,589,146
Incentives Costs	\$29,935,613	\$35,975,553	\$22,601,124	\$12,520,144	\$6,876,438	\$3,848,154	\$2,081,937	\$1,055,369	\$472,356	\$173,384
Total Costs	\$34,168,840	\$40,038,527	\$25,876,810	\$15,159,495	\$9,064,809	\$6,002,844	\$4,138,371	\$3,039,447	\$2,399,884	\$2,054,725

PV Net Avoided Cost Benefits	\$134,046,226	\$146,623,971	\$81,848,355	\$40,566,408	\$20,282,592	\$10,795,664	\$5,739,535	\$3,008,011	\$1,560,923	\$814,049
PV Annual Program Marketing and Admin Costs	\$4,233,226	\$3,854,946	\$2,948,837	\$2,254,343	\$1,773,446	\$1,656,747	\$1,500,239	\$1,373,342	\$1,265,887	\$1,172,292
PV Net Measure Costs	\$50,790,425	\$57,151,733	\$34,378,910	\$18,451,151	\$9,940,532	\$5,459,493	\$2,974,528	\$1,597,482	\$844,240	\$444,530
TRC Ratio	2.44	2.40	2.19	1.96	1.73	1.52	1.28	1.01	0.74	0.50

Other Naturally Occurring - kWh	10,047,636	19,237,317	27,747,745	34,666,359	37,588,424	38,503,378	38,789,712	38,879,370	38,907,460	38,916,266
Other Naturally Occurring - kW	959	1,824	2,617	3,269	3,565	3,658	3,688	3,697	3,700	3,701

Cost per First-Year Net kWh	\$0.18	\$0.19	\$0.21	\$0.24	\$0.28	\$0.33	\$0.41	\$0.55	\$0.80	\$1.25
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PV Annual Program Costs	\$34,168,840	\$37,988,519	\$23,294,815	\$12,948,144	\$7,346,081	\$4,615,603	\$3,019,083	\$2,103,849	\$1,576,102	\$1,280,330
PV Lost Revenue	\$153,923,866	\$165,320,385	\$90,187,121	\$43,785,829	\$21,563,853	\$11,378,602	\$6,009,054	\$3,139,247	\$1,623,906	\$841,973
RIM	0.71	0.72	0.72	0.72	0.70	0.67	0.64	0.57	0.49	0.38

Electricity
Industrial
Existing
ROB
75 Percent

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Cumulative Market Energy Savings - kWh	18,070,360	41,166,619	65,433,659	90,180,739	115,222,175	140,388,202	165,622,085	190,898,548	216,178,686	241,468,239
Cumulative Market Peak Demand Savings - kW	2,051	4,669	7,435	10,265	13,135	16,023	18,921	21,826	24,731	27,639
Cumulative Program Energy Savings - kWh	16,380,616	38,244,429	61,553,401	85,507,040	109,853,812	134,384,441	159,018,486	183,716,445	208,430,921	233,162,481
Cumulative Program Peak Demand Savings - kW	1,862	4,342	7,002	9,746	12,541	15,360	18,194	21,036	23,881	26,728
New Program Energy Savings - kWh	16,380,616	21,863,812	23,308,972	23,953,639	24,346,772	24,530,629	24,634,045	24,697,959	24,714,476	24,731,561
New Program Peak Demand Savings - kW	1,862	2,481	2,660	2,744	2,795	2,819	2,833	2,842	2,845	2,847

Administration Costs	\$1,643,046	\$2,090,657	\$2,211,888	\$2,265,135	\$2,297,583	\$2,313,231	\$2,322,026	\$2,327,407	\$2,329,678	\$2,331,361
Marketing Costs	\$755,034	\$790,693	\$790,693	\$790,693	\$790,693	\$790,693	\$790,693	\$790,693	\$790,693	\$790,693
Incentives Costs	\$2,131,573	\$2,905,838	\$3,115,542	\$3,207,645	\$3,263,774	\$3,290,841	\$3,306,055	\$3,315,363	\$3,319,291	\$3,322,202
Total Costs	\$4,529,652	\$5,787,189	\$6,118,123	\$6,263,473	\$6,352,050	\$6,394,765	\$6,418,775	\$6,433,464	\$6,439,662	\$6,444,257

PV Net Avoided Cost Benefits	\$11,875,990	\$15,269,672	\$15,747,559	\$15,604,131	\$15,229,557	\$14,673,419	\$14,106,181	\$13,512,635	\$12,925,963	\$12,365,813
PV Annual Program Marketing and Admin Costs	\$2,398,080	\$2,733,823	\$2,702,983	\$2,610,067	\$2,502,726	\$2,386,615	\$2,270,835	\$2,158,291	\$2,049,276	\$1,945,400
PV Net Measure Costs	\$3,827,756	\$4,771,489	\$4,787,677	\$4,642,567	\$4,462,913	\$4,258,799	\$4,053,482	\$3,853,399	\$3,658,215	\$3,472,774
TRC Ratio	1.91	2.03	2.10	2.15	2.19	2.21	2.23	2.25	2.26	2.28

Other Naturally Occurring - kWh	1,689,744	2,922,190	3,880,258	4,673,699	5,368,363	6,003,761	6,603,600	7,182,103	7,747,765	8,305,758
Other Naturally Occurring - kW	190	327	433	519	595	663	728	790	851	910

Cost per First-Year Net kWh	\$0.28	\$0.26	\$0.26	\$0.26	\$0.26	\$0.26	\$0.26	\$0.26	\$0.26	\$0.26
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PV Annual Program Costs	\$4,529,652	\$5,490,879	\$5,507,656	\$5,349,806	\$5,147,673	\$4,916,952	\$4,682,715	\$4,453,124	\$4,229,190	\$4,015,515
PV Lost Revenue	\$13,495,976	\$17,093,904	\$17,291,178	\$16,858,138	\$16,256,650	\$15,540,346	\$14,806,590	\$14,084,789	\$13,372,495	\$12,696,532
RIM	0.66	0.68	0.69	0.70	0.71	0.72	0.72	0.73	0.73	0.74

Electricity
Residential
Existing
LIRET
75 Percent

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Cumulative Market Energy Savings - kWh	4,544,167	10,521,160	16,754,643	22,706,551	28,163,957	33,066,504	37,421,111	41,262,035	44,632,771	47,578,560
Cumulative Market Peak Demand Savings - kW	909	2,152	3,467	4,732	5,898	6,951	7,890	8,721	9,453	10,096
Cumulative Program Energy Savings - kWh	4,090,279	9,556,575	15,265,559	20,699,777	25,655,807	30,077,360	33,972,801	37,376,573	40,331,774	42,891,551
Cumulative Program Peak Demand Savings - kW	880	2,090	3,370	4,602	5,736	6,757	7,666	8,468	9,173	9,790
New Program Energy Savings - kWh	4,090,279	5,466,295	5,708,984	5,434,219	4,956,030	4,421,553	3,895,441	3,403,773	2,955,201	2,559,777
New Program Peak Demand Savings - kW	880	1,210	1,281	1,232	1,134	1,021	909	802	705	617

Administration Costs	\$388,098	\$513,752	\$551,143	\$546,380	\$523,340	\$493,533	\$462,257	\$431,840	\$403,224	\$376,742
Marketing Costs	\$529,346	\$529,346	\$529,346	\$529,346	\$529,346	\$529,346	\$529,346	\$529,346	\$529,346	\$529,346
Incentives Costs	\$4,351,522	\$6,230,043	\$6,789,032	\$6,717,827	\$6,373,381	\$5,927,767	\$5,460,201	\$5,005,466	\$4,577,655	\$4,181,755
Total Costs	\$5,268,965	\$7,273,141	\$7,869,521	\$7,793,552	\$7,426,066	\$6,950,645	\$6,451,803	\$5,966,651	\$5,510,225	\$5,087,842

PV Net Avoided Cost Benefits	\$3,707,313	\$4,812,499	\$4,862,474	\$4,464,014	\$3,913,418	\$3,344,894	\$2,826,673	\$2,366,525	\$1,970,468	\$1,636,779
PV Annual Program Marketing and Admin Costs	\$917,443	\$989,690	\$972,677	\$918,807	\$853,092	\$786,494	\$723,408	\$665,315	\$612,456	\$564,597
PV Net Measure Costs	\$5,248,647	\$7,081,720	\$7,303,599	\$6,846,691	\$6,156,414	\$5,428,259	\$4,740,958	\$4,121,500	\$3,574,944	\$3,097,904
TRC Ratio	0.60	0.60	0.59	0.57	0.56	0.54	0.52	0.49	0.47	0.45

Other Naturally Occurring - kWh	453,888	964,586	1,489,084	2,006,773	2,508,150	2,989,144	3,448,311	3,885,462	4,300,996	4,687,010
Other Naturally Occurring - kW	29	62	96	130	163	194	224	253	280	306

Cost per First-Year Net kWh	\$1.29	\$1.33	\$1.38	\$1.43	\$1.50	\$1.57	\$1.66	\$1.75	\$1.86	\$1.99
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PV Annual Program Costs	\$5,268,965	\$6,900,750	\$7,084,298	\$6,656,689	\$6,018,051	\$5,344,369	\$4,706,811	\$4,130,005	\$3,618,790	\$3,170,312
PV Lost Revenue	\$5,438,304	\$6,898,258	\$6,837,006	\$6,175,741	\$5,344,761	\$4,524,957	\$3,783,094	\$3,136,966	\$2,584,669	\$2,124,662
RIM	0.35	0.35	0.35	0.35	0.34	0.34	0.33	0.33	0.32	0.31

Electricity
Residential
Existing
LIROB
75 Percent

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Cumulative Market Energy Savings - kWh	455,227	1,122,883	1,911,070	2,765,028	3,639,352	4,523,351	5,398,356	6,258,860	7,095,619	7,916,240
Cumulative Market Peak Demand Savings - kW	114	287	495	722	956	1,195	1,433	1,668	1,900	2,129
Cumulative Program Energy Savings - kWh	320,415	825,116	1,435,118	2,103,383	2,794,392	3,495,948	4,193,834	4,882,825	5,556,691	6,218,891
Cumulative Program Peak Demand Savings - kW	98	252	439	643	856	1,073	1,290	1,505	1,718	1,927
New Program Energy Savings - kWh	320,415	504,701	610,002	668,265	691,008	701,557	697,886	688,991	673,867	662,199
New Program Peak Demand Savings - kW	98	154	187	204	213	217	217	215	212	210

Administration Costs	\$268,055	\$387,511	\$458,034	\$499,212	\$522,796	\$535,837	\$542,563	\$545,512	\$546,206	\$545,558
Marketing Costs	\$348,887	\$348,887	\$348,887	\$348,887	\$348,887	\$348,887	\$348,887	\$348,887	\$348,887	\$348,887
Incentives Costs	\$589,775	\$940,212	\$1,147,098	\$1,267,897	\$1,337,083	\$1,375,339	\$1,395,072	\$1,403,724	\$1,405,760	\$1,403,859
Total Costs	\$1,206,717	\$1,676,610	\$1,954,019	\$2,115,995	\$2,208,766	\$2,260,063	\$2,286,522	\$2,298,123	\$2,300,853	\$2,298,305

PV Net Avoided Cost Benefits	\$341,340	\$516,704	\$600,633	\$631,759	\$627,493	\$608,622	\$579,732	\$547,285	\$512,873	\$481,889
PV Annual Program Marketing and Admin Costs	\$616,942	\$698,694	\$726,406	\$724,385	\$706,408	\$680,266	\$650,343	\$619,086	\$587,844	\$557,343
PV Net Measure Costs	\$671,229	\$1,013,501	\$1,172,553	\$1,229,363	\$1,229,753	\$1,200,024	\$1,154,662	\$1,102,145	\$1,047,031	\$991,984
TRC Ratio	0.26	0.30	0.32	0.32	0.32	0.32	0.32	0.32	0.31	0.31

Other Naturally Occurring - kWh	134,812	297,767	475,952	661,645	844,961	1,027,403	1,204,522	1,376,035	1,538,927	1,697,350
Other Naturally Occurring - kW	16	35	56	79	100	122	143	163	183	202

Cost per First-Year Net kWh	\$3.77	\$3.32	\$3.20	\$3.17	\$3.20	\$3.22	\$3.28	\$3.34	\$3.41	\$3.47
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PV Annual Program Costs	\$1,206,717	\$1,590,766	\$1,759,046	\$1,807,330	\$1,789,974	\$1,737,768	\$1,668,096	\$1,590,718	\$1,511,065	\$1,432,109
PV Lost Revenue	\$429,437	\$641,815	\$736,019	\$765,041	\$750,695	\$723,174	\$682,637	\$639,499	\$593,551	\$553,456
RIM	0.21	0.23	0.24	0.25	0.25	0.25	0.25	0.25	0.24	0.24

Electricity
Residential
Existing
RET
75 Percent

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Cumulative Market Energy Savings - kWh	165,638,024	340,984,223	494,712,645	615,403,007	704,073,903	766,804,805	810,322,734	840,194,205	860,515,019	874,109,826
Cumulative Market Peak Demand Savings - kW	30,185	64,318	97,063	125,743	149,549	168,677	183,726	195,377	204,269	210,942
Cumulative Program Energy Savings - kWh	110,442,323	241,813,583	359,484,806	449,905,099	512,680,485	552,930,129	576,712,042	589,128,321	593,922,265	593,649,565
Cumulative Program Peak Demand Savings - kW	23,075	51,766	80,232	105,462	126,428	143,170	156,181	166,073	173,428	178,748
New Program Energy Savings - kWh	110,442,323	131,371,260	117,671,223	90,420,292	62,775,386	40,249,644	23,781,913	12,416,278	4,793,944	-272,700
New Program Peak Demand Savings - kW	23,075	28,691	28,466	25,231	20,965	16,742	13,012	9,892	7,354	5,320

Administration Costs	\$4,827,902	\$6,600,423	\$7,122,346	\$6,892,833	\$6,291,933	\$5,559,908	\$4,828,720	\$4,161,305	\$3,581,487	\$3,092,669
Marketing Costs	\$3,681,742	\$3,681,742	\$3,681,742	\$3,681,742	\$3,681,742	\$3,681,742	\$3,681,742	\$3,681,742	\$3,681,742	\$3,681,742
Incentives Costs	\$15,735,669	\$23,438,616	\$25,706,768	\$24,709,359	\$22,097,994	\$18,916,789	\$15,739,224	\$12,838,801	\$10,319,050	\$8,194,769
Total Costs	\$24,245,313	\$33,720,781	\$36,510,857	\$35,283,934	\$32,071,669	\$28,158,439	\$24,249,686	\$20,681,848	\$17,582,279	\$14,969,181

PV Net Avoided Cost Benefits	\$101,021,597	\$117,400,958	\$105,219,778	\$82,275,565	\$59,186,717	\$40,287,809	\$26,387,907	\$16,598,838	\$9,862,558	\$5,258,625
PV Annual Program Marketing and Admin Costs	\$8,509,644	\$9,755,709	\$9,726,054	\$9,032,037	\$8,082,622	\$7,105,929	\$6,208,672	\$5,428,811	\$4,770,060	\$4,221,239
PV Net Measure Costs	\$33,865,739	\$40,921,858	\$40,264,171	\$35,749,694	\$29,931,795	\$24,185,271	\$19,109,012	\$14,878,372	\$11,469,398	\$8,779,450
TRC Ratio	2.38	2.32	2.10	1.84	1.56	1.29	1.04	0.82	0.61	0.40

Other Naturally Occurring - kWh	55,195,701	99,170,640	135,227,839	165,497,909	191,393,418	213,874,676	233,610,691	251,065,885	266,592,755	280,460,261
Other Naturally Occurring - kW	7,110	12,552	16,831	20,280	23,122	25,508	27,544	29,304	30,841	32,194

Cost per First-Year Net kWh	\$0.22	\$0.26	\$0.31	\$0.39	\$0.51	\$0.70	\$1.02	\$1.67	\$3.67	-\$54.89
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PV Annual Program Costs	\$24,245,313	\$31,994,247	\$32,867,794	\$30,136,985	\$25,990,739	\$21,651,097	\$17,690,973	\$14,315,589	\$11,547,004	\$9,327,525
PV Lost Revenue	\$147,015,164	\$166,024,305	\$141,325,399	\$103,304,273	\$68,313,042	\$41,801,257	\$23,655,071	\$11,927,723	\$4,598,005	\$104,445
RIM	0.59	0.59	0.60	0.62	0.63	0.63	0.64	0.63	0.61	0.56

Electricity
Residential
Existing
ROB
75 Percent

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Cumulative Market Energy Savings - kWh	12,184,696	28,884,892	48,764,172	70,854,883	93,150,676	115,928,657	138,275,351	159,960,806	180,304,383	199,984,480
Cumulative Market Peak Demand Savings - kW	3,729	8,913	15,137	22,098	29,427	37,048	44,770	52,507	60,149	67,741
Cumulative Program Energy Savings - kWh	8,263,204	21,472,959	38,178,834	57,333,135	77,003,457	97,287,383	117,297,475	136,770,296	155,080,694	172,781,379
Cumulative Program Peak Demand Savings - kW	3,019	7,619	13,349	19,880	26,843	34,130	41,549	49,008	56,398	63,749
New Program Energy Savings - kWh	8,263,204	13,209,755	16,705,875	19,154,300	19,670,322	20,283,926	20,010,092	19,472,821	18,310,398	17,700,685
New Program Peak Demand Savings - kW	3,019	4,600	5,730	6,531	6,962	7,287	7,419	7,459	7,390	7,350
Administration Costs	\$1,438,511	\$2,228,198	\$2,805,241	\$3,226,218	\$3,532,847	\$3,755,828	\$3,917,707	\$4,035,013	\$4,119,845	\$4,181,049
Marketing Costs	\$1,073,220	\$1,073,220	\$1,073,220	\$1,073,220	\$1,073,220	\$1,073,220	\$1,073,220	\$1,073,220	\$1,073,220	\$1,073,220
Incentives Costs	\$2,224,286	\$3,852,348	\$5,042,012	\$5,909,920	\$6,542,085	\$7,001,794	\$7,335,532	\$7,577,376	\$7,752,272	\$7,878,453
Total Costs	\$4,736,017	\$7,153,766	\$8,920,473	\$10,209,359	\$11,148,152	\$11,830,843	\$12,326,459	\$12,685,609	\$12,945,338	\$13,132,722
PV Net Avoided Cost Benefits	\$9,547,922	\$14,302,745	\$17,253,985	\$18,926,289	\$18,950,682	\$18,782,259	\$17,957,637	\$16,929,130	\$15,596,728	\$14,596,794
PV Annual Program Marketing and Admin Costs	\$2,511,732	\$3,132,383	\$3,491,468	\$3,672,269	\$3,732,737	\$3,713,068	\$3,641,051	\$3,535,823	\$3,410,499	\$3,274,015
PV Net Measure Costs	\$4,316,515	\$6,197,945	\$7,343,883	\$7,984,301	\$8,251,927	\$8,304,586	\$8,186,309	\$7,974,002	\$7,693,032	\$7,391,712
TRC Ratio	1.40	1.53	1.59	1.62	1.58	1.56	1.52	1.47	1.40	1.37
Other Naturally Occurring - kWh	3,921,492	7,411,933	10,585,337	13,521,748	16,147,219	18,641,274	20,977,877	23,190,510	25,223,689	27,203,100
Other Naturally Occurring - kW	710	1,294	1,788	2,217	2,585	2,919	3,221	3,499	3,751	3,992
Cost per First-Year Net kWh	\$0.57	\$0.54	\$0.53	\$0.53	\$0.57	\$0.58	\$0.62	\$0.65	\$0.71	\$0.74
PV Annual Program Costs	\$4,736,017	\$6,787,487	\$8,030,386	\$8,720,096	\$9,034,413	\$9,096,766	\$8,992,572	\$8,780,741	\$8,501,735	\$8,183,200
PV Lost Revenue	\$11,126,065	\$16,855,778	\$20,218,187	\$21,991,390	\$21,448,498	\$20,993,551	\$19,665,123	\$18,172,154	\$16,236,370	\$14,904,311
RIM	0.60	0.60	0.61	0.62	0.62	0.62	0.63	0.63	0.63	0.63

Electricity
Residential
New Construction
New
75 Percent

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Cumulative Market Energy Savings - kWh	9,564,427	19,095,071	28,884,842	38,978,330	49,377,943	60,074,126	71,053,198	82,300,031	93,799,144	105,535,183
Cumulative Market Peak Demand Savings - kW	2,591	5,173	7,825	10,559	13,376	16,273	19,247	22,294	25,409	28,588
Cumulative Program Energy Savings - kWh	8,139,881	16,800,572	25,847,420	35,221,464	44,886,210	54,814,623	64,984,625	75,377,150	85,975,183	96,763,224
Cumulative Program Peak Demand Savings - kW	2,205	4,551	7,002	9,541	12,159	14,849	17,604	20,419	23,290	26,212
New Program Energy Savings - kWh	8,139,881	8,660,692	9,046,847	9,374,045	9,664,746	9,928,413	10,170,002	10,392,525	10,598,033	10,788,041
New Program Peak Demand Savings - kW	2,205	2,346	2,451	2,539	2,618	2,689	2,755	2,815	2,871	2,922

Administration Costs	\$700,711	\$771,876	\$807,953	\$833,592	\$854,248	\$871,878	\$887,379	\$901,235	\$913,739	\$925,084
Marketing Costs	\$992,097	\$992,097	\$992,097	\$992,097	\$992,097	\$992,097	\$992,097	\$992,097	\$992,097	\$992,097
Incentives Costs	\$1,532,407	\$1,739,917	\$1,845,115	\$1,919,876	\$1,980,109	\$2,031,515	\$2,076,714	\$2,117,118	\$2,153,579	\$2,186,661
Total Costs	\$3,225,214	\$3,503,890	\$3,645,164	\$3,745,565	\$3,826,453	\$3,895,489	\$3,956,189	\$4,010,449	\$4,059,415	\$4,103,842

PV Net Avoided Cost Benefits	\$8,226,866	\$8,408,982	\$8,449,527	\$8,408,496	\$8,302,110	\$8,139,714	\$7,965,120	\$7,765,972	\$7,559,503	\$7,346,765
PV Annual Program Marketing and Admin Costs	\$1,692,807	\$1,673,655	\$1,620,440	\$1,559,371	\$1,496,270	\$1,433,215	\$1,371,141	\$1,310,529	\$1,251,640	\$1,194,625
PV Net Measure Costs	\$2,362,485	\$2,386,869	\$2,365,748	\$2,325,616	\$2,274,721	\$2,216,881	\$2,154,319	\$2,088,522	\$2,020,577	\$1,951,318
TRC Ratio	2.03	2.07	2.12	2.16	2.20	2.23	2.26	2.28	2.31	2.34

Other Naturally Occurring - kWh	1,424,546	2,294,499	3,037,422	3,756,866	4,491,733	5,259,503	6,068,572	6,922,881	7,823,961	8,771,960
Other Naturally Occurring - kW	386	622	823	1,018	1,217	1,425	1,644	1,875	2,119	2,376

Cost per First-Year Net kWh	\$0.40	\$0.40	\$0.40	\$0.40	\$0.40	\$0.39	\$0.39	\$0.39	\$0.38	\$0.38
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PV Annual Program Costs	\$3,225,214	\$3,324,487	\$3,281,448	\$3,199,190	\$3,100,941	\$2,995,252	\$2,886,175	\$2,775,958	\$2,665,984	\$2,557,166
PV Lost Revenue	\$10,892,669	\$10,996,212	\$10,898,383	\$10,714,357	\$10,481,026	\$10,215,685	\$9,928,483	\$9,626,252	\$9,313,988	\$8,995,541
RIM	0.58	0.59	0.60	0.60	0.61	0.62	0.62	0.63	0.63	0.64

Electricity
All Segments
Total
100 Percent

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Cumulative Market Energy Savings - kWh	1,259,969,321	2,485,424,240	3,301,327,855	3,836,827,205	4,201,979,335	4,469,156,270	4,678,303,842	4,856,166,035	5,014,136,119	5,160,815,331
Cumulative Market Peak Demand Savings - kW	175,683	354,314	486,957	583,767	656,598	714,595	762,902	805,845	845,502	883,284
Cumulative Program Energy Savings - kWh	1,135,483,555	2,267,771,241	3,008,663,327	3,481,451,754	3,795,209,352	4,019,295,616	4,192,293,524	4,340,127,484	4,472,432,911	4,596,337,262
Cumulative Program Peak Demand Savings - kW	161,944	330,407	455,015	545,226	612,706	666,323	711,039	750,964	787,992	823,402
New Program Energy Savings - kWh	1,135,483,555	1,132,287,686	740,892,086	472,788,427	313,757,598	224,086,264	172,997,908	147,833,959	132,305,427	123,904,351
New Program Peak Demand Savings - kW	161,944	168,463	124,608	90,211	67,480	53,616	44,716	39,925	37,028	35,410

Administration Costs	\$28,941,919	\$33,153,260	\$29,760,372	\$26,021,613	\$23,419,406	\$21,949,313	\$20,793,313	\$20,223,829	\$19,913,263	\$19,724,126
Marketing Costs	\$15,773,347	\$15,649,970	\$15,323,441	\$15,035,102	\$14,780,485	\$14,744,269	\$14,708,736	\$14,673,872	\$14,639,665	\$14,606,102
Incentives Costs	\$264,321,309	\$280,080,372	\$194,891,141	\$134,755,637	\$99,847,805	\$81,164,033	\$70,595,575	\$65,677,303	\$63,221,964	\$61,926,033
Total Costs	\$309,036,575	\$328,883,602	\$239,974,955	\$175,812,352	\$138,047,696	\$117,857,615	\$106,097,624	\$100,575,004	\$97,774,891	\$96,256,261

PV Net Avoided Cost Benefits	\$878,184,869	\$854,294,241	\$561,469,628	\$360,931,002	\$240,687,849	\$171,587,659	\$130,934,333	\$108,916,157	\$94,616,327	\$85,482,900
PV Annual Program Marketing and Admin Costs	\$44,715,265	\$46,304,461	\$40,585,339	\$35,067,677	\$30,957,023	\$28,213,791	\$25,899,956	\$24,155,536	\$22,692,325	\$21,391,690
PV Net Measure Costs	\$359,685,605	\$346,369,822	\$230,499,716	\$153,734,060	\$108,737,885	\$82,767,397	\$66,839,639	\$57,661,147	\$51,571,943	\$47,235,408
TRC Ratio	2.17	2.18	2.07	1.91	1.72	1.55	1.41	1.33	1.27	1.25

Other Naturally Occurring - kWh	124,485,766	217,652,999	292,664,528	355,375,451	406,769,982	449,860,654	486,010,317	516,038,551	541,703,208	564,478,069
Other Naturally Occurring - kW	13,739	23,908	31,942	38,541	43,892	48,273	51,863	54,881	57,510	59,882

Cost per First-Year Net kWh	\$0.27	\$0.29	\$0.32	\$0.37	\$0.44	\$0.53	\$0.61	\$0.68	\$0.74	\$0.78
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PV Annual Program Costs	\$309,036,575	\$312,044,468	\$216,030,192	\$150,166,198	\$111,873,244	\$90,621,028	\$77,401,836	\$69,616,138	\$64,212,781	\$59,978,747
PV Lost Revenue	\$1,050,942,633	\$1,010,210,099	\$653,319,808	\$408,093,214	\$261,136,108	\$178,082,669	\$130,126,848	\$104,596,482	\$88,226,922	\$78,095,304
RIM	0.65	0.65	0.65	0.65	0.65	0.64	0.63	0.63	0.62	0.62

Electricity
Commercial
Total
100 Percent

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Cumulative Market Energy Savings - kWh	619,842,384	1,243,822,284	1,678,271,445	1,947,386,132	2,116,602,559	2,230,034,893	2,312,074,316	2,378,596,367	2,435,382,793	2,486,748,425
Cumulative Market Peak Demand Savings - kW	63,039	126,651	171,541	200,638	220,623	235,574	247,726	258,593	268,638	278,253
Cumulative Program Energy Savings - kWh	568,224,437	1,158,468,216	1,568,050,554	1,816,795,679	1,968,174,844	2,066,473,378	2,136,767,283	2,195,060,061	2,245,815,139	2,292,312,060
Cumulative Program Peak Demand Savings - kW	58,700	119,460	162,243	189,609	208,077	221,790	233,054	243,293	252,853	262,052
New Program Energy Savings - kWh	568,224,437	590,243,779	409,582,338	248,745,125	151,379,165	98,298,535	70,293,905	58,292,778	50,755,078	46,496,921
New Program Peak Demand Savings - kW	58,700	60,760	42,783	27,366	18,468	13,714	11,264	10,239	9,560	9,198

Administration Costs	\$12,479,408	\$13,274,827	\$10,528,950	\$8,135,254	\$6,808,196	\$6,026,587	\$5,648,508	\$5,531,030	\$5,474,886	\$5,432,272
Marketing Costs	\$4,493,285	\$4,700,457	\$4,700,457	\$4,700,457	\$4,700,457	\$4,700,457	\$4,700,457	\$4,700,457	\$4,700,457	\$4,700,457
Incentives Costs	\$115,593,102	\$121,197,604	\$82,033,087	\$48,898,706	\$31,032,334	\$22,567,217	\$19,518,519	\$18,971,395	\$18,967,030	\$19,071,635
Total Costs	\$132,565,795	\$139,172,888	\$97,262,494	\$61,734,418	\$42,540,987	\$33,294,261	\$29,867,484	\$29,202,882	\$29,142,373	\$29,204,365

PV Net Avoided Cost Benefits	\$395,582,493	\$395,838,989	\$266,802,641	\$158,967,898	\$96,280,551	\$62,753,052	\$45,277,232	\$37,223,642	\$31,897,867	\$28,534,840
PV Annual Program Marketing and Admin Costs	\$16,972,692	\$17,054,933	\$13,709,814	\$10,963,337	\$9,326,562	\$8,248,052	\$7,549,923	\$7,082,044	\$6,682,565	\$6,313,858
PV Net Measure Costs	\$149,228,596	\$144,489,083	\$94,616,176	\$55,961,101	\$35,313,099	\$24,813,055	\$19,639,989	\$17,290,645	\$15,761,797	\$14,701,433
TRC Ratio	2.38	2.45	2.46	2.38	2.16	1.90	1.67	1.53	1.42	1.36

Other Naturally Occurring - kWh	51,617,947	85,354,067	110,220,891	130,590,452	148,427,715	163,561,515	175,307,032	183,536,307	189,567,654	194,436,365
Other Naturally Occurring - kW	4,339	7,191	9,298	11,029	12,546	13,784	14,671	15,299	15,785	16,201

Cost per First-Year Net kWh	\$0.23	\$0.24	\$0.24	\$0.25	\$0.28	\$0.34	\$0.42	\$0.50	\$0.57	\$0.63
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PV Annual Program Costs	\$132,565,795	\$132,047,112	\$87,557,618	\$52,729,075	\$34,475,028	\$25,600,044	\$21,789,348	\$20,213,689	\$19,138,992	\$18,197,686
PV Lost Revenue	\$469,026,598	\$461,930,674	\$303,786,031	\$174,814,642	\$100,875,759	\$62,230,323	\$42,338,039	\$33,385,791	\$27,639,746	\$24,062,163
RIM	0.66	0.67	0.68	0.70	0.71	0.71	0.71	0.69	0.68	0.68

Electricity
Residential
Total
100 Percent

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Cumulative Market Energy Savings - kWh	285,244,415	590,161,794	854,079,748	1,059,209,561	1,211,604,207	1,327,401,916	1,418,323,486	1,494,026,386	1,559,783,506	1,619,730,329
Cumulative Market Peak Demand Savings - kW	74,748	157,993	232,928	293,791	341,670	380,343	412,315	440,267	465,777	489,850
Cumulative Program Energy Savings - kWh	224,113,976	480,022,370	703,264,113	873,764,620	996,218,726	1,085,609,916	1,153,013,513	1,207,585,615	1,254,303,177	1,296,910,650
Cumulative Program Peak Demand Savings - kW	66,497	143,427	213,333	270,067	314,484	350,176	379,539	405,172	428,602	450,780
New Program Energy Savings - kWh	224,113,976	255,908,394	223,241,743	170,500,507	122,454,105	89,391,190	67,403,597	54,572,102	46,717,562	42,607,473
New Program Peak Demand Savings - kW	66,497	76,930	69,905	56,735	44,416	35,693	29,363	25,633	23,430	22,178
Administration Costs	\$11,826,440	\$15,129,721	\$15,353,155	\$14,292,733	\$13,102,414	\$12,236,991	\$11,460,334	\$11,012,596	\$10,765,879	\$10,626,771
Marketing Costs	\$7,287,821	\$7,287,821	\$7,287,821	\$7,287,821	\$7,287,821	\$7,287,821	\$7,287,821	\$7,287,821	\$7,287,821	\$7,287,821
Incentives Costs	\$69,545,718	\$92,974,099	\$89,747,053	\$75,960,234	\$61,957,019	\$51,711,103	\$44,169,861	\$39,785,727	\$37,331,414	\$35,927,217
Total Costs	\$88,659,979	\$115,391,641	\$112,388,029	\$97,540,788	\$82,347,254	\$71,235,914	\$62,918,015	\$58,086,144	\$55,385,114	\$53,841,809
PV Net Avoided Cost Benefits	\$236,035,146	\$260,174,193	\$222,006,245	\$167,064,095	\$119,405,484	\$87,031,623	\$65,414,388	\$52,535,233	\$44,478,529	\$39,528,461
PV Annual Program Marketing and Admin Costs	\$19,114,261	\$21,269,744	\$20,381,853	\$18,432,549	\$16,524,156	\$15,012,679	\$13,677,418	\$12,667,206	\$11,856,605	\$11,162,856
PV Net Measure Costs	\$108,937,868	\$121,727,204	\$107,236,619	\$84,760,484	\$64,912,502	\$50,804,792	\$40,693,448	\$34,279,428	\$30,058,890	\$27,084,618
TRC Ratio	1.84	1.82	1.74	1.62	1.47	1.32	1.20	1.12	1.06	1.03
Other Naturally Occurring - kWh	61,130,439	110,139,424	150,815,635	185,444,941	215,385,481	241,791,999	265,309,973	286,440,772	305,480,329	322,819,680
Other Naturally Occurring - kW	8,251	14,566	19,595	23,724	27,186	30,167	32,776	35,095	37,175	39,070
Cost per First-Year Net kWh	\$0.40	\$0.45	\$0.50	\$0.57	\$0.67	\$0.80	\$0.93	\$1.06	\$1.19	\$1.26
PV Annual Program Costs	\$88,659,979	\$109,483,486	\$101,173,922	\$83,312,288	\$66,733,851	\$54,773,481	\$45,900,838	\$40,206,143	\$36,373,676	\$33,549,654
PV Lost Revenue	\$300,288,788	\$325,417,316	\$269,585,875	\$195,634,521	\$133,607,514	\$92,791,015	\$66,564,645	\$51,261,453	\$41,732,938	\$36,161,082
RIM	0.61	0.60	0.60	0.60	0.60	0.59	0.58	0.57	0.57	0.57

Electricity
Industrial
Total
100 Percent

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Cumulative Market Energy Savings - kWh	354,882,521	651,440,162	768,976,663	830,231,512	873,772,569	911,719,460	947,906,040	983,543,281	1,018,969,820	1,054,336,577
Cumulative Market Peak Demand Savings - kW	37,895	69,670	82,488	89,337	94,306	98,678	102,861	106,986	111,087	115,182
Cumulative Program Energy Savings - kWh	343,145,141	629,280,655	737,348,660	790,891,454	830,815,782	867,212,321	902,512,729	937,481,809	972,314,595	1,007,114,553
Cumulative Program Peak Demand Savings - kW	36,747	67,519	79,439	85,550	90,146	94,356	98,445	102,499	106,537	110,571
New Program Energy Savings - kWh	343,145,141	286,135,513	108,068,005	53,542,794	39,924,328	36,396,539	35,300,407	34,969,080	34,832,787	34,799,957
New Program Peak Demand Savings - kW	36,747	30,773	11,920	6,111	4,596	4,210	4,090	4,053	4,038	4,034
Administration Costs	\$4,636,071	\$4,748,713	\$3,878,267	\$3,593,626	\$3,508,796	\$3,685,736	\$3,684,472	\$3,680,203	\$3,672,499	\$3,665,083
Marketing Costs	\$3,992,241	\$3,661,692	\$3,335,163	\$3,046,823	\$2,792,206	\$2,755,991	\$2,720,458	\$2,685,594	\$2,651,386	\$2,617,824
Incentives Costs	\$79,182,489	\$65,908,669	\$23,111,002	\$9,896,697	\$6,858,452	\$6,885,713	\$6,907,196	\$6,920,180	\$6,923,519	\$6,927,180
Total Costs	\$87,810,802	\$74,319,073	\$30,324,432	\$16,537,146	\$13,159,455	\$13,327,440	\$13,312,125	\$13,285,978	\$13,247,404	\$13,210,087
PV Net Avoided Cost Benefits	\$246,567,229	\$198,281,059	\$72,660,743	\$34,899,009	\$25,001,814	\$21,802,984	\$20,242,713	\$19,157,282	\$18,239,931	\$17,419,598
PV Annual Program Marketing and Admin Costs	\$8,628,312	\$7,979,784	\$6,493,672	\$5,671,791	\$5,106,305	\$4,953,060	\$4,672,614	\$4,406,286	\$4,153,155	\$3,914,975
PV Net Measure Costs	\$101,519,141	\$80,153,535	\$28,646,921	\$13,012,475	\$8,512,284	\$7,149,550	\$6,506,201	\$6,091,073	\$5,751,256	\$5,449,357
TRC Ratio	2.24	2.25	2.07	1.87	1.84	1.80	1.81	1.82	1.84	1.86
Other Naturally Occurring - kWh	11,737,380	22,159,508	31,628,003	39,340,058	42,956,787	44,507,139	45,393,311	46,061,473	46,655,225	47,222,024
Other Naturally Occurring - kW	1,149	2,151	3,049	3,788	4,160	4,322	4,416	4,487	4,550	4,611
Cost per First-Year Net kWh	\$0.26	\$0.26	\$0.28	\$0.31	\$0.33	\$0.37	\$0.38	\$0.38	\$0.38	\$0.38
PV Annual Program Costs	\$87,810,802	\$70,513,870	\$27,298,652	\$14,124,835	\$10,664,364	\$10,247,503	\$9,711,649	\$9,196,305	\$8,700,114	\$8,231,407
PV Lost Revenue	\$281,627,248	\$222,862,109	\$79,947,901	\$37,644,051	\$26,652,835	\$23,061,332	\$21,224,164	\$19,949,238	\$18,854,238	\$17,872,059
RIM	0.67	0.68	0.68	0.67	0.67	0.65	0.65	0.66	0.66	0.67

Electricity
Commercial
Existing
RET
100 Percent

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Cumulative Market Energy Savings - kWh	564,252,870	1,124,662,258	1,493,074,712	1,695,045,778	1,798,691,672	1,851,193,785	1,877,499,719	1,889,862,315	1,894,366,966	1,894,189,270
Cumulative Market Peak Demand Savings - kW	53,138	105,407	138,480	155,569	163,726	167,549	169,309	170,036	170,202	170,037
Cumulative Program Energy Savings - kWh	517,646,121	1,047,242,321	1,392,628,795	1,575,582,279	1,662,462,335	1,700,787,507	1,716,226,873	1,721,213,329	1,720,504,056	1,716,269,865
Cumulative Program Peak Demand Savings - kW	49,547	99,401	130,642	146,203	153,004	155,733	156,738	156,966	156,770	156,311
New Program Energy Savings - kWh	517,646,121	529,596,200	345,386,474	182,953,484	86,880,056	38,325,172	15,439,365	4,986,457	-709,273	-4,234,191
New Program Peak Demand Savings - kW	49,547	49,854	31,242	15,560	6,801	2,729	1,005	228	-196	-458
Administration Costs	\$10,016,439	\$10,233,470	\$7,225,887	\$4,707,024	\$3,349,075	\$2,752,454	\$2,557,216	\$2,516,438	\$2,507,301	\$2,504,112
Marketing Costs	\$3,342,741	\$3,500,616	\$3,500,616	\$3,500,616	\$3,500,616	\$3,500,616	\$3,500,616	\$3,500,616	\$3,500,616	\$3,500,616
Incentives Costs	\$101,280,044	\$104,206,022	\$63,658,257	\$29,699,337	\$11,391,692	\$3,348,136	\$715,973	\$166,203	\$43,023	\$26
Total Costs	\$114,639,225	\$117,940,109	\$74,384,761	\$37,906,977	\$18,241,383	\$9,601,207	\$6,773,806	\$6,183,257	\$6,050,940	\$6,004,754
PV Net Avoided Cost Benefits	\$351,447,612	\$345,035,404	\$214,997,617	\$107,930,035	\$48,170,106	\$19,875,257	\$7,519,271	\$2,156,675	-\$544,216	-\$2,058,693
PV Annual Program Marketing and Admin Costs	\$13,359,180	\$13,030,889	\$9,656,210	\$7,010,373	\$5,550,960	\$4,808,002	\$4,419,396	\$4,164,892	\$3,945,646	\$3,741,638
PV Net Measure Costs	\$129,558,356	\$122,654,023	\$72,491,358	\$34,203,964	\$14,536,619	\$6,004,755	\$2,663,989	\$1,355,897	\$765,010	\$452,802
TRC Ratio	2.46	2.54	2.62	2.62	2.40	1.84	1.06	0.39	-0.12	-0.49
Other Naturally Occurring - kWh	46,606,749	77,419,937	100,445,916	119,463,499	136,229,337	150,406,278	161,272,846	168,648,986	173,862,910	177,919,405
Other Naturally Occurring - kW	3,591	6,006	7,838	9,367	10,722	11,816	12,571	13,070	13,432	13,725
Cost per First-Year Net kWh	\$0.22	\$0.22	\$0.22	\$0.21	\$0.21	\$0.25	\$0.44	\$1.24	-\$8.53	-\$1.42
PV Annual Program Costs	\$114,639,225	\$111,901,470	\$66,962,630	\$32,377,399	\$14,782,736	\$7,382,393	\$4,941,722	\$4,279,935	\$3,973,901	\$3,741,654
PV Lost Revenue	\$427,202,949	\$414,380,214	\$256,029,164	\$128,387,746	\$57,668,775	\$24,054,272	\$9,151,463	\$2,773,133	-\$423,309	-\$2,193,993
RIM	0.65	0.66	0.67	0.67	0.66	0.63	0.53	0.31	-0.15	-1.33

Electricity
Commercial
Existing
ROB
100 Percent

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Cumulative Market Energy Savings - kWh	43,828,870	95,514,499	149,278,832	203,707,581	256,102,199	303,387,634	345,003,694	384,571,110	421,785,150	457,784,434
Cumulative Market Peak Demand Savings - kW	7,718	16,855	26,393	36,041	45,423	54,018	61,788	69,219	76,302	83,195
Cumulative Program Energy Savings - kWh	39,021,461	87,895,026	139,901,397	193,049,300	244,438,373	290,830,820	331,631,648	370,410,654	406,873,776	442,129,669
Cumulative Program Peak Demand Savings - kW	7,007	15,727	25,005	34,463	43,696	52,158	59,808	67,121	74,092	80,875
New Program Energy Savings - kWh	39,021,461	48,873,564	52,006,372	53,147,903	51,389,073	46,392,446	40,800,829	38,779,006	36,463,122	35,255,893
New Program Peak Demand Savings - kW	7,007	8,720	9,278	9,458	9,233	8,463	7,649	7,314	6,971	6,783

Administration Costs	\$2,320,385	\$2,892,931	\$3,149,369	\$3,269,518	\$3,295,524	\$3,105,734	\$2,918,144	\$2,836,733	\$2,785,042	\$2,740,953
Marketing Costs	\$1,043,796	\$1,093,094	\$1,093,094	\$1,093,094	\$1,093,094	\$1,093,094	\$1,093,094	\$1,093,094	\$1,093,094	\$1,093,094
Incentives Costs	\$6,912,782	\$9,187,053	\$10,205,678	\$10,682,933	\$10,786,235	\$10,032,350	\$9,287,203	\$8,963,824	\$8,758,495	\$8,583,368
Total Costs	\$10,276,963	\$13,173,077	\$14,448,140	\$15,045,545	\$15,174,853	\$14,231,177	\$13,298,441	\$12,893,651	\$12,636,630	\$12,417,415

PV Net Avoided Cost Benefits	\$33,990,196	\$40,861,469	\$41,888,130	\$41,143,845	\$38,275,630	\$33,148,088	\$28,132,121	\$25,569,089	\$23,074,863	\$21,362,009
PV Annual Program Marketing and Admin Costs	\$3,364,181	\$3,781,936	\$3,819,149	\$3,726,227	\$3,556,516	\$3,228,489	\$2,926,334	\$2,720,153	\$2,546,930	\$2,389,053
PV Net Measure Costs	\$11,715,385	\$14,148,220	\$14,574,614	\$14,326,475	\$13,466,016	\$11,622,695	\$9,920,624	\$9,014,690	\$8,216,528	\$7,611,952
TRC Ratio	2.25	2.28	2.28	2.28	2.25	2.23	2.19	2.18	2.14	2.14

Other Naturally Occurring - kWh	4,807,408	7,619,473	9,377,435	10,658,280	11,663,826	12,556,815	13,372,046	14,160,456	14,911,374	15,654,765
Other Naturally Occurring - kW	711	1,128	1,388	1,578	1,727	1,860	1,981	2,098	2,210	2,320

Cost per First-Year Net kWh	\$0.26	\$0.27	\$0.28	\$0.28	\$0.30	\$0.31	\$0.33	\$0.33	\$0.35	\$0.35
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PV Annual Program Costs	\$10,276,963	\$12,498,604	\$13,006,501	\$12,850,816	\$12,297,634	\$10,942,389	\$9,701,666	\$8,924,744	\$8,298,993	\$7,737,481
PV Lost Revenue	\$32,250,552	\$38,296,838	\$38,667,220	\$37,481,260	\$34,406,353	\$29,526,107	\$24,693,805	\$22,283,174	\$19,902,234	\$18,268,524
RIM	0.80	0.80	0.81	0.82	0.82	0.82	0.82	0.82	0.82	0.82

Electricity
Commercial
New Construction
New
100 Percent

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Cumulative Market Energy Savings - kWh	11,760,645	23,645,526	35,917,901	48,632,773	61,808,687	75,453,474	89,570,903	104,162,942	119,230,677	134,774,721
Cumulative Market Peak Demand Savings - kW	2,183	4,389	6,668	9,028	11,474	14,007	16,628	19,337	22,134	25,020
Cumulative Program Energy Savings - kWh	11,556,854	23,330,869	35,520,361	48,164,100	61,274,135	74,855,052	88,908,762	103,436,077	118,437,307	133,912,525
Cumulative Program Peak Demand Savings - kW	2,146	4,332	6,595	8,943	11,377	13,899	16,508	19,206	21,992	24,865
New Program Energy Savings - kWh	11,556,854	11,774,015	12,189,491	12,643,739	13,110,036	13,580,916	14,053,711	14,527,315	15,001,230	15,475,219
New Program Peak Demand Savings - kW	2,146	2,186	2,263	2,348	2,434	2,522	2,610	2,697	2,786	2,874

Administration Costs	\$142,584	\$148,426	\$153,695	\$158,713	\$163,597	\$168,399	\$173,148	\$177,859	\$182,543	\$187,207
Marketing Costs	\$106,747	\$106,747	\$106,747	\$106,747	\$106,747	\$106,747	\$106,747	\$106,747	\$106,747	\$106,747
Incentives Costs	\$7,400,276	\$7,804,529	\$8,169,152	\$8,516,436	\$8,854,407	\$9,186,731	\$9,515,342	\$9,841,368	\$10,165,513	\$10,488,242
Total Costs	\$7,649,607	\$8,059,702	\$8,429,593	\$8,781,896	\$9,124,751	\$9,461,877	\$9,795,237	\$10,125,974	\$10,454,803	\$10,782,196

PV Net Avoided Cost Benefits	\$10,144,685	\$9,942,116	\$9,916,894	\$9,894,018	\$9,834,815	\$9,729,708	\$9,625,840	\$9,497,879	\$9,367,219	\$9,231,524
PV Annual Program Marketing and Admin Costs	\$249,331	\$242,108	\$234,455	\$226,737	\$219,086	\$211,561	\$204,193	\$196,999	\$189,989	\$183,167
PV Net Measure Costs	\$7,954,855	\$7,686,841	\$7,550,205	\$7,430,661	\$7,310,464	\$7,185,606	\$7,055,376	\$6,920,058	\$6,780,260	\$6,636,679
TRC Ratio	1.24	1.25	1.27	1.29	1.31	1.32	1.33	1.33	1.34	1.35

Other Naturally Occurring - kWh	203,790	314,657	397,540	468,673	534,552	598,423	662,140	726,865	793,370	862,196
Other Naturally Occurring - kW	37	57	72	85	97	108	120	131	143	155

Cost per First-Year Net kWh	\$0.66	\$0.68	\$0.69	\$0.69	\$0.70	\$0.70	\$0.70	\$0.70	\$0.70	\$0.70
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PV Annual Program Costs	\$7,649,607	\$7,647,038	\$7,588,486	\$7,500,861	\$7,394,658	\$7,275,262	\$7,145,960	\$7,009,010	\$6,866,098	\$6,718,551
PV Lost Revenue	\$9,573,097	\$9,253,622	\$9,089,647	\$8,945,636	\$8,800,631	\$8,649,944	\$8,492,772	\$8,329,483	\$8,160,821	\$7,987,631
RIM	0.59	0.59	0.59	0.60	0.61	0.61	0.62	0.62	0.62	0.63

Electricity
Industrial
Existing
RET
100 Percent

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Cumulative Market Energy Savings - kWh	327,337,353	590,596,216	673,532,219	699,674,502	707,919,366	710,521,094	711,342,538	711,602,034	711,684,053	711,709,991
Cumulative Market Peak Demand Savings - kW	34,750	62,710	71,541	74,331	75,213	75,492	75,581	75,609	75,617	75,620
Cumulative Program Energy Savings - kWh	317,289,717	571,358,899	645,784,474	665,008,143	670,330,942	672,017,716	672,552,826	672,722,664	672,776,593	672,793,725
Cumulative Program Peak Demand Savings - kW	33,791	60,886	68,924	71,063	71,648	71,834	71,893	71,912	71,918	71,920
New Program Energy Savings - kWh	317,289,717	254,069,182	74,425,575	19,223,669	5,322,799	1,686,774	535,110	169,837	53,929	17,132
New Program Peak Demand Savings - kW	33,791	27,095	8,038	2,138	586	186	59	19	6	2

Administration Costs	\$2,171,900	\$1,788,042	\$785,191	\$442,328	\$330,348	\$493,722	\$484,421	\$475,296	\$466,342	\$457,557
Marketing Costs	\$3,161,704	\$2,791,929	\$2,465,400	\$2,177,061	\$1,922,444	\$1,886,228	\$1,850,695	\$1,815,831	\$1,781,624	\$1,748,061
Incentives Costs	\$74,242,341	\$59,641,347	\$16,489,754	\$3,119,821	\$9,000					
Total Costs	\$79,575,945	\$64,221,318	\$19,740,345	\$5,739,209	\$2,261,791	\$2,379,950	\$2,335,116	\$2,291,127	\$2,247,966	\$2,205,618

PV Net Avoided Cost Benefits	\$227,802,058	\$175,825,249	\$49,870,454	\$12,486,139	\$3,308,844	\$1,002,524	\$304,454	\$92,327	\$28,028	\$8,513
PV Annual Program Marketing and Admin Costs	\$5,333,604	\$4,345,472	\$2,926,247	\$2,237,293	\$1,825,653	\$1,829,950	\$1,703,547	\$1,585,875	\$1,476,331	\$1,374,354
PV Net Measure Costs	\$94,753,614	\$72,349,622	\$20,957,778	\$5,616,193	\$1,457,537	\$441,946	\$134,185	\$40,754	\$12,381	\$3,763
TRC Ratio	2.28	2.29	2.09	1.59	1.01	0.44	0.17	0.06	0.02	0.01

Other Naturally Occurring - kWh	10,047,636	19,237,317	27,747,745	34,666,359	37,588,424	38,503,378	38,789,712	38,879,370	38,907,460	38,916,266
Other Naturally Occurring - kW	959	1,824	2,617	3,269	3,565	3,658	3,688	3,697	3,700	3,701

Cost per First-Year Net kWh	\$0.25	\$0.25	\$0.27	\$0.30	\$0.42	\$1.41	\$4.36	\$13.49	\$41.68	\$128.74
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PV Annual Program Costs	\$79,575,945	\$60,933,129	\$17,770,648	\$4,902,018	\$1,832,946	\$1,829,950	\$1,703,547	\$1,585,875	\$1,476,331	\$1,374,354
PV Lost Revenue	\$260,317,630	\$197,781,178	\$54,983,354	\$13,483,256	\$3,541,308	\$1,064,796	\$320,508	\$96,519	\$29,080	\$8,765
RIM	0.67	0.68	0.69	0.68	0.62	0.35	0.15	0.05	0.02	0.01

Electricity
Industrial
Existing
ROB
100 Percent

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Cumulative Market Energy Savings - kWh	27,545,168	60,843,946	95,444,444	130,557,010	165,853,203	201,198,366	236,563,502	271,941,248	307,285,767	342,626,585
Cumulative Market Peak Demand Savings - kW	3,145	6,960	10,947	15,006	19,092	23,185	27,280	31,377	35,470	39,561
Cumulative Program Energy Savings - kWh	25,855,424	57,921,756	91,564,186	125,883,311	160,484,840	195,194,605	229,959,902	264,759,145	299,538,002	334,320,827
Cumulative Program Peak Demand Savings - kW	2,955	6,633	10,515	14,487	18,498	22,522	26,552	30,587	34,619	38,651
New Program Energy Savings - kWh	25,855,424	32,066,331	33,642,430	34,319,125	34,601,529	34,709,765	34,765,297	34,799,243	34,778,858	34,782,825
New Program Peak Demand Savings - kW	2,955	3,678	3,881	3,972	4,011	4,024	4,031	4,035	4,032	4,032

Administration Costs	\$2,464,171	\$2,960,671	\$3,093,076	\$3,151,297	\$3,178,448	\$3,192,013	\$3,200,050	\$3,204,908	\$3,206,157	\$3,207,526
Marketing Costs	\$830,537	\$869,763	\$869,763	\$869,763	\$869,763	\$869,763	\$869,763	\$869,763	\$869,763	\$869,763
Incentives Costs	\$4,940,149	\$6,267,322	\$6,621,248	\$6,776,877	\$6,849,453	\$6,885,713	\$6,907,196	\$6,920,180	\$6,923,519	\$6,927,180
Total Costs	\$8,234,857	\$10,097,756	\$10,584,087	\$10,797,937	\$10,897,663	\$10,947,489	\$10,977,009	\$10,994,851	\$10,999,438	\$11,004,469

PV Net Avoided Cost Benefits	\$18,765,172	\$22,455,810	\$22,790,289	\$22,412,871	\$21,692,969	\$20,800,460	\$19,938,259	\$19,064,955	\$18,211,903	\$17,411,085
PV Annual Program Marketing and Admin Costs	\$3,294,708	\$3,634,312	\$3,567,426	\$3,434,499	\$3,280,652	\$3,123,110	\$2,969,067	\$2,820,411	\$2,676,823	\$2,540,621
PV Net Measure Costs	\$6,765,527	\$7,803,913	\$7,689,143	\$7,396,282	\$7,054,747	\$6,707,604	\$6,372,016	\$6,050,319	\$5,738,874	\$5,445,595
TRC Ratio	1.87	1.96	2.02	2.07	2.10	2.12	2.13	2.15	2.16	2.18

Other Naturally Occurring - kWh	1,689,744	2,922,190	3,880,258	4,673,699	5,368,363	6,003,761	6,603,600	7,182,103	7,747,765	8,305,758
Other Naturally Occurring - kW	190	327	433	519	595	663	728	790	851	910

Cost per First-Year Net kWh	\$0.32	\$0.31	\$0.31	\$0.31	\$0.31	\$0.32	\$0.32	\$0.32	\$0.32	\$0.32
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PV Annual Program Costs	\$8,234,857	\$9,580,742	\$9,528,004	\$9,222,817	\$8,831,418	\$8,417,553	\$8,008,102	\$7,610,430	\$7,223,782	\$6,857,053
PV Lost Revenue	\$21,309,618	\$25,080,932	\$24,964,548	\$24,160,795	\$23,111,527	\$21,996,536	\$20,903,656	\$19,852,719	\$18,825,159	\$17,863,294
RIM	0.64	0.65	0.66	0.67	0.68	0.68	0.69	0.69	0.70	0.70

Electricity
Residential
Existing
LIRET
100 Percent

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Cumulative Market Energy Savings - kWh	4,635,437	10,733,985	17,086,315	23,140,699	28,680,405	33,645,551	38,045,133	41,915,898	45,303,778	48,255,780
Cumulative Market Peak Demand Savings - kW	928	2,197	3,537	4,825	6,010	7,076	8,025	8,863	9,600	10,244
Cumulative Program Energy Savings - kWh	4,181,549	9,769,399	15,597,231	21,133,926	26,172,255	30,656,407	34,596,822	38,030,437	41,002,782	43,568,771
Cumulative Program Peak Demand Savings - kW	899	2,135	3,441	4,695	5,847	6,882	7,801	8,610	9,319	9,938
New Program Energy Savings - kWh	4,181,549	5,587,850	5,827,831	5,536,696	5,038,329	4,484,152	3,940,415	3,433,614	2,972,345	2,565,989
New Program Peak Demand Savings - kW	899	1,236	1,306	1,254	1,152	1,035	919	809	709	619

Administration Costs	\$394,656	\$522,092	\$559,490	\$553,957	\$529,895	\$499,052	\$466,820	\$435,558	\$406,211	\$379,104
Marketing Costs	\$582,280	\$582,280	\$582,280	\$582,280	\$582,280	\$582,280	\$582,280	\$582,280	\$582,280	\$582,280
Incentives Costs	\$4,451,230	\$6,367,655	\$6,930,062	\$6,846,853	\$6,484,998	\$6,021,164	\$5,536,458	\$5,066,327	\$4,624,997	\$4,217,355
Total Costs	\$5,428,166	\$7,472,027	\$8,071,832	\$7,983,090	\$7,597,173	\$7,102,496	\$6,585,559	\$6,084,165	\$5,613,488	\$5,178,740

PV Net Avoided Cost Benefits	\$3,789,549	\$4,918,091	\$4,962,146	\$4,546,855	\$3,977,383	\$3,391,563	\$2,858,929	\$2,387,168	\$1,982,035	\$1,641,163
PV Annual Program Marketing and Admin Costs	\$976,936	\$1,047,827	\$1,027,844	\$970,492	\$901,302	\$831,439	\$765,354	\$704,529	\$649,183	\$599,053
PV Net Measure Costs	\$5,366,016	\$7,235,057	\$7,452,169	\$6,975,070	\$6,261,208	\$5,510,912	\$4,804,479	\$4,169,125	\$3,609,640	\$3,122,217
TRC Ratio	0.60	0.59	0.59	0.57	0.56	0.53	0.51	0.49	0.47	0.44

Other Naturally Occurring - kWh	453,888	964,586	1,489,084	2,006,773	2,508,150	2,989,144	3,448,311	3,885,462	4,300,996	4,687,010
Other Naturally Occurring - kW	29	62	96	130	163	194	224	253	280	306

Cost per First-Year Net kWh	\$1.30	\$1.34	\$1.39	\$1.44	\$1.51	\$1.58	\$1.67	\$1.77	\$1.89	\$2.02
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PV Annual Program Costs	\$5,428,166	\$7,089,452	\$7,266,423	\$6,818,578	\$6,156,716	\$5,461,128	\$4,804,390	\$4,211,346	\$3,686,608	\$3,226,952
PV Lost Revenue	\$5,559,581	\$7,051,525	\$6,979,201	\$6,292,084	\$5,433,423	\$4,588,953	\$3,826,727	\$3,164,445	\$2,599,658	\$2,129,832
RIM	0.34	0.35	0.35	0.35	0.34	0.34	0.33	0.32	0.32	0.31

Electricity
Residential
Existing
LIROB
100 Percent

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Cumulative Market Energy Savings - kWh	472,701	1,168,021	1,989,742	2,880,542	3,792,575	4,714,757	5,627,355	6,524,600	7,396,765	8,251,979
Cumulative Market Peak Demand Savings - kW	118	299	516	752	997	1,246	1,494	1,740	1,982	2,220
Cumulative Program Energy Savings - kWh	337,889	870,254	1,513,790	2,218,897	2,947,615	3,687,355	4,422,832	5,148,565	5,857,837	6,554,630
Cumulative Program Peak Demand Savings - kW	102	264	459	674	897	1,124	1,351	1,577	1,799	2,019
New Program Energy Savings - kWh	337,889	532,365	643,536	705,107	728,717	739,740	735,478	725,733	709,272	696,793
New Program Peak Demand Savings - kW	102	162	195	214	223	227	227	226	223	220

Administration Costs	\$279,285	\$403,793	\$477,348	\$520,344	\$545,021	\$558,717	\$565,837	\$569,024	\$569,861	\$569,300
Marketing Costs	\$383,776	\$383,776	\$383,776	\$383,776	\$383,776	\$383,776	\$383,776	\$383,776	\$383,776	\$383,776
Incentives Costs	\$614,920	\$980,439	\$1,196,371	\$1,322,597	\$1,395,038	\$1,435,246	\$1,456,150	\$1,465,504	\$1,467,962	\$1,466,314
Total Costs	\$1,277,980	\$1,768,008	\$2,057,495	\$2,226,717	\$2,323,834	\$2,377,739	\$2,405,763	\$2,418,304	\$2,421,599	\$2,419,389

PV Net Avoided Cost Benefits	\$358,779	\$543,254	\$631,617	\$664,475	\$659,782	\$639,923	\$609,340	\$575,047	\$538,633	\$506,026
PV Annual Program Marketing and Admin Costs	\$663,060	\$747,245	\$775,200	\$772,234	\$752,692	\$724,685	\$692,775	\$659,510	\$626,292	\$593,876
PV Net Measure Costs	\$699,773	\$1,056,824	\$1,222,900	\$1,282,390	\$1,283,038	\$1,252,275	\$1,205,180	\$1,150,605	\$1,093,300	\$1,036,051
TRC Ratio	0.26	0.30	0.32	0.32	0.32	0.32	0.32	0.32	0.31	0.31

Other Naturally Occurring - kWh	134,812	297,767	475,952	661,645	844,961	1,027,403	1,204,522	1,376,035	1,538,927	1,697,350
Other Naturally Occurring - kW	16	35	56	79	100	122	143	163	183	202

Cost per First-Year Net kWh	\$3.78	\$3.32	\$3.20	\$3.16	\$3.19	\$3.21	\$3.27	\$3.33	\$3.41	\$3.47
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PV Annual Program Costs	\$1,277,980	\$1,677,484	\$1,852,197	\$1,901,900	\$1,883,225	\$1,828,250	\$1,755,086	\$1,673,905	\$1,590,363	\$1,507,558
PV Lost Revenue	\$452,791	\$676,897	\$776,369	\$807,102	\$791,554	\$762,434	\$719,320	\$673,525	\$624,673	\$582,312
RIM	0.21	0.23	0.24	0.25	0.25	0.25	0.25	0.24	0.24	0.24

Electricity
Residential
Existing
RET
100 Percent

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Cumulative Market Energy Savings - kWh	245,759,212	500,816,266	707,899,980	851,552,835	940,863,315	992,147,834	1,019,751,971	1,033,519,982	1,039,367,166	1,040,591,000
Cumulative Market Peak Demand Savings - kW	60,611	125,161	178,215	214,991	237,425	249,700	255,662	258,019	258,412	257,751
Cumulative Program Energy Savings - kWh	190,563,511	401,645,626	572,672,141	686,054,926	749,469,897	778,273,157	786,141,280	782,454,098	772,774,411	760,130,739
Cumulative Program Peak Demand Savings - kW	53,501	112,609	161,383	194,710	214,304	224,192	228,118	228,715	227,571	225,556
New Program Energy Savings - kWh	190,563,511	211,082,115	171,026,516	113,382,785	63,414,970	28,803,261	7,868,122	-3,687,182	-9,679,687	-12,643,672
New Program Peak Demand Savings - kW	53,501	59,108	48,774	33,327	19,594	9,888	3,926	597	-1,144	-2,015
Administration Costs	\$7,596,953	\$9,158,312	\$8,204,678	\$6,329,162	\$4,567,406	\$3,301,811	\$2,525,957	\$2,100,086	\$1,885,176	\$1,783,976
Marketing Costs	\$4,049,916	\$4,049,916	\$4,049,916	\$4,049,916	\$4,049,916	\$4,049,916	\$4,049,916	\$4,049,916	\$4,049,916	\$4,049,916
Incentives Costs	\$52,664,770	\$67,096,620	\$58,282,054	\$40,946,397	\$24,662,245	\$12,964,173	\$5,792,849	\$1,856,463	-\$129,984	-\$1,065,390
Total Costs	\$64,311,640	\$80,304,848	\$70,536,649	\$51,325,475	\$33,279,568	\$20,315,900	\$12,368,723	\$8,006,465	\$5,805,108	\$4,768,502
PV Net Avoided Cost Benefits	\$196,024,459	\$208,209,497	\$163,346,096	\$105,131,623	\$57,322,783	\$25,848,081	\$7,938,551	-\$1,261,812	-\$5,574,310	-\$7,379,135
PV Annual Program Marketing and Admin Costs	\$11,646,870	\$12,531,955	\$11,031,828	\$8,865,058	\$6,983,440	\$5,652,762	\$4,797,324	\$4,256,917	\$3,897,818	\$3,635,187
PV Net Measure Costs	\$86,796,437	\$92,142,088	\$74,141,405	\$50,382,165	\$30,547,225	\$17,165,683	\$9,225,476	\$4,877,455	\$2,597,984	\$1,414,571
TRC Ratio	1.99	1.99	1.92	1.77	1.53	1.13	0.57	-0.14	-0.86	-1.46
Other Naturally Occurring - kWh	55,195,701	99,170,640	135,227,839	165,497,909	191,393,418	213,874,676	233,610,691	251,065,885	266,592,755	280,460,261
Other Naturally Occurring - kW	7,110	12,552	16,831	20,280	23,122	25,508	27,544	29,304	30,841	32,194
Cost per First-Year Net kWh	\$0.34	\$0.38	\$0.41	\$0.45	\$0.52	\$0.71	\$1.57	-\$2.17	-\$0.60	-\$0.38
PV Annual Program Costs	\$64,311,640	\$76,193,168	\$63,498,484	\$43,838,510	\$26,969,615	\$15,620,949	\$9,023,405	\$5,541,926	\$3,812,453	\$2,971,326
PV Lost Revenue	\$255,055,632	\$268,038,483	\$206,139,237	\$129,759,459	\$68,951,915	\$29,810,390	\$7,840,079	-\$3,271,935	-\$8,377,274	-\$10,425,367
RIM	0.61	0.60	0.61	0.61	0.60	0.57	0.47	-0.56	1.22	0.99

Electricity
Residential
Existing
ROB
100 Percent

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Cumulative Market Energy Savings - kWh	19,610,080	47,371,671	80,887,272	118,416,696	157,216,013	197,216,359	235,844,984	272,925,591	307,820,167	341,350,869
Cumulative Market Peak Demand Savings - kW	9,091	22,190	38,141	56,098	75,282	95,321	114,884	133,953	152,469	170,528
Cumulative Program Energy Savings - kWh	15,688,588	39,959,739	70,301,934	104,894,948	141,068,794	178,575,085	214,867,107	249,735,082	282,596,478	314,147,768
Cumulative Program Peak Demand Savings - kW	8,381	20,895	36,353	53,881	72,697	92,402	111,663	130,454	148,718	166,536
New Program Energy Savings - kWh	15,688,588	24,271,151	30,342,195	34,593,014	36,173,846	37,506,291	36,292,022	34,867,975	32,861,396	31,551,291
New Program Peak Demand Savings - kW	8,381	12,515	15,457	17,529	18,816	19,705	19,261	18,791	18,264	17,818

Administration Costs	\$2,496,214	\$3,856,399	\$4,842,792	\$5,556,642	\$6,072,023	\$6,439,476	\$6,418,190	\$6,382,353	\$6,340,096	\$6,293,664
Marketing Costs	\$1,180,542	\$1,180,542	\$1,180,542	\$1,180,542	\$1,180,542	\$1,180,542	\$1,180,542	\$1,180,542	\$1,180,542	\$1,180,542
Incentives Costs	\$8,495,634	\$14,667,989	\$19,144,118	\$22,383,483	\$24,722,216	\$26,389,671	\$26,293,081	\$26,130,455	\$25,938,701	\$25,727,997
Total Costs	\$12,172,390	\$19,704,931	\$25,167,453	\$29,120,668	\$31,974,782	\$34,009,689	\$33,891,814	\$33,693,350	\$33,459,339	\$33,202,204

PV Net Avoided Cost Benefits	\$22,377,340	\$32,487,967	\$38,681,619	\$42,115,414	\$42,757,979	\$42,511,555	\$39,465,502	\$36,463,454	\$33,370,282	\$30,842,554
PV Annual Program Marketing and Admin Costs	\$3,676,756	\$4,779,046	\$5,422,325	\$5,754,416	\$5,877,447	\$5,859,052	\$5,543,535	\$5,234,895	\$4,939,112	\$4,657,292
PV Net Measure Costs	\$12,190,057	\$17,299,861	\$20,376,009	\$22,063,490	\$22,778,157	\$22,869,307	\$21,505,465	\$20,197,358	\$18,952,540	\$17,795,044
TRC Ratio	1.41	1.47	1.50	1.51	1.49	1.48	1.46	1.43	1.40	1.37

Other Naturally Occurring - kWh	3,921,492	7,411,933	10,585,337	13,521,748	16,147,219	18,641,274	20,977,877	23,190,510	25,223,689	27,203,100
Other Naturally Occurring - kW	710	1,294	1,788	2,217	2,585	2,919	3,221	3,499	3,751	3,992

Cost per First-Year Net kWh	\$0.78	\$0.81	\$0.83	\$0.84	\$0.88	\$0.91	\$0.93	\$0.97	\$1.02	\$1.05
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PV Annual Program Costs	\$12,172,390	\$18,696,021	\$22,656,238	\$24,872,768	\$25,912,222	\$26,150,139	\$24,725,234	\$23,321,907	\$21,974,120	\$20,688,801
PV Lost Revenue	\$21,366,126	\$31,322,848	\$37,137,285	\$40,164,821	\$39,888,270	\$39,254,791	\$36,051,904	\$32,881,488	\$29,437,161	\$26,832,980
RIM	0.67	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65

Electricity
Residential
New Construction
New
100 Percent

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Cumulative Market Energy Savings - kWh	14,766,985	30,071,851	46,216,440	63,218,788	81,051,898	99,677,415	119,054,043	139,140,314	159,895,631	181,280,701
Cumulative Market Peak Demand Savings - kW	4,000	8,146	12,519	17,125	21,956	27,001	32,250	37,691	43,314	49,107
Cumulative Program Energy Savings - kWh	13,342,439	27,777,352	43,179,017	59,461,923	76,560,166	94,417,912	112,985,471	132,217,433	152,071,669	172,508,741
Cumulative Program Peak Demand Savings - kW	3,614	7,525	11,697	16,107	20,739	25,577	30,606	35,816	41,194	46,730
New Program Energy Savings - kWh	13,342,439	14,434,913	15,401,665	16,282,905	17,098,243	17,857,746	18,567,559	19,231,962	19,854,237	20,437,072
New Program Peak Demand Savings - kW	3,614	3,910	4,172	4,411	4,632	4,837	5,030	5,210	5,378	5,536

Administration Costs	\$1,059,332	\$1,189,125	\$1,268,846	\$1,332,627	\$1,388,069	\$1,437,936	\$1,483,529	\$1,525,575	\$1,564,535	\$1,600,728
Marketing Costs	\$1,091,306	\$1,091,306	\$1,091,306	\$1,091,306	\$1,091,306	\$1,091,306	\$1,091,306	\$1,091,306	\$1,091,306	\$1,091,306
Incentives Costs	\$3,319,164	\$3,861,396	\$4,194,447	\$4,460,904	\$4,692,521	\$4,900,848	\$5,091,322	\$5,266,978	\$5,429,739	\$5,580,941
Total Costs	\$5,469,803	\$6,141,827	\$6,554,600	\$6,884,838	\$7,171,897	\$7,430,090	\$7,666,157	\$7,883,860	\$8,085,580	\$8,272,975

PV Net Avoided Cost Benefits	\$13,485,020	\$14,015,384	\$14,384,766	\$14,605,728	\$14,687,556	\$14,640,501	\$14,542,066	\$14,371,376	\$14,161,888	\$13,917,853
PV Annual Program Marketing and Admin Costs	\$2,150,638	\$2,163,671	\$2,124,656	\$2,070,349	\$2,009,275	\$1,944,741	\$1,878,430	\$1,811,356	\$1,744,200	\$1,677,447
PV Net Measure Costs	\$3,885,585	\$3,993,374	\$4,044,137	\$4,057,369	\$4,042,874	\$4,006,616	\$3,952,849	\$3,884,885	\$3,805,426	\$3,716,734
TRC Ratio	2.23	2.28	2.33	2.38	2.43	2.46	2.49	2.52	2.55	2.58

Other Naturally Occurring - kWh	1,424,546	2,294,499	3,037,422	3,756,866	4,491,733	5,259,503	6,068,572	6,922,881	7,823,961	8,771,960
Other Naturally Occurring - kW	386	622	823	1,018	1,217	1,425	1,644	1,875	2,119	2,376

Cost per First-Year Net kWh	\$0.41	\$0.43	\$0.43	\$0.42	\$0.42	\$0.42	\$0.41	\$0.41	\$0.41	\$0.40
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PV Annual Program Costs	\$5,469,803	\$5,827,360	\$5,900,580	\$5,880,531	\$5,812,073	\$5,713,016	\$5,592,723	\$5,457,060	\$5,310,132	\$5,155,017
PV Lost Revenue	\$17,854,657	\$18,327,563	\$18,553,784	\$18,611,055	\$18,542,353	\$18,374,447	\$18,126,614	\$17,813,930	\$17,448,721	\$17,041,325
RIM	0.58	0.58	0.59	0.60	0.60	0.61	0.61	0.62	0.62	0.63