



New Jersey SmartStart Buildings[®]
Program Guide
January 1, 2013

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PREFACE

New Jersey SmartStart Buildings[®] is a statewide energy efficiency program administered by the New Jersey Board of Public Utilities' Office of Clean Energy and delivered by the Commercial/Industrial Market Manager, TRC Energy Services.

The incentives, technical assistance, and other services described in this Program Guide are available to qualified commercial, industrial, institutional, government or agricultural customers in the state who are planning to construct, expand, renovate, or remodel a facility, or to replace electric or gas equipment. It also provides incentives to local governmental entities to conduct investment grade audits of their facilities as well as professional services to help guide customers through designing and planning phases. Projects must be located within the service territory of at least one of the following New Jersey Utilities:

1. Atlantic City Electric
2. Jersey Central Power & Light
3. New Jersey Natural Gas
4. Elizabethtown Gas
5. Public Service Electric and Gas
6. Rockland Electric Company
7. South Jersey Gas

Projects located in areas where electricity is provided by a municipal utility are eligible for only those portions of the program that address the energy efficiency of natural gas equipment. Customers planning to construct or expand a building are eligible for services under this program only if constructing within a designated smart growth area. Public school (K-12) new construction projects are exempted from this restriction and are eligible for new Program incentives throughout the State. Customers or their trade allies can assess if a location is in a designated growth area by referring to the Smart Growth Locator available from the HMFA website or contact the Market Manager if you are uncertain about project eligibility.

Please note: pre-approval is required for almost all incentives. This means you must submit an Application Form before any equipment is installed.

SECTION I - PROGRAM OVERVIEW

A. Program Eligibility

The New Jersey SmartStart Buildings Program is available to qualified non-residential customers, including commercial, industrial, educational, institutional, government, and agricultural operations who are constructing, expanding, renovating facilities, or replacing equipment. Projects located in areas where electricity is provided by a municipal utility are eligible for only those portions of the program that address the energy efficiency of natural gas equipment.

Customers planning to construct or expand a building are eligible for services under this program only if constructing within a designated smart growth area. Public school (K-12) new construction projects are exempted from this restriction and are eligible for new Program incentives throughout the State. Customers or their trade allies can assess if a location is in a designated growth area by referring to the Smart Growth Site Evaluator available from the HMFA website or contact the Market Manager if you are uncertain about project eligibility.

Please note: pre-approval is required for almost all incentives. This means you must submit an Application Form and in some cases receive an inspection before any equipment is removed or installed.

B. Program Delivery

This program is delivered using consistent statewide eligibility criteria and measure lists, plus a single set of program application forms. Clients can be assured that the services and incentives available through the program will be the same everywhere in New Jersey.

C. “Market-Driven” Program

The primary goal of New Jersey SmartStart Buildings is to target the customer-initiated construction events. Incentive and service offerings are tailored to influence market-driven events by acknowledging the customer’s own initiative and the time-sensitive nature of these events.

- **New Construction and Additions** During new construction and addition projects, critical decisions, from an energy perspective, are made regarding building design and components, including: 1) the building form and configuration; 2) lighting systems; 3) heating, ventilation, and cooling systems (HVAC); 4) industrial process; and 5) other energy-using equipment.
- **Renovations** Renovation projects typically entail the wholesale “gutting” of a building, the replacement of the HVAC and lighting systems and, often, major modifications to the building shell.

- **Remodels** Remodeling is an appearance upgrade that may include: 1) lighting changes (soft remodel); 2) a new configuration of internal space or alteration in mechanical/electrical systems to update appearance; 3) reconfiguration of space for a tenant; and/or 4) major configuration or system changes for safety/security or other reasons (hard remodel).
- **Equipment Replacement** Although equipment (e.g., lighting fixtures, motors, HVAC units, compressors, pumps, fans, etc.) is often replaced at times of remodeling or renovation, it is also replaced at other times, i.e., if the equipment fails, becomes prohibitively expensive to maintain, provides inadequate service, or becomes inappropriate for new uses.

D. Summary of Program Components

The following provides a summary of the services and incentives available through the New Jersey SmartStart Buildings Program. Complete details are found in subsequent sections of this Program Guide. These offerings are subject to revision as the program evolves and in response to changes in the Commercial and Industrial (C&I) construction market. Consult program representatives before beginning a project.

The New Jersey SmartStart Buildings Program has several participation options, depending on the building's status in the construction or renovation schedule and the owner's wishes. There are also several specialized services and options to address unique efficiency opportunities.

Customers can participate in the Program via two distinct avenues:

1. **Prescriptive Measures** – allows customers to choose equipment from a pre-qualified list of measures and receive an incentive.
2. **Custom Measures** – allows customers to request technical assistance to qualify unique measures of their choosing that are not on the prescriptive list, and may receive an incentive.

SECTION II - PROGRAM SERVICES, INCENTIVES, & REQUIREMENTS

A. Basic Program

1. Program Measures and Incentives

a. Prescriptive Measures

Overview

Prescriptive Measures allow customers to choose equipment from a pre-qualified list of energy-efficiency measures and receive a fixed incentive. This path is designed for customers who have projects that are beyond the design phase. These may include new construction, renovation, remodeling, and equipment replacement projects.

Eligibility and Incentives

Commercial and industrial customers of any size are eligible for measures found in the prescriptive measure lists. Prescriptive measures are those technologies where energy savings can be predicted with reasonable accuracy across all applications. These technologies include: lighting equipment and controls, unitary HVAC equipment, chillers, motors, and variable frequency drives.

A summary of the range of technologies and incentives is listed below. Full Eligible Measure and Incentive Tables, as well as technical and minimum requirements relating to specific prescriptive measures, are appended to this Program Guide.

b. Custom Measures

Overview

Custom Measures are designed to encourage measures that are innovative and more energy efficient than today's standards, and have not yet been adopted as a prescriptive technology. This path allows customers to request an assessment of measures of their own choosing that are not on the prescriptive list. The Custom Measures option allows for consideration of projects that are more complex than the Prescriptive measures, but involve less than a whole building design.

Eligibility, Services, Requirements, and Incentives

Custom measures are more complex projects that do not lend themselves to, or have not yet been adopted as, prescriptive projects, and yet involve less than a comprehensive building design. Often the savings generated by these measures are site- and end-use specific, and thus a detailed analysis is required to qualify them for incentives. Custom

Measures may include HVAC systems, refrigeration measures, and a variety of industrial process end-uses.

Project viability, eligibility, and incentives are assessed on a case-by-case basis and may be determined as part of a technical study, which details energy and demand savings and project costs. The study is conducted according to specified procedures and is subject to our review and approval. Consult the appendix of this document for a guide to elements needed for a technical study proposal. In other cases, custom measure applications may contain all of the information necessary for processing without the need for a formal technical study.

To be eligible, a proposed custom project must offer a minimum first-year energy savings of 75,000 kWh for electric projects or 1,500 therms for gas projects. This requirement may be waived by the Market Manager on a case-by-case basis if project savings are within 10% of these minimum requirements. Projects with both electric and gas savings may be considered for incentives if either of the minimum savings requirements are met. Multiple smaller applications may not be grouped to meet minimum savings requirements.

The baseline standard practice against which energy savings for each proposal will be judged is to be determined on a case-by-case basis, using such resources as: current New Jersey baseline studies and other market research; the program experience of the Commercial/Industrial Market Manager; and experience of the New Jersey utilities or utility/public program experience from other comparable jurisdictions.

The established incentive cap will be the lesser of a set value of \$.16/kWh and \$1.60/therm based on estimated annual savings, 50% of the total installed project cost, or a buy down to a one year payback. In addition, all custom projects must have an IRR greater than or equal to 10%. The baseline for retrofit projects will be existing conditions. Custom measures for retrofit projects must exceed ASHRAE 90.1-2007 standards by at least 2% where specific standards exist. Where ASHRAE guidelines do not apply, measures will be required to exceed industry standards as determined by the Consortium for Energy Efficiency (CEE), EPA's ENERGY STAR[®], and/or others. New construction and complete "gut-rehab" projects will use ASHRAE 90.1-2007 as the baseline for estimating energy savings. For new construction and major gut/rehab projects, baseline measure costs will be determined on a case-by-case basis, using the Market Manager's measure cost research, program experience, and technical judgment.

We reserve the right to limit funding on a per project or customer basis, based on the availability of funds and other program considerations.

SECTION III - PROCESS TO EVALUATE POTENTIAL TECHNOLOGIES OR MEASURES

Guidelines for Qualifying Technologies as Potential Prescriptive Measures in the New Jersey SmartStart Buildings Program

The purpose of this document is to assist vendors on how technologies or measures can be included in the New Jersey SmartStart Buildings (NJSSB) program's prescriptive list for incentives. This document defines, in general terms, how energy efficient technologies and conservation measures can be added to the prescriptive list and identifies the process steps.

Conservation measures and energy efficient technologies that are on the present prescriptive list have established performance and reliability characteristics that lend them to well-defined outcomes for energy savings and long life of use.

For energy efficient technologies and conservation measures that are not on the present prescriptive list, a custom path in the program has been developed for the purpose of evaluating their performance and potential energy savings characteristics. This path allows for new or unknown technologies and measures to become eligible for incentives and be tested at customer locations within the State. If these custom measures satisfy the requirement of predictability of energy savings and the general procedure below, they may move forward and be adopted onto the prescriptive list.

General Procedure for evaluating new potential measures

Step A. Screening Criteria

The energy efficient technology or measure must meet the following screening criteria:

- Cannot be 'standard practice' Definition: A 'standard practice' measure is already being widely purchased and installed in New Jersey without incentives (e.g., insulation). This may be a partially subjective determination based on the professional judgment of program representatives.
- Cannot void end use equipment manufacturer's warranty. The vendor must document that the product will not impact OEM warranty or void any safety certification of impacted equipment.
- Must be safety tested and certified by a nationally recognized testing lab (NRTL).
- Must meet codes (all applicable local, state, and federal codes).
- Must be commercially available in the marketplace from two or more manufacturers.
- Energy performance evaluation must be conducted by a nationally recognized independent testing lab including any negative impact on performance of host equipment.

- Should not be a maintenance measure or a substitute for maintenance activities. This may be a partially subjective determination based on the professional judgment of program representatives.
- Should have substantial market potential based on the judgment of program representatives.

First pass the 8 screening criteria above, then;

Step B.

Demonstrate at least three (3) installations within the custom path, with product in use at several customer locations within New Jersey. This requirement will be determined by program representatives on a case-by-case basis. Metering of some installations may be required to satisfy steps C, D and E below.

Step C.

New measures will be evaluated using a custom measure-screening process which includes a minimum internal rate of return (IRR) along with other criteria for cost effectiveness. An IRR of $\geq 10\%$ will be required before any further evaluation steps are taken by program representatives. Third-party case studies or laboratory reports may be used to support energy savings figures and provide a thorough description of the unique technology. The program representatives may determine additional necessary information required for the evaluation of new technologies.

Step D.

Savings should be predictable enough to establish an incentive that meets confidence of energy savings as other prescriptive measures do.

Step E.

Costs should be sufficiently constant to establish a prescriptive incentive.

After above steps have been met, and the technology evaluated, the program representatives will present the technology and a recommended incentive to the Energy Efficiency Committee at their monthly meeting. After committee presentation and the opportunity to community, a recommendation is sent to the NJ Board of Public Utilities' Office of Clean Energy to adopt the technology as a prescriptive measure in the program. If the Office of Clean Energy agrees with the findings, this technology or measure will become part of the program.

APPENDIX - Specific Requirements

New Jersey SmartStart Buildings Program Custom Measure Opportunities		
Application or Energy End Use	Current Design Practice Or Baseline Practice	Possible Energy-Efficiency Improvements
Window and Skylight Glazing	<p>0.78 for windows 10% or less of total wall area</p> <p>0.59 for windows between 10% and 30% of total wall area</p> <p>0.52 for windows greater than 30% of total wall area</p> <p>0.46 in curtain walls, atrium and skylights</p>	<p>0.51 for windows 10% or less of total wall area</p> <p>0.44 for windows between 10% and 30% of total wall area</p> <p>0.41 for windows greater than 30% of total wall area</p> <p>0.35 in curtain walls, atrium and skylights</p>
Air Distribution in all building types	Constant volume distributed HVAC systems	VAV Distribution Systems
Fume hood exhaust systems (Not for kitchen hoods)	VAV and VFD supply and exhaust distributed HVAC systems	Improvements above this baseline
Water Source Heat Pump Systems	<p>Constant flow water loop</p> <p>Forced draft cooling tower with constant speed centrifugal fan</p>	<p>Variable flow water loop with VFD</p> <p>Cooling tower with VFD or evaporative cooling tower with or without VFD</p>
Chilled Water Plant (new and existing)	<p>Chiller water reset based on return water temp</p> <p>Primary/Secondary pumping with constant speed pump</p> <p>Cooling towers with multiple fans or dual fans with single speed.</p> <p>Constant flow condenser water pump system</p> <p>Chiller sequencing controls on load</p> <p>No heat-x-changers</p> <p>No thermal storage</p>	<p>Chilled water reset based on building HVAC loads and discharge air temps</p> <p>VFD's on pumps or multiple sequenced high efficiency pumps on secondary distribution system</p> <p>VFD's on condenser water pump system</p> <p>Optimization chiller sequencing controls based on load and overall operation kW/ton</p>
Building Controls	No EMS (EMS is defined as an energy management system that controls multiple technologies.)	<p>Controls on more than one technology and must have a central controller.</p> <p>Additional eligibility requirements may be required. Typically, HVAC and lighting are common systems to be controlled.</p> <p>Control systems must achieve a more comprehensive level of control than required by ASHRAE 90.1-2007.</p> <p>Basic temperature setback and occupancy/time clock based lighting management will not be considered as a custom measure.</p>

New Jersey SmartStart Buildings Program Custom Measure Opportunities		
Application or Energy End Use	Current Design Practice Or Baseline Practice	Possible Energy-Efficiency Improvements
Boiler equipment (greater than 1500 MBH)	Single operation burners	Modulating Burners
Package Humidification	Electric resistance steam generators	Ultrasonic humidification
Retail display refrigeration	<p>Multiplexed refrigeration racks</p> <p>Constant speed on lead compressors</p> <p>Plate and frame sub-coolers</p> <p>Floating head pressure controls</p> <p>T8's for case lights</p> <p>Air cooled condensers</p> <p>Screw compressors</p> <p>Case doors with anti-sweat heat controls</p> <p>Humidity controls with reheat</p> <p>Refrigeration heat recovery for DHW</p> <p>Self contained TEV (thermal expansion valves)</p> <p>Rack type refrigeration comp.</p>	<p>VFD on lead compressor</p> <p>Evaporative condensers VFD's on condenser fans</p> <p>Scroll compressors</p> <p>Heat pipe on HVAC unit with coil bypass</p> <p>Low temperature air distribution</p> <p>Electronic controlled TEV</p> <p>Distributed refrigeration systems (no pumps, smaller diameter pipes)</p>
Other commercial or Industrial refrigeration	<p>Evaporative cooled condensers</p> <p>Standard size evaporative coils and controls</p> <p>Single-stage compressor system</p> <p>Floating head pressure controls, electric defrost control, and sub coolers</p> <p>Standard design cooling equipment and controls sequences</p>	<p>Oversized evaporative condensers with VFD's on evaporative condenser fans</p> <p>Oversized/lower fan HP evaporative coils</p> <p>Multi-stage compressor systems</p> <p>Oversized cooling equipment with thermal shifting capacity</p> <p>Gas engine driven compressors</p> <p>Desiccant dehumidification not covered in prescriptive</p>
Waste water treatment and fresh water plants	Fine bubble aeration with multi-stage centrifugal blower and constant speed motors, VFD's on all pumps 25 HP and larger, constant speed on all pumps 25 HP or less, VFD's on ID fans and fume control system	

Ice Rinks	<p>Low E ceilings</p> <p>Water-cooled electric chiller</p> <p>Multi-stage brine pump (smart drive)</p> <p>Floating head pressure controls down to 75 deg F</p>	<p>Gas engine driven compressors</p> <p>Desiccant dehumidification not covered in prescriptive</p> <p>Ice temperature reset based on occupancy/use</p>
Plastic Injection Molding Machines	Enhanced hydraulic operated with VFD's on motor	All electric machine, but may include an upgrade to existing chilled water plant (50-400 ton units excluded).
Interior lighting	See Performance Lighting Approach	
Exterior Lighting	See Performance Lighting Approach	
Lighting controls	Only measures in present program will receive an incentive. See building controls for custom	

Electric Chillers Efficiency Levels and Incentives

Water-Cooled Chillers			Water-Cooled Chillers					Air-Cooled Chillers		
All Compressor Types	Incentives (<70 tons)	Incentives (70 to <150 tons)	All Compressor Types	Incentives* (150 to <300 tons)		Incentives* (≥300 tons)		All Compressor Types	Incentives (<150 tons)	Incentives (≥150 tons)
KW/Ton	Full Load \$/Ton	Full Load \$/Ton	KW/Ton	Full Load \$/Ton	(PLV) \$/Ton	Full Load \$/Ton	(PLV) \$/Ton	KW/Ton	Full Load \$/Ton	Full Load \$/Ton
0.75	\$16	\$25	0.56	\$16				1.20	\$14	\$8
0.74	\$18	\$26	0.55	\$21				1.19	\$16	\$10
0.73	\$20	\$27	0.54	\$26				1.18	\$18	\$12
0.72	\$22	\$28	0.53	\$31				1.17	\$20	\$14
0.71	\$24	\$30	0.52	\$36				1.16	\$22	\$16
0.70	\$26	\$32	0.51	\$41				1.15	\$24	\$18
0.69	\$28	\$34	0.50	\$46	\$16			1.14	\$26	\$20
0.68	\$30	\$36	0.49	\$51	\$22			1.13	\$28	\$22
0.67	\$32	\$38	0.48	\$56	\$29			1.12	\$30	\$24
0.66	\$34	\$40	0.47	\$61	\$35	\$12		1.11	\$32	\$26
0.65	\$36	\$42	0.46	\$66	\$41	\$14	\$12	1.10	\$34	\$28
0.64	\$38	\$44	0.45	\$71	\$47	\$16	\$14	1.09	\$36	\$30
0.63	\$40	\$46	0.44	\$76	\$54	\$18	\$16	1.08	\$38	\$32
0.62	\$42	\$48	0.43	\$81	\$60	\$20	\$18	1.07	\$40	\$34
0.61	\$44	\$50	0.42	\$86	\$66	\$25	\$20	1.06	\$42	\$36
0.60	\$46	\$52	0.41	\$91	\$72	\$30	\$25	1.05	\$44	\$38
0.59	\$48	\$54	0.40	\$96	\$79	\$40	\$30	1.04	\$46	\$40
0.58	\$50	\$56	0.39	\$101	\$85	\$50	\$42	1.03	\$48	\$42
0.57	\$52	\$58	0.38	\$106	\$91	\$60	\$53	1.02	\$50	\$44
0.56	\$54	\$60	0.37	\$111	\$97	\$70	\$65	1.01	\$52	\$46
			0.36	\$116	\$104	\$80	\$77			
			0.35	\$121	\$110	\$90	\$89			
			0.34	\$126	\$116	\$100	\$100			
			0.33	\$131	\$122	\$110	\$112			
			0.32	\$136	\$129	\$120	\$124			
			0.31	\$141		\$130				
			0.30			\$140				
			0.29			\$150				
			0.28			\$160				
			0.27			\$170				
			0.26							

Electric Chiller Requirements:

- Applicant must submit for approval a properly completed Application Package, which includes an Application, utility bill, manufacturer's specification sheet, W9 form and tax clearance certificate.
- Please submit manufacturer's certified AHRI performance sheet with the application package and mail or fax directly to the Commercial/Industrial Market Manager.
- Incentive is available for meeting either the full load kW/ton level or the partial load kW/ton, but not both.
- Incentives are available for new centrifugal chillers outfitted at the factory with Variable Frequency Drives (VFDs) calculated at the appropriate partial load kW/ton level. There is no extra incentive for the VFD.
- All water cooled chillers must be submitted at AHRI conditions of:
 - Evaporator - 54 degrees entering water temperature (EWT) and 44 degrees leaving water temperature (LWT)
 - Condenser - 85 degrees EWT and 95 degrees LWT
- Efficiency requirements must comply with ASHRAE Standard 90.1-2007.
- Electric chiller full and part-load efficiencies are determined in accordance with A.H.R.I. Standard 550/590-2003

Gas Cooling Equipment Efficiency Levels and Incentives			
Gas Absorption Chillers			Regenerative Desiccant Units
Size Range	Indirect-Fired (Incentive & Efficiency Threshold)	Direct-Fired (Incentive & Efficiency Threshold)	Incentive per CFM (based on process airflow)
<100 tons	≥ 1.1 F.L. COP \$450/ton	≥ 1.1 F.L. COP \$450/ton	\$1.00 per CFM
100 to 400 tons	≥ 1.1 F.L. COP \$230/ton	≥ 1.1 F.L. COP \$230/ton	Eligible when matched with core gas or electric cooling equipment
>400 tons (only two-stage chillers)	≥ 1.1 F.L. COP \$185/ton	≥ 1.1 F.L. COP \$185/ton	

Gas Cooling Requirements:

- Applicant must submit for approval a properly completed Application Package, which includes an Application, utility bill, manufacturer's specification sheet, W9 form and tax clearance certificate.
- Include the manufacturer's specification sheet with the application package.
- Chiller full and part load efficiencies are determined in accordance with AHRI Standard 550/590-2003.
- Efficiency requirements must comply with ASHRAE Standard 90.1-2007.
- Full load efficiencies are determined in accordance with A.H.R.I. 560 however part load efficiencies are not rated.

Electric Unitary HVAC Efficiency Levels and Incentives			
Unitary HVAC/Split Systems		Water Source Heat Pumps	
< 5.4 tons	14.0 SEER \$92/ton	≤ 5.4 tons	14.0 EER \$81/ton
≥ 5.4 to < 11.25 tons	11.5 EER \$73/ton	> 5.4 tons	14.0 EER \$81/ton
≥ 11.25 to < 20 tons	11.5 EER \$79/ton		
≥ 20 to 30 tons	10.5 EER \$79/ton		
Air-to-Air Heat Pump Systems		Central DX AC Systems	
< 5.4 tons	14.0 SEER & 7.8 HSPF \$92/ton	> 30 to 63 tons	≥ 9.5 EER \$40/ton
≥ 5.4 to < 11.25 tons	11.5 EER \$73/ton	> 63 tons	≥ 9.5 EER \$72/ton
≥ 11.25 to < 20 tons	11.5 EER \$79/ton		
≥ 20 to 30 tons	10.5 EER \$79/ton		
Packaged Terminal Systems		Dual Enthalpy Economizer Controls	
< 9000 BTUH	12.0 EER \$65/ton	ALL	\$250/Unit
≥ 9,000 BTUH to 12,000 BTUH	11.0 EER \$65/ton		
> 12,000 BTUH	10.0 EER \$65/ton		
A/C Economizing Controls		Occupancy Controlled Thermostats (for Hospitality/Institutional facilities)	
≤5 tons	\$85/Unit	\$75 per occupancy controlled thermostat	
> 5 tons	\$170/Unit		

Electric Unitary HVAC Requirements:

- Applicant must submit for approval a properly completed Application Package, which includes an Application, utility bill, manufacturer's specification sheet, W9 form and tax clearance certificate.
- Include the manufacturer's specification sheet and AHRI Certified Net Capacity with the application package.
- Both indoor and outdoor components of a Split System must be replaced to qualify for an incentive.
- Incentive calculation is based on the Electric Unitary HVAC equipment capacity at AHRI Certified Net Capacity and Rating at operating conditions; it is not based on the nominal Electric Unitary HVAC equipment capacity.
- Dual Enthalpy Economizer Control incentive is available with new installation on qualifying Electric Unitary HVAC equipment.
- Efficiency requirements must comply with ASHRAE Standard 90.1-2007.

- Incentive for qualifying Central DX AC Systems > 63 tons for existing buildings only. New construction ineligible.
- A/C economizing controls incentive available for both retrofits and new units without a current economizing control installed.
- All A/C economizing controls must be listed by UL or other OSHA approved Nationally Recognized Testing Laboratory (NRTL) in accordance with applicable US standards.

Ground Source Heat Pump Equipment Efficiency Levels and Incentives		
Ground Loop & Ground Water Heat Pumps		
Type	Qualifying Efficiency Level	Incentive
Closed Loop ≥ 16 EER	≥ 16 EER	Up to \$450/ton
	≥ 18 EER	Up to \$600/ton
	≥ 20 EER	Up to \$750/ton

Ground Source Heat Pump Requirements:

- Applicant must submit for approval a properly completed Application Package, which includes an Application, utility bill, manufacturer's specification sheet, W9 form and tax clearance certificate.
- Include the manufacturer's specification sheet with the application.
- Performance ratings (EER, Btuh) for qualifying closed loop Ground Source Heat Pump equipment are calculated at 77 degrees Fahrenheit entering water temperature per test procedure ISO-13256-1.
- No incentives are available for open loop Ground Source Heat Pump equipment.
- Efficiency requirements must comply with ASHRAE Standard 90.1-2007.

Variable Frequency Drive Incentives	
Centrifugal Fan Applications on Variable Air Volume HVAC Systems	
Cumulative Motor HP Controlled by Each VFD	Incentive \$/Cumulative HP Controlled
5 to < 10 hp	\$155 per hp
10 to < 20 hp	\$120 per hp
20 + hp	\$65 per hp
Cooling Tower Fan Systems	
≥ 10 HP	\$60 per VFD rated hp
Chilled Water Pump Motors for HVAC Systems	
20 + hp	\$60 per VFD rated hp
Rotary Screw Air Compressors	
25 to 29 hp	Up to \$5,250
30 to 39 hp	Up to \$6,000
40 to 49 hp	Up to \$7,200
50 to 59 hp	Up to \$8,000
60 to 199 hp	Up to \$9,000
200 to 249 hp	Up to \$10,000
≥ 250 hp	Up to \$12,500
Boiler Draft Air Fans or Feed Water Pumps	
Cumulative Motor HP Controlled by Each VFD	Incentive \$/Cumulative HP Controlled
5 to <10 hp	\$155 per hp
10 to < 20 hp	\$120 per hp
20 + hp	\$65 per hp
Kitchen Hoods (New)	
Cumulative Motor HP Controlled by Each VFD	Incentive \$/Cumulative HP Controlled
<5 hp	\$250/hp
5 to <10 hp	\$200/hp
10 to <15 hp	\$150/hp
15 to <20 hp	\$125/hp
20 to <25 hp	\$105/hp
25 to <30 hp	\$90/hp
30 to ≤50 hp	\$55/hp

Kitchen Hoods (Retrofit)	
Cumulative Motor HP Controlled by Each VFD	Incentive \$/Cumulative HP Controlled
<5 hp	\$300/hp
5 to <10 hp	\$200/hp
10 to <15 hp	\$160/hp
15 to <20 hp	\$125/hp
20 to <25 hp	\$95/hp
25 to <30 hp	\$80/hp
30 to ≤50 hp	\$55/hp

Variable Frequency Drives Requirements:

- Applicant must submit for approval a properly completed Application Package, which includes an Application, utility bill, manufacturer's specification sheet, W9 form and tax clearance certificate.
- Include the manufacturer's specification sheet with the application package.
- Incentives for VFDs in HVAC VAV systems are available only for installing a VFD on existing VAV systems as an add-on measure. Replacement of an existing VFD on VAV systems and installations on VAV systems in new construction are not eligible for incentives.
- The Variable Frequency Drive (VFD) incentive for cooling towers is available for existing single speed motors only. Replacement of two speed motor with single speed / VFD motor, replacement of existing VFD and new construction do not qualify.
- The Variable Frequency Drive (VFD) incentive for pumps is available only for VFDs installed on centrifugal chilled water pump motors for HVAC systems.
- The VFDs must be installed in a system (VAV air supply or chilled water pumping systems) that incorporates pressure sensors (or other applicable sensor devices) in the flow stream.
- The VFD must have either an input line reactor or isolation transformer.
- All VFDs/controls must be UL or other OSHA approved Nationally Recognized Testing Laboratory (NRTL) in accordance with applicable US standards.
- Specific VFD requirements for boiler draft fan and feed water pumps:
 - Incentive for existing single speed motors only. Replacement of two speed motor with single speed / VFD motor, replacement of existing VFD and new construction do not qualify.
 - VFDs must be controlled by an automatic signal in response to modulating air/water flows.
 - Minimum 3% in-line reactor or equivalent based on drive horsepower.
- Specific VFD requirements for kitchen hoods:
 - VFD incentives will not be provided for replacement of two speed motor with single speed / VFD motor or replacement of existing VFD.

Gas Water Heating Efficiency Levels and Incentives				
Gas-Fired Water Booster Heaters		Gas Water Heaters ≤ 50 Gallons		
Capacity – MBH	Incentive	Capacity – MBH	Incentive	
≤ 100 MBH	\$35 per MBH	0.67 or better Energy Factor	\$50 per water heater	
> 100 MBH	\$17 per MBH	Size limit: ≤ 50 gallons		
Tankless Water Heaters (Instantaneous)		Gas Water Heaters > 50 Gallons		
Minimum Efficiency	Incentive	< 300 MBH	85% AFUE	\$2.00 per MBH, not less than \$50/unit
≥ 82% energy factor, 90% Thermal Efficiency	\$300 per tankless water heater	≥ 300 – 1500 MBH	85% AFUE	\$1.75 per MBH
		> 1500 - ≤ 4000 MBH	84% AFUE	\$1.00 per MBH

This incentive is only available for the replacement of existing, free-standing water heaters.

Gas Water Heating Requirements:

- Applicant must submit for approval a properly completed Application Package, which includes an Application, utility bill, manufacturer's specification sheet, W9 form and tax clearance certificate
- Include the manufacturer's specification sheet with the application package.

Gas Heating Efficiency Levels and Incentives		
Gas-Fired Boilers		
Capacity – MBH	Minimum Efficiency	Incentive
< 300 MBH	85% AFUE	\$2.00 per MBH but not less than \$300 per unit
≥ 300 – 1500 MBH	85% AFUE for Hot Water boilers, 84% AFUE for Steam boilers	\$1.75 per MBH
> 1500 - ≤ 4000 MBH	84% AFUE for Hot Water boilers, 83% for Steam boilers	\$1.00 per MBH
> 4000 MBH	See Custom Measure Path	
Gas Furnaces		
Capacity	Minimum Efficiency	Incentive
No size/capacity limitation	≥ 95% AFUE, ≥ 2.0% Fan Efficiency, ENERGY STAR	\$400 per furnace
Low Intensity Infrared Heating (Indoor Units Only)		
Capacity		Incentive
≤100,000 btu/hr		\$500/unit
≥100,000 btu/hr		\$300/unit
Boiler Economizing Controls		
Capacity (Btu)		Incentive
0-800,000		\$1,200
800,001-1,599,999		\$1,500
1.6 mil-2,499,999		\$1,800
2.5 mil-2,999,999		\$1,800
3 mil-3,499,999		\$2,100
3.5 mil-3,999,999		\$2,400
≥ 4 mil		\$2,700

Gas Heating Requirements:

- Applicant must submit for approval a properly completed Application Package, which includes an Application, utility bill, manufacturer's specification sheet, W9 form and tax clearance certificate.
- Include the manufacturer's specification sheet with the application package.
- Boiler economizing controls incentive available for both retrofits and new units without a current economizing control installed.
- All boiler economizing controls must be listed by UL or other OSHA approved Nationally Recognized Testing Laboratory (NRTL) in accordance with applicable US standards.

Qualifying Premium Motor Efficiencies and Incentives									
Premium Motor Incentives Open Drip-Proof (ODP)					Premium Motor Incentives Totally Enclosed Fan-Cooled (TEFC)				
Size HP	Speed (RPM)			Customer Incentive (\$/Motor)	Size HP	Speed (RPM)			Customer Incentive (\$/Motor)
	1200	1800	3600			1200	1800	3600	
	NEMA Nominal Efficiency					NEMA Nominal Efficiency			
1	82.5%	85.5%	77.0%	\$45	1	82.5%	85.5%	77.0%	\$50
1.5	86.5%	86.5%	84.0%	\$45	1.5	87.5%	86.5%	84.0%	\$50
2	87.5%	86.5%	85.5%	\$54	2	88.5%	86.5%	85.5%	\$60
3	88.5%	89.5%	85.5%	\$54	3	89.5%	89.5%	86.5%	\$60
5	89.5%	89.5%	86.5%	\$54	5	89.5%	89.5%	88.5%	\$60
7.5	90.2%	91.0%	88.5%	\$81	7.5	91.0%	91.7%	89.5%	\$90
10	91.7%	91.7%	89.5%	\$90	10	91.0%	91.7%	90.2%	\$100
15	91.7%	93.0%	90.2%	\$104	15	91.7%	92.4%	91.0%	\$115
20	92.4%	93.0%	91.0%	\$113	20	91.7%	93.0%	91.0%	\$125
25	93.0%	93.6%	91.7%	\$117	25	93.0%	93.6%	91.7%	\$130
30	93.6%	94.1%	91.7%	\$135	30	93.0%	93.6%	91.7%	\$150
40	94.1%	94.1%	92.4%	\$162	40	94.1%	94.1%	92.4%	\$180
50	94.1%	94.5%	93.0%	\$198	50	94.1%	94.5%	93.0%	\$220
60	94.5%	95.0%	93.6%	\$234	60	94.5%	95.0%	93.6%	\$260
75	94.5%	95.0%	93.6%	\$270	75	94.5%	95.4%	93.6%	\$300
100	95.0%	95.4%	93.6%	\$360	100	95.0%	95.4%	94.1%	\$400
125	95.0%	95.4%	94.1%	\$540	125	95.0%	95.4%	95.0%	\$600
150	95.4%	95.8%	94.1%	\$630	150	95.8%	95.8%	95.0%	\$700
200	95.4%	95.8%	95.0%	\$630	200	95.8%	96.2%	95.4%	\$700

Fractional < 1 HP Electric Commutated Motors (ECM) \$40 per ECM, replacement of existing shaded pole motor in refrigerated/freezer cases.

> 200 HP must follow the Custom Electric Equipment Path

Premium motor incentives will be discontinued as of March 1, 2013. Fractional HP ECMs for refrigerated/freezer cases will not be affected.

Premium Motors Requirements:

- Applicant must submit for approval a properly completed Application Package, which includes an Application, utility bill, manufacturer's specification sheet, W9 form and tax clearance certificate.
- Include the manufacturer's specification sheet with the application package.
- Incentives are only available for qualifying Premium Motors that operate at least 2000 run hours annually.

Prescriptive Lighting Measures Incentives	
Type of Fixture	Incentive
Recessed and Surface-Mounted Compact Fluorescents (New Fixtures Replacing Incandescent Fixtures Only): Only available for hard-wired, electronically ballasted new fixtures with rare earth phosphor lamps and 4-pin based tubes (including: twin tube, quad tube, triple tube, 2D or circline lamps) or GU24 based lamps, THD<33% and BF>0.9	\$25 per 1-lamp fixture \$30 per 2-lamp or more fixture
Screw-in PAR 38 or PAR 30 Compact Fluorescent Lamps (CFL)	\$7 per lamp replaced
High-Efficiency Fluorescent Fixtures: T-12 to T-5 or T-8 with electronic ballasts	\$10 per fixture for T12 to T8/T5 (1-4 lamps retrofit)
For replacement of fixtures with new T-5 or T-8 fixtures: (Old Type, Old Wattage, New Type)	Incentive per fixture:
(HID-T-12-Incandescent, ≥1000, T-5/T-8)	\$200
(HID-T-12-Incandescent, 400-999, T-5/ T-8)	\$100
(HID-T-12-Incandescent, 250-399, T-5/ T-8)	\$50
(HID Only, 175-249, T-5/T-8)	\$43
(HID Only, 100-174, T-5/T-8)	\$30
(HID Only, 75-99, T-5/T-8)	\$16
(T-12 Only, <250, T-5/T-8 - 1-4 lamps)	\$25
For retrofit of T-8 fixtures by permanent delamping & new reflectors are available only for fixtures with a Total Harmonic Distortion of ≤20%. Electronic ballast replacement required for all eligible delamped fixtures.	\$15 per fixture
New Construction	Performance based only
LED Exit Signs (new fixtures only): For existing facilities with connected load ≤75kW	\$20 per fixture
LED Exit Signs (new fixtures only): For existing facilities with connected load ≥75kW	\$10 per fixture
Pulse Start Metal Halide (for fixtures ≥150 watts)	\$25 per fixture (includes parking lot)
T-12 to T-8 fixtures by permanent delamping & new reflectors. Electronic ballast replacement is necessary for all eligible delamped fixtures.	\$20 per fixture
Retrofit of existing 32 watt T-8 system to Reduced Wattage (28W/25W 4')	\$10/fixture (1-4 lamps)

Induction Lighting Fixture - Retrofit of HID	\$50/HID ($\geq 100W$) fixture retrofitted with induction lamp, power coupler and generator. Replacement unit must use 30% less wattage/ fixture than existing HID system.
Induction Lighting Fixture - Replacement of HID	\$70/HID ($\geq 100W$) fixture with a new induction fixture. Replacement unit must use 30% less wattage/ fixture than existing HID system.
LED Display Case Lighting	\$30 per display case
LED Shelf-Mounted Display and Task Lights	\$15 per linear foot
LED Portable Desk Lamps	\$20 per fixture
LED Wall-Wash Lights	\$30 per fixture
LED Recessed Down Lights	\$35 per fixture
LED Outdoor Pole/Arm-Mounted Area and Roadway Luminaires	\$175 per fixture
LED Outdoor Pole/Arm-Mounted Decorative Luminaires	\$175 per fixture
LED Outdoor Wall-Mounted Area Luminaires	\$100 per fixture
LED Parking Garage Luminaires	\$100 per fixture
LED Track or Mono-Point Directional Lighting Fixtures	\$50 per fixture
LED High-Bay and Low-Bay Fixtures for Commercial & Industrial Buildings	\$150 per fixture
LED High-Bay-Aisle Lighting	\$150 per fixture
LED Bollard Fixtures	\$50 per fixture
LED Linear Panels (1x4, 2x2, and 2x4 Troffers Only)	\$50 per fixture
LED Fuel Pump Canopy	\$100 per fixture
LED Screw-Based and Pin-Based (PAR, MR, BR, R), Standard (A-style) and Decorative (globe, candelabra, etc) Lamps.	\$20/lamp
LED Refrigerated/Freezer Case Lighting: Incentive for replacement of fluorescent lighting systems in medium or low temperature display cases	\$30 per 4' fixture \$42 per 5' fixture \$65 per 6' fixture
LED Retrofit Kits	To be evaluated through the custom measures path

Incentives for T12 retrofits and replacements will be discontinued as of March 1, 2013.

Prescriptive Lighting Requirements:

- Applicant must submit for approval a properly completed Application Package, which includes an Application, Prescriptive Lighting worksheet, utility bill, W9 form and tax clearance certificate.
- Include the manufacturer's specification sheet with the application package.
- Incentives for T-5 and T-8 lamps with electronic ballasts are available only for fixtures with a Total Harmonic Distortion of $\leq 20\%$.
- Incentives for retrofits/replacement of existing fixtures $\leq 250\text{W}$ to T-8 lighting requires high performance or reduced wattage lamps (4' only) and ballasts qualified by CEE.
 - Incentives for delamped T-8 lamps with new reflectors are available only for fixtures with a total Harmonic Distortion of $<20\%$. Electronic ballast replacement required for all eligible de-lamped fixtures. Eligible de-lamping can include reduction in linear lamp feet from existing conditions. For example, 1-8' linear fluorescent lamp can be considered as 2-4' linear lamps. U-bend lamps 4' in total length can be considered as 2-F17/T8 lamps.
 - Electronic ballast replacement is necessary for all eligible de-lamped fixtures.
 - Reduced wattage T8 (28W/25W 4') (1-4 lamps) retrofit requires lamp and ballast replacement.
- For all eligible lighting devices, fixture or lamp must be listed by UL or other OSHA approved Nationally Recognized Testing Laboratory (NRTL) in accordance with applicable US standards.
- Pulse Start Metal Halide (including pole-mounted parking lot lighting) must have a 12% minimum wattage reduction.
- T-5 or T-8 Fixtures replacing incandescent or T-12 fluorescent fixtures greater than 250 watt or High Intensity Discharge shall comply as follows:
 - T-5 fixtures replacing T-12 fluorescent or incandescent fixtures 250 watts or greater, or HID fixtures shall have a ballast factor greater than or equal to 1.0; have reflectivity greater than or equal to 91%; have a minimum 2 lamps; and be designated as F54T5 HO.
 - T-8 fixtures replacing T-12 fluorescent or incandescent fixtures 250 watts or greater, or HID fixtures shall have a ballast factor greater than or equal to 1.14; have reflectivity greater than or equal to 91%; have a minimum of 4 lamps; and be designated as F32T8, minimum 32 watts.
- Incentives requirements for LED fixtures and lamps
 - LED fixture or lamp must be listed on ENERGY STAR or Design Lights Consortium Qualified (DLC) Product Lists
 - For replacement of incandescent, fluorescent and HID only
 - LEDs categories not listed by ENERGY STAR or DLC qualified products will not be evaluated through Custom for incentive eligibility.

Lighting Control Prescriptive Incentives	
Non High Bay Applications Only	
Wired Control Device Type	Incentive per Unit
OSW – Occupancy Sensor Wall Mounted (Existing facilities only)	\$20 per control
OSR – Occupancy Sensor Remote Mounted (Existing facilities only)	\$35 per ballast
DLD – Fluorescent Daylight Dimming	\$25 per fixture controlled \$50 per fixture controlled (office applications only)
OHLF – Occupancy Controlled High-Low with Step Ballast	\$25 per fixture controlled
High Bay Applications Only	
Wired Control Device Type	Incentive per Unit
OSRH – Occupancy Sensor Remote Mounted	\$35 per control
OHLH – Occupancy Controlled High-Low with Step Ballast	\$75 per fixture controlled
DDH – Daylight Dimming	\$75 per fixture controlled

Lighting Controls Requirements:

- Applicant must submit for approval a properly completed Application Package, which includes an Application, a Lighting Control worksheet, utility bill, and manufacturer's specification sheet.
- Include the manufacturer's specification sheet with the application package.
- All lighting controls must be listed by UL or other OSHA approved Nationally Recognized Testing Laboratory (NRTL) in accordance with applicable US standards.
- If more than one eligible lighting control device is associated with the same eligible fixture, the incentive paid will be for the lighting control device that yields the largest incentive only.
- Occupancy Sensor Controls (existing facilities only):
 - There is no incentive available for occupancy sensors installed in a space where they are prohibited by state or local building or safety code. Additionally, no incentive is eligible for occupancy sensors in the following specific spaces in all cases: stairways, restrooms (remote mounted only allowed), elevators, corridors/hallways, lobbies, and closets/storage areas.
 - Incentives will only be paid for eligible occupancy sensors (OSW & OSR) controlling at least 2 eligible lighting fixtures and, for OSR installations, a minimum total connected load of 180 watts.

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- Incentives will only be paid for eligible OSRH occupancy sensors controlling eligible fixtures when the controlled wattage is greater than 180 watts.
 - Occupancy sensors with manual override to the “ON” position are ineligible for incentive.
 - High-Low Controls (OHLF and OHLH):
 - Incentives will not be paid for high-low controls on eligible fluorescent fixtures where daylight dimming controls can be effectively employed.
 - Incentives will not be paid for spaces where the bottom of the fixture does not comply with the appropriate Prescriptive Lighting 2008 incentives, nor in spaces smaller than 250 square feet.
 - Incentives available only when “low level” is no more than 60% of “high level.”
 - Incentives are not available for the following spaces: stairways, elevators, corridors/hallways, or lobbies.
 - OHLF will control fixtures that have a ballast factor less than 1.0 for T-5s, induction lighting and 1.14 for T-8s.
 - OHLH will control fixtures that have a ballast factor greater than or equal to 1.0 for T-5s, induction lighting and 1.14 for T-8s.
 - Daylight Dimming Controls for eligible fixtures:
 - Incentives will only be paid for eligible daylight dimming controls operating at least 4 eligible ballasts with a minimum total connected load of 240 watts.
 - Dimming shall be continuous or stepped at 4 or more levels.
 - Incentives will be paid only for eligible daylight dimming control systems designed in accordance with IESNA practice as delineated in “RP-5-99, IESNA Recommended Practice of Daylighting.”
 - DLD will control fixtures that have a ballast factor less than 1.0 for T-5s and 1.14 for T-8s.
 - DDH will control fixtures that have a ballast factor greater than or equal to 1.0 for T-5s and 1.14 for T-8s.

Performance Lighting Incentives	
Indoor Lighting Outdoor Lighting (attached to building only)	\$1.00 per watt per square foot below program incentive threshold
Maximum Incentive	\$30 per qualified fixture
Baseline	NJ Code (ASHRAE 90.1-2007)
Incentive Threshold New Construction	5% more energy efficient than ASHRAE 90.1-2007
Minimum Lighting Levels – Applicant shall be responsible for confirming light levels	Lighting installed under the performance incentive path should comply with the following minimum lighting levels: 1. Lighting level requirements as specified by New Jersey’s nonresidential construction code, or 2. For publicly supported schools, minimum lighting levels as specified in the New Jersey Administrative Code Title 6-NJAC 6:22-5.4, g1-h1.

Performance Lighting Requirements:

- Applicant must submit for approval a properly completed Application Package, which includes an Application, a Performance Lighting worksheet, utility bill, manufacturer's specification sheet, W9 form and tax clearance certificate.
- Include the manufacturer’s specification sheet with the application package and mail or fax directly to the Commercial/Industrial Market Manager.
- All proposed fixtures, ballasts, lamps must meet or exceed all guidelines listed on the prescriptive lighting application where applicable.
- Incentives for T-5 and T-8 fluorescent lighting fixtures with electronic ballasts are available only for fixtures with a Total Harmonic Distortion of $\leq 20\%$.
- All eligible lighting devices must be listed by UL or other OSHA approved Nationally Recognized Testing Laboratory (NRTL) in accordance with applicable US standards.
- Incentives are available for new construction only. New construction additions (add-ons) to an existing building are eligible for Performance Lighting incentives.

Refrigeration Covers/Doors Incentives	
Type	Incentive
Energy Efficient Doors for Installation on Open Refrigerated Cases	\$100 per door
Aluminum Night Curtains for Installation on Open Refrigerated Cases	\$3.50 per linear foot

Refrigeration Door/Cover Requirements:

- Replacement of existing doors/covers not eligible for incentive.
- Incentives for existing open refrigerated cases only.
- Doors must have either heat reflective treated glass, be gas filled, or both.
- Aluminum night curtains incentive applicable for existing refrigerated cases, used for non-frozen products which do not have doors or other means of full or partial closure to reduce cold air loss to ambient room air.

Refrigeration Controls Incentives	
Type	Incentive
Door Heater Control	\$50 per control
Electric Defrost Control	\$50 per control
Evaporator Fan Control	\$75 per control
Novelty Cooler Shutoff	\$50 per control

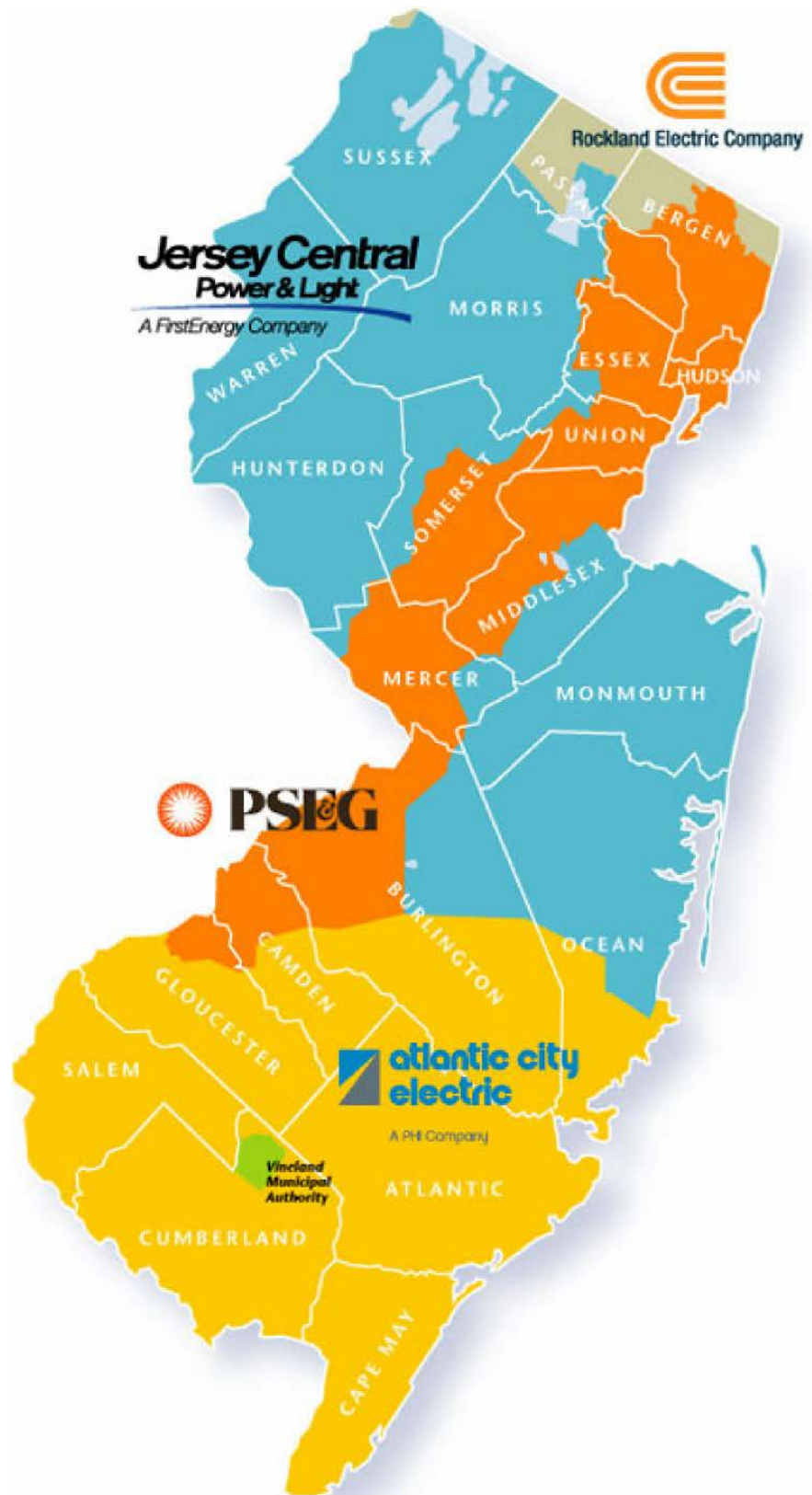
Refrigeration Controls Requirements:

- Replacement of existing refrigeration controls not eligible for incentive.
- All eligible refrigeration control devices must be listed by UL or other OSHA approved Nationally Recognized Testing Laboratory (NRTL) in accordance with applicable US standards.

CUSTOM GAS AND ELECTRIC EQUIPMENT INCENTIVES

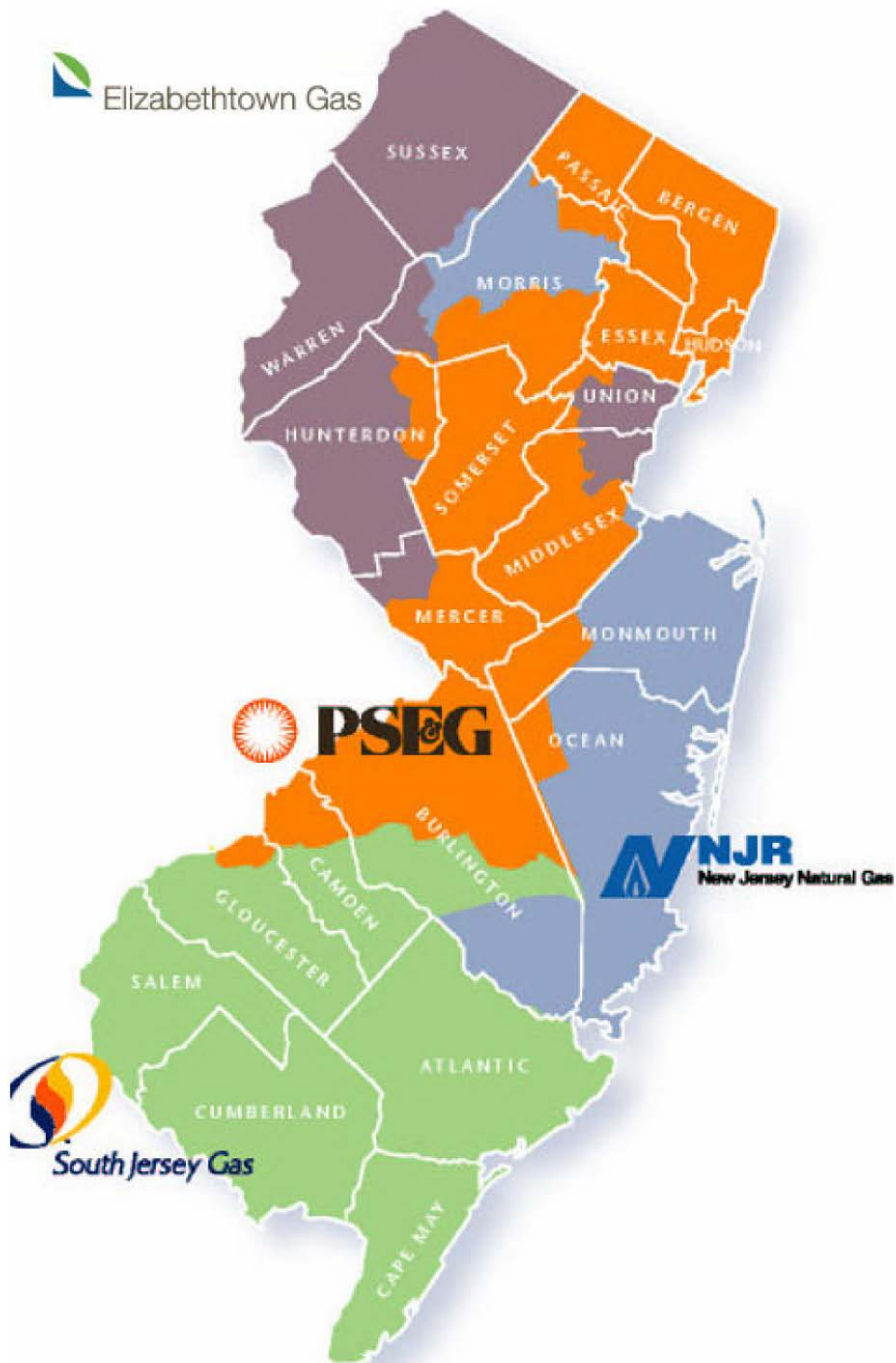
- To be eligible, projects must have a minimum first-year energy savings of 75,000 kWh for custom electric measures or 1,500 therms for custom gas measures.
- Established incentive caps will be the lesser of 1) a set value of \$0.16/kWh and \$1.60/therm based on estimated annual savings, 2) 50% of the total installed project cost or 3) "buy down" to a one-year payback.
- Custom Measure applicants will be provided with program spreadsheets to be used for reporting measure savings and cost-effectiveness calculations including Internal Rate of Return (IRR) of $\geq 10\%$ and project payback (with and without incentives).
- Retrofit projects must exceed ASHRAE 90.1-2007 standards by at least 2% compared to existing conditions where specific guidelines exist. Where ASHRAE guidelines do not apply, measures will be required to exceed industry standards as determined by the Consortium for Energy Efficiency (CEE), EPA's ENERGY STAR[®], and/or others. New construction and complete "gut-rehab" projects will use ASHRAE 90.1-2007 as the baseline for estimating energy savings.
- A complete application package should include the following: - Application completed and signed by the customer, cost and energy savings calculations information referenced in the application package, project summary describing existing conditions/equipment and proposed custom technology, W9 form from the payee, 12 months of electric and/or gas utility bills including any third party supplier invoices, equipment manufacturer specifications documents.

ELECTRIC UTILITIES TERRITORY MAP



Atlantic City Electric Company is now known as Atlantic City Electric

GAS UTILITIES TERRITORY MAP



For more information, please visit the program website
NJCleanEnergy.com/SSB