



New Jersey Board of Public Utilities Clean Energy Program

Opportunities for Commercial, Industrial and Institutional Buildings

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Ombudsman
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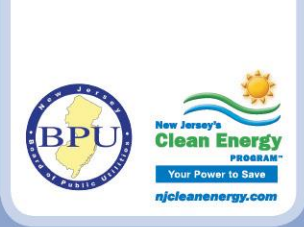
NJ Clean Energy Program Background

- Introduced in 2001 as part of the 1999 EDECA
- Funded from “Societal Benefits Charge” on utility bill
- Administered by the New Jersey Board of Public Utilities
- Provides energy efficiency project opportunities for:
 - Residential
 - Renewables
 - Commercial & Industrial



Program Goals

- **Save** energy and lower operating costs
- **Protect** environment and lower emissions
- **Change** the business mindset:
 - Think high efficiency first
 - Encourage early retirement of equipment
 - Increase effective operations and maintenance
 - Promote renewable energy alternatives



Commercial & Industrial Portfolio

- NJ SmartStart Buildings
- Local Government Energy Audit
- Direct Install
- Pay for Performance
- Combined Heat & Power/Fuel Cells
- Large Energy Users Pilot
- Benchmarking



NJ SmartStart Buildings

Prescriptive Incentives – Prequalified Technologies

- Electric Chillers
- Natural Gas Cooling
- Electric Unitary HVAC Systems & Controls
- Ground Source Heat Pumps
- Gas Heating
- Water Heating
- Lighting Controls
- Variable Frequency Drives VAV Systems or ChW Pumps
- NEMA Premium Motors*
- Prescriptive & Performance Lighting*
- Refrigeration Doors/Covers and Controls
- Food Service Equipment

***Incentives for premium motors and T12 lighting are discontinued as of March 1, 2013, except in Hurricane Sandy areas where the date has been extended to June 30, 2013.**





Prescriptive Measures

Hurricane Sandy Enhanced Incentives Increased by 50%

- Additional incentives are available for businesses and local government buildings located within storm-damaged areas.
- Equipment purchased on or after October 29, 2012 will qualify.
- A map of eligible zip codes is available at NJCleanEnergy.com/SANDY
- Buildings outside eligible zip code areas may qualify for enhanced incentives if it can be demonstrated that damage was caused by Hurricane Sandy.





Food Services Grouping

A new line of Prescriptive Buildings incentives has been added for high efficiency food service equipment, including:

- Dishwashers
- Fryers
- Griddles
- Hot Food Holding Cabinets
- Ice Machines
- Ovens
- Refrigerators & Freezers
- Steam Cookers

Financial Incentives for Energy Efficiency



The 50% enhancement for areas impacted by Sandy does not apply to the new food service equipment incentives.





Streamlined Requirements

Additional enhancements for buildings located in Hurricane Sandy areas include modifications to standard program requirements:

- Pre-inspections and pre-approvals will be waived where appropriate, as will equipment inventory requirements for those with proof of existing conditions (i.e. maintenance records, recent photographs and energy audit reports);
- Restrictions on performance lighting measures in major rehabilitation projects have been eliminated;
- Planned discontinuation of incentives for premium motors and T12 lighting has been extended from March 1, 2013 to June 30, 2013.





Local Government Energy Audit

The Audit is available for:

- NJ Local Governments
- 501(c)(3) Non-profit Agencies
- NJ State Colleges and Universities
- K-12 Schools

Covering a wide range of building types, including:

- Offices
- Town Halls
- Police and Fire Stations
- Courtrooms
- Community Centers
- School Buildings



Local Government Energy Audit

- Participants select from a list of pre-qualified auditing firms who follow strict parameters to analyze the buildings and prepare the audit report
- The program **subsidizes 100%** of the audit cost, subject to an annual \$100,000 incentive cap per entity
- Audit generates a list of recommended, cost-effective energy efficiency measures and facility upgrades to reduce operating expenses
- Many of the recommended measures are eligible for additional incentives offered by New Jersey's Clean Energy Program



Local Government Energy Audit

- Audit must be performed by one of five preselected engineering firms:
 - Camp Dresser and McKee, Inc.
 - Clough Harbour and Associates, LLP
 - Concord Engineering Group Inc.
 - Dome-Tech Group
 - Steven Winter Associates, Inc.
- Firms selected by Department of Treasury
- Rates for services posted on DOT site



Direct Install

- A turn-key, retrofit program designed to address the replacement of lighting, HVAC and other outdated operational equipment in small to medium size facilities with a peak electric demand not exceeding 200 kW in the preceding 12 months
- Provides incentives of up to 70% of the installed cost
- Incentives are paid directly to the contractor
 - customer pays remaining 30%
 - \$125,000 project cap
 - \$250,000 per entity cap



Direct Install Features

- Minimal customer investment
- Generous incentives and fast paybacks
- Participating contractors provide support
- Average length of time for job completion, 4-6 months
- Measures include lighting, occupancy sensors, pipe insulation, variable speed drives, refrigeration, HVAC and low flow water devices



Woodbridge Library



- 52,000 sq.ft. Building
- Lighting Retrofit & Controls
 - Incandescents to Screw-in CFLs
 - Fluorescents to T-8s & LED Exit Signs
 - Occupancy Sensors
- Total Project Cost \$100,148
- Direct Install Incentive \$50,000 (Capped)
- Customer Share of Cost \$50,148
- Annual Savings
 - 260,260 kWh
 - \$39,149
- Payback Period – 1.28 Years



Connell Insurance

- Corner Retail Office Space
- Lighting & HVAC Retrofit
 - Incandescents to Screw-in CFLs
 - Fluorescents to T-8s
 - Replaced 12 Year Old 2.5 Ton AC
- Total Project Cost \$25,372
- Direct Install Incentive \$15,223 (60%)
- Customer Share of Cost \$10,149 (40%)
- Annual Savings
 - 7,989 kWh, 653 Therms
 - \$1,944
- Payback Period – 5.22 Years





Kettle Run Fire House

- 8,080 sq.ft. Facility
- Lighting & HVAC Retrofit
 - Metal Halides to T5 High Bay Fixtures
 - Fluorescents to T-8s
 - Replaced Six 18 Year Old HVAC Units
- Total Project Cost \$57,081
- Direct Install Incentive \$34,249 (60%)
- Customer Share of Cost \$22,832 (40%)
- Annual Savings
 - 30,280 kWh, 1,387 Therms
 - \$7,454
- Payback Period – 3.06 Years





Cameo Cleaners

- 1,600 sq.ft. Small Retail Space
- Lighting Retrofit – 24 Total Fixtures
 - Incandescents to Screw-in CFLs
 - Fluorescents to T-8s
 - LED Exit Signs
- Total Project Cost \$1,209
- Direct Install Incentive \$725 (60%)
- Customer Share of Cost \$484 (40%)
- Annual Savings
 - 3,987 kWh
 - \$561
- Payback Period – 10.3 Months





NJ Audubon Society



News from NJ Audubon



Making New Jersey a Better Place for People and Wildlife since 1897.

- Large Office HQ & Small Sanctuary Bldg
- Lighting, HVAC and Controls
 - Fluorescents to T-8s
 - Incandescents to CF Exterior Floodlights
 - Replaced Two 7 Year Old 5 Ton Units
 - Occ Sensors, Economizers, Prog T-Stats
- Total Project Cost \$40,923
- Direct Install Incentive \$24,553 (60%)
- Customer Share of Cost \$16,370 (40%)
- Annual Savings
 - 59,114 kWh
 - \$9,418
- Payback Period – 1.74 Years



Discover Chiropractic



- 1,600 sq.ft. Medical Office
- Lighting & HVAC Retrofit
 - Fluorescents to T-8s
 - One 19 Year Old 2.5 Ton Split System AC
- Total Project Cost \$6,898
- Direct Install Incentive \$4,139 (60%)
- Customer Share of Cost \$2,759 (40%)
- Annual Savings
 - 9,345 kWh
 - \$1,186
- Payback Period – 2.33 Years



Heritage House

- Church Owned Building
- Lighting & HVAC Retrofit, Controls
 - Fluorescents to T-8s & Occ Sensors
 - Two 15 Year Old AC Units
 - One 30 Year Old Gas Boiler
- Total Project Cost \$41,623
- Direct Install Incentive \$24,974 (60%)
- Customer Share of Cost \$16,649 (40%)
- Annual Savings
 - 17,050 kWh, 161 Therms
 - \$5,442
- Payback Period – 3.06 Years





Ocean City Police

- Three Story Police Department Building
- Lighting & HVAC Retrofit & Controls
 - 4 lamp to 2 lamp T-8s, Occ Sensors
 - Ten 15-26 Year Old ACs
 - Four 30 Year Old Gas Furnaces
 - Faucet Aerators for Gas Water Heating
- Total Project Cost \$106,550
- Direct Install Incentive \$50,000 (Capped)
- Customer Share of Cost \$56,550
- Annual Savings
 - 43,603 kWh, 3,198 Therms
 - \$11,595
- Payback Period – 4.88 Years





Tri-County Truck Repair

- 5,000 sq.ft. Vehicle Repair Facility
- Lighting Retrofit – 1,098 Total Fixtures
 - T-12s to T-8s
 - Old High Intensity (HID) to T-5 High Bay
- Total Project Cost \$7,426
- Direct Install Incentive \$4,456 (60%)
- Customer Share of Cost \$2,970 (40%)
- Annual Savings
 - 13,789 kWh
 - \$3,016
- Payback Period – 11.8 Months





Pay for Performance

- Comprehensive, whole-building approach to saving energy in existing or new facilities
- Goal is to reduce facility energy consumption by 15% or more, or 4% for eligible high-energy intensity customers
- Relies on a network of program partners who provide technical services under direct contract to customer



Pay for Performance Incentives

- Incentives up to **\$2 million per project**, assuming both gas and electric improvements are made; \$4 million annual entity cap
- Incentives paid out in three installments at program milestones:
 1. Completion of comprehensive energy study (“Energy Reduction Plan”)
 2. Installation completion of recommended measures
 3. End of 12-month energy savings verification period



Wyckoff Public Schools

- Eisenhower Middle School, Lincoln, Coolidge, Washington Elementary Schools
- Energy Efficiency Measures:
 - T-12s to T-8s
 - Lighting Occupancy Sensors
 - Stream Trap Replacements
 - Building Automation Systems
- Project Cost \$1,189,879
- Incentives \$201,448 (integrated with ESIP)
- Annual Savings
 - 474,274 kWh, 34,840 Therms, \$138,417
- Payback Period – 7 Years





Saker ShopRite

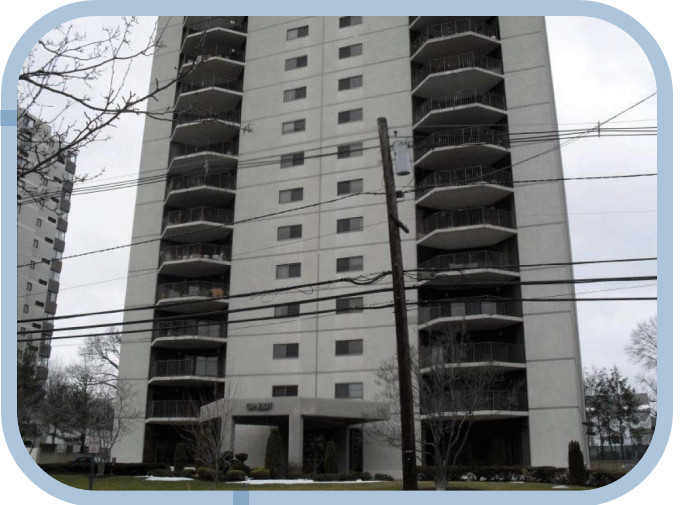
- 91,707 sq.ft. Supermarket
- Energy Efficiency Measures:
 - T-12s to T-8s, LED Retail Display
 - Compressor Upgrade, New Condensers
 - Radiant Floor Heat Recovery
 - Additional Wall & Roof Insulation
 - Reach-in Refrigerators/Freezers with LED Lights and ECM Motors, Controls
 - High Efficiency RTUs
- Project Cost \$1,201,830
- Incentives \$329,205
- Annual Savings
 - 1,354,812 kWh, 8,790 Therms, \$186,886
- Payback Period – Less Than 5 Years





Camelot Condominium Association

- 248,358 sq.ft. Multifamily
- Energy Efficiency Measures:
 - T-12s to T-8s, Incandescents to CFLs
 - Lighting Occupancy Sensors
 - Additional Wall Insulation
 - Solar Thermal Water Heater
 - Pool Insulation and New Heater
- Project Cost \$566,600
- Incentives \$96,500
- Annual Savings
 - 341,259 kWh, \$53,578
- Payback Period – Less Than 9 Years

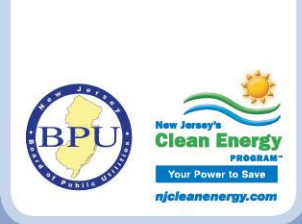




Genesis Healthcare Voorhees Center

- 67,079 sq.ft. Nursing Home
- Energy Efficiency Measures:
 - T-12s to T-8s
 - VFD Kitchen Hood Controls
 - High Efficiency Space Heating
 - High Efficiency Water Heating Boilers
- Project Cost \$314,074
- Incentives \$72,140
- Annual Savings
 - 157,612 kWh, Therms 20,590, \$47,601
- Payback Period – 5 Years





Combined Heat & Power – Fuel Cells

All system sizes, incentives limited to first MW

- Non-renewable fuel source
- Class 1 renewable fuel source
- Heat recovery or other mechanical recovery
- Fuel cells with or without waste heat utilization

Large scale projects (installed capacity of 1 MW and greater)

- Jointly developed by the NJ Economic Development Authority (EDA) and the NJ Board of Public Utilities (BPU), grant applications are now available under a tiered incentive structure based on system size and the amount of electricity generated.



Free Benchmarking Report

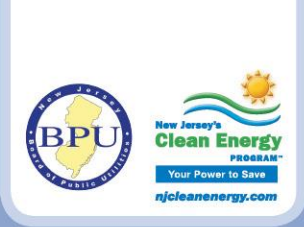
Benchmarking assessments are designed to help:

- Understand energy cost trends and consumption at each building
- With sufficient comparative data, see how building(s) compare to similar buildings using EPA Portfolio Manager
- Identify relevant incentives for energy efficiency projects
- The benchmarking report is valued at \$1,500



Edison Innovation Clean Energy Manufacturing Fund (CEMF)

- Administered jointly by New Jersey Board of Public Utilities and the N.J. Economic Development Authority.
- Supports the commercialization and development of Class 1 renewable energy and energy efficiency technologies in New Jersey. Eligible technologies include:
 - Class I renewable energy, such as photovoltaic, solar, wind energy, renewably fueled fuel cells, wave, tidal, renewably generated hydrogen, sustainable harvested biomass and methane gas from landfills.
 - Energy efficiency equipment and technology that reduce electric or natural gas consumption, such as furnaces, boilers and air conditioning systems with higher efficiencies than adopted New Jersey building energy codes or federal or New Jersey appliance standards; as well as lighting systems, including LED lights and energy monitoring and control systems would qualify.
 - Other technologies or equipment that can demonstrate their integral nature to the development of Class I renewable energy and energy efficiency technologies, including "balance of system" technologies that produce or support the production of renewable or clean electricity generation.
- For more information, please visit: www.njeda.com.



Edison Innovation Green Growth Fund

- Offers loans up to \$2 million with a performance grant component to support technology companies with Class 1 renewable energy or energy efficiency products or systems that have achieved "proof of concept" and successful independent beta results, have begun generating commercial revenues, and will receive 1:1 match by time of loan closing.
- Growth capital to advance newly discovered energy efficient, renewable energy or supply chain products that will assist Class I renewable energy or energy efficient technologies in becoming competitive with traditional sources of electric generation.

For more information, please visit: www.njeda.com.



For More Information

Visit: NJCleanEnergy.com

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