New Jersey's Clean Energy Program™

Clean Energy and Efficiency Opportunities for Residential, Commercial, Industrial, and Institutional Buildings

[Date]

NJCEP Background

ADMINISTERED BY

New Jersey Board of Public Utilities' Division of Clean Energy

FUNDING

Societal Benefits Charge (SBC) on utility bill

PROGRAM GOALS

- Education
- Change behavior
- Provide opportunity for ALL NJ residents to reduce energy and lower operating cost
- Protect the environment and lower emissions
- Meet Governor's goal of 100% clean energy by 2050

C&I PROGRAMS

C&I Portfolio of Programs

Eligible Sectors: Commercial, Industrial, Government, Schools, Non-Profit, Institutional and Multifamily

MEASUREMENT & AUDITS

- Energy Benchmarking
- Local Government Energy Audits (for non-profits too)

COMPREHENSIVE PROGRAMS

- Large Energy Users
- Pay for Performance
  - Existing Buildings
  - New Construction
- Direct Install
- Customer Tailored Energy Efficiency Pilot

SINGLE MEASURE REBATES

- SmartStart
  - Existing Buildings
  - New Construction

DISTRIBUTED ENERGY RESOURCES

- Combined Heat & Power - Fuel Cells
- Microgrid Development
- Battery Storage*
- Electric Vehicles

FY20

Some programs offer enhanced incentives to buildings:

- in a **UEZ** or **OZ**
- owned or operated by a **local government**
- owned or operated by a **K-12 public school**

** coming soon!*

BPU New Jersey's cleanenergy program™

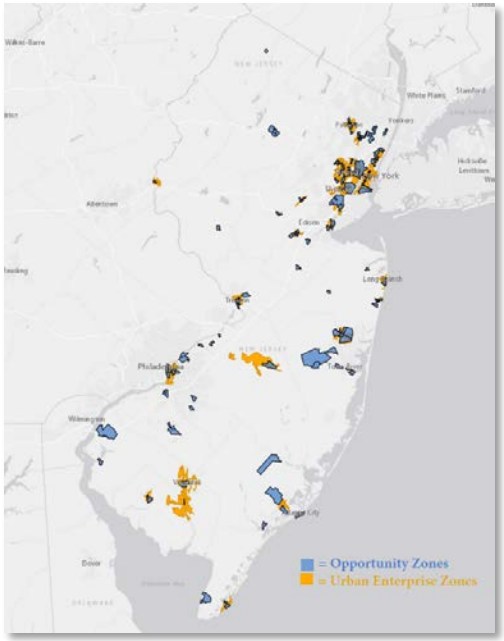
Definitions: UEZs and OZs

FY20

Some programs offer enhanced incentives to buildings:

- in a **UEZ** or **OZ**
- owned or operated by a **local government**
- owned or operated by a **K-12 public school**

Eligibility Basis	Criteria
➢ **Located in an Urban Enterprise Zone** (UEZ)	The building where equipment is or will be installed must be located within the bounds of an Urban Enterprise Zone (UEZ). Please follow the steps below to confirm your facility is within the qualifying zone. The building location must be checked against the NJ Community Asset Map. 1. Enter the address of your building in the field at the top of the map. 2. Under the Layers menu on the left side of the screen, scroll down to **Urban Enterprise Zones** and *check* to enable the layer. 3. Print or save a screenshot of the page to include with your submission. For the avoidance of doubt, companies do not need to become a Certified UEZ Business to be eligible for enhanced incentives from NJCEP.
➢ **Located in an Opportunity Zone** (OZ)	The building where equipment is or will be installed must be located within the bounds of an Opportunity Zone (OZ). Please follow the steps below to confirm your facility is within the qualifying zone. The building location must be checked against the NJ Community Asset Map.



Click here for a link to NJ Community Asset Maps

Benchmarking

NJCleanEnergy.com/BENCHMARKING

MEASUREMENT & AUDITS

WHO Commercial, Industrial, Agricultural, Government, 501(c)(3) Non-Profit, and Institutional Entities

COST Free

WHY

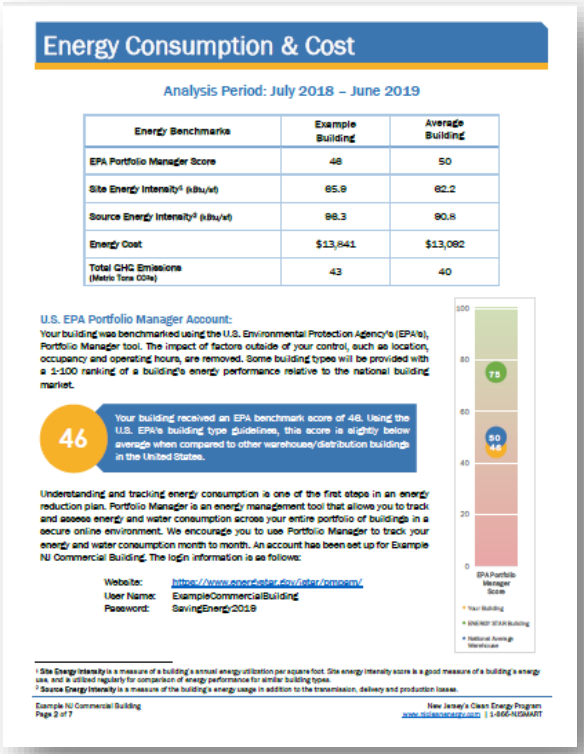
- Compare your building to other similar buildings nationally
- Suggestions for improving operations and maintenance
- Personalized incentive program eligibility and account manager follow-up support
- ENERGY STAR® Portfolio Manager account setup and score

Great opportunity to be a leader in benchmarking energy and water use, prior to the 2024 deadline.

Benchmarking

NJCleanEnergy.com/BENCHMARKING

MEASUREMENT & AUDITS



Energy Consumption & Cost

Analysis Period: July 2018 – June 2019

Energy Benchmarks	Example Building	Average Building
EPA Portfolio Manager Score	48	50
Site Energy Intensity[1] (kBtu/sf)	65.9	62.2
Source Energy Intensity[2] (kBtu/sf)	98.3	90.8
Energy Cost	$13,841	$13,092
Total GHG Emissions (Metric Tons CO2e)	43	40

U.S. EPA Portfolio Manager Account:

Your building was benchmarked using the U.S. Environmental Protection Agency's (EPA's), Portfolio Manager tool. The impact of factors outside of your control, such as location, occupancy and operating hours, are removed. Some building types will be provided with a 1-100 ranking of a building's energy performance relative to the national building market.

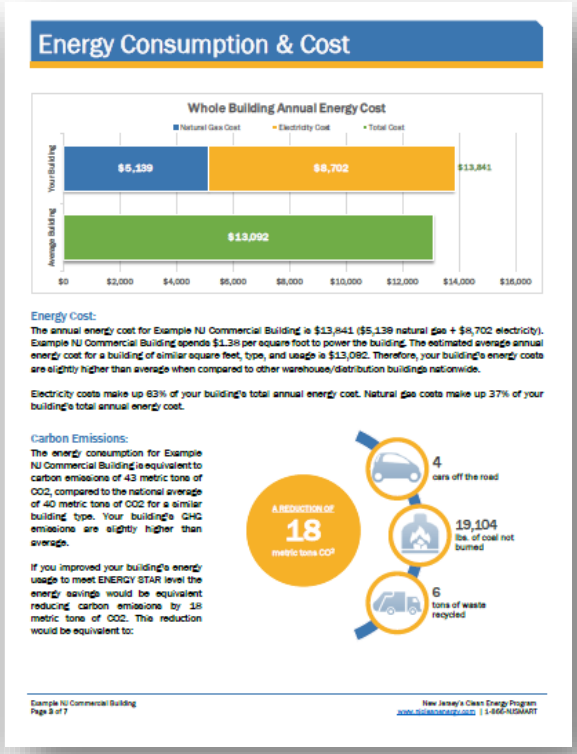
46

Your building received an EPA benchmark score of 48. Using the U.S. EPA's building type guidelines, this score is slightly below average when compared to other warehouse/distribution buildings in the United States.

Understanding and tracking energy consumption is one of the first steps in an energy reduction plan. Portfolio Manager is an energy management tool that allows you to track and assess energy and water consumption across your entire portfolio of buildings in a secure online environment. We encourage you to use Portfolio Manager to track your energy and water consumption month to month. An account has been set up for Example NJ Commercial Building. The login information is as follows:

Website: https://www.energystar.gov/istar/pmpam/
User Name: ExampleCommercialBuilding
Password: SavingEnergy2019

[1] Site Energy Intensity is a measure of a building's annual energy utilization per square foot. Site energy intensity score is a good measure of a building's energy use, and is utilized regularly for comparison of energy performance for similar building types.
[2] Source Energy Intensity is a measure of the building's energy usage in addition to the transmission, delivery and production losses.



Energy Consumption & Cost

Energy Cost:

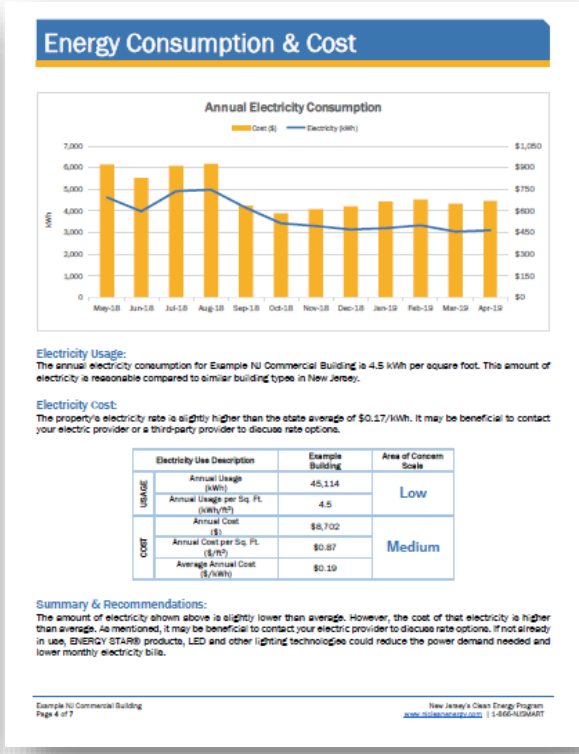
The annual energy cost for Example NJ Commercial Building is $13,841 ($5,139 natural gas + $8,702 electricity). Example NJ Commercial Building spends $1.38 per square foot to power the building. The estimated average annual energy cost for a building of similar square feet, type, and usage is $13,092. Therefore, your building's energy costs are slightly higher than average when compared to other warehouse/distribution buildings nationwide.

Electricity costs make up 63% of your building's total annual energy cost. Natural gas costs make up 37% of your building's total annual energy cost.

Carbon Emissions:

The energy consumption for Example NJ Commercial Building is equivalent to carbon emissions of 43 metric tons of CO2, compared to the national average of 40 metric tons of CO2 for a similar building type. Your building's GHG emissions are slightly higher than average.

If you improved your building's energy usage to meet ENERGY STAR level the energy savings would be equivalent reducing carbon emissions by 18 metric tons of CO2. This reduction would be equivalent to:



Energy Consumption & Cost

Electricity Usage:

The annual electricity consumption for Example NJ Commercial Building is 4.5 kWh per square foot. This amount of electricity is reasonable compared to similar building types in New Jersey.

Electricity Cost:

The property's electricity rate is slightly higher than the state average of $0.17/kWh. It may be beneficial to contact your electric provider or a third-party provider to discuss rate options.

	Electricity Use Description	Example Building	Area of Concern Scale
USAGE	Annual Usage (kWh)	45,114	Low
	Annual Usage per Sq. Ft. (kWh/ft²)	4.5	
COST	Annual Cost ($)	$8,702	Medium
	Annual Cost per Sq. Ft. ($/ft²)	$0.87	
	Average Annual Cost ($/kWh)	$0.19	

Summary & Recommendations:

The amount of electricity shown above is slightly lower than average. However, the cost of that electricity is higher than average. As mentioned, it may be beneficial to contact your electric provider to discuss rate options. If not already in use, ENERGY STAR® products, LED and other lighting technologies could reduce the power demand needed and lower monthly electricity bills.

BPU New Jersey's cleanenergy program™

Local Government Energy Audit

NJCleanEnergy.com/LGEA

MEASUREMENT & AUDITS

WHO Local Government, New Jersey Colleges and Universities, and 501(c)(3) Non-Profit buildings with an average yearly demand >200kW*

INCLUDES BENCHMARKING

COST Free

WHY

- Inventory of all energy-consuming equipment and line by line program eligibility, savings and costs
- Comprehensive utility bill analysis
- Facility benchmarking
- Feasibility for solar and combined heat & power

INCENTIVE CAP

- $100,000 per entity (covers most small to large entities)
- $300,000 per 501(c)(3) hospital
- $300,000 per entity interested in ESIP

* Inquire about the waivers available to buildings ≤200kW average

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Local Government Energy Audit

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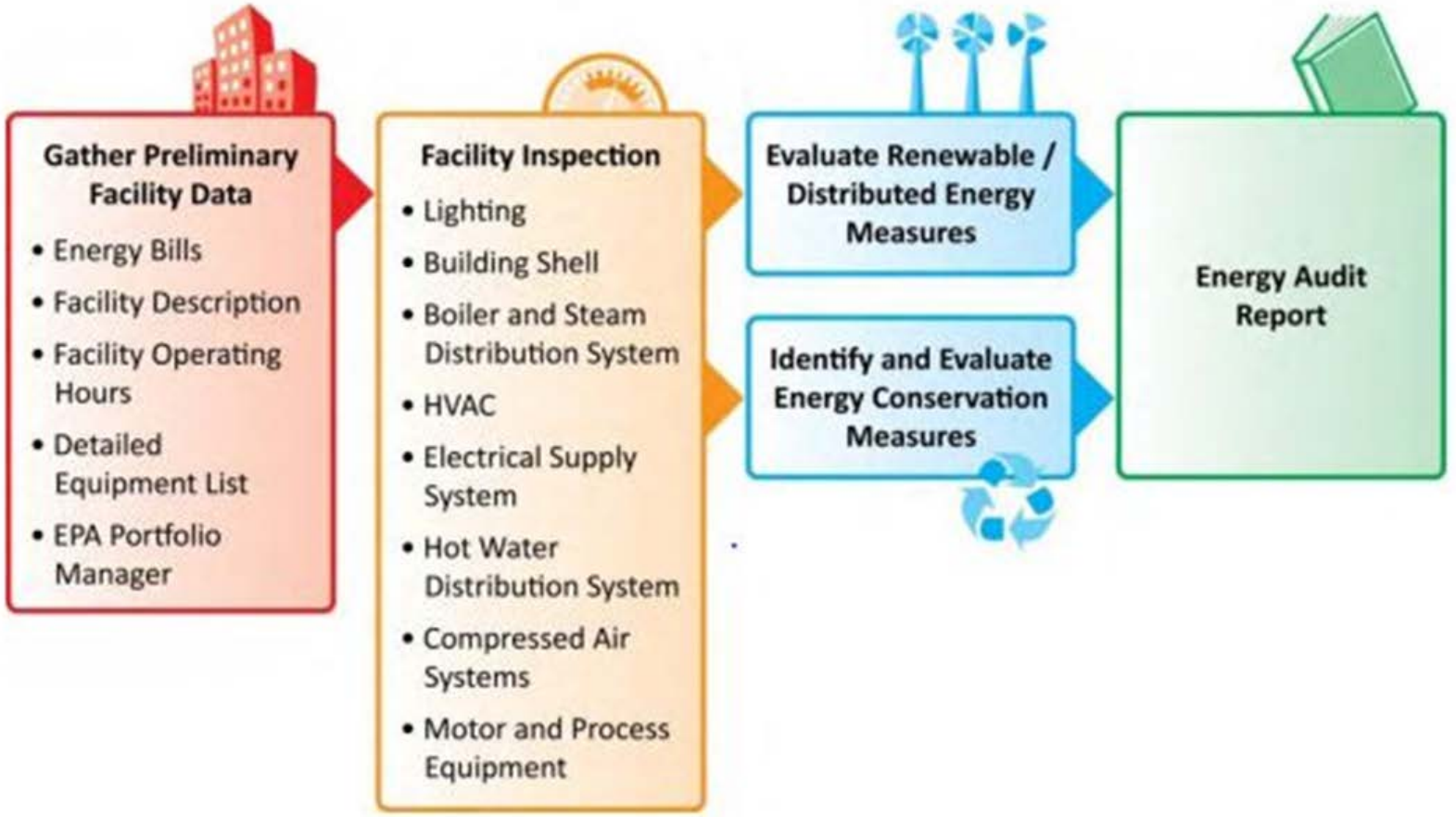

C&I Portfolio of Programs

Eligible Sectors: Commercial, Industrial, Government, Schools, Non-Profit, Institutional and Multifamily

MEASUREMENT & AUDITS	COMPREHENSIVE PROGRAMS	SINGLE MEASURE REBATES	DISTRIBUTED ENERGY RESOURCES

• Energy Benchmarking
• Local Government Energy Audits (for non-profits too)
	• Large Energy Users
	• Pay for Performance
	  • Existing Buildings
	  • New Construction
	• Direct Install
	• Customer Tailored Energy Efficiency Pilot
		• SmartStart
		  • Existing Buildings
		  • New Construction
			• Combined Heat & Power - Fuel Cells
			• Microgrid Development
			• Battery Storage*
			• Electric Vehicles

** coming soon!*

BPU New Jersey's cleanenergy program™

Large Energy Users

NJCleanEnergy.com/LEUP

COMPREHENSIVE PROGRAMS

WHO	Large C&I entities who have paid a minimum of $200,000 NJCEP funds (via the SBC) in the previous 12 months of utility bills
SIZE TO QUALIFY	The average peak demand of all facilities submitted ≥400kW and/or 4,000 DTh
ABOUT	• Encourages large C&I utility customers to self-invest in energy efficiency, combined heat & power, and fuel cell projects • Must have ability to "bank" funds for up to two fiscal years
INCENTIVE CAP	Maximum incentive per entity is the lesser of: • $4 million, • 75% of total project cost, or • 90% of NJCEP contribution or annual energy saving caps ($0.33/kWh and $3.75/therm)

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Large Energy Users

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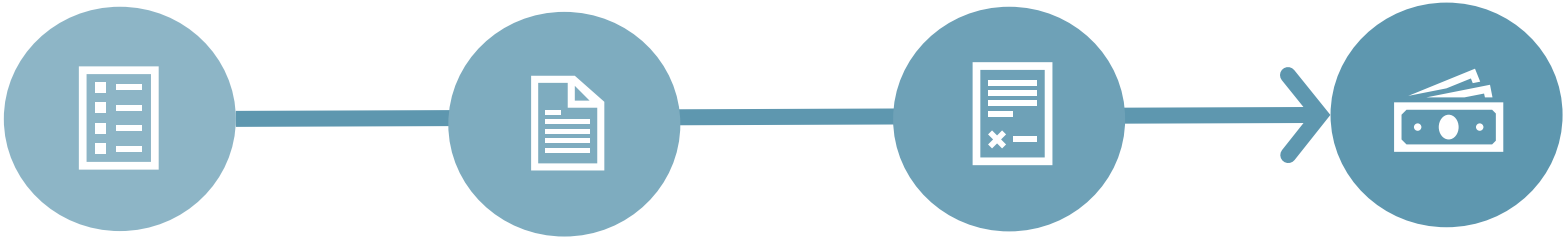

Program Enrollment

Submission and Approval of Application

Submission of Draft Energy Efficiency Plan

Reservation of Incentives (optional)

Submission of Final Energy Efficiency Plan

Commitment of Incentives

Confirmation of Installation

Incentives Paid

Pay for Performance

NJCleanEnergy.com/P4P

COMPREHENSIVE PROGRAMS

NEW JERSEY'S CLEAN ENERGY PROGRAM
P4P
PAY FOR PERFORMANCE

WHO	Large C&I existing buildings or new construction seeking two or more energy efficiency measures with a minimum 15% savings
SIZE TO QUALIFY	Annual peak demand 200+ kW in the previous year for existing buildings or over 50,000 square feet of planned new construction
ABOUT	A pre-approved Participating Partner will streamline the program and guide users through the program phases
INCENTIVE CAP	• 50% of project cost (or 80% for UEZ/OZ/Local Gov/K-12 Public Schools) up to $2M per project / $4M per entity annually • Incentive payments #2 and #3 are doubled for UEZ/OZ/Local Gov/K-12 Public Schools

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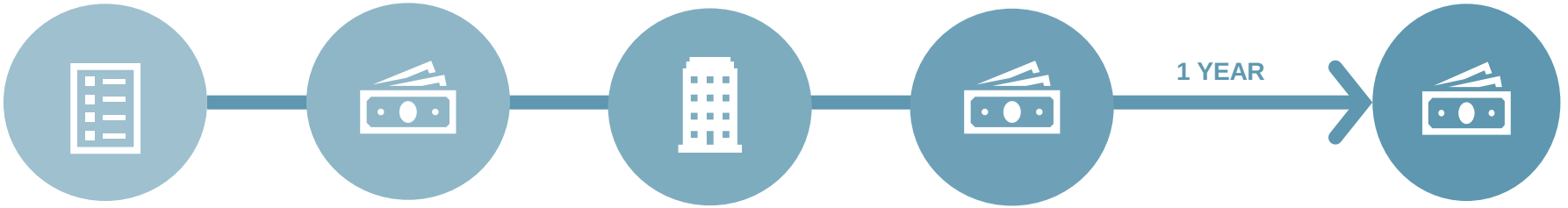
Pay for Performance

NJCleanEnergy.com/P4P

COMPREHENSIVE PROGRAMS



Program Enrollment

Submission and Approval of Application

Energy Reduction Plan (ERP)

Development and Approval

Incentive #1
fixed

Installation of Measures

Installation Verification Report

Incentive #2
up to 25% project cost

Incentive #2
up to 40% project cost

Enhanced incentives to buildings in UEZ/OZ/local gov/K-12 public schools

Verification of Savings

Comparison of Performance vs ERP

Incentive #3
up to 25% project cost

Incentive #3
up to 40% project cost

BPU New Jersey's cleanenergy program™

Direct Install

NJCleanEnergy.com/DI

COMPREHENSIVE PROGRAMS

WHO	Small to medium sized C&I existing facilities seeking to replace inefficient equipment
SIZE TO QUALIFY	Average annual peak demand <200 kW in the previous 12 months
ABOUT	• A pre-approved regional Participating Contractor will do a walk-through evaluation and guide users through the program phases • Turn-key process with fast project turnaround time
INCENTIVE CAP	• $125,000 incentive funding per project/building ($250K UEZ/OZ/ Local Gov/K-12 Public Schools), or • $250,000 per entity ($500K ESIP; $4M UEZ/OZ/Local Gov/K-12 Public Schools)

Direct Install

NJCleanEnergy.com/DI

Facilities in Urban Enterprise Zones (UEZ), Opportunity Zones (OZ), local governments, and K-12 public schools:

INCENTIVE FUNDING	CUSTOMER
Up to **80%** of installed cost is paid directly to the contractor	20% of installed cost

All other eligible facilities:

INCENTIVE FUNDING	CUSTOMER
Up to **70%** of installed cost is paid directly to the contractor	30% of installed cost

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Customer Tailored Energy Efficiency Pilot

NJCleanEnergy.com/CTEEP

COMPREHENSIVE PROGRAMS

WHO

C&I customers seeking a streamlined/single application for participants submitting for multiple different technology types

SIZE TO QUALIFY

N/A

ABOUT

- On site assistance available
- One application form for multiple prescriptive or custom measures
- Utilizes SmartStart Incentives
- Additional technical incentive available to offset soft costs associated with developing and planning custom projects

INCENTIVE CAP

Maximum incentive per entity is the lesser of:

- $250,000 entity cap,
- 50% of eligible project costs, or
- Buy-down to 1-year payback

Up to $10,000 for technical assistance of custom project evaluation

SAME INCENTIVE VALUES AS SMARTSTART

New Jersey's cleanenergy program™

Customer Tailored Energy Efficiency Pilot

NJCleanEnergy.com/CTEEP

COMPREHENSIVE PROGRAMS

Payment schedule based on program variation:

	Energy Efficiency Plan Approval	Installation Complete	Performance Verification
Technical Assistance (Optional)	50%	50%	
CTEEP Prescriptive Measures		100%	
CTEEP Custom Measures		90%	10%

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** coming soon!*

BPU New Jersey's cleanenergy program™

SmartStart

NJCleanEnergy.com/SSB

SINGLE MEASURE REBATES

WHO	All C&I: Commercial, Industrial, Agricultural, Government, Non-Profit and Institutional customers
SIZE TO QUALIFY	N/A
ABOUT	• Individual high efficiency equipment rebates for new construction, renovation, remodeling, equipment replacement • Prescriptive and custom designed measures • Pre-approval required for lighting ≥ $100,000 and all custom measures

INCENTIVE CAP	• Prescriptive: $500,000 for each electric or gas account
	• Custom, lesser of the following:
	  • $0.16/kWh and/or $1.60/therm saved annually;
	  • 50% of incremental installed cost; and
	  • Buy-down to 1 year payback based on incremental cost and savings

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SmartStart

NJCleanEnergy.com/SSB

SINGLE MEASURE REBATES

PRESCRIPTIVE INCENTIVES

- Lighting & Lighting Controls
- Packaged HVAC
- Boilers & Water Heaters
- Chillers
- VFDs
- Food Service
- Refrigeration

Existing buildings prescriptive only:

DOUBLE INCENTIVES FOR OZ/UEZ/LOCAL GOV/ K-12 PUBLIC SCHOOLS

CUSTOM INCENTIVES

- New or innovative technologies proven to be cost-effective and not listed as prescriptive
- Projects must have a minimum first year energy savings of 75,000 kWh or 1,500 therms
- Project pre and post inspection required

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** coming soon!*

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Combined Heat & Power - Fuel Cells

NJCleanEnergy.com/CHP

DISTRIBUTED ENERGY

WHO	C&I customers that require on-site electric generation that either does or does not utilize waste heat
SIZE TO QUALIFY	N/A - Projects must pass a cost-effectiveness test and run 5,000 full load equivalent hours per year (3,500 for critical facilities)
ABOUT	• Combined Heat & Power (CHP) units generates electricity and recycle waste heat to provide heating or cooling • Resiliency with return on investment • Technology-neutral incentives • Fuel Cells (FC) with or without heat recovery (HR)
INCENTIVE LEVELS	• CHPs and FC with HR have a project cap of $2MM - $3MM • 25% bonus for critical facilities with black-start/islanding capabilities • Up to 30% incentive bonus for CHP using biofuel • FC without HR have a project cap of $1MM

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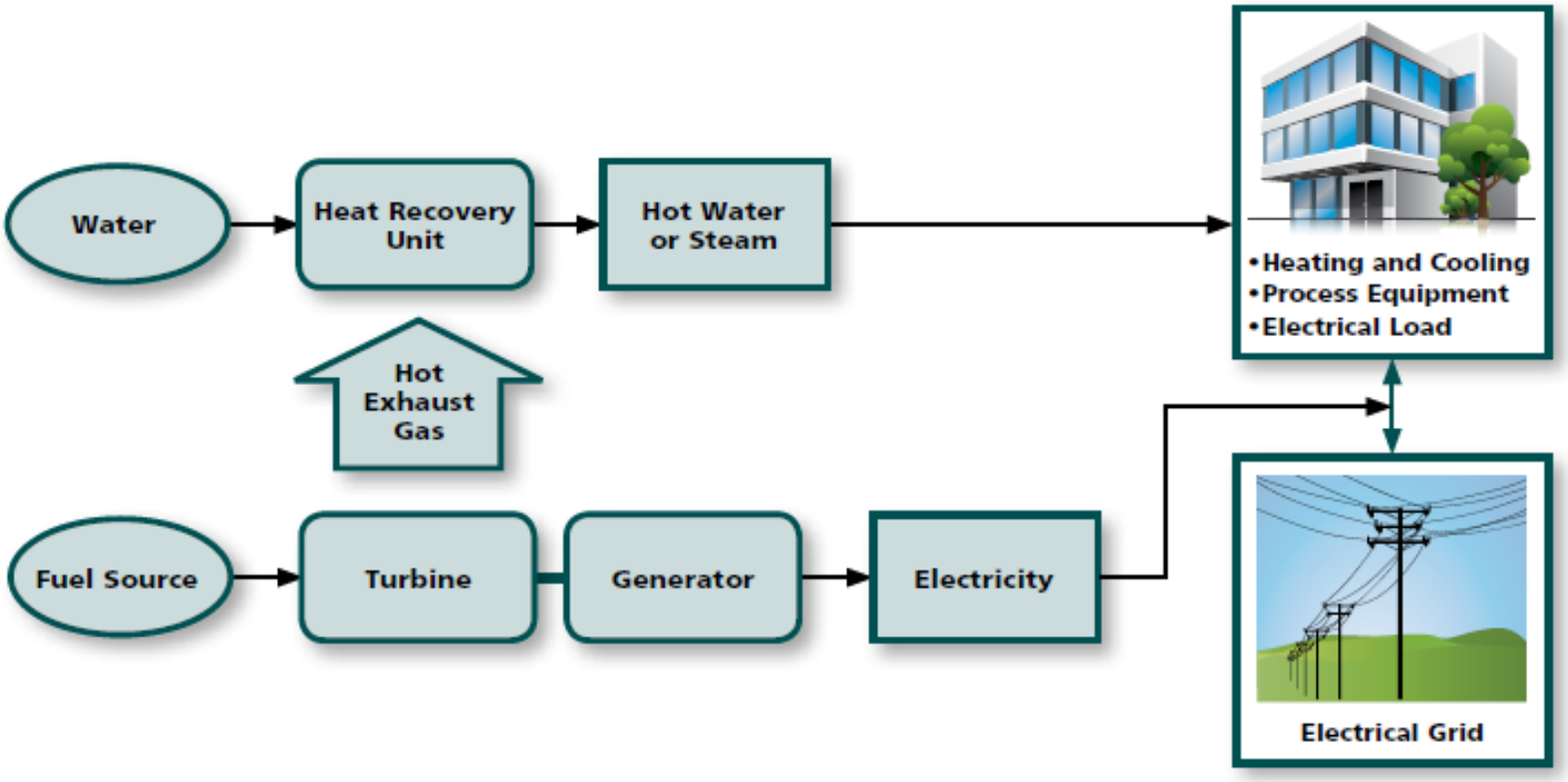
Combined Heat & Power

NJCleanEnergy.com/CHP



Combined Heat & Power - Fuel Cells

NJCleanEnergy.com/CHP

DISTRIBUTED ENERGY

Eligible Technology	Size (Installed Rated Capacity)	Incentive ($/Watt) [5]	% of Total Cost Cap per project	$ Cap per project
CHP powered by non-renewable or renewable fuel source, or a combination[4]: • Gas Internal Combustion Engine • Gas Combustion Turbine • Microturbine Fuel Cell with Heat Recovery (FCHR)	≤500 kW[1]	$2.00	30-40%[2]	$2 million
	>500 kW – 1 MW[1]	$1.00		
	>1 MW – 3 MW[1]	$0.55	30%	$3 million
	>3 MW[1]	$0.35		
Fuel Cell without Heat Recovery (FCwoHR)	Same as above[1]	Applicable amount above	30%	$1 million
Waste Heat to Power (WHP)[3] Powered by non-renewable fuel source. Heat recovery or other mechanical recovery from existing equipment utilizing new electric generation equipment (e.g. steam turbine)	≤1 MW[1]	$1.00	30%	$2 million
	>1 MW[1]	$0.50	30%	$3 million

+critical facility/blackstart bonus of 25%

New Jersey's cleanenergy program™

Microgrids

- NJBPU Town Center Distributed Energy Resources (TCDER) Microgrids Program
  - TCDER Microgrid is a cluster of critical facilities within a municipal boundary that may also operate as shelter for the public during and after an emergency event or provide services that are essential to function during and after an emergency situation. These critical facilities are connected to a single or series of DER technologies that can operate while isolated and islanded from the main grid due to a power outage
- Board funded 13 feasibility studies
- Feasibility studies completed and being reviewed

Microgrids

- EDCs fully engaged in program
- Barriers to TCDER Microgrids
  - Regulatory
    - ROW crossings
    - Tariff structures
  - Funding
- To address funding issue, Board, with NJIT and Rutgers, received DOE Grant of $300,000 for a microgrid financing study
  - Result will be a public “financing tool” for use by microgrid developers
  - Study to begin this month, completed within 2 years

Battery Storage

Commitment to Resiliency

- The Clean Energy Act also requires the Board to conduct an Energy Storage Resource analysis for submission to the Governor and the Legislature. In doing so, the Board is required by law to consult with various stakeholders, including PJM
- Rutgers (RU-LESS) is retained to complete the study

- Study to address:
  - Resiliency
  - Effects on ratepayers
  - Impacts on renewable energy and EVs
  - Optimal amount of storage
  - Technologies
  - Optimal points of entry (customer sited, utility scale)
  - Cost-benefit

Battery Storage

- Final report accepted by the Board in June 2019
- CEA requires Board to initiate a proceeding within six months of completion of report to establish a process and mechanism for achieving energy storage goals

Electric Vehicle (EV) Overview

- In June 2019, Governor Murphy signed an MOU outlining the BPU's role in encouraging Electric Vehicle use in New Jersey
  - BPU will consider how to utilize CEP funds to finance ZEV charging infrastructure deployment & mapping
  - BPU will consider how to dedicate CEP funds to create a rebate program to incentivize sale of new and used ZEVs
  - BPU will track usage and electric consumption from charging infrastructure

EVs for Underserved Communities

- Grant from the US Department of Energy
- Focused on how to enhance EV adoption in urban areas and in underserved communities
- Look at EV car sharing options and PEV-based ride hailing

EVs in the Energy Master Plan Draft

- First strategy and goal is to "**Reduce Consumption and Emissions from the Transportation Section**"
- 2025 – 330,000 light duty electric vehicles
- Charging infrastructure
- State light-duty fleet
- Increase transportation options, encourage new options
- Decrease Vehicle Miles Traveled
- Port emissions

EVs for Local Government Fleets

- Electric vehicles are now included in the State Purchasing Contract?
- New NJBPU Grant Program
  - Designed to encourage local governments to add EVs to their fleet
  - $4000 per battery electric vehicle
  - $1500 for one Level-Two EV charging station
  - Grants awarded on rolling basis until April 15, 2020 or until funding expended
- Questions? **EV.programs@bpu.nj.gov**

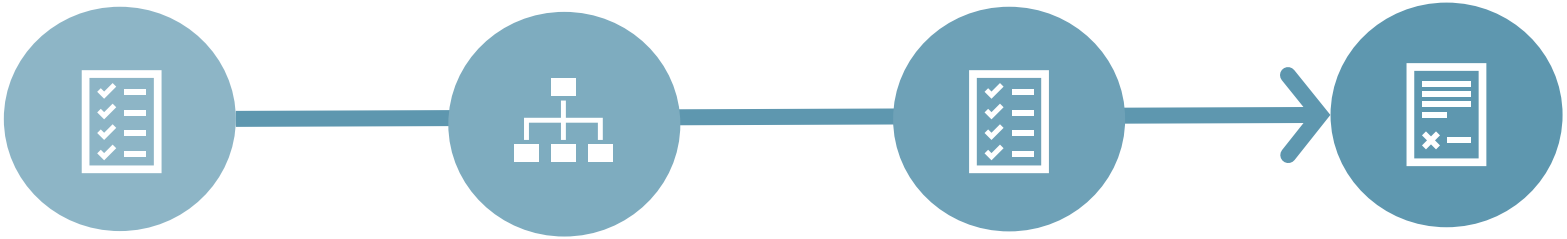
FINANCING
FOR GOVERNMENT AGENCIES

Financing Mechanism: ESIP

ENERGY SAVINGS IMPROVEMENT PROGRAM (ESIP)

- Provides alternative financing for energy savings projects at public institutions
- Administered directly by the BPU
- Value of energy savings leveraged to pay for cost of EE projects over a 15 year contract
- Requires NO new bonding and is outside of capital budget
- Does not count as debt or require voter approval

Financing Mechanism: ESIP



Initial Energy Audit

Includes LGEA

Select Path

ESCO (requires RFP)
Hybrid
DIY

Investment Grade Energy Audit

Energy Savings Plan Developed & Approved

Plan includes use of incentives through New Jersey's Clean Energy Program

More Information

VISIT

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THANK YOU