Bringing Policy to Life!
Successful Outreach Approaches for Energy Efficiency in Public Facilities

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Tony O’Donnell – Outreach Account Manager, TRC Companies

New Jersey’s Clean Energy Program™

October 29, 2020

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
Programs to Meet Goals

- CUSTOMER EDUCATION
- ENERGY CONSERVATION
- ENERGY EFFICIENCY
- DISTRIBUTED ENERGY RESOURCES
- RENEWABLE ENERGY

Program Performance…

- **131,000+** applications processed in FY19

- **Energy Savings** are delivered through electric, gas, oil, other efficiencies and generation
  - Savings from Generation: Renewable/CHP/Fuel Cell 42%
  - Electric Savings: 38%
  - Gas/Oil/Other Savings: 20%

- **$136,000,000+** incentives paid in FY19

…Brings Real-World Results

Clean Energy Programs eliminated enough CO₂ to equate to:

- 96,000+ cars removed
- 7,400,000+ trees planted
- 452,616 metric tons greenhouse gases eliminated
NJCEP Portfolio of Programs

RENEWABLE ENERGY
- Offshore Wind
- TREC - Solar Registration
- Community Solar

SPECIALIZED ENERGY EFFICIENCY
- Community Energy Grants
- State Facility Initiatives
- R&D Energy Tech Hub*
- Workforce Development*

COMMERCIAL & INDUSTRIAL
- Energy Audits
- Energy Efficiency Incentives
- Trade Allies

DISTRIBUTED ENERGY RESOURCES
- Combined Heat & Power – Fuel Cells
- Microgrid Development
- Battery Storage*
- Electric Vehicles

RESIDENTIAL
- New Construction
- Existing Homes
- Energy Efficient Products
- Trade Allies

* coming soon!

C&I Portfolio of Programs

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

- Energy Benchmarking
- Local Government Energy Audits

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

- SmartStart
  - Existing Buildings
  - New Construction

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

Some programs offer enhanced incentives to buildings:

- in a UEZ or OZ
- owned or operated by a local government (municipalities and counties)
- owned or operated by a K-12 public school
- designated as affordable housing

* coming soon!
Enhanced Incentives

Some programs offer enhanced incentives to buildings:

- in a UEZ or OZ
- owned or operated by a local government (municipalities and counties)
- owned or operated by a K-12 public school
- designated as affordable housing

Click here for a link to NJ Community Asset Maps
Local Government Energy Audit

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

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
Local Government Energy Audit

NJCleanEnergy.com/LGEA

MEASUREMENT & AUDITS

- Gather Preliminary Facility Data
  - Energy Bills
  - Facility Description
  - Facility Operating Hours
  - Detailed Equipment List
  - EPA Portfolio Manager

- Facility Inspection
  - Lighting
  - Building Shell
  - Boiler and Steam Distribution System
  - HVAC
  - Electrical Supply System
  - Hot Water Distribution System
  - Compressed Air Systems
  - Motor and Process Equipment

- Evaluate Renewable / Distributed Energy Measures

- Identify and Evaluate Energy Conservation Measures

- Energy Audit Report

C&I Portfolio of Programs

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

MEASUREMENT & AUDITS
- Energy Benchmarking
- Local Government Energy Audits

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

SINGLE MEASURE REBATES
- SmartStart
  - Existing Buildings
  - New Construction

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

Some programs offer enhanced incentives to buildings:
- in a UEZ or OZ
- owned or operated by a local government (municipalities and counties)
- owned or operated by a K-12 public school
- designated as affordable housing

* coming soon!

Pay for Performance
NJCleanEnergy.com/P4P

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 eligible enhanced incentive* projects) up to $2M per project / $4M per entity annually
• Incentive payments #2 and #3 are increased for eligible enhanced incentive* projects

* Enhanced incentives are available to existing buildings in a UEZ/OZ, K-12 public school, local governments (municipalities and counties), or designated as affordable housing

Incentive #1
fixed
Program Enrollment
Submission and Approval of Application

Incentive #2
up to 25% project cost
Energy Reduction Plan (ERP)
Development and Approval

Incentive #3
up to 25% project cost
Installation Verification Report

Incentive #2
up to 40% project cost
Installation of Measures

Enhanced incentives* to eligible existing buildings

Incentive #3
up to 40% project cost
Verification of Savings
Comparison of Performance vs ERP

* Enhanced incentives are available to existing buildings in a UEZ/OZ, K-12 public school, local governments (municipalities and counties), or designated as affordable housing.
Direct Install
NJCleanEnergy.com/DI

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 for eligible enhanced incentive* projects), or
• $250,000 per entity ($500K ESIP; $4M for eligible enhanced incentive* entities)

* Enhanced incentives are available to existing buildings in a UEZ/OZ, K-12 public schools, local governments (municipalities and counties), or designated as affordable housing

Facilities in Urban Enterprise Zones (UEZ), Opportunity Zones (OZ), local government (municipalities and counties), K-12 public school, or designated as affordable housing:

**INCENTIVE FUNDING**

Up to 80% of installed cost is paid directly to the contractor

**CUSTOMER**

20% of installed cost

All other eligible facilities:

**INCENTIVE FUNDING**

Up to 70% of installed cost is paid directly to the contractor

**CUSTOMER**

30% of installed cost
Direct Install
NJCleanEnergy.com/DI

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## CTEEP: Customer Tailored Energy Efficiency

**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 $10,000 technical incentive available to offset soft costs associated with developing and planning custom projects

**INCENTIVE CAP**
- Up to $500,000 for each electric or gas account
- Same Prescriptive or Custom incentives as the SmartStart Buildings program

CTEEP: Customer Tailored Energy Efficiency

- Scoping Session: One-on-One customization with program staff
- Energy Efficiency Plan: Application Approval
- Installation of Measures
- Confirmation of Installation: Incentives* Paid

*Enhanced incentives are available to existing buildings in a UEZ/OZ, K-12 public school, local governments (municipalities and counties), or designated as affordable housing.
C&I Portfolio of Programs

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

- **MEASUREMENT & AUDITS**
  - Energy Benchmarking
  - Local Government Energy Audits

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

- **SINGLE MEASURE REBATES**
  - SmartStart
    - Existing Buildings
    - New Construction

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

Some programs offer enhanced incentives to buildings:
- in a UEZ or OZ
- owned or operated by a local government (municipalities and counties)
- owned or operated by a K-12 public school
- designated as affordable housing

* coming soon!

### SmartStart
NJCleanEnergy.com/SSB

<table>
<thead>
<tr>
<th>WHO</th>
<th>All C&amp;I: commercial, industrial, agricultural, government, non-profit institutional, and multifamily customers</th>
</tr>
</thead>
<tbody>
<tr>
<td>SIZE TO QUALIFY</td>
<td>N/A</td>
</tr>
</tbody>
</table>
| ABOUT          | • Individual high efficiency equipment rebates for new construction, renovation, remodeling, equipment replacement  
|                | • Prescriptive and custom designed 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                             |

**PRESCRIPTIVE INCENTIVES**
- Electric Chillers
- Gas Cooling
- Electric Unitary HVAC
- Ground Source Heat Pumps
- Gas Heating
- Variable Frequency Drives
- Gas Water Heating
- Lighting/Lighting Controls
- Refrigeration Doors
- Refrigeration Controls
- Food Service Equipment
- Refrigerator/Freezer Motors

**CUSTOM INCENTIVES**
- New or innovative technologies proven to be cost-effective and not listed as prescriptive
- Must meet code for retrofit projects or exceed code for new construction
- Project pre and post inspection required

**SINGLE MEASURE REBATES**
- Existing buildings only:
- **DOUBLE INCENTIVES**
  for OZ/UEZ, local government (munis & counties), K-12 public school, or designated as affordable housing
C&I Portfolio of Programs

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

- Energy Benchmarking
- Local Government Energy Audits

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MEASUREMENT & AUDITS

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

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COMPREHENSIVE PROGRAMS

- SmartStart
  - Existing Buildings
  - New Construction

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SINGLE MEASURE REBATES

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

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DISTRIBUTED ENERGY RESOURCES

Some programs offer enhanced incentives to buildings:

- in a UEZ or OZ
- owned or operated by a local government (municipalities and counties)
- owned or operated by a K-12 public school
- designated as affordable housing

* coming soon!
### Combined Heat & Power - Fuel Cells

**NJCleanEnergy.com/CHP**

<table>
<thead>
<tr>
<th>WHO</th>
<th>C&amp;I customers that require on-site electric generation that either does or does not utilize waste heat</th>
</tr>
</thead>
<tbody>
<tr>
<td>SIZE TO QUALIFY</td>
<td>N/A - Projects must pass a cost-effectiveness test and run 5,000 full load equivalent hours per year (3,500 for critical facilities)</td>
</tr>
</tbody>
</table>
| 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 $2M - $3M  
  • 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 $1M |
Financing for Government Agencies

ENERGY SAVINGS IMPROVEMENT PROGRAM (ESIP)

- Provides alternative financing for energy savings projects at public institutions
- Administered directly by the NJBPU
- Project is paid for with the value of its own energy savings
- 15 or 20-year repayment term
- Board approved incentives/rebates are layered within an ESIP
- No upfront capital expenses
- Doesn’t require voter approval
Financing Mechanism: ESIP

Initial Energy Audit
Includes LGEA

Select Path
ESCO (requires RFP)
DIY
Hybrid

Investment Grade Energy Audit
Prioritize ECM’s to determine project

Energy Savings Plan Developed & Approved
Plan includes use of incentives from Board approved energy efficiency program
Success Stories: Public Facilities

MONROE TOWNSHIP LIBRARY

• Program – Local Government Energy Audit.
• Audit report
  • identify potential energy efficiency opportunities
  • help prioritize specific measures for implementation
  • provide information about financial incentives that may be available.

Suggested Measures

<table>
<thead>
<tr>
<th>Lighting Upgrades</th>
<th>Unitary HVAC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lighting Control Measures</td>
<td>Domestic Hot Water</td>
</tr>
<tr>
<td>Motor Upgrades</td>
<td>Food Service Refrigeration</td>
</tr>
<tr>
<td>VFD Measures</td>
<td></td>
</tr>
</tbody>
</table>

Total Audit Cost: $0.00

"Transforming Business Education & Practice, 2020"
• 12 Facilities Audited:
  • Westfield High School
  • Edison Intermediate School
  • Roosevelt Intermediate School
  • Franklin Elementary School
  • Jefferson Elementary School
  • Lincoln Elementary School
  • McKinley Elementary School
  • Tamaques Elementary School
  • Washington Elementary School
  • Wilson Elementary School
  • Administration Building
  • Kehler Stadium Field House

• Full ASHRAE level audit performed

• Total Audit Cost: $0.00


This case study was from a previous fiscal year and may not represent current incentive levels or costs.
NEWARK PUBLIC SCHOOLS

• Various Building Types
• LGEA
  Pay for Performance
  SmartStart Buildings
• Completed LGEA process for:
  • 41 buildings - 2013 and 2014
  • 18 buildings - 2018 and 2019

Projects developed
• Approx Incentives: $500,000
• Annual Savings: 1,600 MWh
  17,000 MMBTU’s

HOWELL TOWNSHIP BOE

• 5 Facilities - ESIP funding
  • Interior and Exterior LED Lighting upgrades
  • HVAC Systems
  • Programable Thermostats

• Total Project Cost: $551,108
• Incentive: $366,803
• Annual Savings: $ 96,7661

This case study was from a previous fiscal year and may not represent current incentive levels or costs.
HOBOKEN CITY HALL

- Municipal Building
  - LED Lighting upgrades
  - HVAC Systems
  - Programable Thermostats
  - Low flow Aerators

- Total Project Cost: $54,552
- Incentive: $38,187
- Annual Savings: $17,288
- Payback Period: < 1 year

This case study was from a previous fiscal year and may not represent current incentive levels or costs.
HOBOKEN FIRE ENGINE COMPANY 3

- Fire Station
- LED Lighting upgrades
- HVAC Systems
- Programable Thermostats
- Total Project Cost: $32,073
- Incentive: $22,892
- Annual Savings: $ 6,139
- Payback Period: 1.5 years
OCEAN COUNTY COLLEGE

• Education

• Lighting upgrades
  • Exterior LED Wall Packs

• Total Project Cost: $7,710

• Incentive: $6,000

• Annual Savings: $6,844

• Project Payback: 3 months

This case study was from a previous fiscal year and may not represent current incentive levels or costs.
More Information

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NEWSLETTER
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THANK YOU