Pathways and Incentives to Financing Clean Energy

Webinar
July 13, 2016

Nancy Quirk
Program Coordinator
Advanced Infrastructure
Sustainable Jersey
quirkn@tcnj.edu
(609) 771-2902
<table>
<thead>
<tr>
<th>Municipal Operations</th>
<th>Climate Planning and Energy Efficiency</th>
<th>Renewable Energy and Advanced Infrastructure</th>
<th>Alternative Vehicles</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Municipal Carbon Footprint</td>
<td>• On-Site Solar Energy</td>
<td>• Fleet Inventory</td>
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<td>• Energy Tracking &amp; Management</td>
<td>• On-Site Geothermal</td>
<td>• Green Fleet Target</td>
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<td>• Energy Audit</td>
<td>• On-Site Wind Energy</td>
<td>• Green Fleet Procurement</td>
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<td>• Implement Efficiency Measures</td>
<td>• Purchase Renewable Energy</td>
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<td>• Energy Transition Plan/ESIP</td>
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<td>• High Performance Buildings</td>
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<tr>
<td>Community Energy Use</td>
<td>• Community Carbon Footprint</td>
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<td>• Make Your Town EV Friendly</td>
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<td>• Climate Action Plan</td>
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<td>• HPwES Community Outreach</td>
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<td>• Public EV Chargers</td>
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<td></td>
<td>• Direct Install Outreach to Local Business Community</td>
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</tbody>
</table>
Define sequence of Energy Efficiency actions

Allow municipalities/schools to choose most appropriate path

Recognize variability between municipalities/schools

Multi-point structure varies by:

- impact
- degree of difficulty
NJCEP and Utility Incentives

• NJ Clean Energy Program (NJCEP) incentives

• Utility company incentives may:
  – Complement NJCEP
  – Offer on-bill repayment
  – Offer 0% interest
  – Have programs for local government facilities, local businesses, and homeowners

• Utility and NJCEP incentives included in SJ Action documents
New Jersey’s Clean Energy Program

Opportunities for Commercial, Industrial and Institutional Buildings

Marybeth Brenner

Sustainable Jersey – Pathways and Incentives to Financing Clean Energy

July 13, 2016
NJCEP BACKGROUND

• Administered by the New Jersey Board of Public Utilities
• Funded from “Societal Benefits Charge” on utility bill
• Program Goals:
  ▪ Save energy and lower operating cost
  ▪ Protect environment and lower emissions
  ▪ Change the business mindset
PROGRAM PORTFOLIO

ELIGIBLE SECTORS
Commercial, Industrial, Government, Non-Profit, Institutional and Multifamily

PROGRAMS

Equipment Rebates:
• Retrofit – Existing Buildings
• New Construction
• Direct Install – Small Business
• Large Energy Users

Whole Buildings:
• Pay for Performance Existing Buildings
• Pay for Performance New Construction

Energy Generation:
• Combined Heat and Power (CHP) and Fuel Cells

Audits:
• Local Government Energy Audits
LOCAL GOVERNMENT ENERGY AUDIT (LGEA)
Approved for Local governments & schools under Local Public/Schools Contract Laws.
- County colleges under County College Contracts Law
- NJ State Colleges or State Universities
- 501(c)(3) Non-profit organizations
- State Contracting Agencies & Public Agencies

100% of the audit cost, subject to an annual incentive cap of $100,000 per entity, per fiscal year. Exceptions possible (up to $300,000)
LGEA: HOW IT WORKS

• Complete application
• Schedule your audit (no more RFP process)
• Choose among list of recommended, cost-effective energy efficiency upgrades
• Apply for additional incentives from New Jersey’s Clean Energy Program
LGEA: NEW FEATURES

- No RFP process for audit firm selection
- Ability to re-apply and get another audit done after 3 years.
- Consistency of audit report format/content.
- Follow up re: NJCEP incentive programs and implementation of recommended measures.
NJ SMARTSTART
BUILDINGS
SMARTSTART: OVERVIEW

• Two types of incentives for high efficiency equipment installation:
  ▪ Prescriptive Incentives
  ▪ Custom Incentives

• Available to all Commercial, Industrial, Agricultural, Government, Non-Profits and Institutional customers

• Includes New Construction, Rehab and Retrofit projects

• Project pre-approval required for some applications (lighting)

• Incentives up to $500,000 per electric account and $500,000 per natural gas account.
SMARTSTART: INCENTIVES

Prescriptive Incentives

• Project Categories:
  ▪ New Construction
  ▪ Renovation
  ▪ Remodeling
  ▪ Equipment Replacement

• Specific incentives and individual applications for Lighting, HVAC, VFDs, Refrigeration, Controls and more.
SMARTSTART: INCENTIVES

Custom Incentives

- Designed for new or innovative technologies proven to be cost-effective and not listed as prescriptive
- Incentives paid for approved projects at the lesser of three values:
  - 50% of project cost
  - Buy down to one year payback, OR
  - $0.16/kWh, $1.60/ therm saved in first year
- Projects must have a minimum first year energy savings of 75,000 kWh or 1,500 therms to be eligible.
DIRECT INSTALL

- Program is currently on hold
- Next Steps to re-open:
  - Approval of general program design by BPU
  - Release of RFPs for contractors and equipment
  - Selection of Contracts for contractors and vendors
  - Approval of all program details
DIRECT INSTALL: OVERVIEW

- A turn-key retrofit program to replace outdated and inefficient equipment
- Lighting, HVAC, Refrigeration
- Open to Small to Mid-Sized Commercial and Industrial facilities with a peak electric demand ≤ 200 kW
- Provides incentives of up to 70% of the installed cost
- Incentives are paid directly to the contractor
  - Customer only pays remaining 30% of installed cost
  - $125,000 project cap
  - $250,000 per entity cap
DIRECT INSTALL: BENEFITS

• Turnkey process: participating contractors provide support and process all paperwork
• Minimal cost: Low upfront cost with generous incentives
• Fast turnaround time: Average length of time for job completion, 4-6 months
• Ongoing savings: Projects provide energy savings year after year
DIRECT INSTALL EXAMPLES
HAMILTON TOWNSHIP
FIRE DISTRICT #2

- Municipal Fire Station
- Lighting & HVAC retrofit
- Total Project Cost: $125,664
- Incentive: $87,965
- Annual Savings: $12,961
- Payback Period: 2.9 Years
ROXBURY TOWNSHIP PUBLIC SCHOOLS

• Public Elementary School
• Lighting & HVAC retrofit
• Total Project Cost: $119,740
• Incentive: $83,818
• Annual Savings: $16,229
• Payback Period: 2.2 Years
PAY FOR PERFORMANCE (P4P)
P4P: OVERVIEW

• Comprehensive, whole-building approach to saving energy in existing or new facilities
• Goal: reduce consumption by 15% or more
• Incentives up to $2 million per project, assuming both gas and electric improvements are made; $4 million annual entity cap
• Incentives paid in three installments at milestones
• Customer chooses from network of pre-approved participating Partners
P4P: OVERVIEW

- Existing Buildings: Large Commercial, Industrial Institutional and certain multifamily with an annual peak demand in excess of 200kW
- New Construction: Projects with over 50,000 square feet of planned conditioned space
- Eligibility requirements flexible for hospitals, 501(c)(3) non-profits, local government buildings, affordable multi-family housing and public universities and colleges
P4P: HOW IT WORKS

• Projects must create an Energy Reduction Plan
  ▪ Prior 12 month energy use baseline for existing buildings
  ▪ Current energy code baseline for new construction projects
  ▪ Incentive Milestone #1 of up to $50,000

• Implementation of Project
  ▪ Must finish construction or renovation to qualify
  ▪ New Construction projects must submit an As-Built
  ▪ Energy Reduction Plan to address any changes during construction
  ▪ Incentive Milestone #2 paid to customer
To Qualify for Final Payment:

- For existing buildings, after 12 month of consecutive energy billing submit a post-construction report
- Complete commissioning and a Commissioning Report of new construction projects
- Final Incentive Milestone #3 paid to customer
PAY FOR PERFORMANCE EXAMPLES
FOR MORE INFORMATION

Visit NJCleanEnergy.com

Call (866) NJSMART

Stay Informed NJCleanEnergy.com/Newsletter

To join the Energy Efficiency listserv contact the NJCEP Webmaster.
New Jersey Board of Public Utilities Clean Energy Program

Energy Savings Improvement Program

Michael Thulen
ESIP Coordinator
Pathways and Incentives Workshop
Commercial, Indust & Local Gov.

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<tr>
<th>COMMERCIAL, INDUSTRIAL AND LOCAL GOVERNMENT PROGRAMS</th>
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<tr>
<td>NJ SMARTSTART BUILDINGS</td>
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<tr>
<td>PAY FOR PERFORMANCE</td>
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<tr>
<td>COMBINED HEAT &amp; POWER AND FUEL CELLS</td>
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<td>LOCAL GOVERNMENT ENERGY AUDIT</td>
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<td>LARGE ENERGY USERS PROGRAM</td>
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<td>ENERGY SAVINGS IMPROVEMENT PROGRAM</td>
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<td>DIRECT INSTALL</td>
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<td>ENERGY BENCHMARKING</td>
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<td>OIL, PROPANE, MUNICIPAL &amp; COOP ELECTRIC CUSTOMERS</td>
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<td>EDA PROGRAMS</td>
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<td>SBC CREDIT PROGRAM</td>
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<td>SUSTAINABLE JERSEY</td>
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<tr>
<td>PAST PROGRAMS</td>
</tr>
</tbody>
</table>

### Commercial Industrial and Local Government Programs

**Find Your Industry**

**Programs Available**

New Jersey’s Clean Energy Program offers financial incentives to create a more efficient New Jersey. Learn more about the energy use of businesses like yours to see how your business is performing. Integrate energy efficient, new technology into your buildings and equipment upgrades, make your facilities more efficient and receive big dividends on efficiency investments. Questions? Give us a call at 866-657-6278.

New Jersey’s Clean Energy Programs:
# LOCAL GOVERNMENT ENERGY AUDIT

## COMMERCIAL, INDUSTRIAL AND LOCAL GOVERNMENT

### PROGRAMS

- **NJ SMARTSTART BUILDINGS**
- **PAY FOR PERFORMANCE**
- **COMBINED HEAT & POWER AND FUEL CELLS**
- **LOCAL GOVERNMENT ENERGY AUDIT**
- **LARGE ENERGY USERS PROGRAM**
- **ENERGY SAVINGS IMPROVEMENT PROGRAM**
- **DIRECT INSTALL**
- **ENERGY BENCHMARKING**
- **OIL, PROpane, MUNICIPAL & COOP ELECTRIC CUSTOMERS**
- **EDA PROGRAMS**
- **SBC CREDIT PROGRAM**
- **SUSTAINABLE JERSEY**
- **PAST PROGRAMS**
- **SUCCESS STORIES**
- **PROGRAM UPDATES**
- **CONTACT US**

## Completed Reports

A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z

- Absecon Board of Education
- Academy Charter High School
- Academy of the Holy Angels
- Andover Township of DPV/Garage
- Hillside Barn
- Hillside House
- Police Department
- Town Hall
- Asbury Park, City of Final Report
- Appendix
- Appendix (Compressed)
- Atlantic City, City of
- Atlantic City Municipal Utilities Authority
- High Lift Pump Station
- Low Lift & Filtration
- Office
- Atlantic City Public Library
- Atlantic, County of
- Atlantic County Special Services School
- Atlantic County Utilities Authority
- Beachwood, Borough of Community Center
- Department of Public Works
- Municipal Complex
- Bellmawr Borough School District
- Executive Report
- Bell Oaks Middle School
- Bellmawr Park Elementary
- Ethel M Burke Elementary
- Belmar Board of Education

## Program Updates

- Program Administration Transition Updates
- Combined Heat & Power and Fuel Cell Program Notice
- Notice of NJ Energy Code Change
- Other updates posted.

## Program Literature

- Applications and Brochures
- Download the Latest Program Materials

## Success Stories

- Roxbury Township Public Schools Energy Efficiency

## Local Govt and Schools

- Find out what financial incentives are available today

## Business Energy Advisor

- Learn more about energy use & savings in your industry
List of Energy Conservation Measures
Fuel usage for each of the buildings
Opportunities in Renewable Energy
Grant incentive opportunities
Funding mechanisms ESIP
Energy Savings Improvement Program

Energy Savings Improvement Program

A new State law allows government agencies to make energy related improvements to their facilities and pay for the costs using the value of energy savings that result from the improvements. Under Chapter 4 of the Laws of 2009 (the law), the "Energy Savings Improvement Program" (ESIP), provides all government agencies in New Jersey with a flexible tool to improve and reduce energy usage with minimal expenditure of new financial resources.

Please review the New Jersey's Clean Energy Program (NJCEP) and ESIP Interaction memo and flow chart for recommendations on when to submit incentive applications to various NJCEP programs relative to the ESIP timeframe.

This Local Finance Notice outlines how local governments can develop and implement an ESIP for their facilities. Below are two sample RFPs:

- Local Government
- School Districts (K-12)

All RFPs and final Energy Savings Plan (ESP) must be submitted to the Board for approval at ESIP@bpu.state.nj.us.

The Board also adopted protocols to measure energy savings:

- Measuring Energy Savings
- Procedures for Implementation
Energy Savings Improvement Program

1) Initial Audit → 2) Decide ESCO or DIY → 3) Prepare RFP → 4) Submit RFP to BPU for review & approval → 5) RFP circulation → 6) Select Vendor → 7) Submit Vendor Selection to BPU for Review & approval → 8) Investment Grade Audit performed Prepare ESP → 9) Independent review of ESP (send review to BPU) → 10) Review of Energy Savings Plan by BPU → 11) Project Initiation
Energy Savings Improvement Program

1) Initial Audit
2) Decide whether to go forward as an ESCO or DIY project
3) Prepare Draft RFP (Boiler Plate Available) / submit to BPU for review
4) RFP proposal review by the BPU – completed within 14 days
5) RFP circulation – must be in local newspapers and direct notification to all DPMC–approved ESCO’s
6) Select Vendor / award contract
7) Vendor Selection review by the BPU – completed within 14 days
   ◦ Send all Bids to BPU for Reporting
8) Investment Grade Audit performed / prepare ESP
9) Independent Third Party review of ESP (must send to BPU)
10) Review of Energy Savings Plan by BPU – completed within 14 days
11) Project initiation
12) Measurement and Verification sent to Entity and BPU
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 Chill Water Pumps
- NEMA Premium Motors*
- Prescriptive & Performance Lighting*
- Refrigeration Doors/Covers and Controls
- Food Service Equipment
<table>
<thead>
<tr>
<th>Entity</th>
<th>Projected Guaranteed Annual Savings</th>
<th>Actual Annual Savings</th>
<th>Percentage Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Johnson Controls Inc.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Barnegat School District</td>
<td>$317,151.00</td>
<td>$359,411.00</td>
<td>113.32%</td>
</tr>
<tr>
<td>Mercer VoTech</td>
<td>$1,015,724.00</td>
<td>$1,126,793.00</td>
<td>110.93%</td>
</tr>
<tr>
<td>Millville School District</td>
<td>$616,411.00</td>
<td>$803,820.00</td>
<td>130.40%</td>
</tr>
<tr>
<td>Salem County VoTech</td>
<td>$529,649.00</td>
<td>$623,562.00</td>
<td>117.73%</td>
</tr>
<tr>
<td>Wyckoff School District</td>
<td>$368,277.00</td>
<td>$403,642.00</td>
<td>109.60%</td>
</tr>
<tr>
<td>Honeywell International Inc.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kearny Township</td>
<td>$100,604.00</td>
<td>$122,534.00</td>
<td>121.79%</td>
</tr>
<tr>
<td>Bridgewater/Raritan RSD</td>
<td>$592,025.00</td>
<td>$593,612.00</td>
<td>100.26%</td>
</tr>
<tr>
<td>Hanover Twp School Dist.</td>
<td>$212,168.00</td>
<td>$218,104.00</td>
<td>102.79%</td>
</tr>
<tr>
<td>Phillipsburg</td>
<td>$442,341.00</td>
<td>$521,762.00</td>
<td>117.95%</td>
</tr>
<tr>
<td>Ameresco</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Franklin Twp</td>
<td>$99,134.00</td>
<td>$103,543.00</td>
<td>104.44%</td>
</tr>
<tr>
<td>Somerset Hills</td>
<td>$345,944.00</td>
<td>$352,647.00</td>
<td>101.93%</td>
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<tr>
<td>DCO</td>
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<tr>
<td>Manalapan</td>
<td>$67,021.00</td>
<td>$78,623.00</td>
<td>117.31%</td>
</tr>
<tr>
<td>Constellation</td>
<td></td>
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<tr>
<td>Newark Housing Authority</td>
<td>$4,212,128.00</td>
<td>$9,411,792.00</td>
<td>123.45%</td>
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<tr>
<td></td>
<td>$8,918,577.00</td>
<td>$14,719,845.00</td>
<td>113.22%</td>
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</tbody>
</table>
Methods of Finance

- Self Funding Bonds
- Lend Lease Purchase Borrowing
Methods of Revenue

- Energy Savings
  - Electric, Natural Gas, Heating fuel, Propane

- Operational Savings
  - Repair savings, replacement savings & manpower

- Clean Energy Incentives

- Power Purchase Agreements

- Demand Response
Power Purchase Agreements
NO ARRAYS ARE TO BE PROPOSED WITHIN THE BOUNDARIES OF THE STORAGE AREA OR THE HELIPAD.

ARRAYS ARE LIMITED TO:
GROUND-A
GROUND-B
LOT 17
LOT 16
BUILDING 17 ROOF
BUILDING 15 ROOF
D-BLOCK ROOF

ROOF INSTALLATIONS TO BE OVER NEW 20-YEAR WARRANTY ROOF BY PPA CONTRACTOR AND FUNDED BY THE RATE
# NJ Clean Energy Incentives

Pre-approval prior to installation is required.

**Prescriptive Lighting Application - July 1, 2015 through June 30, 2016**

## Prescriptive Lighting Measures and Incentives

### Linear Fluorescent Lighting - New Fixture

<table>
<thead>
<tr>
<th>Type of Existing Fixture</th>
<th>Voltage of Existing Fixture</th>
<th>Proposed Fixture</th>
<th>Incentive</th>
</tr>
</thead>
<tbody>
<tr>
<td>HLD</td>
<td>&gt; 750 Watts</td>
<td>T-8, T-8</td>
<td>$105/fixture</td>
</tr>
<tr>
<td>HLD</td>
<td>600 - 750 Watts</td>
<td>T-8, T-8</td>
<td>$100/fixture</td>
</tr>
<tr>
<td>HLD</td>
<td>250 - 350 Watts</td>
<td>T-8, T-8</td>
<td>$50/fixture</td>
</tr>
<tr>
<td>HLD</td>
<td>&lt; 250 Watts</td>
<td>T-8, T-8</td>
<td>$25/fixture</td>
</tr>
</tbody>
</table>

### Linear Fluorescent Lighting - Retrofit of Existing Fixture

<table>
<thead>
<tr>
<th>Measure</th>
<th>Incentive</th>
</tr>
</thead>
<tbody>
<tr>
<td>For retrofit or replacement of T-8 fixtures by permanent de-lamping &amp; new reflectors. Incentives for replacement/retrofit of T-12 systems are not available.</td>
<td>$10 per fixture</td>
</tr>
<tr>
<td>Retrofit or replacement of existing 32 watt T-8 system to reduced-voltage (28w/25w/4W) (new or retrofit). Incentives for replacement/retrofit of T-12 systems are not available.</td>
<td>$5 per fixture (1-4 lamps)</td>
</tr>
</tbody>
</table>

### Induction Lighting Incentives

<table>
<thead>
<tr>
<th>Measure</th>
<th>Incentive</th>
</tr>
</thead>
<tbody>
<tr>
<td>HLD (a 100W) fixture replaced with a new induction fixture. Replacement unit must use 50% less voltage per fixture than existing HLD system.</td>
<td>$70 per fixture</td>
</tr>
<tr>
<td>HLD (a 100W) fixture retrofitted with induction lamp power coupler and generator. Replacement unit must use 30% less voltage per fixture than existing HLD system.</td>
<td>$50 per fixture</td>
</tr>
</tbody>
</table>

### LED Lighting Incentives

LED Fixture Categories: Incentives are determined by the approved fixture category per DLC or EnergyStar requirements. See specific Program Requirement #7.

<table>
<thead>
<tr>
<th>LED Fixture Categories</th>
<th>Incentive</th>
</tr>
</thead>
<tbody>
<tr>
<td>LED: Architectural Flood &amp; Spot Luminaires</td>
<td>$50 per fixture</td>
</tr>
<tr>
<td>LED: Ballast Fixtures</td>
<td>$50 per fixture</td>
</tr>
<tr>
<td>LED: Display Case Lighting</td>
<td>$30 per fixture</td>
</tr>
<tr>
<td>LED: Fixturesמוע</td>
<td>$10 per fixture</td>
</tr>
<tr>
<td>LED: High-Bay and Low-Bay Fixtures for commercial &amp; industrial buildings</td>
<td>$150 per fixture</td>
</tr>
<tr>
<td>LED: High-Bay/Aisle Lighting</td>
<td>$150 per fixture</td>
</tr>
<tr>
<td>LED: Linear Ambient Luminaires (indirect, indirect/direct, direct/indirect, direct)</td>
<td>$200 per fixture</td>
</tr>
<tr>
<td>LED: Linear Replacement Lamps (2' &amp; 4' only)</td>
<td>$10 per fixture</td>
</tr>
<tr>
<td>LED: Luminaires for Ambiente Lighting of interior commercial spaces (1x4, 2x2, 2x4)</td>
<td>$15 per fixture</td>
</tr>
<tr>
<td>LED: Outdoor Pole/mounted Area and Roadway Luminaires (New or Retrofit)</td>
<td>$150 per fixture</td>
</tr>
<tr>
<td>LED: Outdoor Pole/mounted decorative luminaires (New or Retrofit)</td>
<td>$10 per fixture</td>
</tr>
<tr>
<td>LED: Outdoor Wall-mounted Area Luminaires</td>
<td>$150 per fixture</td>
</tr>
<tr>
<td>LED: Parking garage luminaires</td>
<td>$100 per fixture</td>
</tr>
<tr>
<td>LED: Retrofit Kits for Large Outdoor Pole/mounted Area and Roadway Luminaires</td>
<td>$150 per fixture</td>
</tr>
<tr>
<td>LED: Refrigerator/Freezer case lighting. Incentive for replacement of fluorescent lighting systems in medium or low temperature display cases.</td>
<td>$30 per fixture</td>
</tr>
<tr>
<td>LED: 50 W flood light fixture</td>
<td>$40 per fixture</td>
</tr>
<tr>
<td>LED: 50 W flood light fixture</td>
<td>$65 per fixture</td>
</tr>
</tbody>
</table>
Key Links

- Clean Energy Incentives
  - [http://www.njcleanenergy.com/commerical-industrial/home/home](http://www.njcleanenergy.com/commerical-industrial/home/home)
- ESIP information
- Link to the ESIP legislation
  - [http://www.njleg.state.nj.us/2012/Bills/AL12/55.pdf](http://www.njleg.state.nj.us/2012/Bills/AL12/55.pdf)

Contacts
- Mike Thulen / ESIP Coordinator esip@bpu.nj.gov
- Ed Mercer / State Energy Mgr. esip@bpu.nj.gov
- Gary Finger / Ombudsman esip@bpu.nj.gov
Optimizing New Jersey’s Clean Energy Program for Local Governments

July 13, 2016

Tony O’Donnell
Economist/Project Director
Sustainable Jersey
odonnela@tcnj.edu
(609) 771-2921
Basic Process Steps

• Select LGU from list

• Profile generated based on TCNJ/NJIT Data
  – Size, building portfolio
  – NJCEP participation history

• Present questions for LGU to address:
  – Energy usage
  – Administrative capacity
  – Etc.

• Present Portfolio Matches
### Pathways Matrix

<table>
<thead>
<tr>
<th>Unimplemented LGEA potential in dollars</th>
<th>Quick Implementers</th>
<th>Mid-Range</th>
<th>DIY Bundlers</th>
<th>ESIP</th>
</tr>
</thead>
<tbody>
<tr>
<td>• &lt;$600K</td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>• $600K - $1.5M</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
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<td>• &gt;$1.5M</td>
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<td></td>
<td>X</td>
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<table>
<thead>
<tr>
<th>Estimated Savings in dollars x # of buildings</th>
<th>Quick Implementers</th>
<th>Mid-Range</th>
<th>DIY Bundlers</th>
<th>ESIP</th>
</tr>
</thead>
<tbody>
<tr>
<td>• &lt;$600K</td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>• $600K - $1.5M</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>• &gt;$1.5M</td>
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<tr>
<th>Peak Demand</th>
<th>Quick Implementers</th>
<th>Mid-Range</th>
<th>DIY Bundlers</th>
<th>ESIP</th>
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<tbody>
<tr>
<td>• 0 to 200KW</td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>• &gt;200KW</td>
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<td></td>
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</table>

<table>
<thead>
<tr>
<th>Management preference</th>
<th>Quick Implementers</th>
<th>Mid-Range</th>
<th>DIY Bundlers</th>
<th>ESIP</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Low</td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>• Medium</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>• High</td>
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<td></td>
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</table>
Four Pathways/Profiles

1. Quick Implementers
2. Mid-Range
3. Do It Yourself Bundler
4. Clear ESIP Candidate
Profile for Quick Implementers

Summary of Pathway Characteristics:

• Project Size Less than $600,000
• No Buildings with Peak Demand >200 kW
• Limited Evidence of Upgrade Opportunities; no LGEA or LGEA with Limited Results
• Limited Administrative Capacity for Complex Programs
1. An LGEA is not recommended.

2. Optimal strategy for these LGUs is effective use of the Direct Install program (with an audit-like walkthrough), probably focusing on lighting upgrades and advanced controls.

3. Encouragement should be provided for simple building upgrades, including weatherization, duct sealing, and simple insulation, and early replacement of aging capital equipment if budget allows.

4. However, these “add ons” should not constrain pursuit of the easy upgrades that can be quickly realized through the DI program(s).
Profile for Mid Range

Summary of Pathway Characteristics:

• Project Size Between $600,000 and $1,500,000
• Vague or Mixed Evidence of Upgrade Opportunities; Some Prior ECMs Implemented
• Limited Administrative Capacity for Complex Programs
1. A simple DI approach is probably inadequate by itself and so other CEP programs are appropriate for consideration.

2. Primary path is therefore completion of an LGEA (if one has not already been done)

3. Consideration of P4P, DI, or equipment upgrades in various combinations.

4. These LGUs are essentially implementing program level measures, without fuller consideration of a more comprehensive (and difficult) upgrade program.
Summary of Pathway Characteristics:

- Project Size Between $600,000 and $1,500,000
- Good Evidence of Upgrade Opportunities; Possible LGEA Showing Unimplemented ECMs
- Strong Administrative Capacity and Appetite for Complex Programs
1. These LGUs essentially implement an “ESIP Light” without the significant overhead required of the larger ESIP program.

2. Optimal pathway is:
   - complete an LGEA if it has not been done already, then
   - based on LGEA findings, explore DI, P4P, and equipment upgrade programs.
Profile for Clear ESIP Candidate

Summary of Pathway Characteristics:

• Project Size Greater Than $1,500,000
• Strong Evidence of Upgrade Opportunities
• Strong Administrative Capacity and Appetite for Complex Programs
1. The optimal path for this segment is a full blown ESIP project with the goal of the most comprehensive upgrade bundle possible.

2. An LGEA should be done as a first step (if it hasn’t been done already), followed by the ESIP RFP process.

3. ESIPs are good fits for larger schools and most counties (or municipal groups if aggregated together), but rarely work for small to medium sized municipalities or smaller “other” entities.
Questions?

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    odonnela@tcnj.edu or 609-771-2921
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    quirkn@tcnj.edu or 609-771-2902
Upcoming Energy Webinars

• **Get Plugged In: Actions and Incentives to Encourage Electric Vehicles**
  - Tuesday, July 19th at 1 pm
  - Learn about NJDEP grant program for EV chargers
  - $250 Grants for Level 1 charging stations
  - $5,000 Grants for Level 2 charging stations

• **Sustainable Jersey Solar Challenge**
  - Wednesday, July 20th at 1 pm
  - Learn about the new Solar Challenge
  - $10,000 award to the winning municipality!