



# **Strategically Maximizing the Energy Efficiency of Your Building Portfolio Webinar**

Sustainable Jersey Webinar  
August 14, 2018

# Speakers for Today's Webinar

**Tony O'Donnell**

Economist/Project Specialist  
Sustainable Jersey

**Lauren Kaapcke**

EDF Fellow for Asbury Park, Freehold Boro,  
and Neptune Township

**Sarah Berman**

Program Associate, EDF Climate Corps  
Environmental Defense Fund

**Sage Lang**

EDF Fellow for Little Egg Harbor Township  
School District, Ocean Gate Boro, and Little  
Egg Harbor Township

**Susan Ellman**

Energy Efficiency Marketing Manager  
New Jersey Natural Gas

**Erin Lannon**

EDF Fellow for Jackson Township School  
District, Point Pleasant Beach Boro, and  
Lake Como Boro

# Sustainable Jersey Actions: **Energy**

## **Energy Tracking and Management** (10-20 pts)

- Draft a full building inventory
- Collect twelve months of complete utility data
- Enter information into an Energy Tracking and Management (ET&M) system to establish a historical baseline
- Benchmark your buildings

### *Benefits:*

- ✓ Great "first step" in an overall building upgrade program
- ✓ Helps prioritize potential building performance improvement opportunities
- ✓ Creates an "active management" approach to energy use



# Sustainable Jersey Actions: **Energy**

## **Energy Efficiency for Facilities** (5-50 pts)

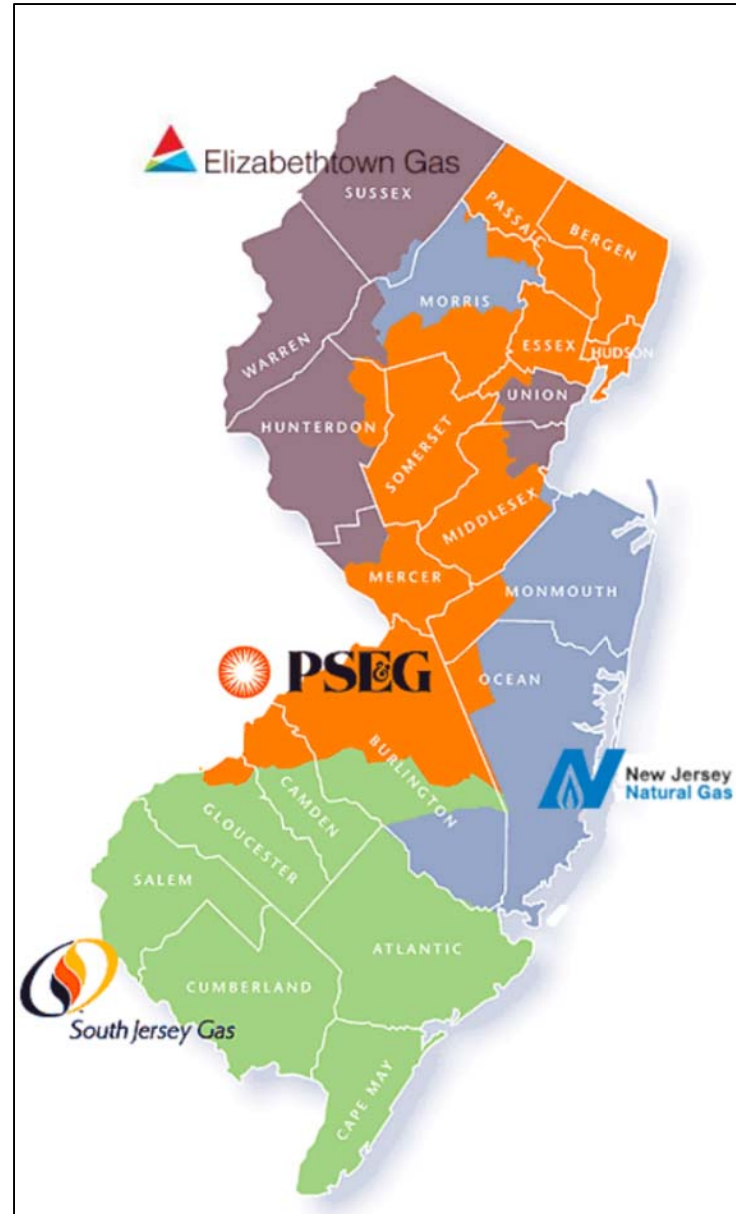
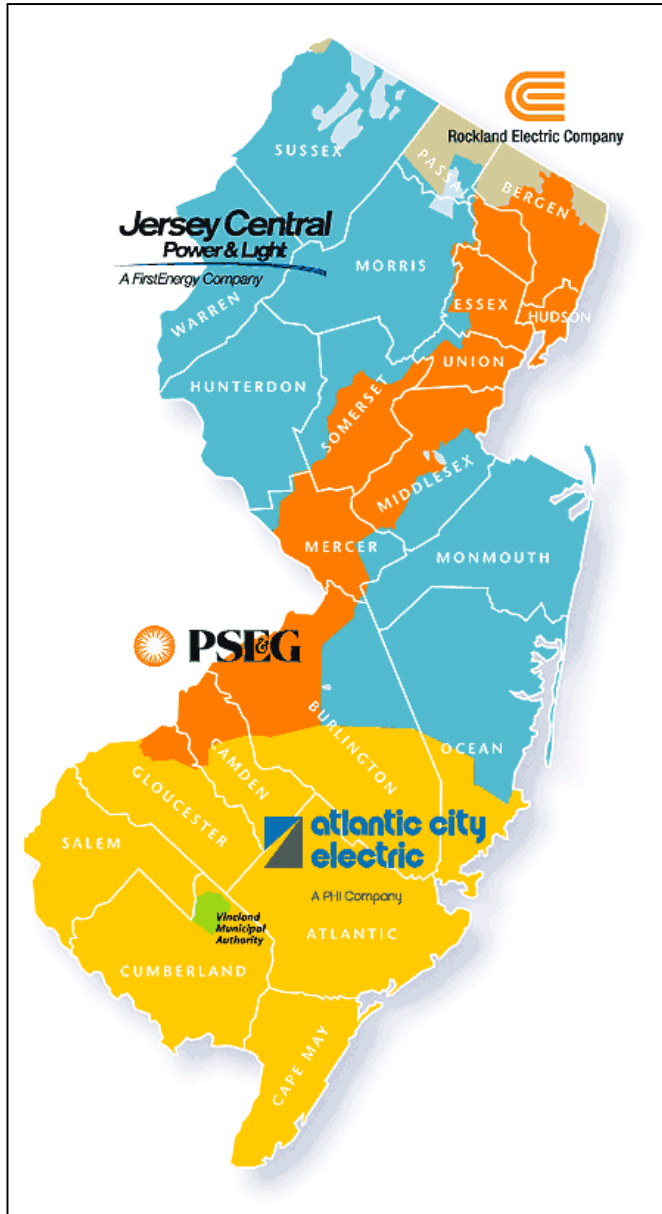
- Complete ASHRAE Level 2 audits on some or all facilities
- Implement facility upgrades to reduce overall energy consumption
- Sliding scale of points to encourage “deep dive” energy savings

### *Benefits:*

- ✓ Saves significant amount of money
- ✓ Reduces carbon footprint
- ✓ Improves comfort and safety level of buildings
- ✓ Extensive incentives offered by NJCEP and utilities to make savings cost-effective



# Always Check with Your Local Utilities for Incentives







CLIMATE CORPS

United to advance climate solutions





# FOCUSED

ON THE ENERGY FUTURE

August 14, 2018

Sustainable Jersey EDF Climate Corps

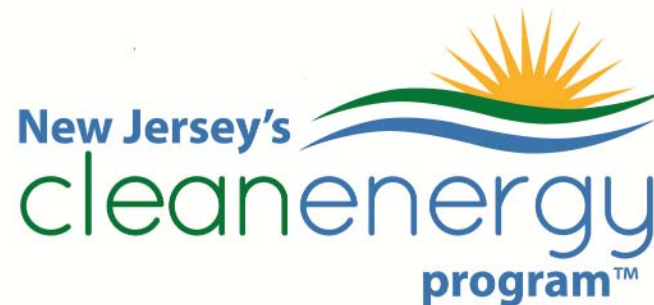
Susan Ellman

Marketing Manager, Energy Efficiency





- Launched in September 2009
- Energy-efficiency rebates and incentives
  - Benefit the environment
  - Support state policy
  - Help our customer save money
- Designed to complement





- Financial Support
  - Platinum Sponsor for Municipal Program
  - Founding Sponsor for Schools Program
- Technical Support
  - Participate on Task Forces
- Resources for Sustainable Jersey Green Teams
  - Supplemental incentives for your own facilities
  - Work together on outreach to residents and businesses
- Partner on Programs
  - PowerSave School Program
  - Environmental Defense Fund Climate Corps

- Potential for 0% financing for your projects
  - Balance on NJCEP Direct Install Projects
  - Some NJCEP Smart Start equipment
  - Repaid through NJNG bill
- Features available for businesses
  - Reach out if you are working on the Sustainable Jersey Direct Install Action
- Request assistance with in-person meetings
- Learn more today
  - Contact Jerry Ryan at (732) 378-4920, [jryan@njng.com](mailto:jryan@njng.com)

- Share information to make upgrades more accessible
  - Supplemental rebates for high efficiency HVAC equipment
  - Access to 0% on bill financing
    - Home Performance with ENERGY STAR projects
    - Some HVAC projects
- Many ways NJNG can help
  - Pursuing the Sustainable Jersey Energy Efficiency action or green challenges
  - Participation with events
  - Content for website and newsletters
  - Special limited time programs (e.g. video and poster contest)
- Learn more today
  - Contact Raquel Phillips at (732) 378-4928, [rphillips@njng.com](mailto:rphillips@njng.com)

# 2018 Sustainable Jersey EDF Fellows



**Sage Lang**

Little Egg Harbor Township  
Little Egg Harbor Township School District  
Ocean Gate Borough



**Lauren Kaapcke**

City of Asbury Park  
Freehold Borough  
Neptune Township



**Erin Lannon**

Jackson Township School District  
Borough of Lake Como  
Point Pleasant Beach Borough





# Phase 1: Setting a Strong Foundation

- 1. Sustainable Jersey Actions**
- 2. Green Team structure**
- 3. Data gathering**



# Understanding the Sustainable Jersey Actions

1. What is the goal?
2. What are the steps?
3. What specifically needs to be submitted to earn points?

## ACTIONS & CERTIFICATION

Why Get Certified?

Register

Certification Overview

Program Updates

Actions

Gold Star Standards

Green Team Resources

Participating Communities

Annual Awards



# Understanding the Sustainable Jersey Actions

## Indoor Air Quality Review

15 Points

Bronze Priority

Silver Priority

School

Why is it important?

Who should lead and be involved with this action?

Timeframe

Project costs and resource needs

What to do, and how to do it ("How to")

What to submit to earn points for this action

Spotlight: What New Jersey Schools are doing

Resources

Print Action Description

Download PDF Version

Indoor air quality (IAQ) is an important component of a healthy school environment. IAQ in New Jersey school facilities is regulated by the Public Employees Occupational Safety and Health (PEOSH) Indoor Air Quality (IAQ) standard (N.J.A.C. 12:100-13). This action supports the goals of the PEOSH standard by encouraging individual schools to take a proactive approach to identifying factors contributing to poor air quality and addressing them before problems arise. In order to earn points for this action, a school must complete a walk-through of the building to identify potential air quality concerns, develop an action plan for addressing them, and communicate the results of the effort to school staff, including highlighting the role they play in maintaining a healthy school environment. Activities must have been completed or updated in the current school year.

1st

2nd

3rd

### Why is it important?

Most people are aware that outdoor air pollution can impact their health, but indoor air pollution can also have significant, harmful effects. EPA studies—and review of other research to date—of human exposure to air pollutants have indicated indoor levels of pollutants may be two to five times—and occasionally more than 100 times—higher than outdoor levels. The EPA and its Science Advisory Board consistently rank indoor air



# Green Team

## Green Team leader

- Tracks all actions
- Communicates with Sustainable Jersey



## Green Team member

- Responsible for Action #1
- Delegates where appropriate
- Conveys status updates to Green Team Leader

## Green Team member

- Responsible for Action #2
- Delegates where appropriate
- Conveys status updates to Green Team Leader

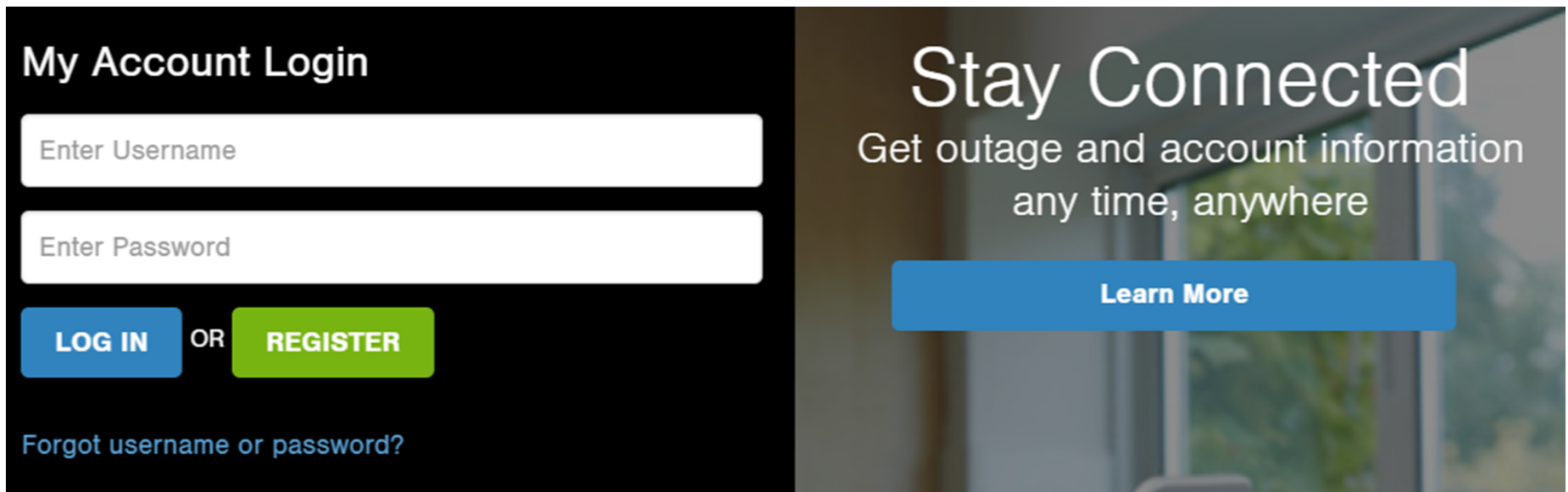






# Data Collection: How to do it & Why it's important

## Collect 1 year of electric and gas data



The image shows a screenshot of a utility company website. On the left, there is a 'My Account Login' section with a black background. It features two white input fields for 'Enter Username' and 'Enter Password'. Below these are two buttons: a blue 'LOG IN' button and a green 'REGISTER' button, separated by the word 'OR'. At the bottom of this section is a link that says 'Forgot username or password?'. On the right, there is a 'Stay Connected' banner with a blurred background of a window. The text on the banner reads 'Stay Connected' in large white letters, followed by 'Get outage and account information any time, anywhere' in smaller white letters. A blue button with the text 'Learn More' is positioned below the banner text.



# Data Collection: How to do it & Why it's important

## Why it's important

- Create a baseline to help track energy savings
- Benchmark to understand how you compare

The screenshot shows the website for the New Jersey Clean Energy Program. At the top, there is a navigation bar with 'RESIDENTIAL' in a blue box and 'COMMERCIAL, INDUSTRIAL AND LOCAL GOVERNMENT' in a yellow box. Below this is a breadcrumb trail: 'Home > Commercial & Industrial'. The main title is 'Commercial Industrial and Local Government Programs'. Below the title is a photograph of five professionals in business attire, some wearing hard hats, gathered around a table with a laptop. To the right of the photo is a vertical watermark 'om'. Below the photo is a paragraph of text: '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. Need help finding a contractor or trade ally? Use our Find a Trade Ally tool to help you get started!'. Below this text is a section titled 'New Jersey's Clean Energy Programs:' with a sub-section 'BENCHMARKING'. The 'BENCHMARKING' section includes a small image of a modern building and text: 'Benchmarking is a free service that provides a performance assessment and valuable information on how to get your project started. Benchmarking is available to hospitals and other healthcare facilities, municipalities, industries, hospitality, multifamily buildings, higher education facilities, K-12 schools, retail and other commercial accounts.' A yellow circle with the word 'FREE!' is placed over the 'BENCHMARKING' section, with a green arrow pointing from the 'BENCHMARK TO UNDERSTAND HOW YOU COMPARE' bullet point in the slide to the 'FREE!' circle.

RESIDENTIAL COMMERCIAL, INDUSTRIAL AND LOCAL GOVERNMENT

Home > Commercial & Industrial

Commercial Industrial and Local Government Programs

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. Need help finding a contractor or trade ally? Use our Find a Trade Ally tool to help you get started!

New Jersey's Clean Energy Programs:

**BENCHMARKING**

Benchmarking is a free service that provides a performance assessment and valuable information on how to get your project started. Benchmarking is available to hospitals and other healthcare facilities, municipalities, industries, hospitality, multifamily buildings, higher education facilities, K-12 schools, retail and other commercial accounts.

FREE!

<http://www.njcleanenergy.com>

# Local Government Energy Audit (LGEA)

Who is eligible?

- Local Governments
- Schools
- Non-Profits

What is the outcome?

- Cost-justified facility upgrades to improve energy efficiency and reduce costs
- Recommended incentives to help with the cost of the upgrades

<http://www.njcleanenergy.com>

**FREE!**

## Commercial Industrial and Local Government Programs



*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 866-857-8278. Need help finding a contractor or trade ally? Use our Find a Trade Ally tool to help you get started!*

### New Jersey's Clean Energy Programs:

#### BENCHMARKING




Benchmarking is a free service that provides a performance assessment and valuable information on how to get your project started. Benchmarking is available to hospitals and other healthcare facilities, municipalities, industries, hospitality, multifamily buildings, higher education facilities, K-12 schools, retail and other commercial accounts.

#### LOCAL GOVERNMENT ENERGY AUDIT



A new program design provides a more streamlined process and eliminates the need to develop an RFP and select an audit firm. After a thorough analysis of your buildings is completed, you'll receive a detailed energy audit report with a list of cost-justified energy efficiency measures. The cost of the audit is 100% subsidized. Local Government Energy Audits are available for local government agencies, state colleges and universities, and select and 501 (c)(3) non-profit agencies.





Now that I've established goals and collected my energy data, what are the next steps?



# Phase 2: Assessing NJ CEP Options



Press Room | Library | FAQs

- Project type
- Direct Install
- Pay for Performance
- Smart Start
- Other programs

HOME RESIDENTIAL **COMMERCIAL, INDUSTRIAL AND LOCAL GOVERNMENT**

COMMERCIAL, INDUSTRIAL AND LOCAL GOVERNMENT

▼ PROGRAMS

- ▶ NJ SMARTSTART BUILDINGS
- ▶ PAY FOR PERFORMANCE
- COMBINED HEAT AND POWER
- LOCAL GOVERNMENT ENERGY AUDIT
- LARGE ENERGY USERS PROGRAM
- ENERGY SAVINGS IMPROVEMENT PROGRAM (ESIP)
- ▶ DIRECT INSTALL
- ENERGY BENCHMARKING
- OIL, PROPANE, MUNICIPAL & COOP ELECTRIC CUSTOMERS
- DER MICROGRID FEASIBILITY STUDIES
- SUSTAINABLE JERSEY
- PAST PROGRAMS
- SUCCESS STORIES
- PROGRAM UPDATES
- CONTACT US

Home » Commercial & Industrial

## Commercial Industrial and Local Government Program

*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. Need help finding a contractor or trade ally? Use our Find a Trade Ally tool to help you get started!*

### New Jersey's Clean Energy Programs:

#### BENCHMARKING

Benchmarking is a free service that provides a performance assessment and valuable information on how to get your project started. Benchmarking is available to hospitals and other healthcare facilities, municipalities, industries, hospitality, multifamily buildings, higher education facilities, K-12 schools, retail and other commercial accounts.

# Navigating the NJ CEP

The NJ Clean Energy Program has a variety of options for any project type and facility.

Is your project:  
**Comprehensive or equipment specific?**



<b>Direct Install</b>	<b>Smart Start</b>
<b>Pay for Performance</b>	



# Direct Install

- Turnkey program to replace outdated and inefficient equipment
- For facilities with average of  $\leq 200$  kW demand

## Financing

- Up to 70% of installed costs covered
- For NJNG customers: 3 year 0% APR on-bill repayment for other 30%
- Check for your local utility financing





# Direct Install Steps

1. Contact the Direct Install contractor for your county
2. Submit application for each facility & 12 months of bills
3. Schedule facility audits
4. Evaluate proposals & schedule upgrades
5. Apply for on-bill financing, if applicable
6. Reap the energy savings!

The entire process takes 4-6 months to completion



# Pay for Performance

- Comprehensive program for existing facilities or new construction
- Existing facilities over 200 kW peak demand
- New construction over 50,000 sqft
- To receive grants:
  - Existing buildings minimum 15% energy savings
  - New construction must be built 5% above code

## Financing:

- Grants vary by % of energy saved
- Grants paid in installments at project milestones
- Ongoing operational savings



[www.reenergy.com/energy-saving-tips/](http://www.reenergy.com/energy-saving-tips/)



# Pay for Performance

## Case Study:

- Neptune township plans to build a new Department of Public Works complex of 56,070 sqft.
  - Minimum grant of **\$1.25/sqft** for a total of **\$70,087**

## New Construction Steps:

1. Choose a pre-approved P4P partner
2. Submit application
3. Develop & get approval of Energy Reduction Plan (ERP)
4. Install & commission all energy measures
5. Submit as-built and commissioning reports
6. Benchmark building energy performance



# Smart Start

- Rebates for equipment replacement, retrofit, new construction
- 2 categories: **Prescriptive & Custom**

## Financing:

- Grants vary by specific equipment
- For NJNG customers: 10 year 0% APR on-bill financing available
- Check for your local utility financing

## General Steps:

1. Submit application
2. Obtain project pre-approval (required in some cases)
3. Work with contractor to complete project
4. Post-inspection, if necessary
5. Receive rebates!





# Smart Start Case Study

- Neptune Municipal Complex Project:
  - Boiler & hot water heater replacement, new variable frequency drives & AC units
- \$6,600 in Smart Start rebates
- Save **\$8,828** annually
- Reduce usage by **7,558 therms** and **10,880 kWh** annually
- 20% lower gas bill

Equivalent of removing **21** passenger cars from the road each year!



Neptune High-efficiency boilers



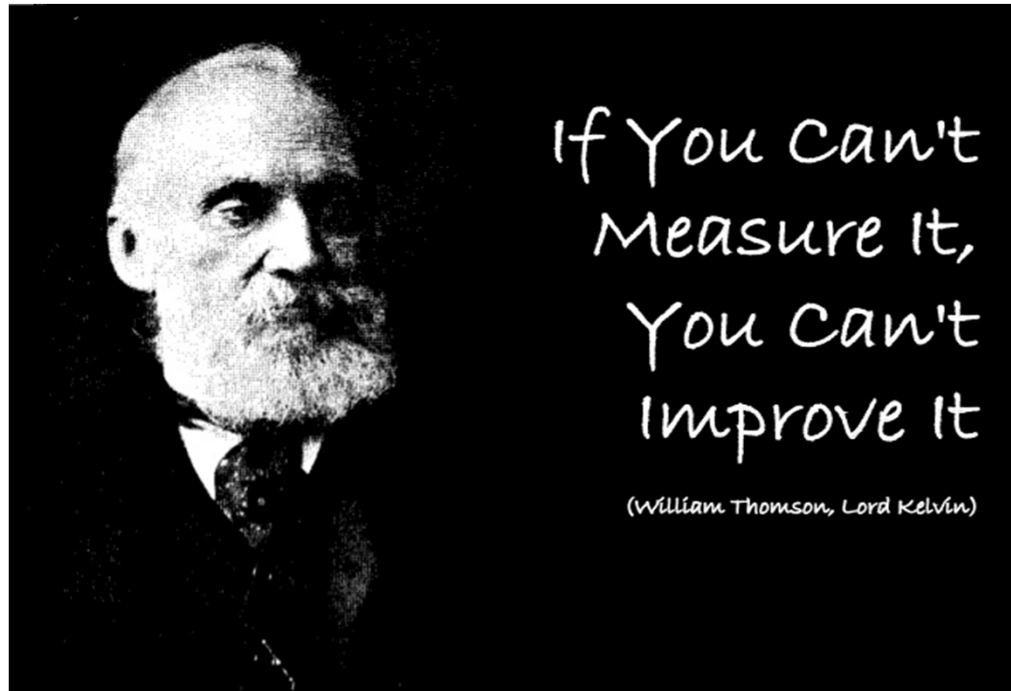
# Phase 3: Decisions & Implementation

- Strategic Energy Management
- Monitor & Evaluation
- Demand Response
- Financing
- Grants
- Silver certification



Image Source: <https://www.saveonenergy.com/energy-consumption/>





<https://serviceportfoliomanagement.wordpress.com/>



# Strategic Energy Management

- Leadership
- Dedicated energy manager
- Financing
- Manage data
- Share results
- Increase visibility



Image Source:<http://edfclimatecorps.org/resources/virtuous-cycle-strategic-energy-management>



# Tools for Monitoring & Evaluation

## Electricity Consumption Calculator



## Platform to manage utility data



## Third Party Energy Procurement



MyPortfolio | Sharing | Reporting | Recognition

## Point Pleasant Beach - Municipal Building

416 New Jersey Ave, Point Pleasant Beach, NJ 08742 | [Map It](#)

Portfolio Manager Property ID: 2242675

Year Built: 1926

[Edit](#)

Not eligible to apply for ENERGY STAR Certification

**ENERGY STAR Score (1-100)**

**Current Score: 100**

**Baseline Score: 66**

Summary | Details | **Energy** | Water | Waste & Materials | Goals | Design

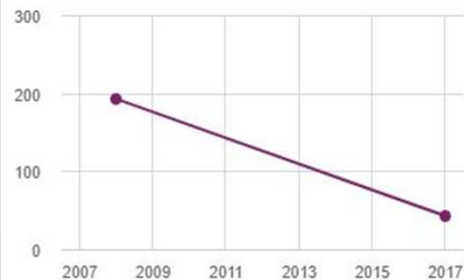
### Property Profile [\(Future enhancements\)](#)

This section will be deleted in 2018, except for the property photos which will remain. [More information.](#)

[+ Create Profile](#)

[Change Metrics](#)  
[Change Time Periods](#)

### Source EUI Trend (kBtu/ft<sup>2</sup>)



### Metrics Summary

Metric	Dec 2008 (Energy Baseline)	Jan 2018 (Other)	Change
ENERGY STAR Score (1-100)	66	100	34.00 (51.50%)
Source EUI (kBtu/ft <sup>2</sup> )	192.4	43.4	-149.00 (-77.40%)
Site EUI (kBtu/ft <sup>2</sup> )	78.1	30.1	-48.00 (-61.50%)
Energy Cost (\$)	44,083.83	7,589.25	-36,494.58 (-82.80%)
Total GHG Emissions Intensity (kgCO <sub>2</sub> e/ft <sup>2</sup> )	7.2	1.9	-5.30 (-73.60%)
Water Use (All Water Sources) (kgal)	<a href="#">Not Available</a>	<a href="#">Not Available</a>	N/A
Total Waste (Disposed and Recycled) (Tons)	<a href="#">Not Available</a>	<a href="#">Not Available</a>	N/A



# Demand Response

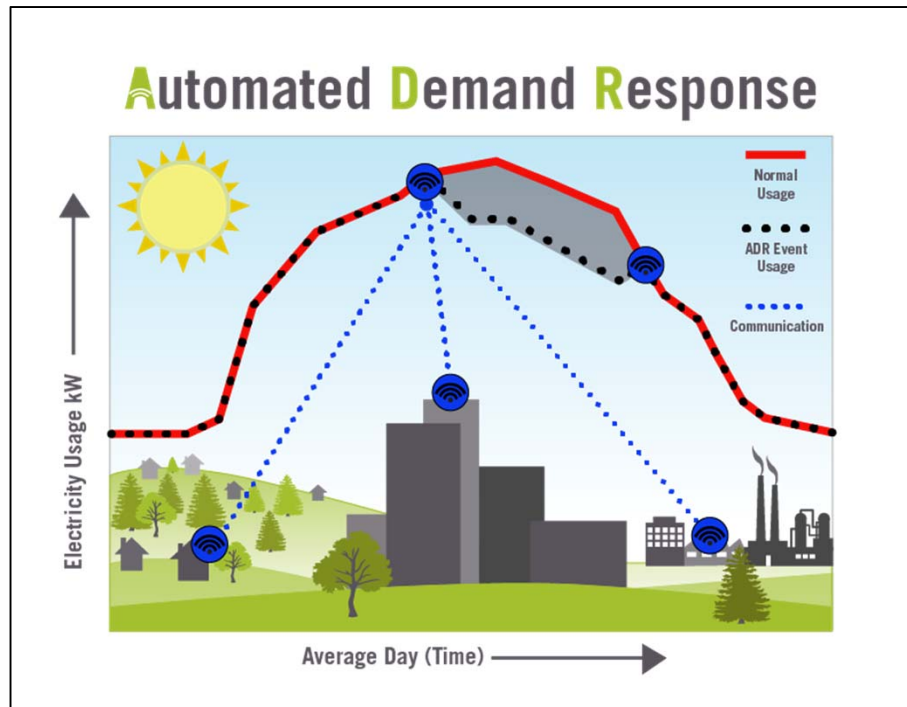


Image Source: <https://energy-solution.com/project/automated-demand-response/>

- Good for buildings over 200kW demand
- Free demand analysis & tracking portal
- Jackson Township School District earned \$52,476 in payments during 2017



# Case Study: Jackson Township School District

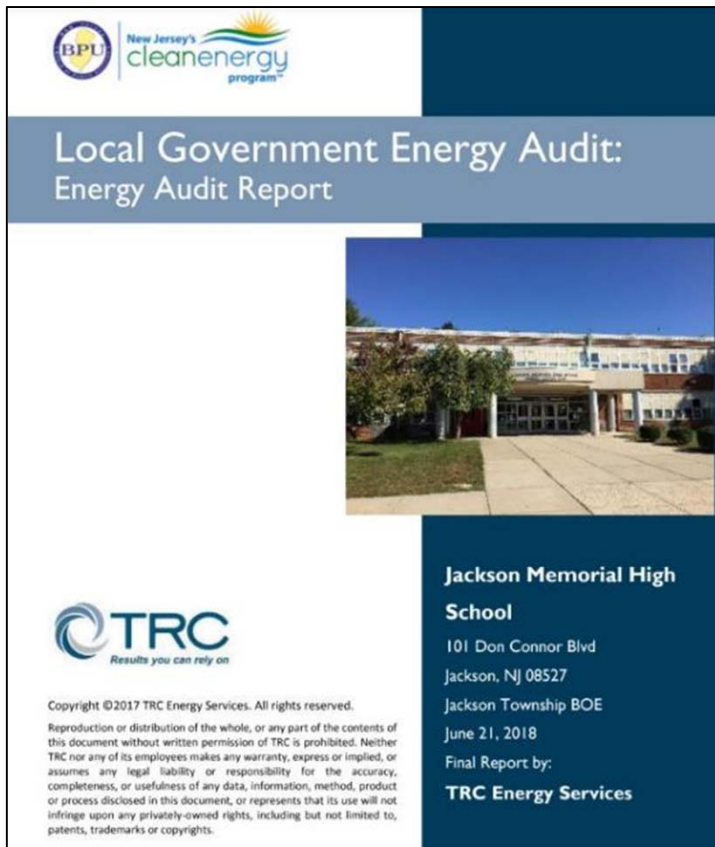


Image Source: TRC Energy Services Report

LGEA Final Reports June 2018

Stakeholder Input

Secure Financing

- NJ Clean Energy Program
  - Direct Install
  - SmartStart
  - Pay for Performance
  - ESIP
- Utility incentives





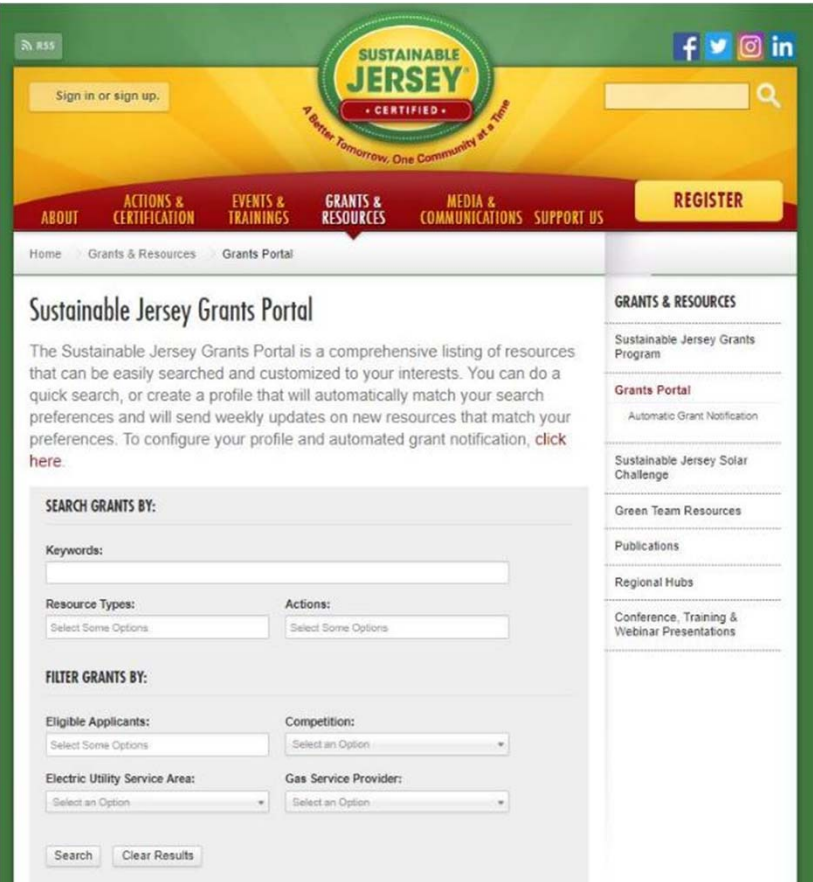
# Grants

Available for Registered Municipalities and Schools

## Available Grants

- Gardinier \$10k | \$30k
- NJEA \$10k | \$2k
- It Pay\$ to Plug In \$5k | \$6k

Search our grants portal for funding sources!



[www.sustainablejersey.com/grants-resources/grants-portal/](http://www.sustainablejersey.com/grants-resources/grants-portal/)



# Silver Level


Master\_Action\_Tracking\_Spreadsheet (1) - Excel

Erin Lannon

File Home Insert Draw Page Layout Formulas Data Review View Tell me what you want to do

Clipboard Font Alignment Number Styles Cells Editing

2018 Sustainable Jersey Master Action Tracking Spreadsheet  
Updated 7/19/18



KEY											
MAIN CATEGORY											
Sub-Category											
Action	Abbreviated Submission Requirements	Look Back Period (yr)	Approval Period (yr)	Resubmission Requirements	Points	Act Pts	Status	Project Lt	Due Lt		
Green Infrastructure Implementation *NEW*	In your certification application, upload: 1. Narrative Summary of what was accomplished & the impact on the community. <b>10 Points:</b> Implement Green Infrastructure Demonstration Projects 1. Photos of each completed demonstration project, scopes, design plans, paid contracts, planting lists, etc. 2. Documentation of education/outreach initiative 3. Narrative of season maintenance activities. <b>10 Points</b> 1. Tier 2 Green Infrastructure Action Plan <b>20 Points</b> 1. Infrastructure Strategic Plan	5	5		10 to 20						
Enhanced Stormwater Management Control Ordinance *NEW*	In your certification application, upload: 1. Narrative Summary of what was accomplished & the impact on the community. 2. Certified copy of the adopted stormwater control ordinance. Existing ordinances must include: a. Definition of major development consistent with model ordinance b. Requirement of 100% on-site retention c. Apply to redevelopment and public sector projects 3. OPTIONAL: Amendment to stormwater management plan justifying additional ordinance requirements.	5	Non-Expiring	NO UPDATE NEEDED	10 to 30						
Green Building & Environmental Sustainability Element	In your certification application, upload:		10		10						

Status	Code
Awarded Points	AP
Uploaded	U
Complete with Docs	CD
Complete - No Docs	C
Active	A
Under Consideration	UC

- Master tracking spreadsheet
- Identify short-term & long-term goals
- Liason for data gathering



# Sustainable Jersey for Schools Sponsors

## Sustainable Jersey for Schools Underwriters



## Small Grants Underwriters



## Corporate Sponsors



### *Gold*



### *Silver*



### *Bronze*



# Sustainable Jersey Municipal Sponsors

## Program Underwriters



## Grants Program Underwriters



## Corporate Sponsors

### *Platinum*



### *Silver*



### *Bronze*



# Grants Available

## Wanted: Innovative NJ Sustainable Energy Projects

- Schools and Municipalities
- Gardinier Environmental Fund
- Grants for energy related projects
  - Two (2): \$30,000 grants
  - Nine (9): \$10,000 grants
- **Application Deadline:**  
**Weds October 31, 2018**
- **Informational Webinar**
  - **Monday, September 10, 2018**  
**3:00pm - 4:00pm**



## NJEA Schools Small Grants

- Ten (10) \$10,000 project grants to school districts and schools
- Forty (40) \$2,000 grants to support school green teams
- **Application Deadline:**  
**Weds October 31, 2018**
- **Informational Webinar**
  - **Friday, September 14, 2018**  
**3:00pm - 4:00pm**





# Upcoming Trainings

## Complete Streets Training for Municipalities

**Tues August 21, 2018**

**8:30 a.m. - 4:30 p.m.**

Edward J. Bloustein School of  
Planning and Public Policy  
Rutgers University  
New Brunswick, NJ



*Image courtesy of NJDOT*

## Green Infrastructure Planning and Implementation: Find Out How to Get Your Points

**Weds, September 19, 2018**

**8:30am - 12:00pm**

Duke Farms  
Hillsborough, NJ

**Weds, September 26, 2018**

**8:30am - 12:00pm**

Wheaton Art Center - Event Center  
Millville, NJ

FREE!

# FALL WEBINARS

WITH SUSTAINABLE JERSEY FOR SCHOOLS



- **Navigating the Application**
  - September 12, 3-4pm
- **Preparing for Certification**
  - September 19, 3-4pm
- **Strategizing for Silver Certification**
  - September 27, 3-4pm



# Speakers for Today's Webinar

**Tony O'Donnell**

Economist/Project Specialist  
Sustainable Jersey  
609.771.2921  
[odonnela@tcnj.edu](mailto:odonnela@tcnj.edu)

**Lauren Kaapcke**

EDF Fellow for Asbury Park, Freehold Boro,  
and Neptune Township  
[www.linkedin.com/in/laurenkaapcke/](http://www.linkedin.com/in/laurenkaapcke/)

**Sarah Berman**

Program Associate, EDF Climate Corps  
Environmental Defense Fund  
202.572.3545  
[sberman@edf.org](mailto:sberman@edf.org)

**Sage Lang**

EDF Fellow for Little Egg Harbor Township  
School District, Ocean Gate Boro, and Little  
Egg Harbor Township

**Susan Ellman**

Energy Efficiency Marketing Manager  
New Jersey Natural Gas  
732.378.4924  
[sellman@njng.com](mailto:sellman@njng.com)

**Erin Lannon**

EDF Fellow for Jackson Township School  
District, Point Pleasant Beach Boro, and  
Lake Como Boro  
[www.linkedin.com/in/erin-lannon-  
enviroconsultant/](http://www.linkedin.com/in/erin-lannon-enviroconsultant/)