NEW JERSEY MAYORS' CLIMATE SUMMIT

hosted by

MAYOR PHIL KRAMER OF FRANKLIN TOWNSHIP &
MAYOR BRUCE A. HARRIS OF CHATHAM BOROUGH

NEW JERSEY League of Conservation Voters EDUCATION FUND

SUSTAINABLE JERSEY · CERTIFIED · A Better Tomorrow, One Community at a Time

RUTGERS Edward J. Bloustein School of Planning and Public Policy

WIFI network RU Wireless | no password | in browser, click Guest Access & create an account

From Commitment to Action

How to Become a Sustainable Energy Community Today

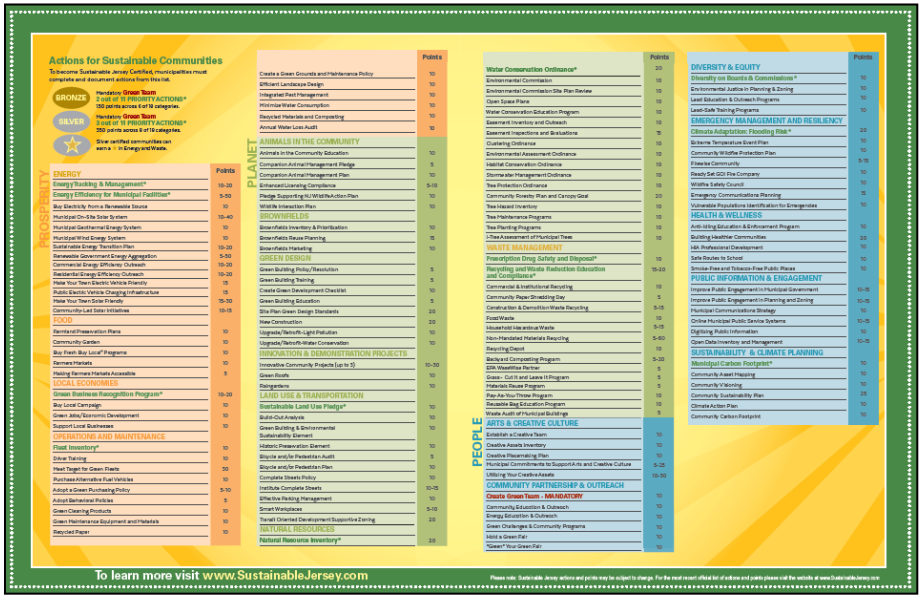
Randall Solomon

Executive Director

Sustainable Jersey

Sustainable Jersey - A Framework for Action

- Coordinates priorities, resources, and policy among public and private, state and local actors
- Identifies actions to **achieve statewide sustainability goals**
- Develops **tools, resources, and guidance** to make progress
- Provides access to **grants and assistance**
- **Recognizes** accomplishments



SUSTAINABLE JERSEY · CERTIFIED ·
A Better Tomorrow, One Community at a Time

Program Participants

(Updated 1/11/2018)

Municipal

Schools

Municipal Program

445 Registered
- 79% of NJ municipalities

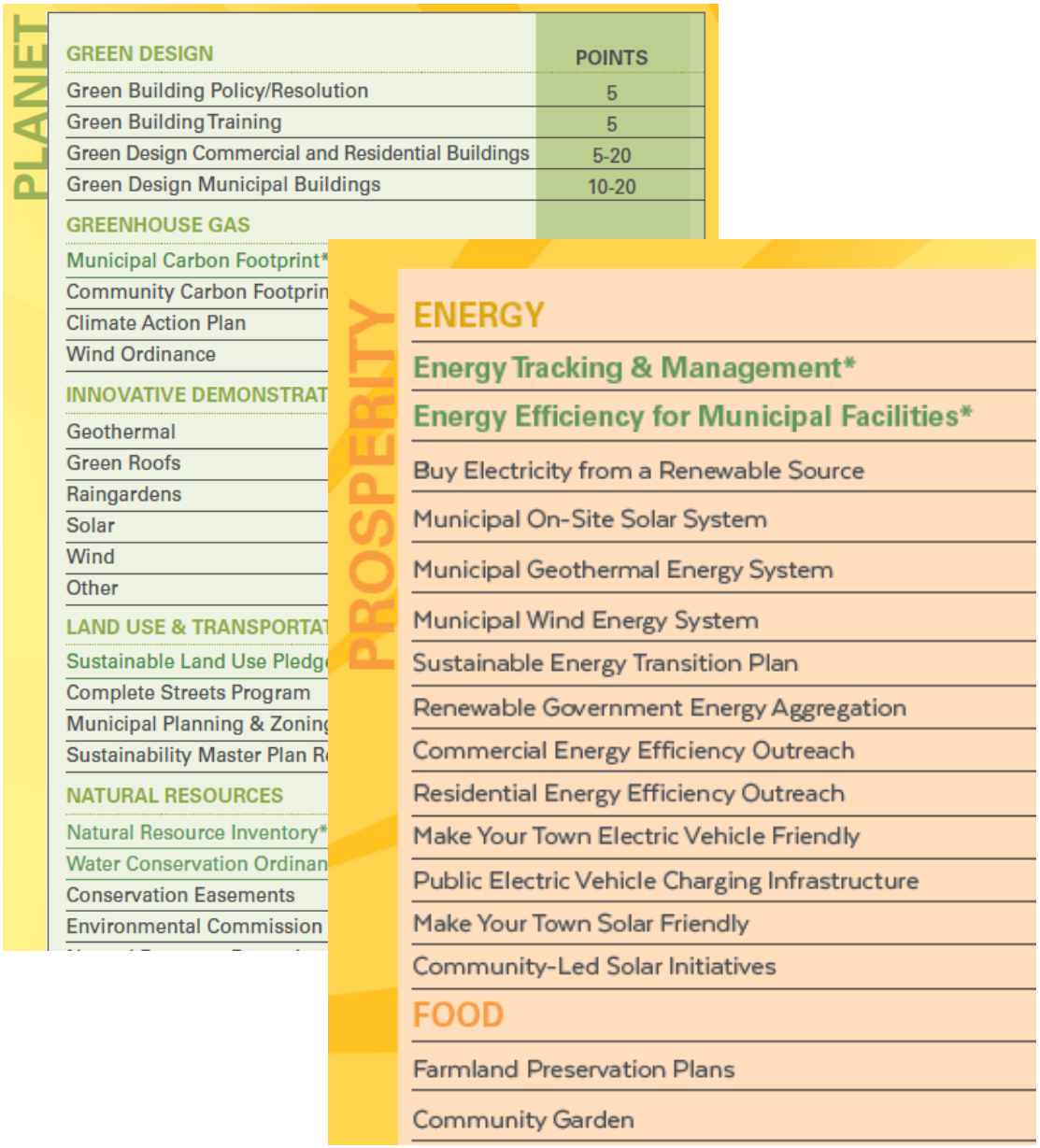
208 Certified
- 160 Bronze
- 48 Silver

Schools Program

290 Districts Registered
- 49% of NJ Districts

712 Schools Registered
- 31% of NJ Schools
- 181 Bronze
- 13 Silver

Grassroots Meets Top-Down: Actions & Task Forces



PLANET

GREEN DESIGN	POINTS
Green Building Policy/Resolution	5
Green Building Training	5
Green Design Commercial and Residential Buildings	5-20
Green Design Municipal Buildings	10-20
GREENHOUSE GAS	
Municipal Carbon Footprint*	
Community Carbon Footprin	
Climate Action Plan	
Wind Ordinance	
INNOVATIVE DEMONSTRAT	
Geothermal	
Green Roofs	
Raingardens	
Solar	
Wind	
Other	
LAND USE & TRANSPORTAT	
Sustainable Land Use Pledg	
Complete Streets Program	
Municipal Planning & Zonin	
Sustainability Master Plan R	
NATURAL RESOURCES	
Natural Resource Inventory*	
Water Conservation Ordinan	
Conservation Easements	
Environmental Commission	

PROSPERITY

ENERGY
Energy Tracking & Management*
Energy Efficiency for Municipal Facilities*
Buy Electricity from a Renewable Source
Municipal On-Site Solar System
Municipal Geothermal Energy System
Municipal Wind Energy System
Sustainable Energy Transition Plan
Renewable Government Energy Aggregation
Commercial Energy Efficiency Outreach
Residential Energy Efficiency Outreach
Make Your Town Electric Vehicle Friendly
Public Electric Vehicle Charging Infrastructure
Make Your Town Solar Friendly
Community-Led Solar Initiatives
FOOD
Farmland Preservation Plans
Community Garden

- Municipalities / Schools choose from menu of actions to accumulate points

- Actions created by issue-based Task Forces:
  - subject matter experts
  - local leaders
  - state / federal agencies
  - Stakeholders

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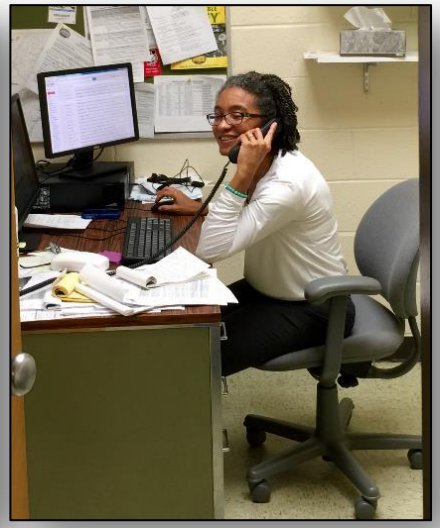
A Better Tomorrow, One Community at a Time

Green Teams: Foundation of The Program

The Only Mandatory Action, Green Teams Are:

- Official Bodies of Local Government
- Created by Act of Governing Body
- Charged with Coordinating Sustainability Efforts and Implementing Sustainable Jersey
- Composed of Diverse Community Stakeholders, Municipal Staff, and Elected Officials
- Thousands of Volunteers in Hundreds of Communities Working for a Sustainable Future

Providing Resources



Outreach and Technical Assistance:

- **4,645** requests for assistance per year
- **207** Sustainable Jersey yearly training and outreach events
- **55,400** monthly web page views
- **8,200** people on email list

Grants:

- **~$800,000** in grants awarded to ~100 municipalities and schools annually

“Hands-On” Assistance

- Sustainable Jersey Solar Challenge
- Municipal Technology Assessments
- Coding for Community
- EDF Climate Fellows
- TCNJ Student Assistance
- Coastal Resiliency Assessments
- Hazardous Materials in Flood Zones
- Heat Island Assessments
- Dozens of other Partners

Current Opportunities

$200,000 Grant Cycle

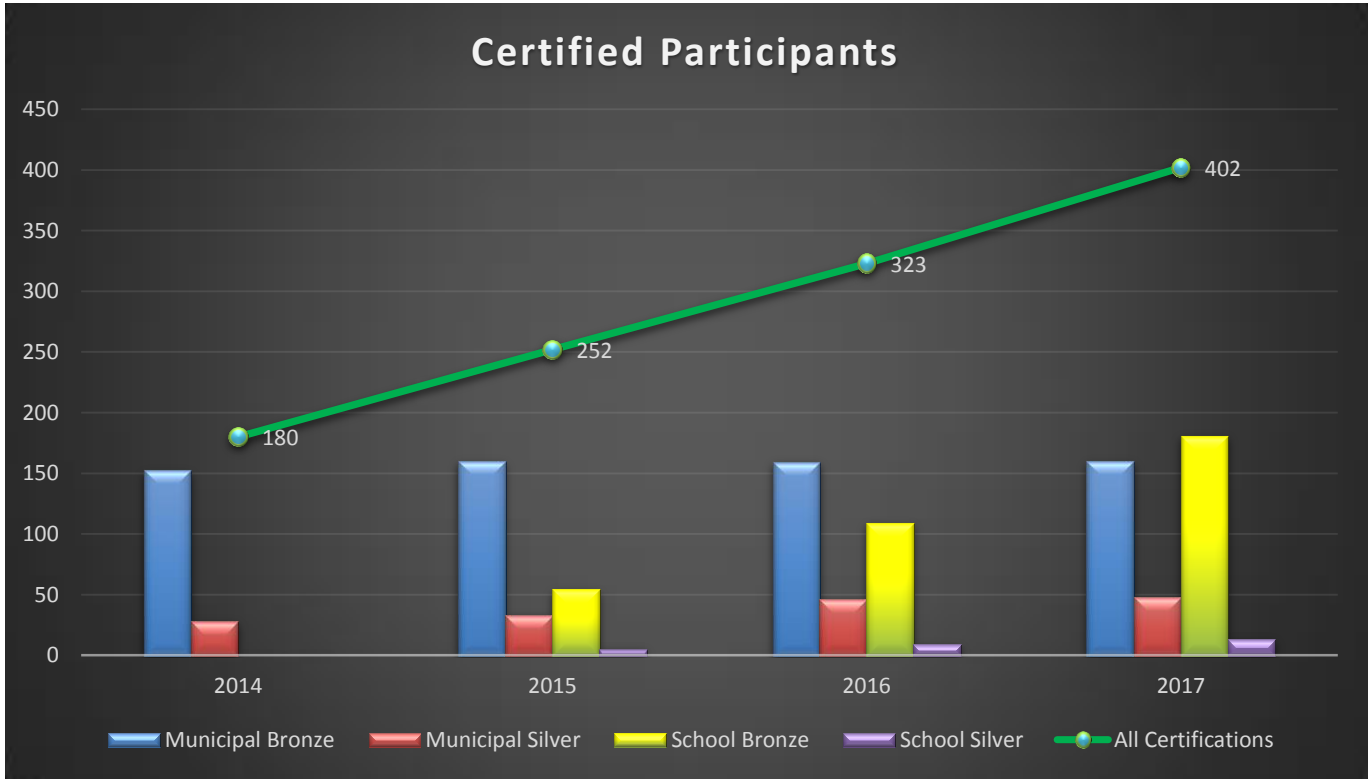
- Application Due Date
  February 28
- Funded by **PSEG** Foundation

EDF Climate Fellows

- Embedded expert help for energy efficiency
- Application Due Date April 28
- Funded by **NJNG**

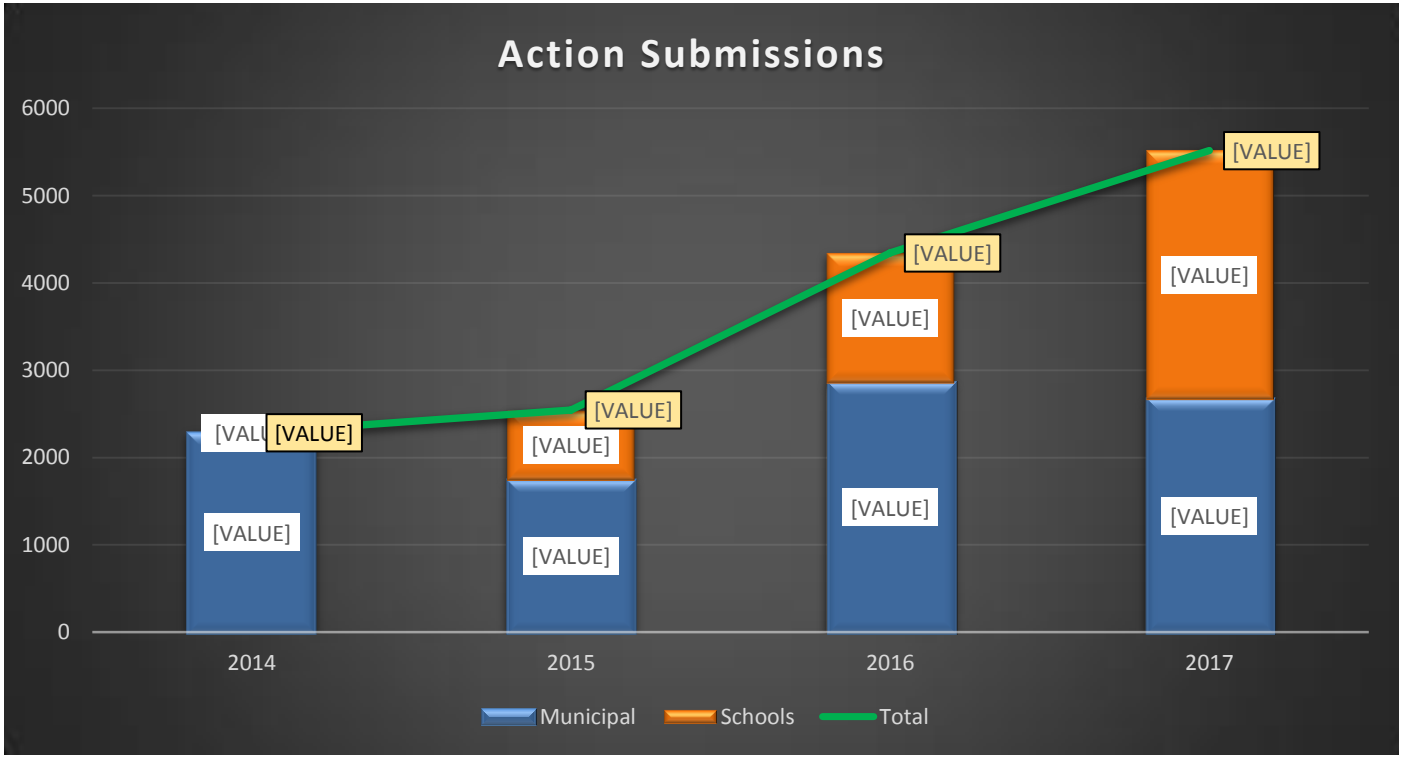
Certified Participants

Certified participants in Sustainable Jersey & Sustainable Jersey for Schools has increased by 123% since 2014.



Action Submissions

Total action submissions have <u>increased by 141%</u> since 2014.

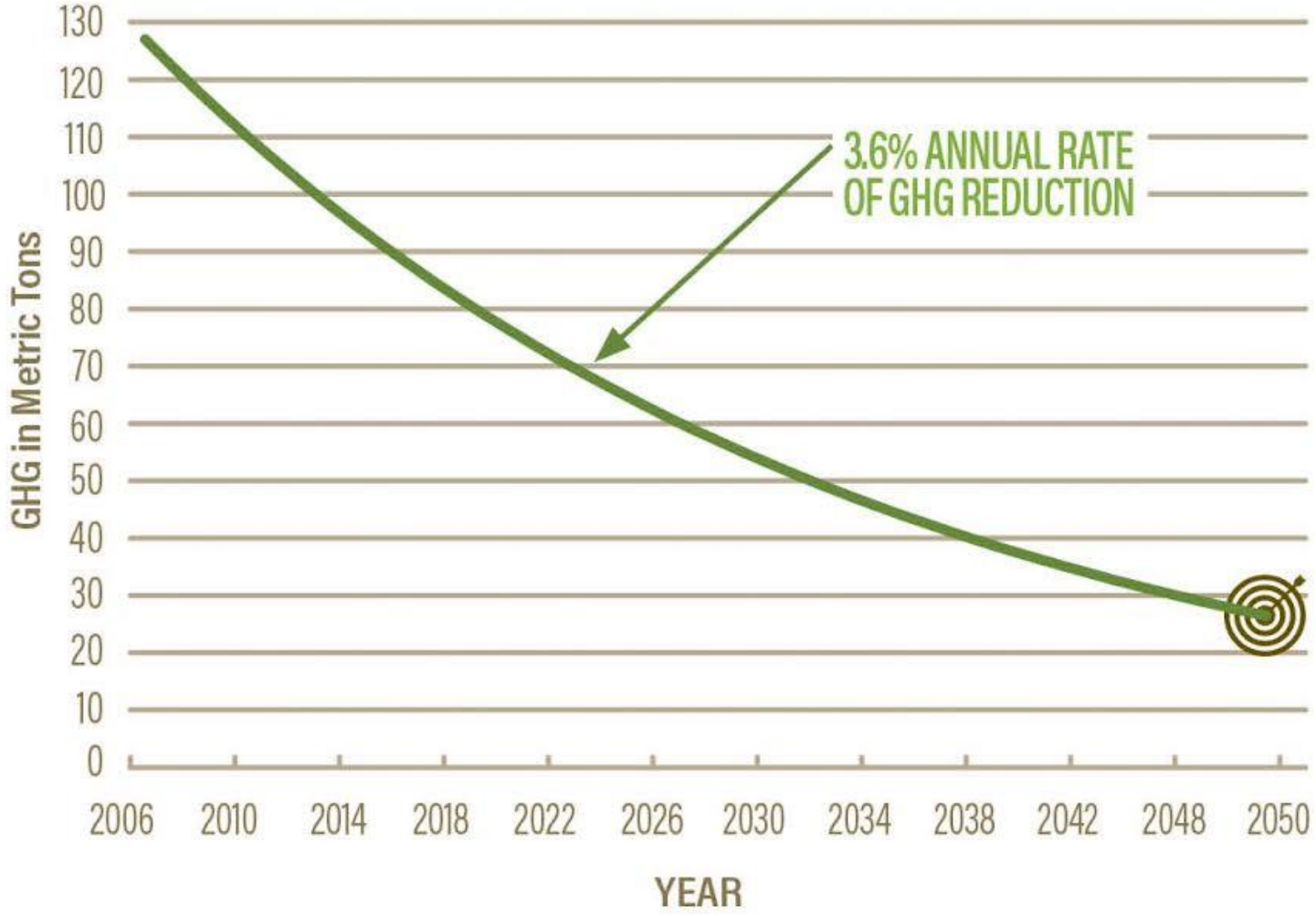


Goal Star Standards

What would a municipality have to achieve to ***solve*** a key sustainability problem?

- **Energy**
  - Lower GHG in Municipal Operations
  - Community-Wide GHG Emissions
- **Waste**
  - Achieve Target Recycling Rate
  - Reduce Total Solid Waste
- **Water**

STATEWIDE REDUCTIONS REQUIRED BY GLOBAL WARMING RESPONSE ACT



Climate Solutions: What's the Local Role?

- Federal Government:
  - Vehicle Fleet Efficiency Standards
  - Regulating and Taxing Pollution
  - Tax Incentives – Renewables, EVs
- State Government:
  - Public Utilities
  - Electricity Renewable Portfolio Standards
  - Regulating and Taxing Pollution
  - Clean Energy Programs – Rebates and Tax Breaks

  Local Government:
  - Municipal Operations – Buildings, Fleets, Streetlights
  - Impacting Residents and Businesses
    - Zoning, Planning, Building– Efficient Building Patterns, Permitting, Ordinances
    - Community Programs and Outreach – Level of Government Closest to People

SUSTAINABLE JERSEY CERTIFIED
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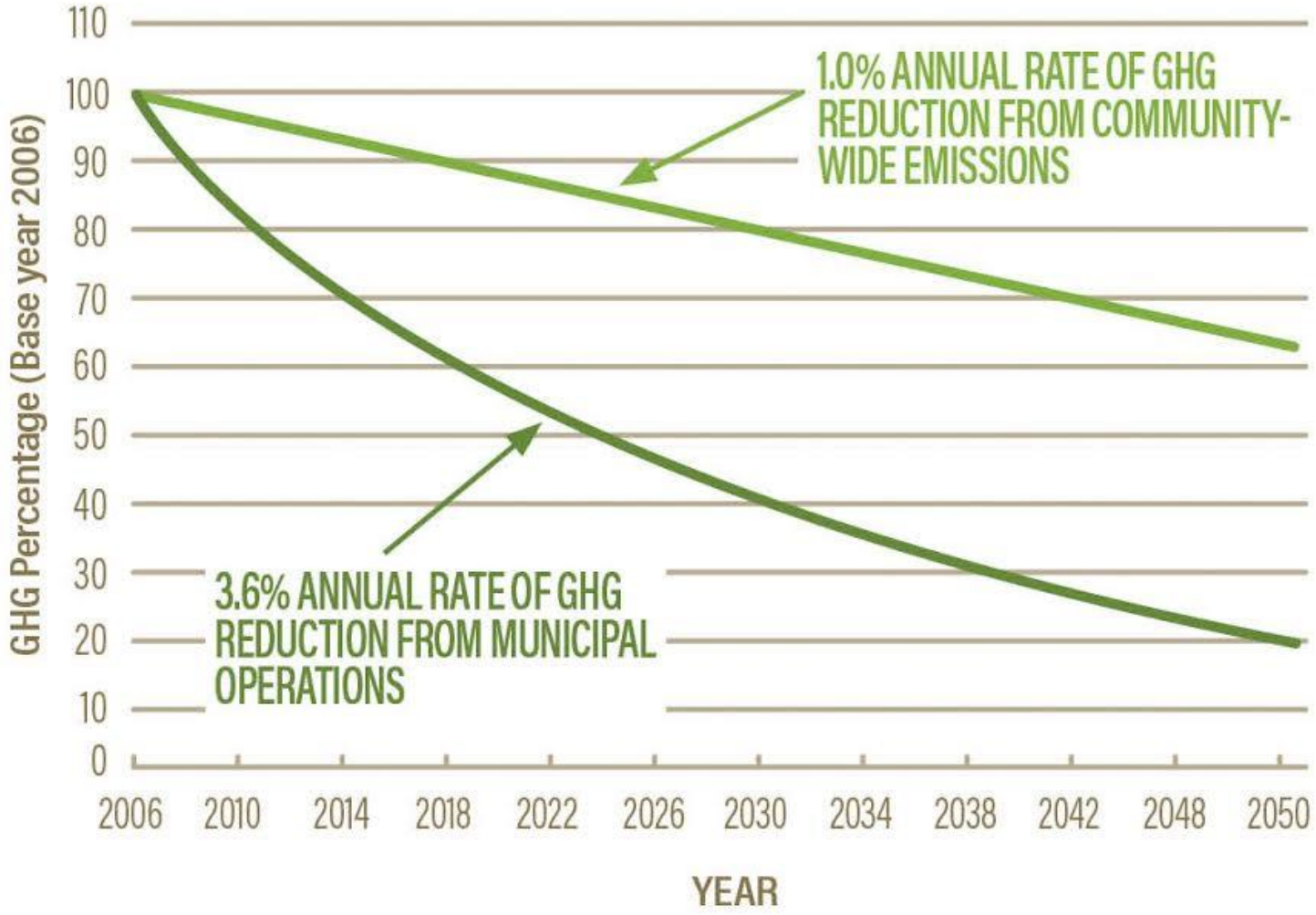
The Gold Star in Energy

2 Municipal Roles, 2 Municipal Standards

- Municipal operations and facilities: Buildings, exterior lighting, fleets
- Influencing the community: Taking effective action to lower community-wide greenhouse gas (GHG) emissions

REDUCTIONS REQUIRED FOR GOLD STAR IN ENERGY



Strategies for Getting to Gold

MUNICIPAL OPERATIONS: GHG REDUCTION STRATEGIES AND GOAL

STRATEGIES AND ACTIONS TO ACHIEVE GOLD	TIME TO IMPLEMENT	IMPACT ON MUNICIPAL GHG
Renewable Energy Generation		**4-38%**
On-Site Solar System	1-2 years	1-35%
On-Site Wind System	3-5 years	<1%
Geothermal System	2-3 years	3%
Greening the Municipal Fleet		**15-18%**
Purchase Alternative Fuel or Efficient Vehicles	3-7 years	4%
Convert Vehicles to Alternative Fuel	1 year	2%
Trip Optimization Software	1 Year	3-6%
Proper Vehicle Maintenance	1 Year	6%
Driver Training	1 year	3%
Buildings and Street Lighting Efficiency		**12-19%**
Implement Energy Efficiency Measures	2-4 years	10-17%
Energy Tracking & Management	1 year	2%
Estimated Impact from Reduction Strategies		**31-75%**

Strategies for Getting to Gold

COMMUNITY-WIDE GHG EMISSIONS: REDUCTION STRATEGIES AND GOAL

STRATEGIES AND ACTIONS TO ACHIEVE GOLD	TIME TO IMPLEMENT	IMPACT ON MUNICIPAL GHG
Renewable Energy Generation		**6-11%**
Community Purchase of Green Energy (Aggregation)	1-2 years	4-7%
Community-led Solar Initiatives	1-2 years	2-4%
Mobile Sources (vehicles)		**10-18%**
Public Alternative Fuel Vehicle (AFV) Refueling Station	1 year	5-10%
AFV Infrastructure Permitting and Zoning	1-2 years	
Development Patterns/Intensity	5-10 years	5-8%
Promoting Walking and Bicycling	2-10 years	
Building Energy Efficiency		**3-4%**
Commercial Sector Outreach (Direct Install)	1-2 years	≈1%
Outreach to Residents (Home Performance w/Energy Star)	1-2 years	≈1%
Tree Canopy (Shading Effect)	1-10 years	1-2%
Estimated Impact from Reduction Strategies		**19-33%**

Gold Star Standard: Community Emissions

Lower community-wide GHG through six actions:

- Make Your Town Electric Vehicle Friendly
- Public Electric Vehicle Charging Infrastructure
- Make Your Town Solar Friendly
- Community Led Solar Initiatives
- Residential Energy Efficiency Outreach
- Commercial Energy Efficiency Outreach

- ALTERNATE PATH: meet 1% annual reduction by substituting *pre-approved,* effective actions (e.g., R-GEA)

Pathways to Gold Star in Energy

Sample Town A

- Municipal Carbon Footprint
- Plus six required actions
  - Make Your Town Solar Friendly
  - Community Led Solar Initiatives
  - Make Your Town Electric Vehicle Friendly
  - Public Electric Vehicle Charging Infrastructure
  - Residential Energy Efficiency
  - Commercial Energy Efficiency

Sample Town B

- Municipal Carbon Footprint
- Provides robust data to demonstrate GHG reductions of 1% per year for 3 years
- Substitute *preapproved* activities, for example:
  - Renewable Government Energy Aggregation
  - EV Challenge

Make Your Community Friendly for Solar and EVs

Supportive Solar Zoning Ordinance (new)

- Adopt Solar Zoning Ordinance
- Amend Permitting Fee Ordinance

Streamlined Permitting (new)

- Post requirements online
- Train permitting, codes, and inspection staff

EV Zoning ordinance -- EV charging stations as accessory use (updated)

- Ordinance -- design standards for EVSE and EV parking spaces
- Training for local officials

Outreach activities (updated)

- Incentive for pre-wiring for EV charging station
- Awareness event
- Commitment from 3 local partners for workplace chargers

DRIVE ELECTRIC
National Drive Electric Week

Community Engagement for Solar and EVs

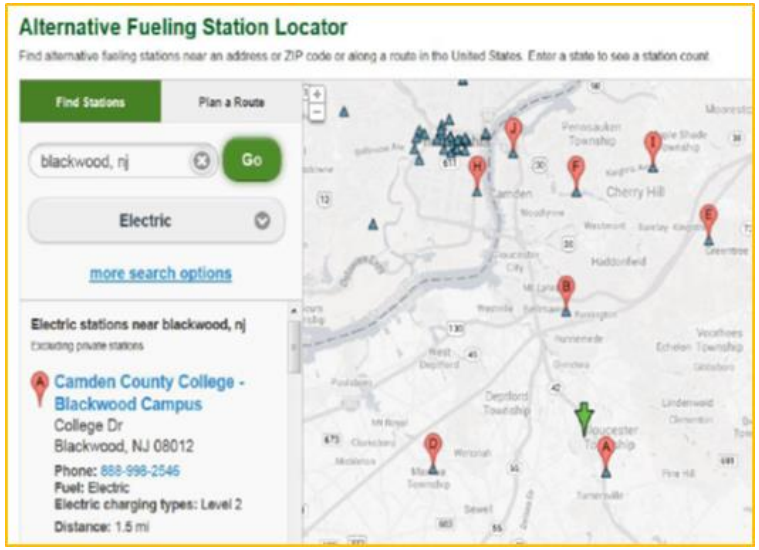
Community Led Solar Initiatives (new)

- Group purchasing models
  - Sustainable Jersey Solar Challenge
  - Solarize campaign
  - Solarize campaign for businesses
- Activities and Incentives for Solar
  - Outreach activities
  - Waive permitting fees
  - Loan funds

SUSTAINABLE JERSEY SOLAR CHALLENGE

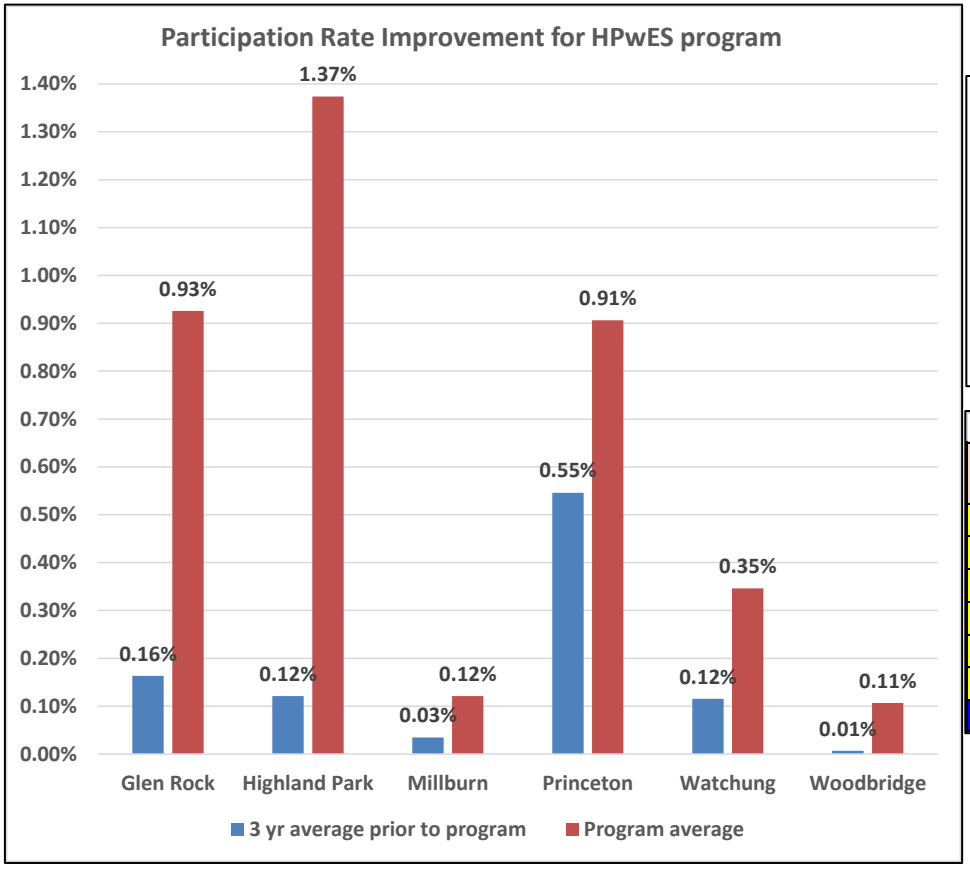
Public EV Charging Stations (updated)

- Municipality instrumental in the project
- Publicly available
- Listed on “public directory”
- Signage/Promotion of Charging Stations



Residential Energy Efficiency Outreach

Green team partners with municipal officials to complete targeted outreach program for the Home Performance with Energy Star & Comfort Partners programs

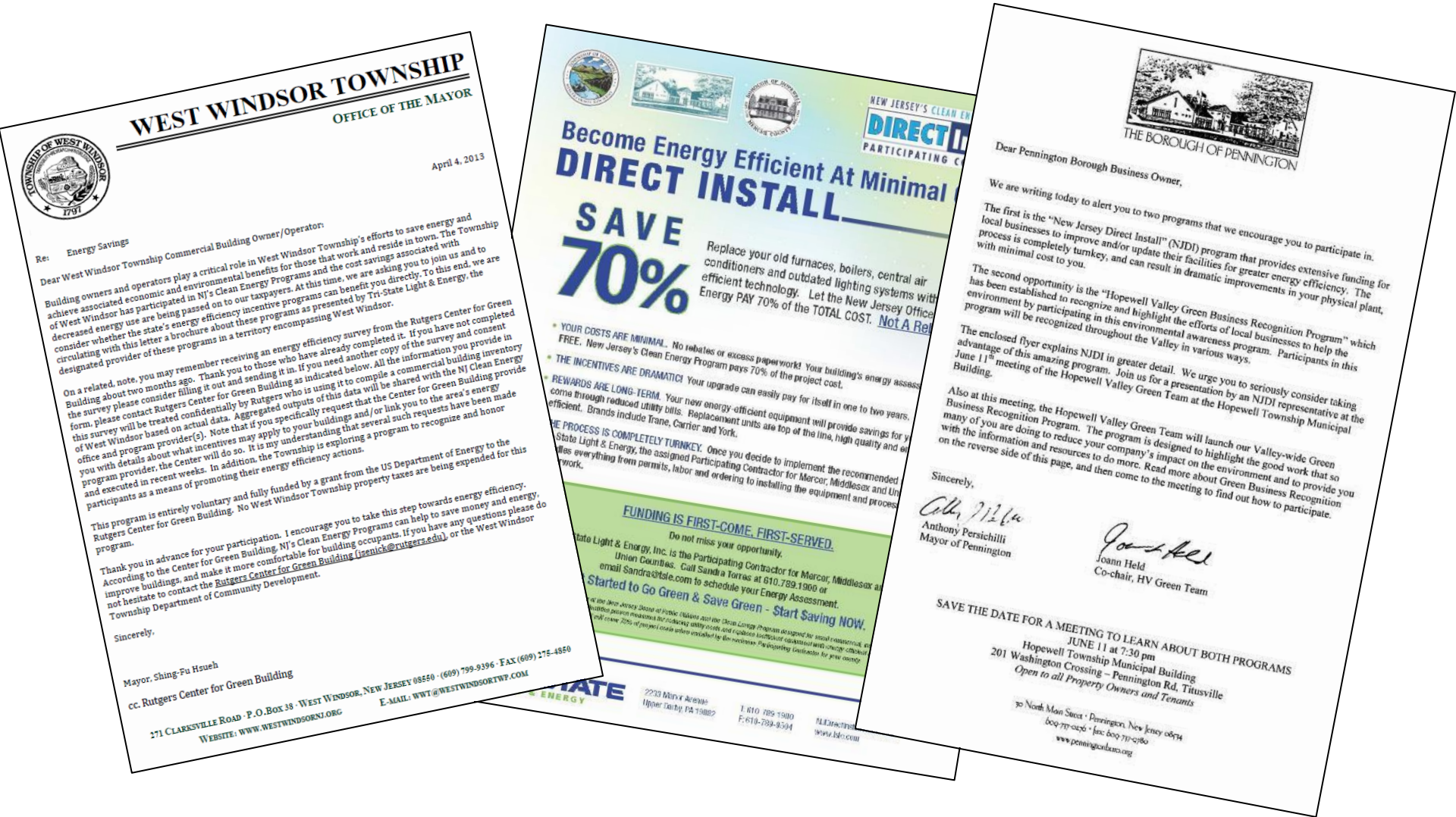


The average participation rate improvement for the six HPwES efforts that have been certified to date in Sustainable Jersey is a "6.8-fold" increase (range low of 1.7 to a high of 15.6)

		Participation Rates					
Municipality	Households	2011	2012	2013	2014	2015	Total Completions
Glen Rock	3,672	0.16%	0.05%	0.27%	**0.63%**	**1.23%**	69
Highland Park	2,475	0.12%	**0.93%**	**1.82%**	0.53%	0.48%	114
Millburn	5,777	0.12%	0.02%	0.07%	0.02%	**0.12%**	24
Princeton	5,739	0.63%	0.51%	0.51%	**1.10%**	**0.71%**	301
Watchung	1,735	0.23%	0.06%	0.23%	0.06%	**0.35%**	19
Woodbridge	24,406	0.00%	0.00%	**0.02%**	**0.19%**	1.72%	509
Statewide	**2,102,465**	**0.13%**	**0.18%**	**0.23%**	**0.26%**	**0.30%**	**30,060**

Commercial Energy Efficiency Outreach

Green team partners with municipal officials to complete targeted outreach program to local businesses for the Direct Install program



WEST WINDSOR TOWNSHIP

OFFICE OF THE MAYOR

April 4, 2013

Re: Energy Savings

Dear West Windsor Township Commercial Building Owner/Operator:

Building owners and operators play a critical role in West Windsor Township's efforts to save energy and achieve associated economic and environmental benefits for those that work and reside in town. The Township of West Windsor has participated in NJ's Clean Energy Programs and the cost savings associated with decreased energy use are being passed on to our taxpayers. At this time, we are asking you to join us and to consider whether the state's energy efficiency incentive programs can benefit you directly. To this end, we are circulating with this letter a brochure about these programs as presented by Tri-State Light & Energy, the designated provider of these programs in a territory encompassing West Windsor.

On a related, note, you may remember receiving an energy efficiency survey from the Rutgers Center for Green Building about two months ago. Thank you to those who have already completed it. If you have not completed the survey please consider filling it out and sending it in. If you need another copy of the survey and consent form, please contact Rutgers Center for Green Building as indicated below. All the information you provide in this survey will be treated confidentially by Rutgers who is using it to compile a commercial building inventory of West Windsor based on actual data. Aggregated outputs of this data will be shared with the NJ Clean Energy office and program provider(s). Note that if you specifically request that the Center for Green Building provide you with details about what incentives may apply to your buildings and/or link you to the area's energy program provider, the Center will do so. It is my understanding that several such requests have been made and executed in recent weeks. In addition, the Township is exploring a program to recognize and honor participants as a means of promoting their energy efficiency actions.

This program is entirely voluntary and fully funded by a grant from the US Department of Energy to the Rutgers Center for Green Building. No West Windsor Township property taxes are being expended for this program.

Thank you in advance for your participation. I encourage you to take this step towards energy efficiency. According to the Center for Green Building, NJ's Clean Energy Programs can help to save money and energy, improve buildings, and make it more comfortable for building occupants. If you have any questions please do not hesitate to contact the Rutgers Center for Green Building (jsenick@rutgers.edu), or the West Windsor Township Department of Community Development.

Sincerely,

Mayor, Shing-Fu Hsueh

cc. Rutgers Center for Green Building

271 Clarksville Road · P.O.Box 38 · West Windsor, New Jersey 08550 · (609) 799-9396 · Fax (609) 275-4850
Website: www.westwindsornj.org E-mail: wwt@westwindsortwp.com

NEW JERSEY'S CLEAN ENERGY PROGRAM

DIRECT INSTALL

PARTICIPATING CONTRACTOR

Become Energy Efficient At Minimal Cost

DIRECT INSTALL

SAVE 70%

Replace your old furnaces, boilers, central air conditioners and outdated lighting systems with efficient technology. Let the New Jersey Office of Clean Energy PAY 70% of the TOTAL COST. Not A Rebate

- YOUR COSTS ARE MINIMAL. No rebates or excess paperwork! Your building's energy assessment is FREE. New Jersey's Clean Energy Program pays 70% of the project cost.
- THE INCENTIVES ARE DRAMATIC! Your upgrade can easily pay for itself in one to two years.
- REWARDS ARE LONG-TERM. Your new energy-efficient equipment will provide savings for years to come through reduced utility bills. Replacement units are top of the line, high quality and energy efficient. Brands include Trane, Carrier and York.
- THE PROCESS IS COMPLETELY TURNKEY. Once you decide to implement the recommended upgrades, Tri-State Light & Energy, the assigned Participating Contractor for Mercer, Middlesex and Union Counties, handles everything from permits, labor and ordering to installing the equipment and process the paperwork.

FUNDING IS FIRST-COME, FIRST-SERVED.

Do not miss your opportunity.

Tri-State Light & Energy, Inc. is the Participating Contractor for Mercer, Middlesex and Union Counties. Call Sandra Torres at 610.789.1900 or email Sandra@tsle.com to schedule your Energy Assessment.

Get Started to Go Green & Save Green - Start Saving NOW.

2233 Mayor Avenue
Upper Darby, PA 19082
T: 610-789-1900
F: 610-789-9504
www.tsle.com

THE BOROUGH OF PENNINGTON

Dear Pennington Borough Business Owner,

We are writing today to alert you to two programs that we encourage you to participate in.

The first is the "New Jersey Direct Install" (NJDI) program that provides extensive funding for local businesses to improve and/or update their facilities for greater energy efficiency. The process is completely turnkey, and can result in dramatic improvements in your physical plant, with minimal cost to you.

The second opportunity is the "Hopewell Valley Green Business Recognition Program" which has been established to recognize and highlight the efforts of local businesses to help the environment by participating in this environmental awareness program. Participants in this program will be recognized throughout the Valley in various ways.

The enclosed flyer explains NJDI in greater detail. We urge you to seriously consider taking advantage of this amazing program. Join us for a presentation by an NJDI representative at the June 11th meeting of the Hopewell Valley Green Team at the Hopewell Township Municipal Building.

Also at this meeting, the Hopewell Valley Green Team will launch our Valley-wide Green Business Recognition Program. The program is designed to highlight the good work that so many of you are doing to reduce your company's impact on the environment and to provide you with the information and resources to do more. Read more about Green Business Recognition on the reverse side of this page, and then come to the meeting to find out how to participate.

Sincerely,

Anthony Persichilli
Mayor of Pennington

Joann Held
Co-chair, HV Green Team

SAVE THE DATE FOR A MEETING TO LEARN ABOUT BOTH PROGRAMS
JUNE 11 at 7:30 pm
Hopewell Township Municipal Building
201 Washington Crossing – Pennington Rd, Titusville
Open to all Property Owners and Tenants

30 North Main Street · Pennington, New Jersey 08534
609-737-0276 · fax: 609-737-2980
www.penningtonboro.org

Pathways to Gold Star in Energy

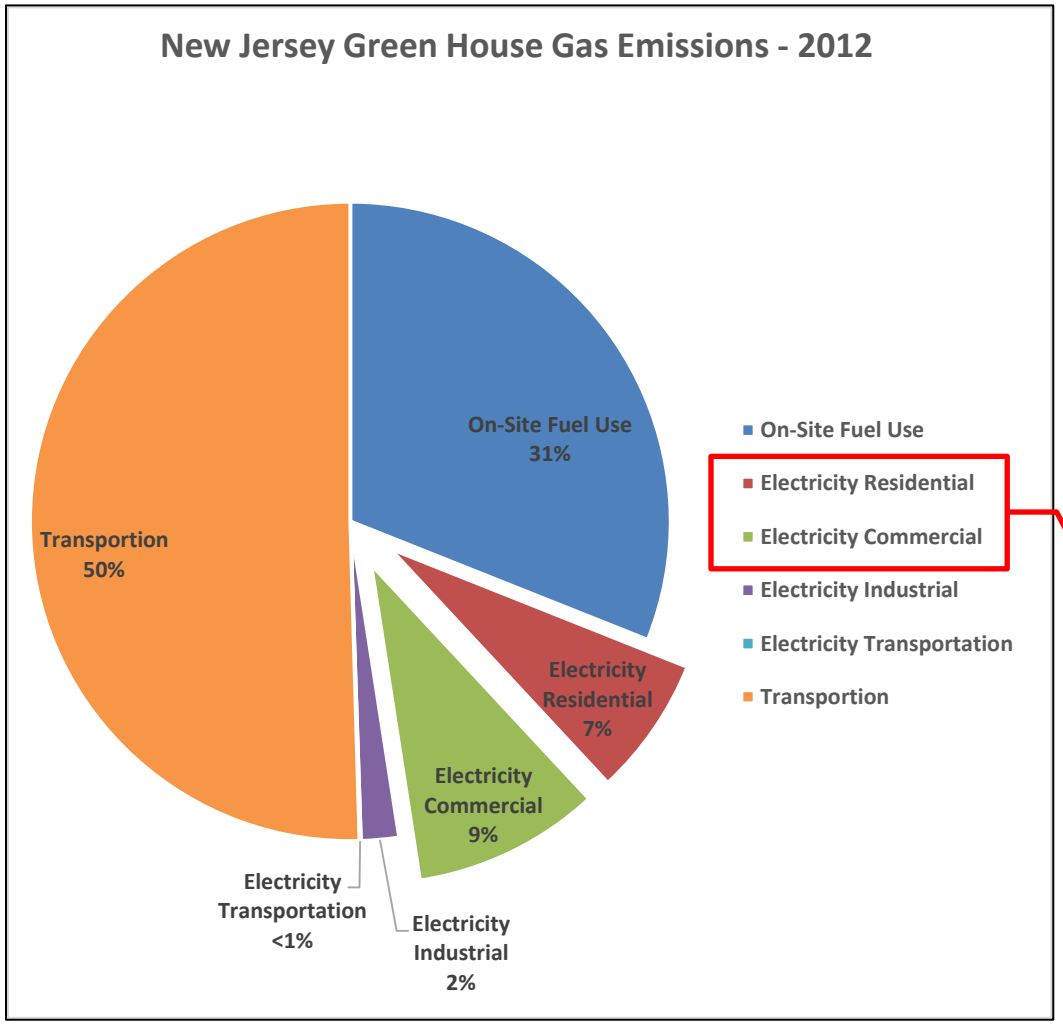
Sample Town A

- Municipal Carbon Footprint
- Plus six required actions
  - Make Your Town Solar Friendly
  - Community Led Solar Initiatives
  - Make Your Town Electric Vehicle Friendly
  - Public Electric Vehicle Charging Infrastructure
  - Residential Energy Efficiency
  - Commercial Energy Efficiency

Sample Town B

- Municipal Carbon Footprint
- Provides robust data to demonstrate GHG reductions of 1% per year for 3 years
- Substitute *preapproved* activities, for example:
  - Renewable Government Energy Aggregation
  - EV Challenge

Renewable Government Energy Aggregation



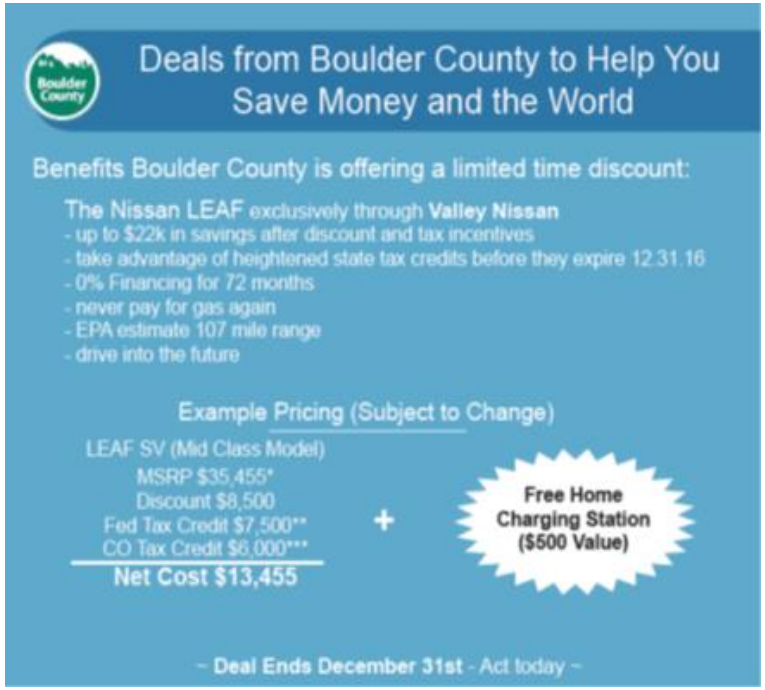
- A municipal energy procurement model serving virtually all residential customers in a community.
- Enables municipalities to purchase green renewable energy for all

Based on a historic participation rate of 90+%, we estimate that a municipality in New Jersey could reduce their carbon emissions profile by 6 – 9% by implementing the RGEA action*

*RGEA with 40% renewable content

EV Group Purchase: *EV Challenge*

- Community-Led Outreach Campaign
- Engage local auto dealerships for:
  - Discount pricing
  - Limited duration
- Increase support for EV Friendly policies and Public EV Charging Infrastructure
- Programs in Colorado
  - 300% increase in EV sales
- Can be paired with Solar Group Purchase Program



Source: Refuel Colorado. www.refuelcolorado.com/sites/default/files/poster-december-leaf-sv.pdf

Going for Energy Gold!

- It's needed!
  - Gold Star in Energy **Achieves** commitment to reducing GHG emissions in time to stabilize climate
- It's feasible!
  - Meeting 2 Gold Star Standards gets needed reductions using known strategies:
    - For municipal operations
    - For community-wide emissions
- It's flexible!
  - Different strategies will work, as long as the targets are met
- Sustainable Jersey staff are here to help!
  - Contact us *(soon!)*

MPLWD GREEN

MAPLEWOODISGREEN.ORG

A Better Tomorrow, One Community at a Time

SUSTAINABLE JERSEY™

• CERTIFIED •

www.SustainableJersey.com

Silver


ENERGY AUDIT
power
analysis
efficient
assessment
facility
energy flow
carbon footprint
cost
inspection
thermal imaging
energy saving
energy conversation
utilities
solar panels
output
safety
cooling
health
input
building
energy expenses
energy consumption
equipment
insulation
cost-effective
blower door
infrared camera
heating

Maplewood Township Sustainability Committee

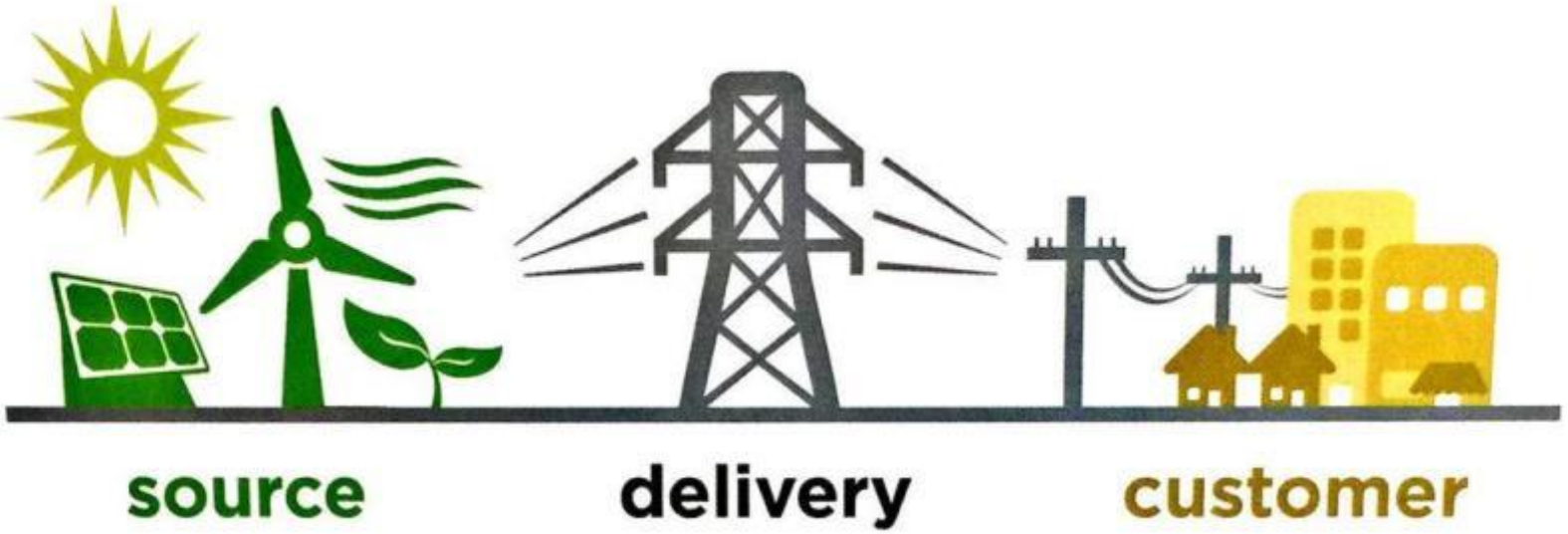
♦ **Coordinates the planning and implementation of municipal, community-based and intergovernmental sustainability projects**

♦ **Monitors and guides the Township's progress in meeting agreed-upon sustainability goals and objectives**

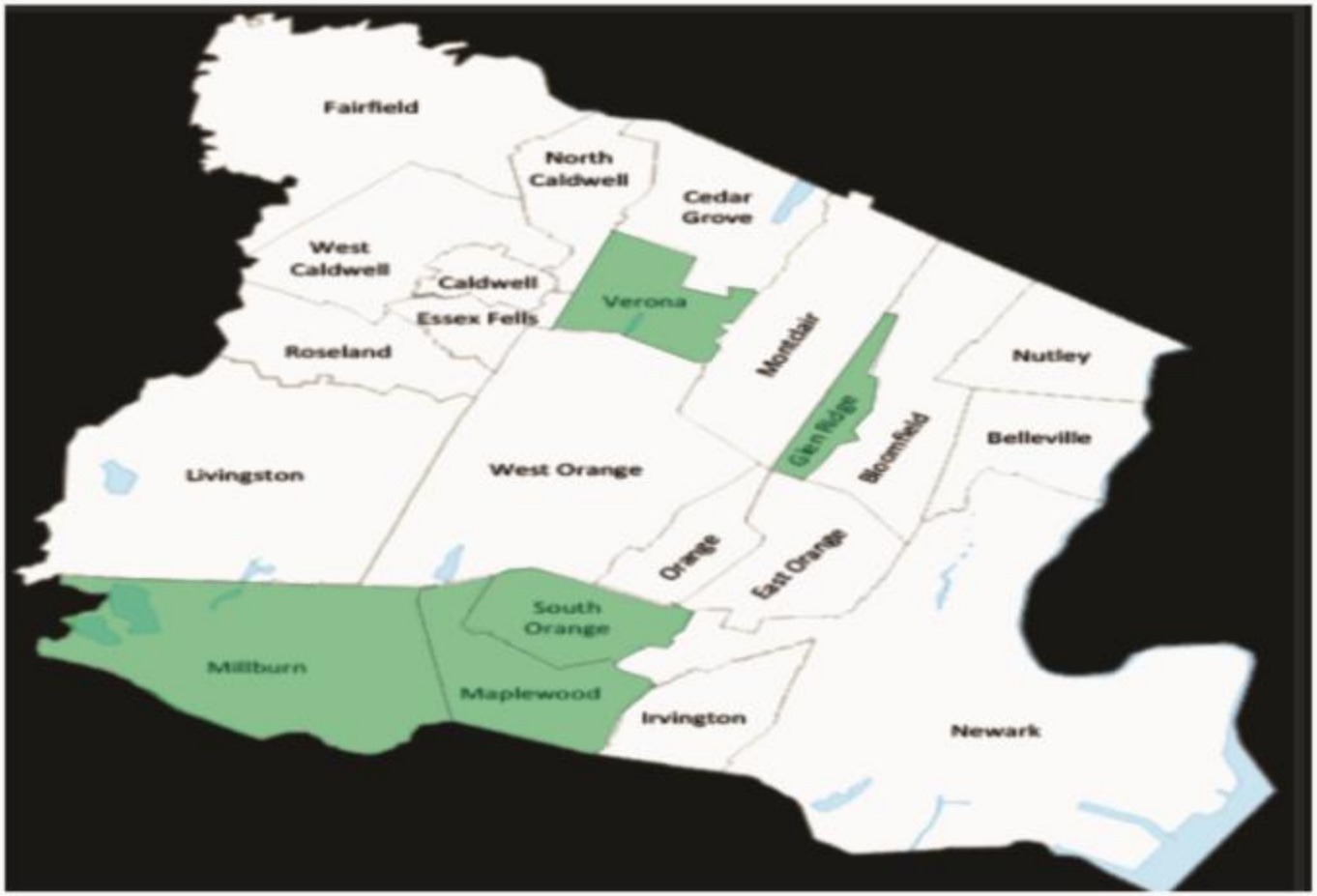
♦ **Mayor, Township Committee member, Administrator, 4 Department Directors, Planning Board Chair, Green Team Chair & Environmental Advisory Committee Chair (10)**

New Jersey Government Energy Aggregation

Local governments create a large buying group of residential electricity customers to seek bids for greener and cheaper energy rates.



SUSTAINABLE ESSEX ALLIANCE



Municipalities that have passed resolutions to participate in the RFP process for the Sustainable Essex Alliance Community Choice Aggregation project.

COMPARATIVE EVALUATION CRITERIA

Successfully completed energy aggregation programs

Familiar and experienced with procurement of renewable electricity and demand reduction programs

Can develop and complete an aggregation process on a timely basis

Maplewood Township Committee Resolution 105-17

Supporting the Principles of the Paris Climate Accord

Adopted Unanimously on June 20, 2017

Maplewood Signed On

With 8 other NJ municipalities: Englewood, Highland Park, Hoboken, Jersey City, Princeton, Teaneck, Union & Union City

MAYOR PHIL KRAMER OF FRANKLIN TOWNSHIP &
MAYOR BRUCE A. HARRIS OF CHATHAM BOROUGH
CORDIALLY INVITE YOU TO

NEW JERSEY MAYORS' CLIMATE SUMMIT

WHEN
Saturday, February 3rd, 2018
Registration at 8:30AM • Program 9:00AM - 1:30PM

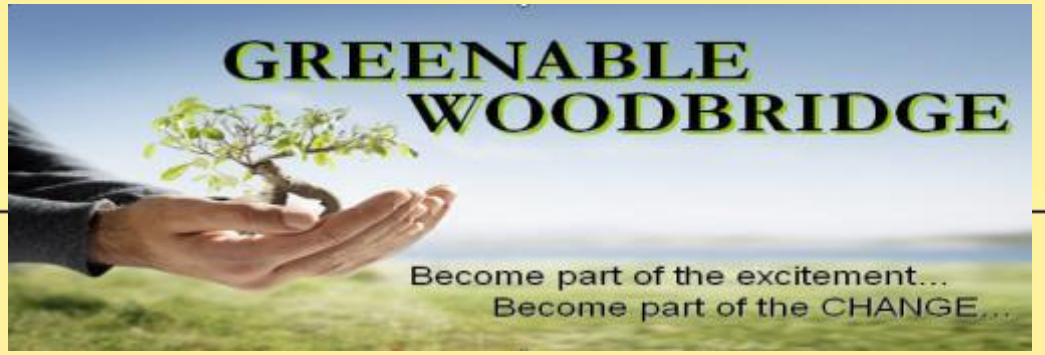
WHERE
Rutgers University Bloustein School of Planning & Public Policy
33 Livingston Ave, New Brunswick, NJ

RUTGERS
Edward J. Bloustein School of Planning and Public Policy

GREENABLE WOODBRIDGE

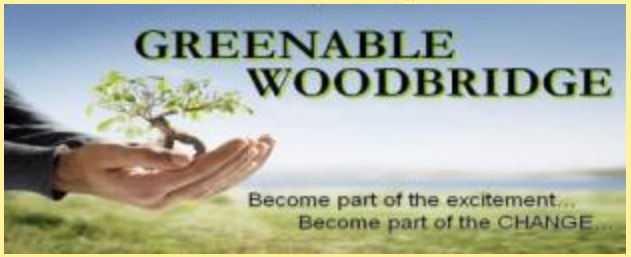
TOWNSHIP OF WOODBRIDGE, N. J.
CHARTERED 1669

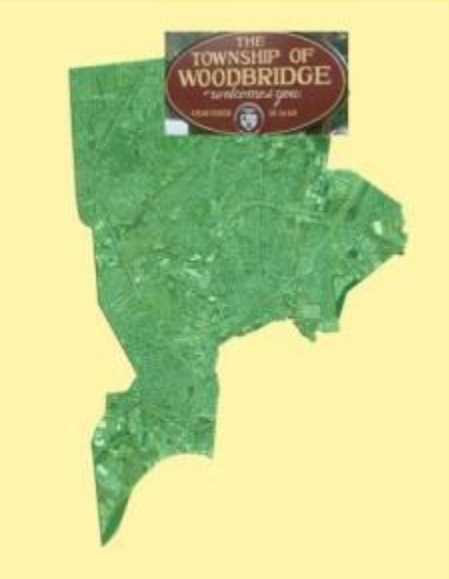
Mayor John E. McCormac
Caroline Ehrlich / Chief of Staff / Redevelopment



- Woodbridge Township is the sixth largest municipality in the State of New Jersey encompassing 24.2 square miles and is home to 100,000+ residents.
- Woodbridge Township is comprised of 10 towns - each with their own identity and character - Avenel, Colonia, Fords, Hopelawn, Iselin, Keasbey, Menlo Park Terrace, Port Reading, Sewaren and Woodbridge Proper.
- Woodbridge has five downtowns, three train stations including Metropark, and almost every major highway leads to Woodbridge including the NJ Turnpike, Parkway, US Routes 440, 287 and State Routes 1 & 9.

Greenable Woodbridge Green Team





Greenable Woodbridge Through Leadership & Innovation

Sustainability ~ “Thinking Globally... Acting Locally” ~ Sustainability

Greenable Woodbridge Green Team

Mayor’s Office... Municipal Council... Municipal Department Directors & Public Employees
Local Businesses and Community Residents

Public Works: Fleet Inventory and Food Waste Initiative
Health Department: Pre-School Restaurant Programming, Stroke Testing
Planning & Development: Green Building Initiatives
Engineering Division: Green Infrastructure
Office of Communications: Greenable TV-35 Programming, Greenable News & Web Site

Greenable Woodbridge Awards

Eight-Time Sustainable Jersey™ Silver-Level Champion
3-STAR Community Rating for National Leadership in Sustainability
Governor's Environmental Excellence Award
Mayor John E. McCormac "Environmentalist of the Year"
New Jersey Association of Floodplain Management (NJAFM)
Outstanding Floodplain Management Award 2017
Sustainable Raritan River Award
2009 "Achievement in Planning" Award
The Association of New Jersey Apprenticeship Coordinators (ANJAC)

Greenable Woodbridge
Climate Change Practices

Energy Conservation

Municipal Facilities Energy Audits & Upgrades

Municipal Building ~ Barron Arts Center ~ Main & Branch Libraries
Health Center ~ Animal Shelter ~ Evergreen & Sycamore Senior Centers
Public Works Garage ~ 9 Municipal Pump Stations ~ Fire Departments

- **Retrofit & Install LED Light Fixtures and Lamps**
- **Occupancy Sensor Lighting Controls**
- **Programmable Thermostats**
- **High Efficiency Gas Water Heaters**
- **Low-Flow Domestic Water Devices**
- **HVAC System Improvements**
- **High-Efficiency Electric Air Conditioning Units**
- **Custom Building Automation Controls**
- **Upgrade Premium Efficiency Pump Station Motors & Engines**

GreenableWoodbridge
Climate Change Practices

Clean Energy & Smart Energy
Residential & Business Programs

New Jersey's cleanenergy program
njcleanenergy.com

CIEL POWER
Your One-Source Solution to Energy-Efficiency

NEW JERSEY'S CLEAN ENERGY PROGRAM
DIRECT Install
PARTICIPATING CONTRACTOR

Greenable Woodbridge
Climate Change Practices

Woodbridge Community Center Completed an Energy Audit & Retro-Fit to Further Improve Energy Efficiency

Woodbridge Community Center took the lead in Woodbridge Township's mission to reduce the carbon footprint.

- The WCC partnered with the BPU Clean Energy Program to complete a project to enhance the building's lighting through the use of energy-saving (LED) light bulbs. The lighting project replaced every lighting fixture in the building and parking lot and will reduce the overall electricity generated at the WCC. The Clean Energy Program allowed the WCC to replace each fixture with cost energy savings LED lighting.

- BPU Clean Energy Grant: $45,000.00. $50,000 per year hard cost savings. Program will pay for itself in five years.

- An automated building control system for the HVHC has been installed which decreases the use of energy by reducing the HVHC runtime sustained during times of operation when the building is uninhabited.

- New hot water heating units and a more effective water pump system have also been installed.

Greenable Woodbridge Climate Change Practices

Electric Vehicle (EV) Car Share Program:

COMING SOON: Woodbridge Township has embarked on the first step to implement a scalable Electric Vehicle Car Share program. The EV Program will play a significant role in shaping Woodbridge Township's long-term vision for Electric Vehicle Car Share market development and will serve to reduce carbon emissions, thus contributing to the Greenable Woodbridge Climate Change practice. The EV Program looks to offer complete street services, enhanced mobility through fuel-efficient vehicles and a comprehensive approach to reducing greenhouse gas emissions.

Greenable Woodbridge secured a $10,000 Sustainable Jersey grant through the Gardinier Environmental Fund to fund electric vehicle infrastructure and an battery-supported idle reduction System for police vehicles.

.

Greenable Woodbridge Climate Change Practices

Solar Challenge & Solar Panels:

- **Greenable Woodbridge Investment of $7 Million ($2.4 Million Rebate from the NJBPU) in Solar Energy Initiatives**
- **Solar Installed at 6 Municipal Buildings; Multiple School District Buildings and Facilities; Fire Departments Buildings; Corporate Investment in Solar (Bayshore, FedEx); Solar-Powered Pedestrian Cross Walks**
- **Sustainable Jersey Solar Challenge & Energy Sage ~ 2017**
- **Woodbridge Township Building Department approved 166 Residential Solar Panel permits (October, 2016 through May, 2017)**

Greenable Woodbridge
Climate Change Practices

Energy Aggregation

Woodbridge Township is raising the Sustainability bar with the renewal of the Tri-Eagle Energy aggregation program by including a higher percentage of renewable energy than what is required by state law – thus making Woodbridge Township the leader in the State of New Jersey!

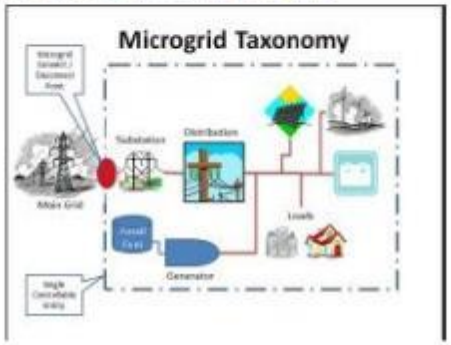
This additive amount of renewable energy will be generated from renewable generation facilities located in our own State, sending a strong message to renewable developers that we want more green power generated here and spurring new economic growth in New Jersey in this high-tech industry.

Greenable Woodbridge
Climate Change Practices

MICROGRID: **The Woodbridge Township Microgrid connects critical facilities, private entities and services which allows those facilities to remain operational while the power grid is down..**

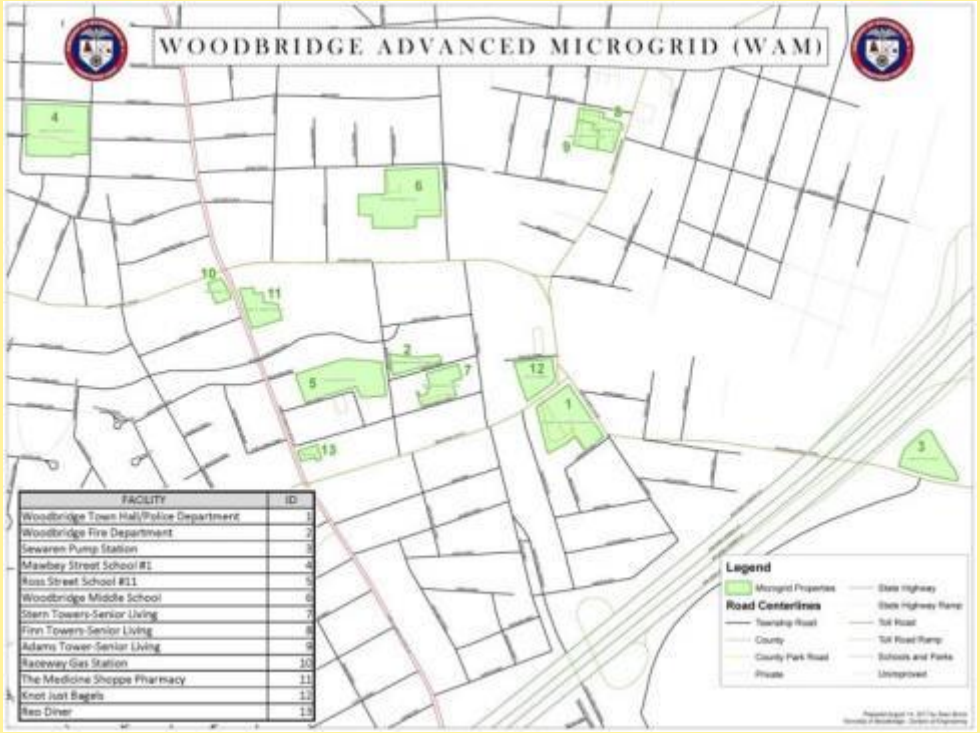
What is a Microgrid?

- A microgrid is a small or local electric power system that can operate with the main grid or by itself in an emergency situation within a specific area like a hospital, school/college or an entire community.
- Microgrids are intended to be used during heavy electric demand periods (peak) or for electrical back up purposes when the main grid is off line.



- Microgrids use different energy resources, such as, solar, wind, gas or diesel generators, fuel cells and microturbines, and battery storage.

- Microgrids work as an "island" (or many "islands" in large communities) that are separate from the large grid, so if the large grid goes down, they can run on their own.



FACILITY	ID
Woodbridge Town Hall/Police Department	1
Woodbridge Fire Department	2
Sewaren Pump Station	3
Mawbey Street School #1	4
Ross Street School #11	5
Woodbridge Middle School	6
Stern Towers-Senior Living	7
Finn Towers-Senior Living	8
Adams Tower-Senior Living	9
Raceway Gas Station	10
The Medicine Shoppe Pharmacy	11
Knot Just Bagels	12
Reo Diner	13

GreenableWoodbridge
Climate Change Practices

GREEN INFRASTRUCTURE INITIATIVES:

Green infrastructure is effective, economical and enhances community "Quality-of-Life

Greenable Woodbridge Green Infrastructure:

- **Tree Planting and Wetlands Restoration**
- **Storm Water Management & Infrastructure Improvements**
  - **Storm water drains through gutters**
  - **Storm sewers and other engineered collection systems**
- **Rain Gardens and Bioswales use plants found in the local ecosystem in conjunction with innovative engineering solutions to help capture and treat storm-water run-off**
- **Green infrastructure helps filter the water before it reaches waterways**

Greenable Woodbridge
Climate Change Practices

BLUE ACRES FLOOD ZONE RESTORATION

The New Jersey Department of Environmental Protection Blue Acres Buy-Out Program has purchased more than 130 Woodbridge flood zone properties – most located in the Watson/Crampton neighborhood)

As part of the post-Sandy Blue Acres program, the Township develop plans to remediate, restore and return the properties as open space and preserve the natural wetland habitat. The Rutgers University Cooperative Extension Program to developed restoration and maintenance strategies for the acquired floodplain properties. The plans provide For the establishment of a "Conservancy Area" that will include landscape design and the planting of native flowers, plants, shrubs and trees which will provide a natural habitat along the edge of the open space restoration area.

Greenable Woodbridge
Climate Change Practices

Woodbridge Bike Share Program:

The goal is to design and implement a Bike Share program that focuses on a system that is accessible, affordable and contributes to the Township's Sustainable practices.
In designing the Bike Share system mobility, transportation and equity are the primary focus while ensuring that the system also supports the Township's economic development and regional competitiveness goals.

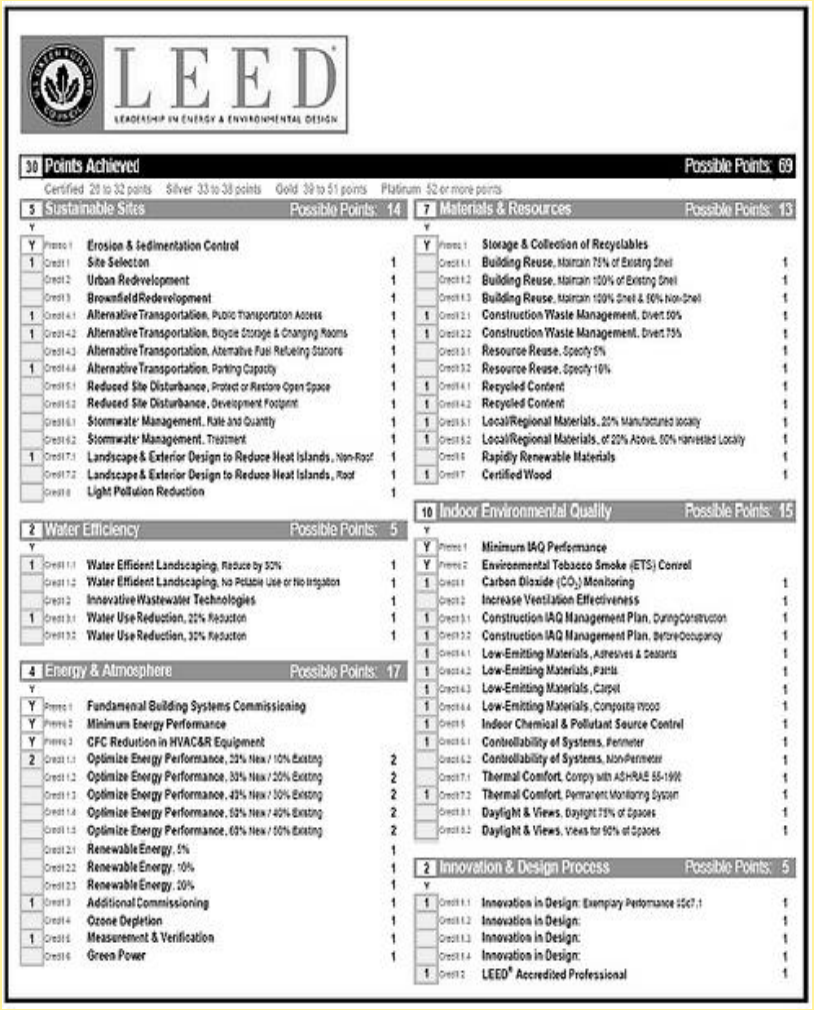
Livability & Economic Competitiveness:

- Develop an innovative transportation system that improves Woodbridge Township livability and economic competitiveness.
- Improve public health by maximizing ridership and increasing the share of bicycling and walking in the community as part of a healthy lifestyle.
- Optimize the number of destinations that can be served by a bike share system with a focus connecting neighborhoods and destinations.
- Implement a system that can be regionally scaled throughout the Township and expand the geographic coverage of the operating service area to include various communities.

Improve Quality of Life through Bicycling:

- Create a system that relieves traffic congestion by enabling bicycling for work, shopping and recreation and serves as a complement to transit by serving as a first and last-mile option.
- Increase bicycling by providing easy access to bicycles for people who may be interested in riding, but do not have access to a bicycle.
- Provide residents and visitors with a safe transportation option that promotes active, healthy living and increases awareness and visibility of bicycling as a viable transportation mode.

Greenable Woodbridge
Climate Change Practices



LEED
LEADERSHIP IN ENERGY & ENVIRONMENTAL DESIGN

30 Points Achieved — Possible Points: 69

Certified 26 to 32 points Silver 33 to 38 points Gold 39 to 51 points Platinum 52 or more points

5 Sustainable Sites — Possible Points: 14

Y			
Y	Prereq 1	Erosion & Sedimentation Control	
1	Credit 1	Site Selection	1
	Credit 2	Urban Redevelopment	1
	Credit 3	Brownfield Redevelopment	1
1	Credit 4.1	Alternative Transportation, Public Transportation Access	1
1	Credit 4.2	Alternative Transportation, Bicycle Storage & Changing Rooms	1
	Credit 4.3	Alternative Transportation, Alternative Fuel Refueling Stations	1
1	Credit 4.4	Alternative Transportation, Parking Capacity	1
	Credit 5.1	Reduced Site Disturbance, Protect or Restore Open Space	1
	Credit 5.2	Reduced Site Disturbance, Development Footprint	1
	Credit 6.1	Stormwater Management, Rate and Quantity	1
	Credit 6.2	Stormwater Management, Treatment	1
1	Credit 7.1	Landscape & Exterior Design to Reduce Heat Islands, Non-Roof	1
	Credit 7.2	Landscape & Exterior Design to Reduce Heat Islands, Roof	1
	Credit 8	Light Pollution Reduction	1

2 Water Efficiency — Possible Points: 5

Y			
1	Credit 1.1	Water Efficient Landscaping, Reduce by 50%	1
	Credit 1.2	Water Efficient Landscaping, No Potable Use or No Irrigation	1
	Credit 2	Innovative Wastewater Technologies	1
1	Credit 3.1	Water Use Reduction, 20% Reduction	1
	Credit 3.2	Water Use Reduction, 30% Reduction	1

4 Energy & Atmosphere — Possible Points: 17

Y			
Y	Prereq 1	Fundamental Building Systems Commissioning	
Y	Prereq 2	Minimum Energy Performance	
Y	Prereq 3	CFC Reduction in HVAC&R Equipment	
2	Credit 1.1	Optimize Energy Performance, 20% New / 10% Existing	2
	Credit 1.2	Optimize Energy Performance, 30% New / 20% Existing	2
	Credit 1.3	Optimize Energy Performance, 40% New / 30% Existing	2
	Credit 1.4	Optimize Energy Performance, 50% New / 40% Existing	2
	Credit 1.5	Optimize Energy Performance, 60% New / 50% Existing	2
	Credit 2.1	Renewable Energy, 5%	1
	Credit 2.2	Renewable Energy, 10%	1
	Credit 2.3	Renewable Energy, 20%	1
1	Credit 3	Additional Commissioning	1
	Credit 4	Ozone Depletion	1
1	Credit 5	Measurement & Verification	1
	Credit 6	Green Power	1

7 Materials & Resources — Possible Points: 13

Y			
Y	Prereq 1	Storage & Collection of Recyclables	
	Credit 1.1	Building Reuse, Maintain 75% of Existing Shell	1
	Credit 1.2	Building Reuse, Maintain 100% of Existing Shell	1
	Credit 1.3	Building Reuse, Maintain 100% Shell & 50% Non-Shell	1
1	Credit 2.1	Construction Waste Management, Divert 50%	1
1	Credit 2.2	Construction Waste Management, Divert 75%	1
	Credit 3.1	Resource Reuse, Specify 5%	1
	Credit 3.2	Resource Reuse, Specify 10%	1
1	Credit 4.1	Recycled Content	1
1	Credit 4.2	Recycled Content	1
1	Credit 5.1	Local/Regional Materials, 20% Manufactured Locally	1
1	Credit 5.2	Local/Regional Materials, of 20% Above, 50% Harvested Locally	1
	Credit 6	Rapidly Renewable Materials	1
1	Credit 7	Certified Wood	1

10 Indoor Environmental Quality — Possible Points: 15

Y			
Y	Prereq 1	Minimum IAQ Performance	
Y	Prereq 2	Environmental Tobacco Smoke (ETS) Control	
1	Credit 1	Carbon Dioxide (CO_2) Monitoring	1
	Credit 2	Increase Ventilation Effectiveness	1
1	Credit 3.1	Construction IAQ Management Plan, During Construction	1
1	Credit 3.2	Construction IAQ Management Plan, Before Occupancy	1
1	Credit 4.1	Low-Emitting Materials, Adhesives & Sealants	1
1	Credit 4.2	Low-Emitting Materials, Paints	1
1	Credit 4.3	Low-Emitting Materials, Carpet	1
1	Credit 4.4	Low-Emitting Materials, Composite Wood	1
1	Credit 5	Indoor Chemical & Pollutant Source Control	1
1	Credit 6.1	Controllability of Systems, Perimeter	1
	Credit 6.2	Controllability of Systems, Non-Perimeter	1
1	Credit 7.1	Thermal Comfort, Comply with ASHRAE 55-1992	1
1	Credit 7.2	Thermal Comfort, Permanent Monitoring System	1
	Credit 8.1	Daylight & Views, Daylight 75% of Spaces	1
	Credit 8.2	Daylight & Views, Views for 90% of Spaces	1

2 Innovation & Design Process — Possible Points: 5

Y			
1	Credit 1.1	Innovation in Design: Exemplary Performance IDC7.1	1
	Credit 1.2	Innovation in Design:	1
	Credit 1.3	Innovation in Design:	1
	Credit 1.4	Innovation in Design:	1
1	Credit 2	LEED® Accredited Professional	1

Commercial & Residential Buildings

- Adoption of a Green Building Policy
- Create a Green Building Scorecard
- Implement Green Design Standards through Site Plan review
- Transit-Oriented Redevelopment

Thank You

www.twp.woodbridge.nj.us

JERSEY CITY
COMMITTING TO SUSTAINABILITY

Kate Lawrence, Senior Environmental Planner

New Jersey Mayor's Climate Summit

February 3, 2018

JERSEY CITY

- Population: 264,152
  (2016 U.S. Census Pop. Estimates)
- Area: 21 square miles
- 10th densest municipality in NJ
- 6.7% population increase since 2010

JERSEY CITY

Industrial powerhouse

Rapidly-growing metropolis

JERSEY CITY'S SUSTAINABILITY EVOLUTION

2009

- Municipal Green Building Standards ordinance (Chapter 180-1)
  - Requirements for municipal projects
  - Incentives for private projects
- Municipal "Green Products Procurement Policy" ordinance (Chapter 3-51.F. (3))

2011

2012

2013

2014

2015

2016

2017

2018

JERSEY CITY'S SUSTAINABILITY EVOLUTION

2009

2011

- Environmental Commission re-established
- Sustainable Jersey Certification - Silver
- Adopt-a-lot Community Gardens Program

2012

2013

2014

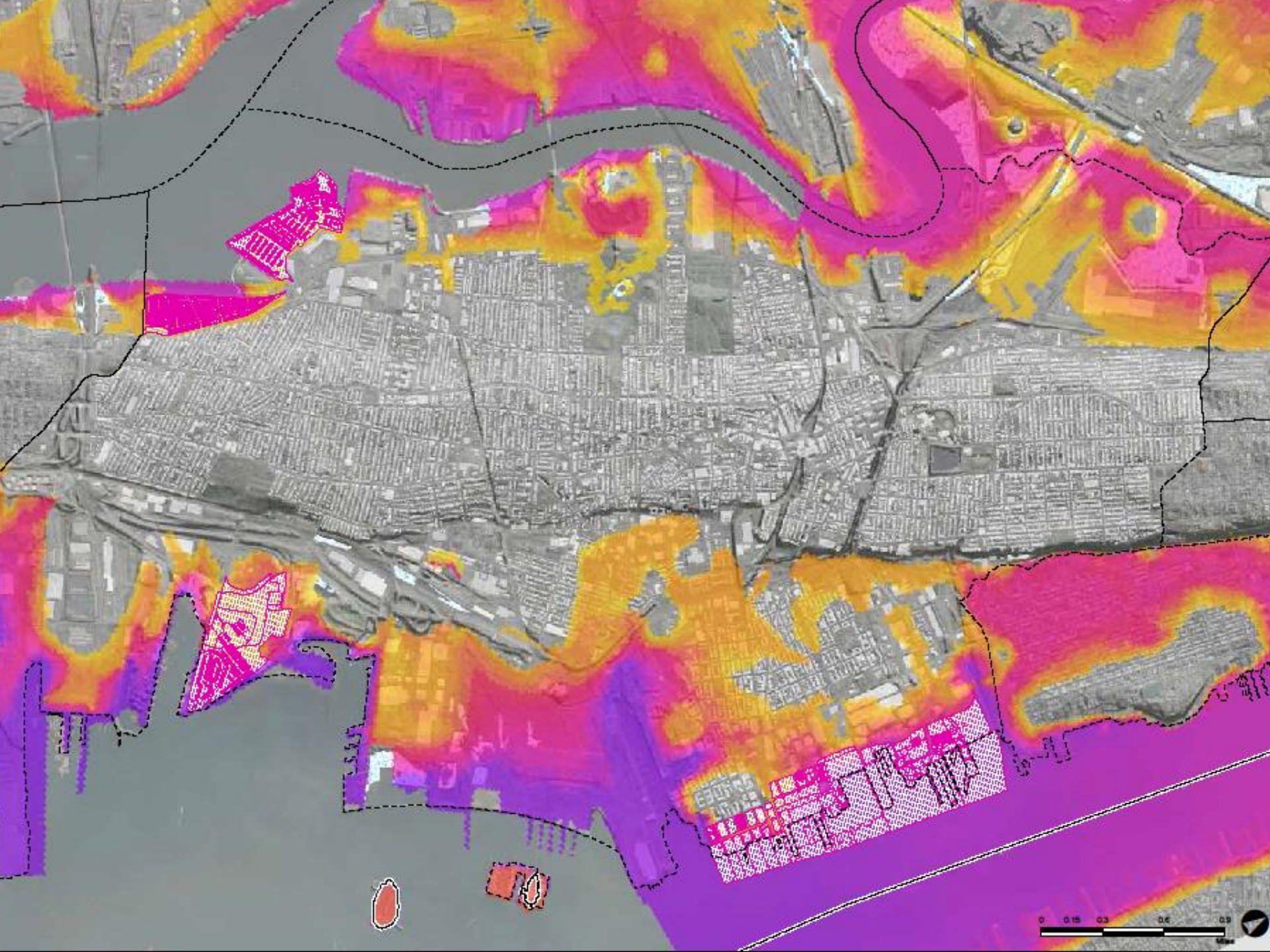
2015

2016

2017

2018


Edison
PARK
FAST
570
Montgomery



JERSEY CITY'S SUSTAINABILITY EVOLUTION

2009

2011

2012

2013

- First Permanent bike lane on Grove Street

2014

2015

2016

2017

2018


AL-6053
ACCESS LINK
NJ TRANSIT
BIKE LA
INCOME
TAX
V63FOJ

JERSEY CITY'S SUSTAINABILITY EVOLUTION

2009

2011

2012

2013

2014

- Green Infrastructure Feasibility Study (Rutgers Cooperative Extension)
- Green Team established
- Sandy Recovery Strategy Report
- Sustainable Jersey Recertification

2015

2016

2017

2018

JERSEY CITY'S SUSTAINABILITY EVOLUTION

2009

2011

2012

2013

2014

2015

- Citibike launched
- Tree Canopy Assessment
- Community Forestry Management Plan 2015-2019

2016

2017

2018


Super Style
DOWN
136 Newark Avenue
citibike

JERSEY CITY'S SUSTAINABILITY EVOLUTION

2009

2011

2012

2013

2014

2015

2016

2017

2018

- Funding of $300,000 for tree planting
- City of Trees Campaign launched
- Open Tree Mapping launched
- Resiliency and Adaptation planning underway
- CitiBike expansion
- Environmental Resource Inventory
- Energy audits of municipal buildings

JERSEY CITY'S SUSTAINABILITY EVOLUTION

2009

2011

2012

2013

2014

2015

2016

2017

2018

- Year of Water Campaign
- Resiliency Planning
- Recertified at Silver Level with Sustainable Jersey
- Creativity and Innovation Award
- Demonstration GI Projects
- Update Tree Ordinances
- Mayoral and Municipal Council commitment to Paris Climate Agreement

2017 YEAR OF WATER

JERSEY CITY MAKE IT GREEN

JERSEY CITY'S SUSTAINABILITY EVOLUTION

2009

2011

2012

2013

2014

2015

2016

2017

2018

- Office of Sustainability launches
- Year of Energy Campaign
- Citywide Forestry Standards
- Fleet inventory
- GHG inventory and preliminary climate action plan
- Zoning Changes

CLIMATE GOALS

Short-term (1-2 years)

- Initiate city-wide educational campaigns regarding energy conservation
- Baseline GHG Inventory
- Municipal fleet inventory
- Set municipal targets and establish strategies
- Create pro-EV policies

Medium-term (2-4 years)

- Make municipal buildings more energy efficient
- Improve City Fleet efficiency
- Support solar and energy efficiency programs within Jersey City
- Increase water-related and energy-related requirements for new development

Long-term (4+ years)

- Explore energy alternatives and new technologies for municipal operations and city-wide
- Improve alternative transportation options
- Institute building benchmarking
- Become leading sustainable city in New Jersey!

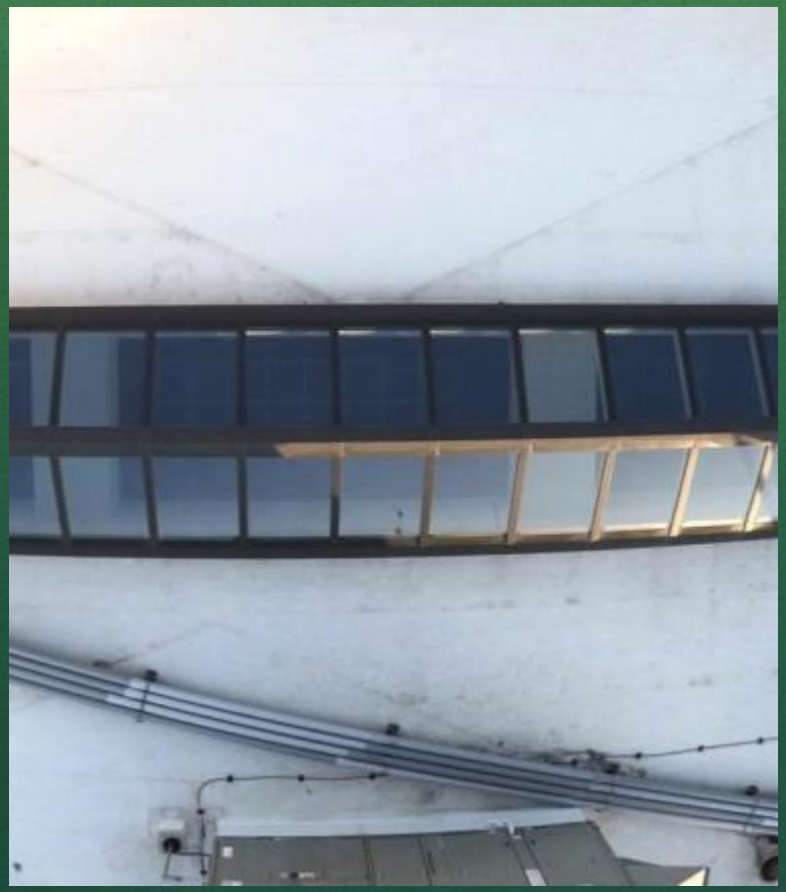
Kate Lawrence
Senior Environmental Planner
City of Jersey City
klawrence@jcnj.org
201-547-5010

Warren Township Green Team

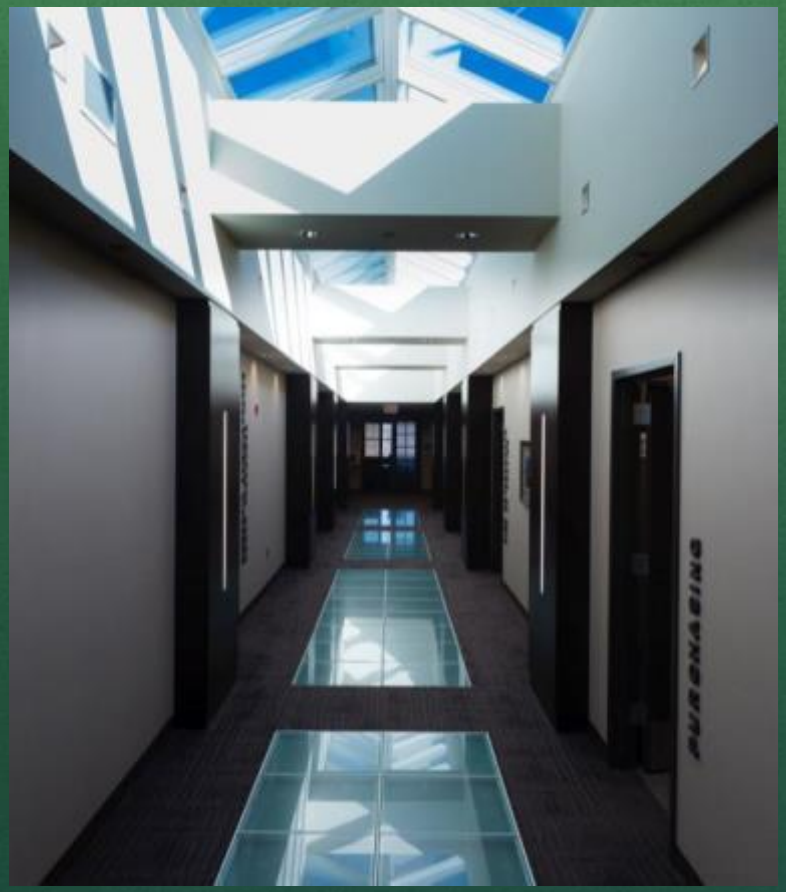
Silver Certified with 390 Points

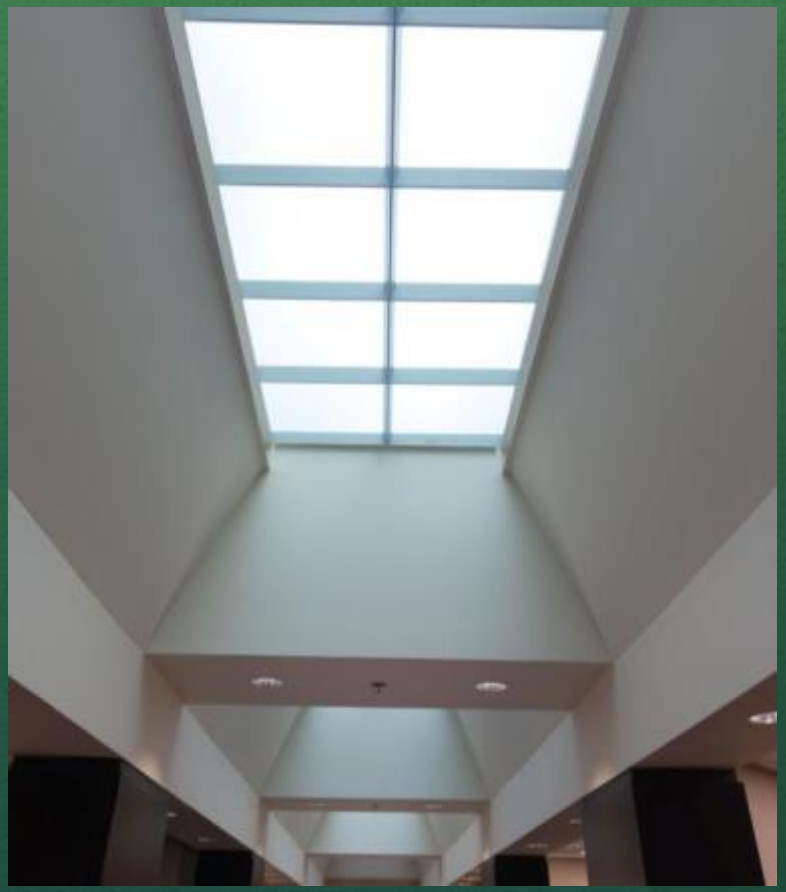
Presentation by Victor Sordillo, Mayor, Warren Township

Roof of New Municipal Building



Inside Day Light View





Department of Public Works – Solar Installation

Warren Green Team

Waste Reduction:

Since 2011 we collected for recycling over:

- 72,104 pounds of electronics
- 18,410 pounds of paper shredded
- 17,805 Misc. Items (textiles, crayons, eye glasses, metals)
- 2,000 Gallons of plastic bottle caps repurposed

Questions ??

Victor Sordillo
Mayor, Warren Township
vjsordillo@warrennj.org

Laura Mandell
Chair, Warren Green Team
Lmmandell@gmail.com

Thank You To Our Co-Sponsors

RUTGERS
THE STATE UNIVERSITY OF NEW JERSEY

NJ Climate Adaptation Alliance

NEW JERSEY FUTURE

NJLM
New Jersey State League of Municipalities

New Jersey Conservation FOUNDATION

CHARGEVC
BETTER TRAVEL, STRONGER GRID.

NEW JERSEY AUDUBON
www.njaudubon.org

New Jersey Clean Cities

rethink energy now nj

food & water watch

NEW JERSEY HIGHLANDS COALITION

#MayorsClimateSummit | @SJ_Program | @NJLCV | @BlousteinSchool