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

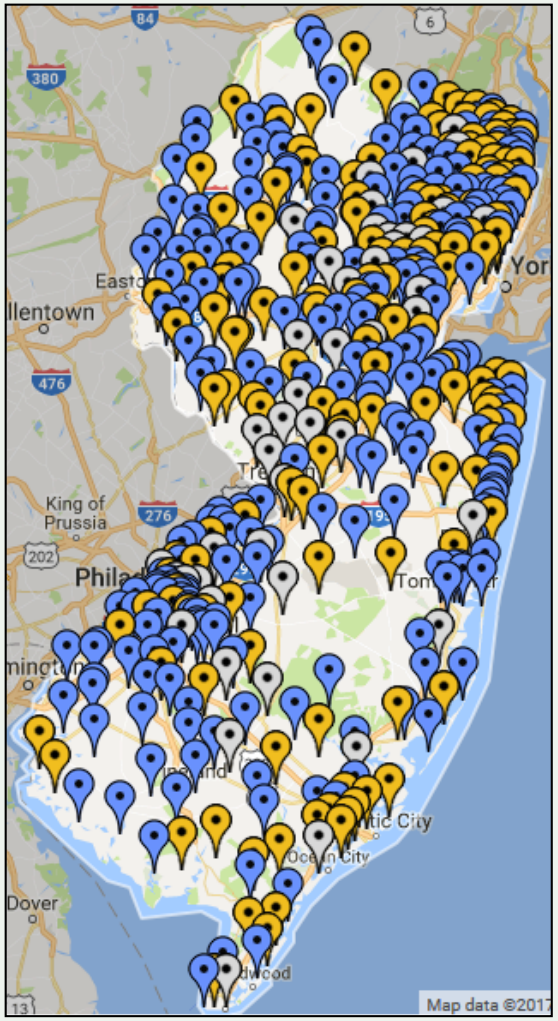
Sustainable Energy Communities

What is Sustainable Jersey?

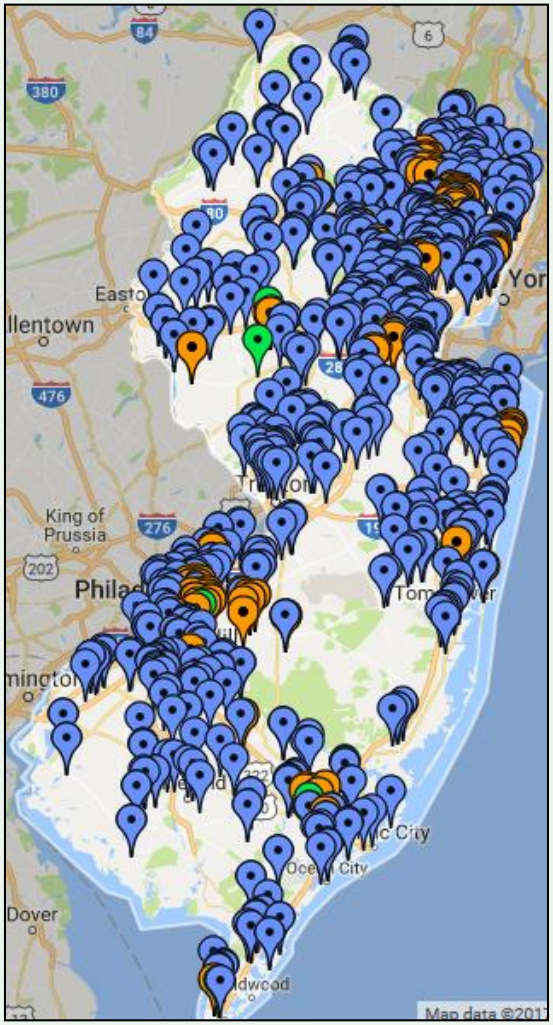
Certification program for municipalities and schools

- **Tools, resources, and guidance** to help municipalities and schools become more sustainable
- **Grants and funding** for municipalities and schools
- **Regional Hubs**

Program Participants



Municipal Program



Schools Program

Municipal Program

455 (81%) participating
204 Certified
- 151 Bronze
- 53 Silver

Schools Program

350 Districts (>50%)
948 Schools
241 Schools Certified
- 223 Bronze
- 18 Silver

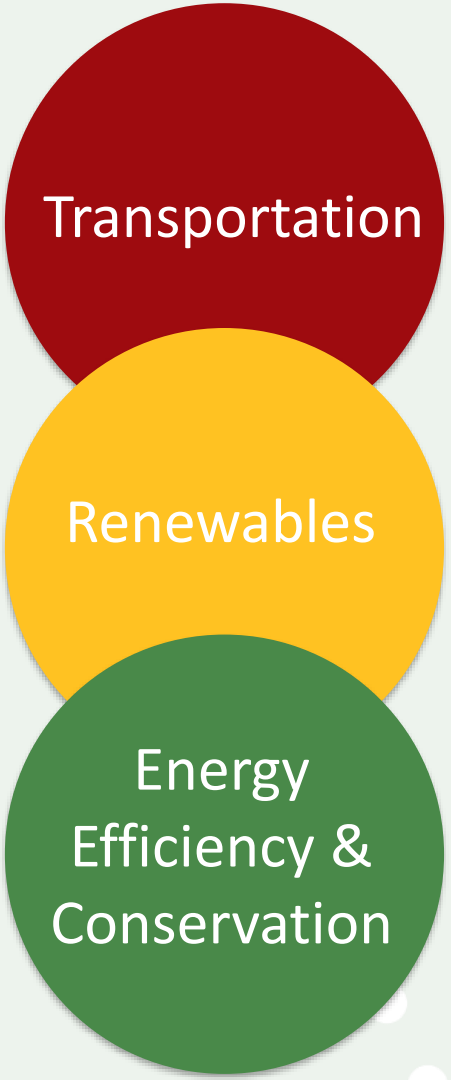
Outline/Overview

Zenon Tech-Czarny, Sustainable Jersey
Introduction, Sustainable Jersey Energy Actions

Gray Russell, Montclair Township
AFV/EVs and Microgrid

Emma Missey, Highland Park
Solarize campaign, Municipal Operations, and Microgrid

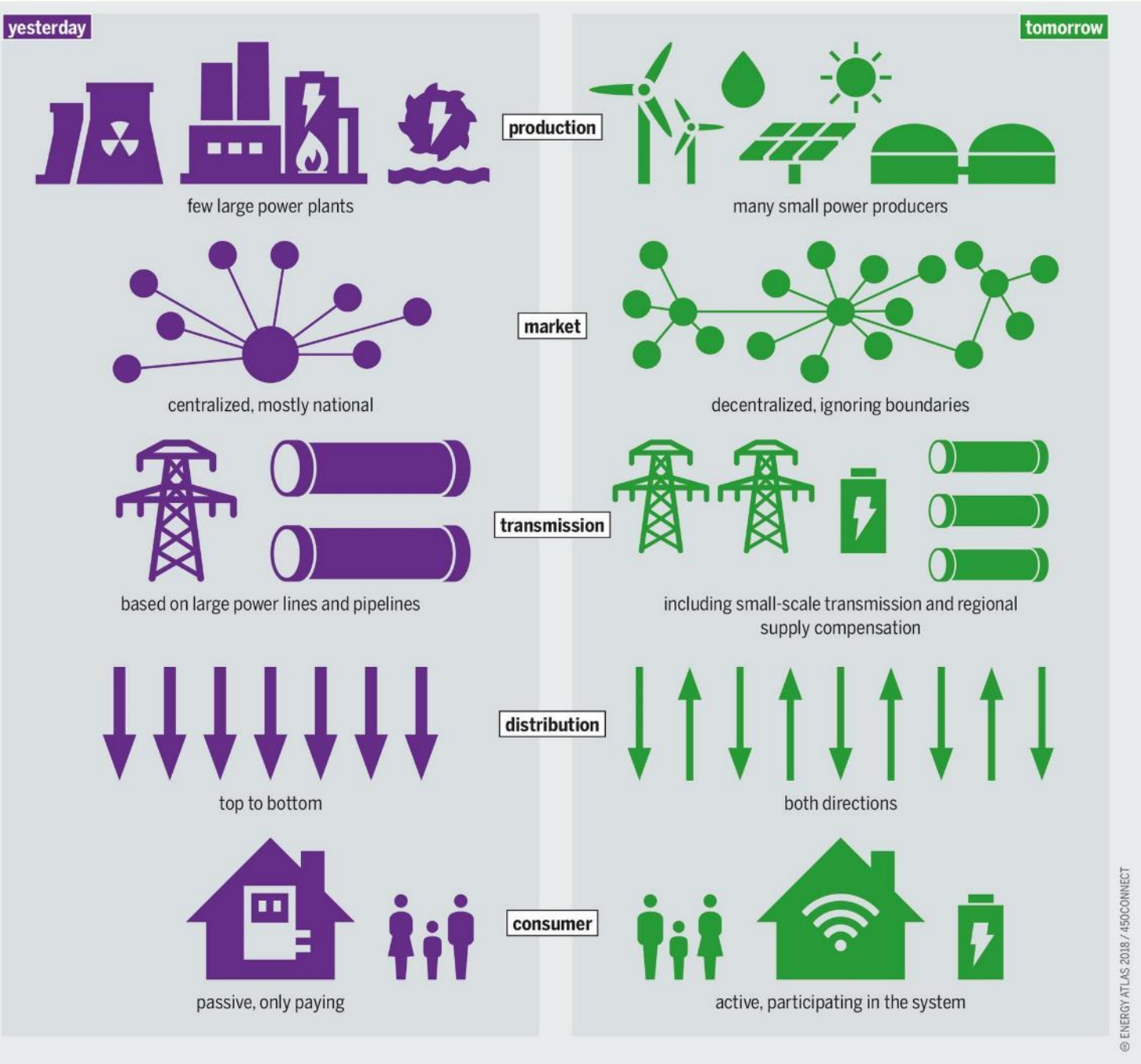
Cathleen Lewis, NJBPU
Energy Master Plan, Community Solar, Community Energy Planning, Clean Energy Economy



What are Sustainable Energy Communities

- Communities that are significantly reducing emissions in municipal operations and doing the best practices (actions) to encourage good energy stewardship and the reduction of GHG emissions throughout the municipality at large.

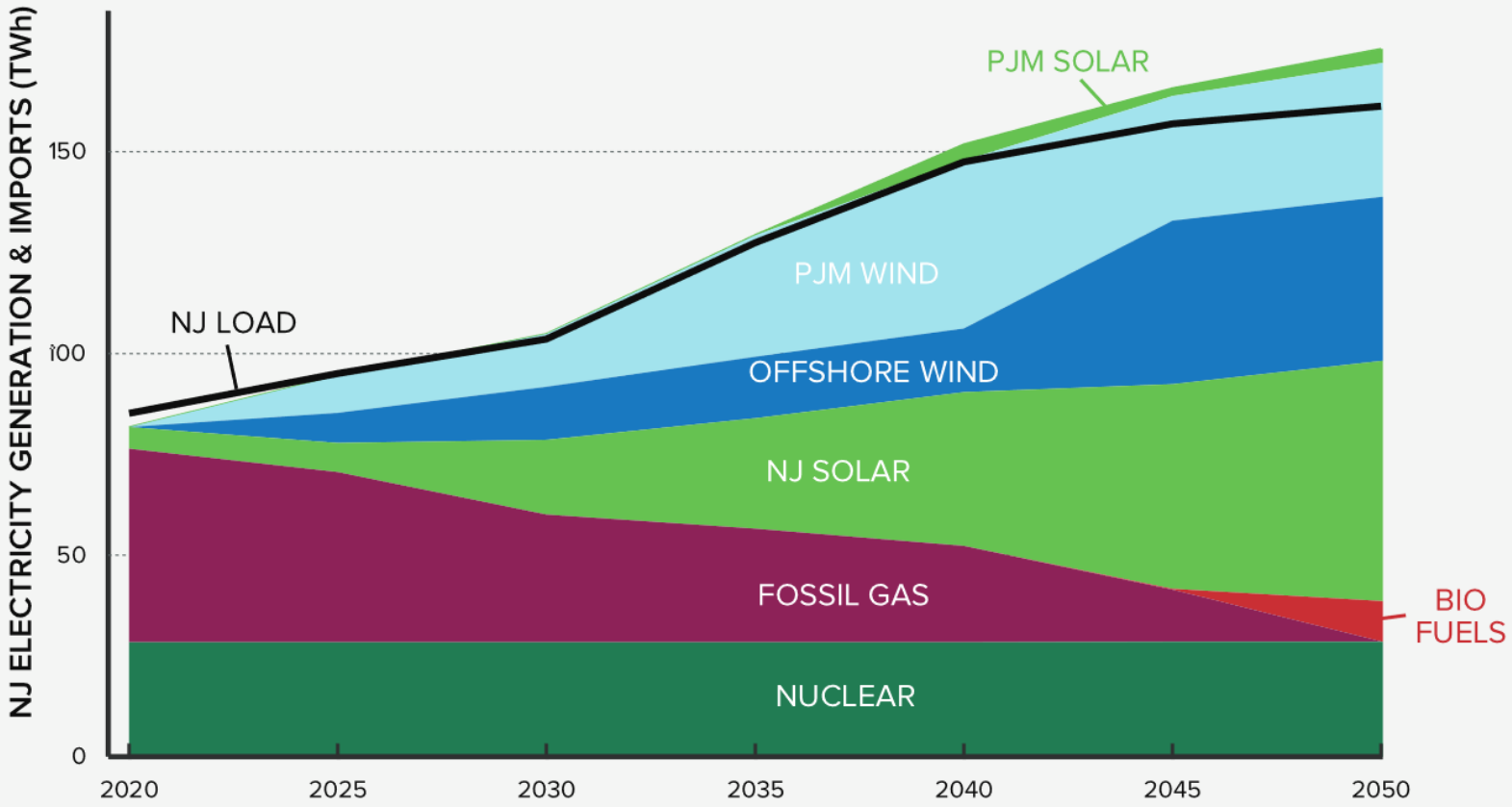
- Sustainable Energy Communities:
  - Reduce emissions from the transportation sector
    - Use electric vehicles
    - Drive less
  - Use renewable energy
    - And battery storage
  - Are energy efficient and reduce energy usage through behavior
    - Also are electrifying buildings (Net Zero buildings, heat pumps)
  - Are innovative and more!



https://commons.wikimedia.org/wiki/File:Staying_big_or_getting_smaller.jpg

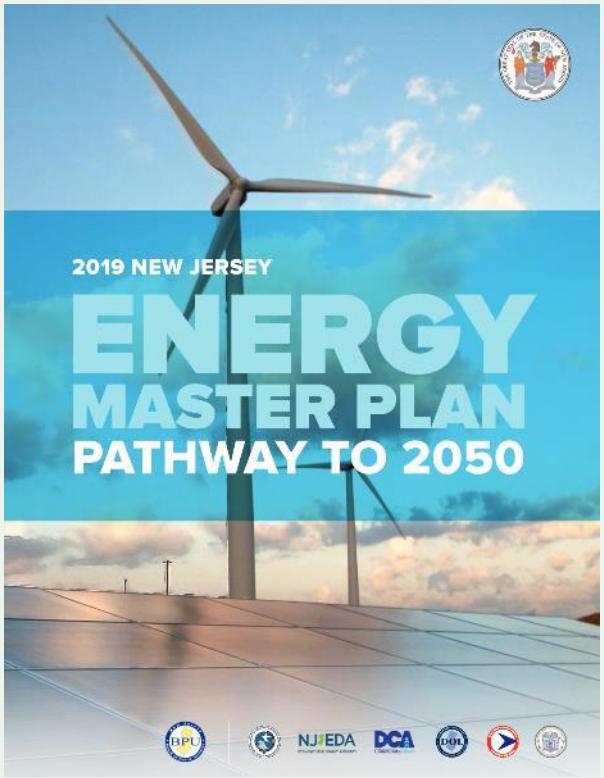
FIGURE 8.

Electricity Generation, Least Cost Scenario



Source: NJ Energy Master Plan

New Jersey Energy Master Plan



Strategies

1. Reduce Energy Consumption and Emissions from the Transportation Sector
2. Accelerate Deployment of Renewable Energy and Distributed Energy Resources
3. Maximize Energy Efficiency and Conservation and Reduce Peak Demand
4. Reduce Energy Consumption and Emissions from the Buildings Sector
5. Decarbonize and Modernize NJ's Energy System
6. Support Community Energy Planning and Action with an Emphasis on Encouraging and Supporting Participation by Low- and Moderate-Income and Environmental Justice Communities
7. Expand the Clean Energy Innovation Economy

ACEEE
American Council for an Energy-Efficient Economy

The 2019 City Clean Energy Scorecard

David Ribeiro, Stefen Samarripas, Kate Tanabe, Hannah Bastian, Emma Cooper, Ariel Drehobl, Shruti Vaidyanathan, Alexander Jarrah, and Mary Shoemaker

July 2019

Report U1904

© American Council for an Energy-Efficient Economy
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Facebook.com/myACEEE • aceee.org

https://www.aceee.org/sites/default/files/publications/researchreports/u1904.pdf

ACEEE Scorecard

Categories Included in ACEEE Scorecard

Local Government Operations

- Climate and energy goals
- Procurement & construction policies
- Asset management

Community-wide Initiatives

- Community-wide goals
- Distributed energy systems
- Equitable climate action and energy planning
- Mitigation of urban heat islands

Buildings Policies

- Building code adoption
- Building code compliance
- Incentives
- Building benchmarking, rating, and energy use transparency
- Required energy actions
- Workforce development

Energy and Water Utility Policies

- Efficiency efforts of energy utilities
- Targeted energy efficiency programs
- Energy data provision
- Renewable energy efforts of energy utilities
- Efficiency efforts in water services

Transportation Policies

- Sustainable transportation strategies
- Location efficiency
- Mode shift strategies
- Public transit
- Efficient vehicle policies
- Sustainable freight
- Clean, efficiency transportation for low-income communities

Local Clean Energy Self-Scoring Tool, Version 4.0

https://www.aceee.org/local-clean-energy-self-scoring-tool-version-40

Sustainable States Community Energy Challenge

Sustainable States Community Energy Challenge

The Sustainable States Community Energy Challenge will support 30 communities in five states to assess their clean energy goals and initiatives, compare across similarly sized cities, assess future initiatives, and get support and assistance as a part of a city cohort in each state. The six communities in each state will be a part of an in-state peer cohort and will receive technical assistance in completing a priority clean energy initiative.

The project is a partnership of the Sustainable States Network and American Council for an Energy-Efficient Economy (ACEEE) and five state-level programs. Municipalities working with these participating state-level programs are eligible:

Sustainable CT
Green Cities California
Sustainable Maryland
Minnesota GreenStep Cities
Sustainable Jersey

ACEEE's Local Clean Energy Self-Scoring Tool will be used to assess current energy initiatives in participating communities. The Self-Scoring Tool is based on ACEEE's City Clean Energy Scorecard, which compares actions of the 75 biggest core center cities in the nation. This project will pilot ACEEE's Local Clean Energy Self-Scoring Tool for small and medium-size communities.

NJ Municipalities in the Sustainable States Community Energy Challenge

- Glen Rock
- Gloucester Township
- Hammonton
- Hillsborough
- Lawrence
- Maplewood

Gold Star Standard in Energy

Municipal Operations

3.6% annual reduction in GHG emissions from baseline year

- Municipal buildings
- Municipal Utility Authority
- Streetlights & traffic signals
- Fleet

Community Wide

- Make Your Town EV Friendly
- Public Electric Vehicle Chargers
- Make Your Town Solar Friendly
- Community Led Solar Initiatives
- Residential EE Outreach
- Commercial EE Outreach

Municipal Program Energy Actions

	Energy Efficiency	Renewable Energy	Alternative Fuel Vehicles (AFVs)
Municipal Operations	• Energy Tracking and Management • Energy Efficiency for Municipal Facilities	• On-Site Solar Energy • On-Site Geothermal • On-Site Wind Energy • Purchase Renewable Energy	• Fleet Inventory • Green Fleet Target • Purchase AFVs
Community Energy Use	• Residential Energy Efficiency Outreach • Commercial Energy Efficiency Outreach	• Make Your Town Solar Friendly • Community-Led Solar Initiatives • Community Choice Aggregation (R-GEA)	• Make Your Town EV Friendly • Public EV Chargers

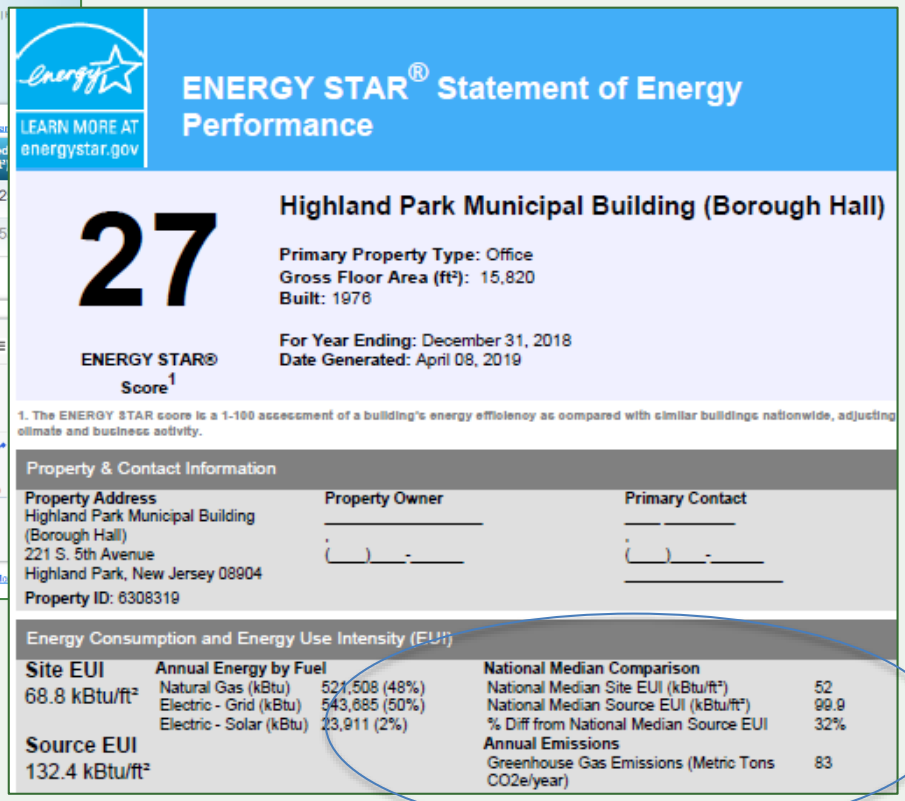
Energy Tracking and Management

For base 10 points

- Building portfolio
- Most recent twelve-months of energy use data for all buildings

For additional 10 points

- Benchmarking report for each building in the inventory
- Demonstrate ongoing Energy Tracking and Management system



Energy Efficiency for Facilities

- **5 points** - Audit on at least one building
- **10 points** - Local Government Energy Audit (LGEA) that covers all buildings
- **15 points** - Significant upgrade work (at least 10% cost savings demonstrated)
- **20 points** - LGEA that covers all buildings PLUS significant upgrade work
- **30 points** - Efficiency upgrades with 10%-19% decrease in energy consumption
- **40 points** - Efficiency upgrades with 20%-29% decrease in energy consumption
- **50 points** - Efficiency upgrades with at least 30% decrease in energy consumption

Municipal buildings

Schools

Local Government Energy Audit (LGEA)

New Jersey's cleanenergy program

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Local Government Energy Audit

LEAD BY EXAMPLE

All across New Jersey, residents and business owners are looking for ways to save energy and the environment. In order to understand how they can save, the Local Government Energy Audit (LGEA) Program allows local government agencies, state contracting agencies, public agencies, state colleges and state universities, and select non-profit agencies, to examine their facilities and see how they can improve their energy use. The program can help you identify cost-justified energy-efficiency measures, as well as subsidize the full cost of the audit. The entire audit process including customer assistance, application processing and auditing will be performed by TRC, the Program Manager for *New Jersey's Clean Energy Program* (NJCEP). More details are available about the LGEA program in this brochure, Video Overview, Program Guide and FAQs.

Eligibility

The LGEA Program targets buildings owned by many local government-related entities, New Jersey Colleges and Universities, and 501(c)(3) non-profit agencies. Such facilities may include, but are not limited to: offices, courtrooms, town halls, police and fire stations, sanitation buildings, transportation structures, schools and community centers.

Your Expense is Covered

NJCEP will subsidize 100% of the cost of the audit, up to an incentive cap, so there are no out of pocket expenses associated with services provided under this program.

Audit Scope

The audit includes an inventory of all energy-consuming equipment, comprehensive utility bill analysis, facility benchmarking, and feasibility for solar and combined heat & power. When your audit is complete, you'll have a list of recommended, cost-justified measures and facility upgrades that will help reduce operating expenses and, in many cases, improve the health and productivity of the buildings' occupants. Many of the recommended measures will be eligible for additional incentives

New Jersey's cleanenergy program

Local Government Energy Audit:
Energy Audit Report

TRC
Results you can rely on

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Administration Building

Asbury Park Board of Education

910 Fourth Ave.

Asbury Park, New Jersey 07712

October 11, 2018

Final Report by:

TRC Energy Services

New Jersey's Clean Energy Program

BPU New Jersey's cleanenergy program℠

njcleanenergy.com

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Home » Commercial & Industrial

Commercial, Industrial, Local Gov & Multifamily 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,

Program Updates

- 2020 Clean Energy Conference
- Enhanced Rebates Announced
- Summary of FY20 Program Changes
- New Jersey Clean Energy Learning Center

Other updates posted.

Program Literature

Applications and Brochures
Download the Latest Program Materials

Find a Trade Ally

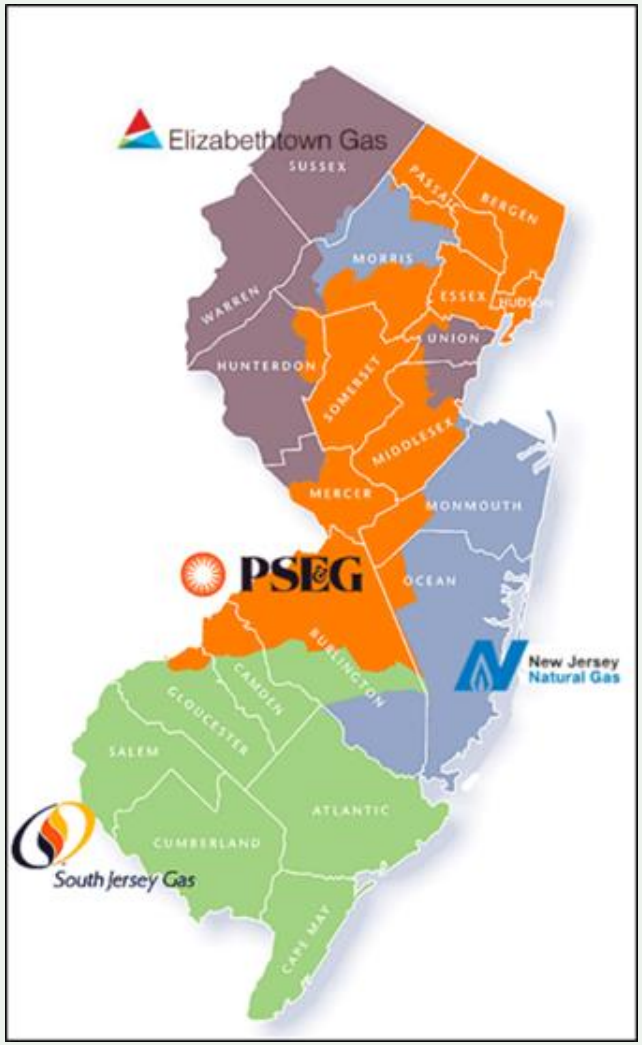
Select a contractor for an energy efficient upgrade today!

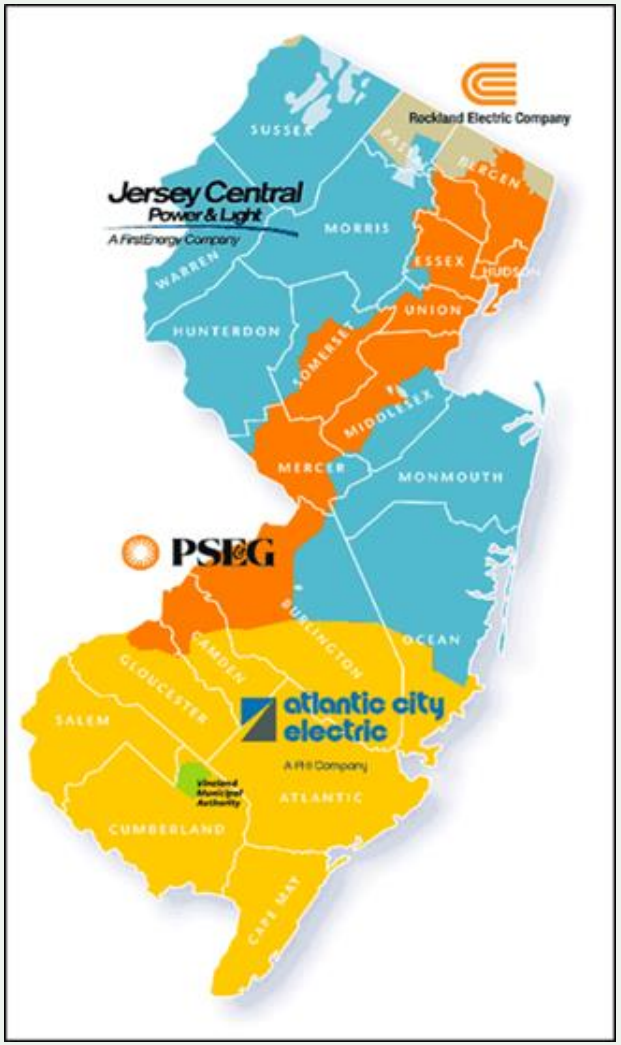
Success Stories

Troy Hills Village
Apartment Community Owners & Tenants Save Big

Utility Incentive Programs

- Incentives vary by utility
- Contact your local natural gas and electric utilities



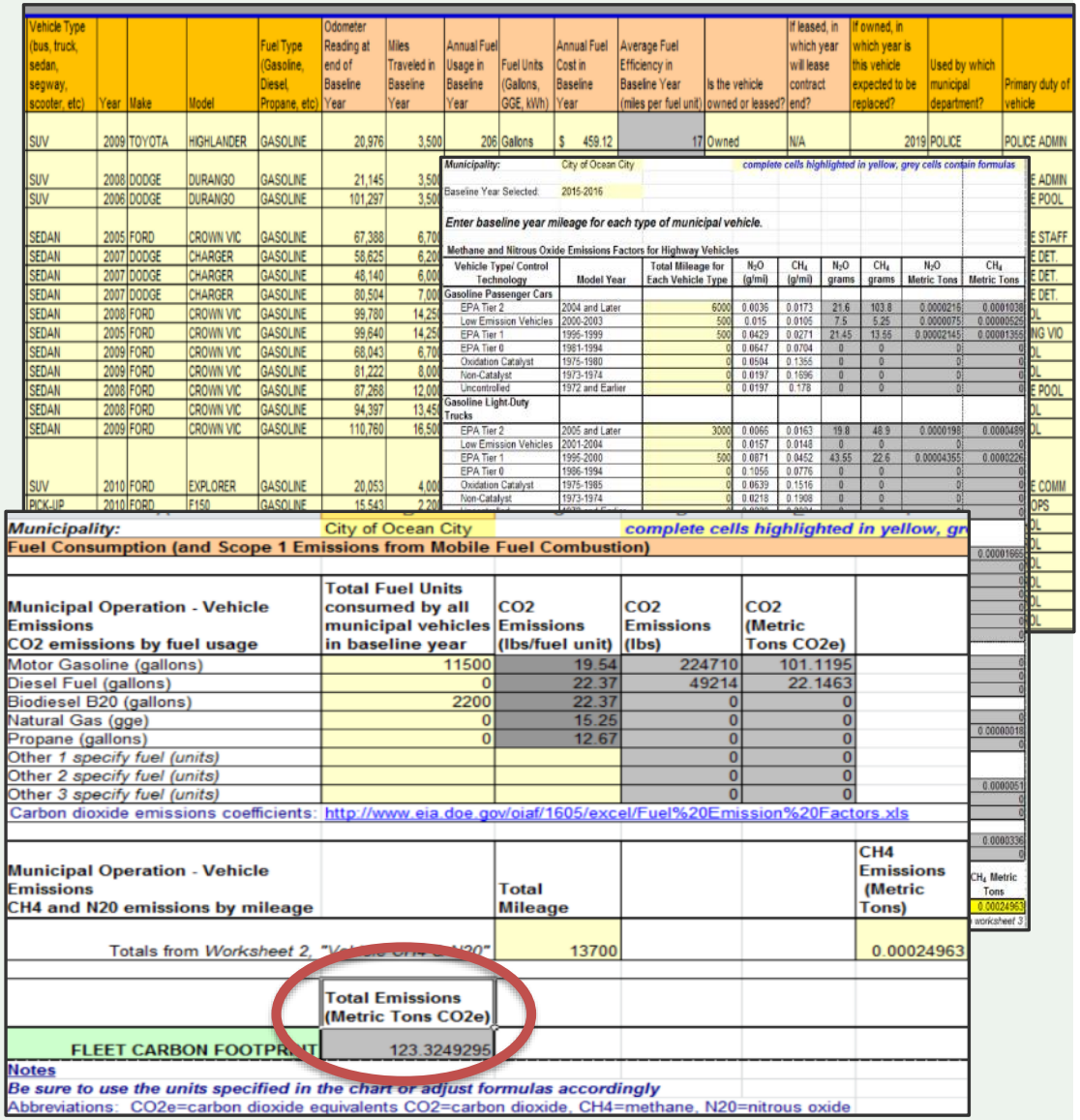


Fleet Inventory

10 points

- Inventory all vehicles
- Track fleet emissions
- Identify vehicles that should be replaced with alternative fuel options or decommissioned

* Template fleet inventory spreadsheet, automatically calculates fleet emissions



Vehicle Type (bus, truck, sedan, segway, scooter, etc)	Year	Make	Model	Fuel Type (Gasoline, Diesel, Propane, etc)	Odometer Reading at end of Baseline Year	Miles Traveled in Baseline Year	Annual Fuel Usage in Baseline Year	Fuel Units (Gallons, GGE, kWh)	Annual Fuel Cost in Baseline Year	Average Fuel Efficiency in Baseline Year (miles per fuel unit)	Is the vehicle owned or leased?	If leased, in which year will lease contract end?	If owned, in which year is this vehicle expected to be replaced?	Used by which municipal department?	Primary duty of vehicle
SUV	2009	TOYOTA	HIGHLANDER	GASOLINE	20,976	3,500	206	Gallons	$ 459.12	17	Owned	N/A	2019	POLICE	POLICE ADMIN
SUV	2008	DODGE	DURANGO	GASOLINE	21,145	3,50									E ADMIN
SUV	2006	DODGE	DURANGO	GASOLINE	101,297	3,50									E POOL
SEDAN	2005	FORD	CROWN VIC	GASOLINE	67,388	6,70									E STAFF
SEDAN	2007	DODGE	CHARGER	GASOLINE	58,625	6,20									E DET.
SEDAN	2007	DODGE	CHARGER	GASOLINE	48,140	6,00									E DET.
SEDAN	2007	DODGE	CHARGER	GASOLINE	80,504	7,00									E DET.
SEDAN	2008	FORD	CROWN VIC	GASOLINE	99,780	14,25									DL
SEDAN	2005	FORD	CROWN VIC	GASOLINE	99,640	14,25									NG VIO
SEDAN	2009	FORD	CROWN VIC	GASOLINE	68,043	6,70									DL
SEDAN	2009	FORD	CROWN VIC	GASOLINE	81,222	8,00									DL
SEDAN	2008	FORD	CROWN VIC	GASOLINE	87,268	12,00									E POOL
SEDAN	2008	FORD	CROWN VIC	GASOLINE	94,397	13,45									DL
SEDAN	2009	FORD	CROWN VIC	GASOLINE	110,760	16,50									DL
SUV	2010	FORD	EXPLORER	GASOLINE	20,053	4,00									E COMM
PICK-UP	2010	FORD	F150	GASOLINE	15,543	2,20									OPS

Municipality: City of Ocean City — *complete cells highlighted in yellow, grey cells contain formulas*

Baseline Year Selected: 2015-2016

Enter baseline year mileage for each type of municipal vehicle.

Methane and Nitrous Oxide Emissions Factors for Highway Vehicles

Vehicle Type/ Control Technology	Model Year	Total Mileage for Each Vehicle Type	N_2O (g/mi)	CH_4 (g/mi)	N_2O grams	CH_4 grams	N_2O Metric Tons	CH_4 Metric Tons
Gasoline Passenger Cars								
EPA Tier 2	2004 and Later	6000	0.0036	0.0173	21.6	103.8	0.0000216	0.0001038
Low Emission Vehicles	2000-2003	500	0.015	0.0105	7.5	5.25	0.0000075	0.00000525
EPA Tier 1	1996-1999	500	0.0429	0.0271	21.45	13.55	0.00002145	0.00001355
EPA Tier 0	1981-1994	0	0.0647	0.0704	0	0	0	0
Oxidation Catalyst	1975-1980	0	0.0504	0.1355	0	0	0	0
Non-Catalyst	1973-1974	0	0.0197	0.1696	0	0	0	0
Uncontrolled	1972 and Earlier	0	0.0197	0.178	0	0	0	0
Gasoline Light-Duty Trucks								
EPA Tier 2	2005 and Later	3000	0.0065	0.0163	19.8	48.9	0.0000198	0.0000489
Low Emission Vehicles	2001-2004	0	0.0157	0.0148	0	0	0	0
EPA Tier 1	1996-2000	500	0.0871	0.0452	43.55	22.6	0.00004355	0.0000226
EPA Tier 0	1986-1994	0	0.1056	0.0776	0	0	0	0
Oxidation Catalyst	1975-1985	0	0.0639	0.1516	0	0	0	0
Non-Catalyst	1973-1974	0	0.0218	0.1908	0	0	0	0

Municipality: City of Ocean City — *complete cells highlighted in yellow, gr*

Fuel Consumption (and Scope 1 Emissions from Mobile Fuel Combustion)

Municipal Operation - Vehicle Emissions CO2 emissions by fuel usage	Total Fuel Units consumed by all municipal vehicles in baseline year	CO2 Emissions (lbs/fuel unit)	CO2 Emissions (lbs)	CO2 (Metric Tons CO2e)
Motor Gasoline (gallons)	11500	19.54	224710	101.1195
Diesel Fuel (gallons)	0	22.37	49214	22.1463
Biodiesel B20 (gallons)	2200	22.37	0	0
Natural Gas (gge)	0	15.25	0	0
Propane (gallons)	0	12.67	0	0
Other *1 specify fuel (units)*			0	0
Other *2 specify fuel (units)*			0	0
Other *3 specify fuel (units)*			0	0

Carbon dioxide emissions coefficients: http://www.eia.doe.gov/oiaf/1605/excel/Fuel%20Emission%20Factors.xls

Municipal Operation - Vehicle Emissions CH4 and N20 emissions by mileage	Total Mileage	CH4 Emissions (Metric Tons)
Totals from *Worksheet 2, "Vehicle CH4 and N20"*	13700	0.00024963

Total Emissions (Metric Tons CO2e)
FLEET CARBON FOOTPRINT: 123.3249295

Notes

Be sure to use the units specified in the chart or adjust formulas accordingly

Abbreviations: CO2e=carbon dioxide equivalents CO2=carbon dioxide, CH4=methane, N20=nitrous oxide

Municipal Operations Action (Gold)

Baseline Year

Municipality:		* Complete applicable cells highlighted in yellow, the brighter are the key cells. Grey cells contain formulas.
Baseline Year		
Baseline Year (Select from dropdown):	2015	
Electricity Factorset (lb CO2e/MWh)	798.3738365	
Weather Normalized Stationary Fuel Consumption		
Municipal Operation - Natural Gas		
Building & Facilities		
Water & Wastewater Treatment Facilities		
Other		
Natural Gas Total		
Municipal Operation - Heating Oil		
Building & Facilities		
Water & Wastewater Treatment Facilities		
Other		
Heating Oil Total		
Municipal Operation - Other Fuel 1		
specify fuel (coal, diesel, etc)		
Building & Facilities		
Water & Wastewater Treatment Facilities		
Other		
Other Fuel 1 Total		
Weather Normalized Purchased Electricity		
Municipal Operation - Electricity		
Building & Facilities		
Street Lights & Traffic Signals		
Water & Wastewater Treatment Facilities		
Other		
Electricity Total		
Mobile Fuel Combustion		
Municipal Operation - Vehicle Emissions CO2 emissions by fuel usage		
Motor Gasoline (per gallon)		

ENERGY STAR® Portfolio Manager®

Recent Year and Percent Change

Recent Year									
Recent Year (Select from dropdown):	2018								
Electricity Factorset (lb CO2e/MWh)	719.875								
Weather Normalized Stationary Fuel Consumption									
Municipal Operation - Natural Gas	**Total Therms**	**converted to Million BTU**	**CO2 Emissions (lbs)**	**CO2 (Metric Tons CO2e)**	**CH4 Emissions (Metric Tons)**	**CH4 (Metric Tons CO2e)**	**N20 Emissions (Metric Tons)**	**N20 (Metric Tons CO2e)**	**Total Emissions (Metric Tons CO2e)**
Building & Facilities		0	0	0	0	0	0	0	0
Water & Wastewater Treatment Facilities		0	0	0	0	0	0	0	0
Other		0	0	0	0	0	0	0	0
Natural Gas Total	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Municipal Operation - Heating Oil	**Total Gallons**	**converted to Million BTU**	**CO2 Emissions (lbs)**	**CO2 (Metric Tons CO2e)**	**CH4 Emissions (Metric Tons)**	**CH4 (Metric Tons CO2e)**	**N20 Emissions (Metric Tons)**	**N20 (Metric Tons CO2e)**	**Total Emissions (Metric Tons CO2e)**
Building & Facilities		0	0	0	0	0	0	0	0
Water & Wastewater Treatment Facilities		0	0	0	0	0	0	0	0
Other		0	0	0	0	0	0	0	0
Heating Oil Total	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Municipal Operation - Other Fuel 1 *specify fuel (coal, diesel, etc)*	**Total (specify unit)**	**convert to Million BTU**	**CO2 Emissions (lbs)**	**CO2 (Metric Tons CO2e)**	**CH4 Emissions (Metric Tons)**	**CH4 (Metric Tons CO2e)**	**N20 Emissions (Metric Tons)**	**N20 (Metric Tons CO2e)**	**Total Emissions (Metric Tons CO2e)**
Building & Facilities				0		0		0	0
Water & Wastewater Treatment Facilities				0		0		0	0
Other				0		0		0	0
Other Fuel 1 Total	*0*			*0*		*0*		*0*	*0*
Weather Normalized Purchased Electri									
Municipal Operation - Electricity									
Building & Facilities									
Street Lights & Traffic Signals									
Water & Wastewater Treatment Facilities									
Other									
Electricity									
Mobile Fuel Combustion									
Municipal Operation - Vehicle Emissio CO2 emissions by fuel usage									
Motor Gasoline (per gallon)		19.54	0	0					

RECENT YEAR EMISSIONS & GHG EMISSION REDUCTIONS	**Total Emissions (Metric Tons CO2e)**	**4734.094753**
	Total Percent Change	**-12.30%**
	Difference in Number of Years	**3**
	Annual Percent Change	**-4.10%**

Make Your Town EV Friendly

15 points

- Zoning Ordinance - EV charging stations as accessory use
- Plug-in Electric Vehicle (PEV) Ordinance - design standards for EVSE parking spaces
- First responder training
- One additional activity from list:
  - Awareness Event
  - Offer incentive for Pre-Wiring for EVSE
  - Workplace Chargers
  - Multi-Family Home Chargers

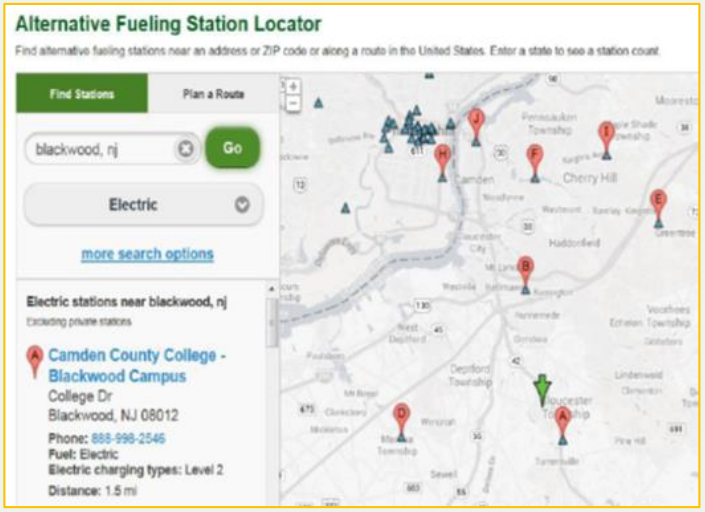
Public EV Charging Infrastructure Action

15 points

- At least one publicly available charging station
- The charger must be physically installed, operational, “registered” on a public EV directory service

Guidance on **installation** and **outreach** for municipally supported public charging infrastructure

Funding and procurement guidance in **Alternative Fuel Vehicle Procurement Guide**



Make Your Town Solar Friendly

15 points

1. Supportive Solar Zoning Ordinance
2. Amend Permitting Fee Ordinance

* Note: Solsmart *Silver* designation qualifies for 30 points for this action

15 Points

1. Online permitting requirements checklist

Two Additional activities:

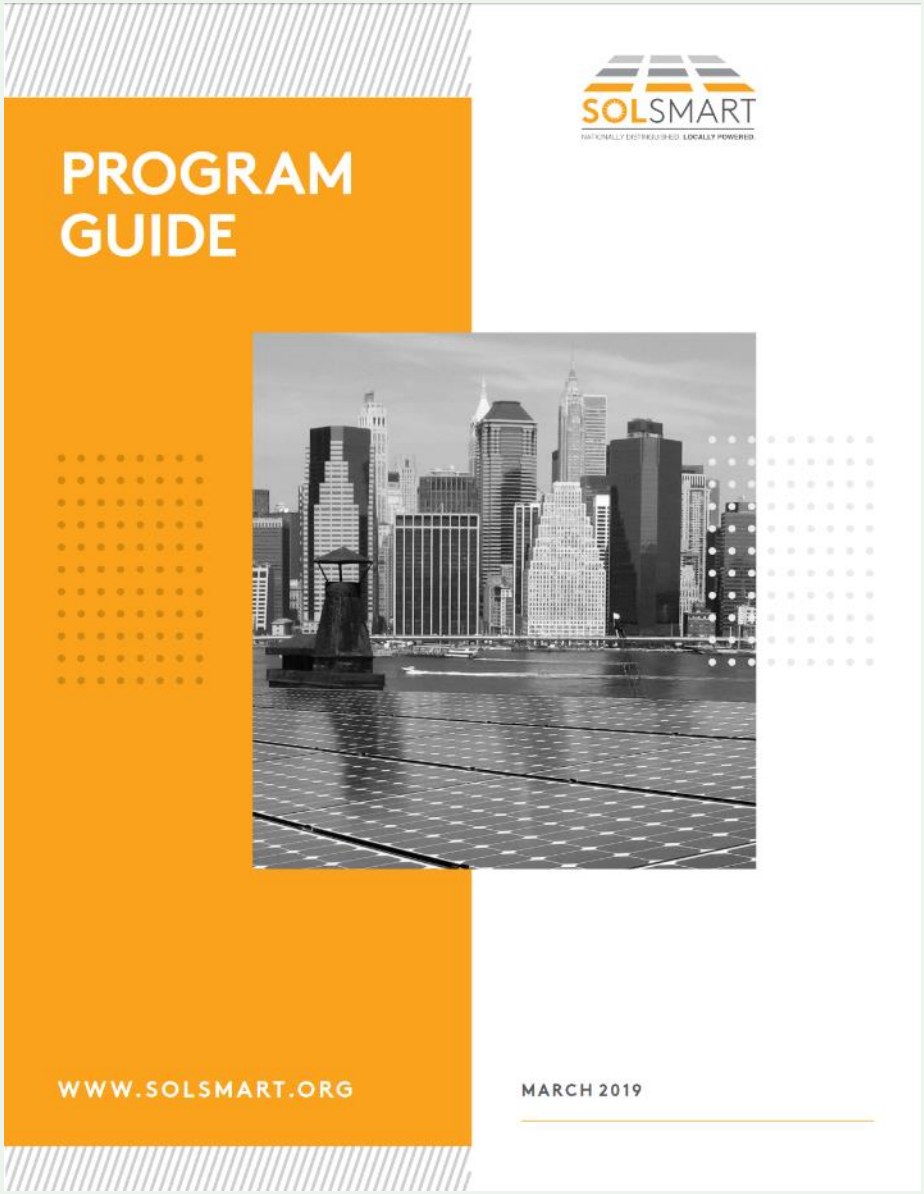
- Train first responders
- Cross-train codes and permitting staff
- Expedited permitting
- Offer narrow inspection timeframe
- Expedite or eliminate zoning review

SolSmart

- SolSmart is a national designation program designed to recognize communities that have taken key steps to address local barriers to solar energy and foster the growth of mature local solar markets.
- SolSmart provides no-cost technical assistance from a team of national experts
- Funded by the U.S. Department of Energy Solar Energy Technologies Office

ICMA
Leaders at the Core of Better Communities

The SOLAR FOUNDATION™
for a bright future



https://solsmart.org

Community-Led Solar Initiatives

5 points - Participate in the NJ BPU Community Solar Pilot Program

10 points - Implement a Community-Led Solar Purchasing Program

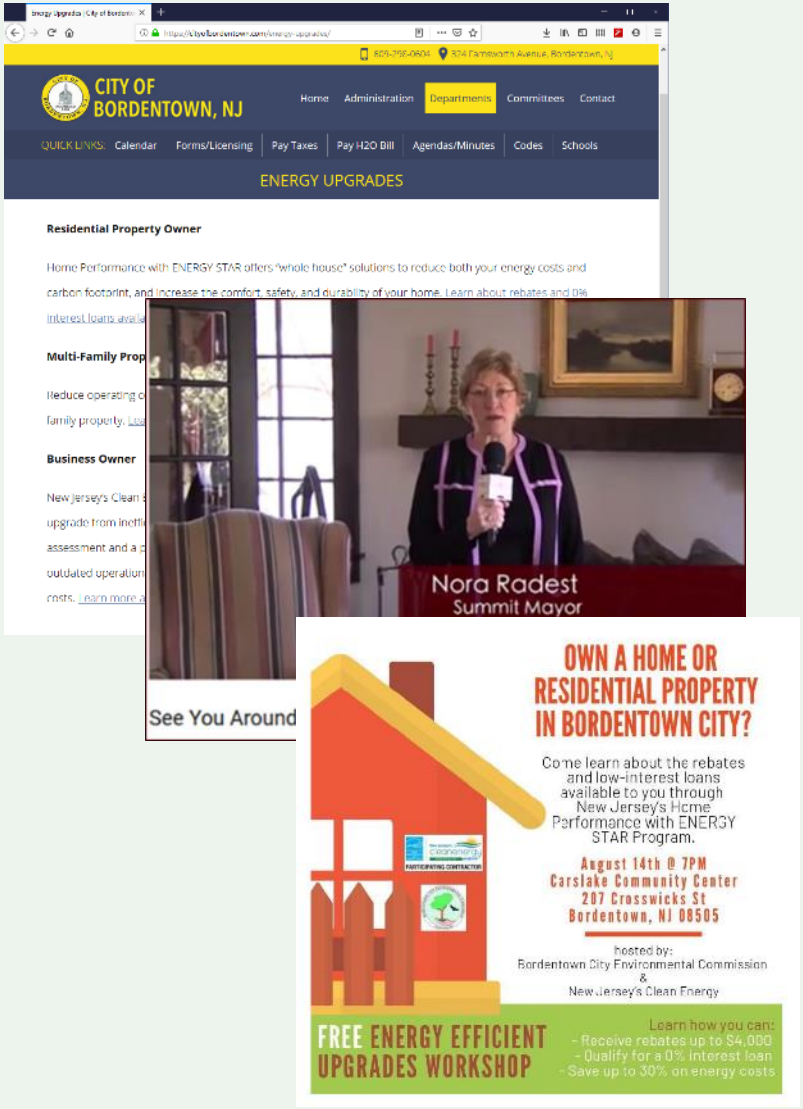
- Solarize campaign
- Solarize campaign for businesses
- Marketplace model

15 points - Implement a Community-Led Solar Purchasing Program, and undertake at least one outreach activity to promote solar and offer at least one incentive for solar

Residential Energy Efficiency Outreach - 10 points

10 Points

1. Create a Website Outreach Page
2. Additional Outreach - Choose at least one:
   - Hold workshops for residents
   - Visible recognition program for residents
   - Incentive program with local businesses
   - Posters showing Mayor or other residents
   - Social media and email blasts
   - Working with community partners, school district and churches
   - Canvassing residents
   - Local cable access show
   - Online video of the mayor / local personalities having a home energy assessment



Residential Energy Efficiency Outreach - 20 points

20 Points
Required mailing.

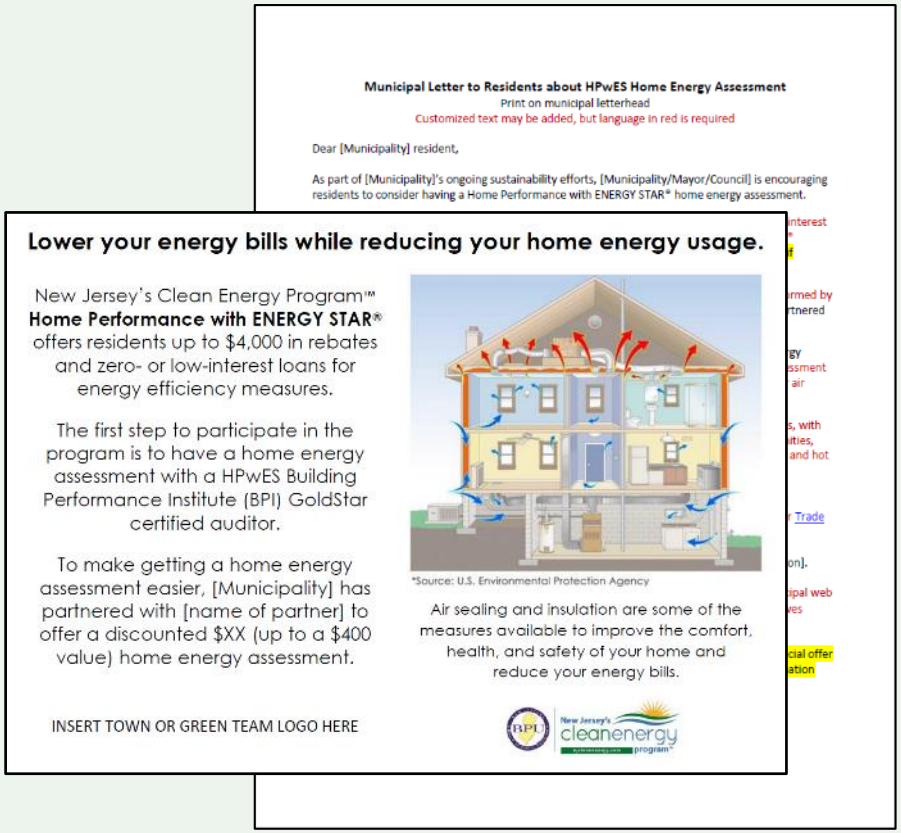
Letter from the Mayor on township letterhead

Mailing should include:

- HPwES program overview
- Details of pre-selected assessment offer
- Recommendation that residents solicit estimates from at least THREE contractors

Options include:

- Contractor Request for Proposals (RFP) Approach
- Utility Partner Approach



Municipal Letter to Residents about HPwES Home Energy Assessment
Print on municipal letterhead
Customized text may be added, but language in red is required

Dear [Municipality] resident,

As part of [Municipality]'s ongoing sustainability efforts, [Municipality/Mayor/Council] is encouraging residents to consider having a Home Performance with ENERGY STAR® home energy assessment.

Lower your energy bills while reducing your home energy usage.

New Jersey's Clean Energy Program™ **Home Performance with ENERGY STAR®** offers residents up to $4,000 in rebates and zero- or low-interest loans for energy efficiency measures.

The first step to participate in the program is to have a home energy assessment with a HPwES Building Performance Institute (BPI) GoldStar certified auditor.

To make getting a home energy assessment easier, [Municipality] has partnered with [name of partner] to offer a discounted $XX (up to a $400 value) home energy assessment.

INSERT TOWN OR GREEN TEAM LOGO HERE

*Source: U.S. Environmental Protection Agency

Air sealing and insulation are some of the measures available to improve the comfort, health, and safety of your home and reduce your energy bills.

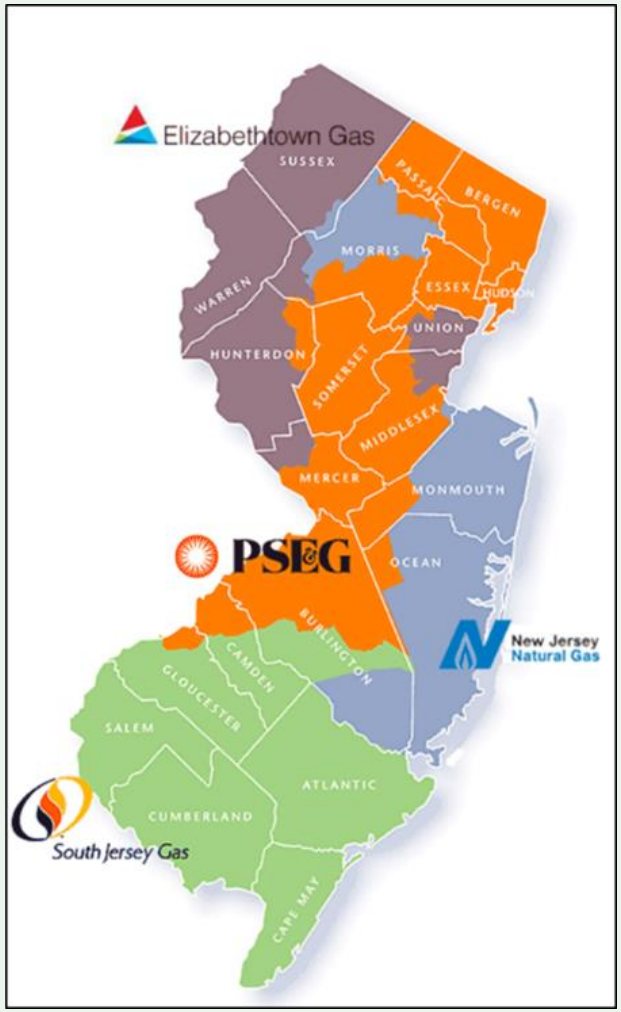
Utility Incentive Programs

New Jersey Natural Gas the SAVEGREEN Project
https://savegreenproject.com/home-energy-analysis

- $49 assessment conducted by SAVEGREEN

South Jersey Gas Smart Energy Partners Home Energy Assessment
https://southjerseygas.com/save-energy-money/residential-savings.aspx

- $49 assessment from pre-selected HPwES contractor



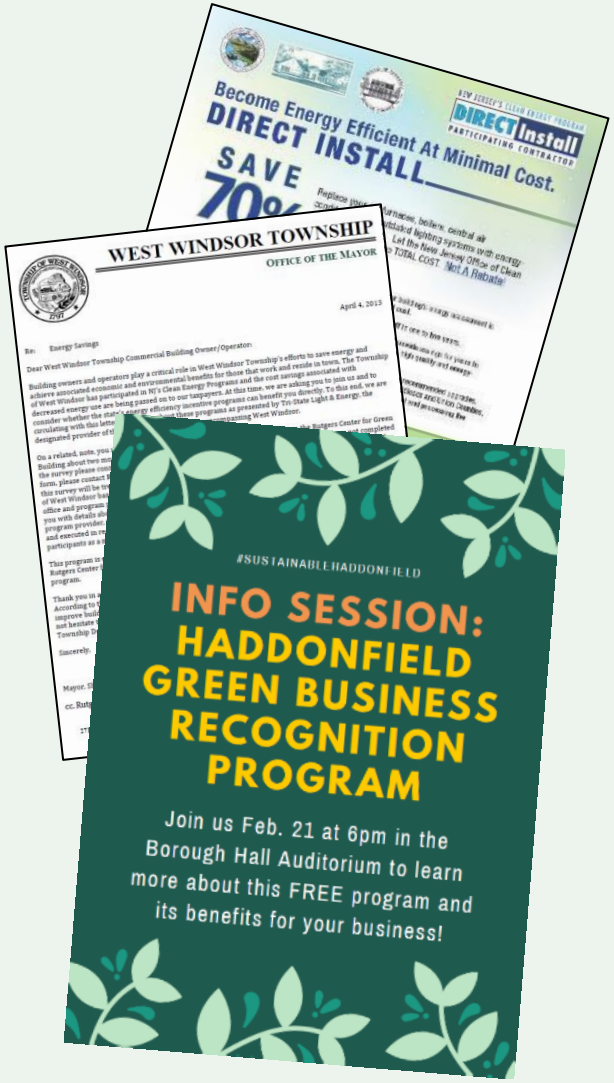
Commercial Energy Efficiency Outreach - 10 points

10 points:

- Outreach letter sent to local businesses on municipal letterhead

  TIP: Contractor will often pay for mailing cost

- At least one additional Direct Install outreach and education effort :
  - Webpage about Direct Install on municipal website
  - Workshop or “breakfast” with the Mayor
  - Chamber of Commerce follow up mailing
  - Staff person or volunteer follow up via phone or in person
  - Creating newsletter for businesses highlighting the Direct Install Program
  - Visible recognition program for businesses that have participated



Commercial Energy Efficiency Outreach - 20 points

20 Points - 2.5% of businesses sign Direct Install applications during outreach campaign

Commercial (Direct Install) Projects Needed to Recieve 20 Points

Municipality	County	# C&I Taxed Parcels (2018)	# of Projects Needed to receive 20 point (2.5%)
Aberdeen Township	Monmouth	187	5
Absecon City	Atlantic	188	5
Alexandria Township	Hunterdon	36	1
Allamuchy Township	Warren	19	1
Allendale Borough	Bergen	65	2
Allenhurst Borough	Monmouth	27	1
Allentown Borough	Monmouth	39	1
Alloway Township	Salem	34	1
Alpha Borough	Warren	70	2
Alpine Borough	Bergen	18	1
Andover Borough	Sussex	58	2
Andover Township	Sussex	144	4
Asbury Park City	Monmouth	378	10
Atlantic City	Atlantic	1483	38
Atlantic Highlands Borough	Monmouth	94	3
Audubon Borough	Camden	157	4
Audubon Park Borough	Camden	0	0

Sustainable Jersey Energy Efficiency Outreach Toolkits

Toolkits provide:

- ‘Plug and play’ outreach collateral
  - municipal letters,
  - press releases, and
  - flyers
  - Webpage text, etc.
- Best Practices for successful outreach campaigns

Recent Training Webinars Recordings:

https://www.sustainablejersey.com/resources/presentations/webinars

Montclair, NJ:

A Sustainable Energy Community

"Alternative Fuel Vehicles, and a Town Center Microgrid"

June 17, 2020

Gray Russell
Sustainability Officer
Township of Montclair

An Alternative Fuel…

An Alternative Fuel…
…for a *change!*

BioDiesel Fuel Rebate Program

In **2006**, Montclair was awarded a **BioDiesel Fuel Rebate** of $28,000 from the NJ BPU Office of Clean Energy, to switch our entire truck fleet to ***B20*** **BioDiesel.**

2006: BioDiesel Fuel Rebate Program

Biodiesel is a non-petroleum, renewable, biodegradable fuel manufactured domestically from vegetable oils, animal fats, or recycled restaurant grease...

Like petroleum diesel, **biodiesel** is used to fuel compression-ignition (truck) engines.

B20 is 20% plant-based, 80% diesel.

2006: BioDiesel Fuel Rebate Program

This enabled us to implement a successful year-long program of ***reduced particulates and CO2 emissions***
for all of our heavy diesel trucks, at *no additional cost.*

And now: the *Electric* Revolution…

A decade ago, in 2010 Montclair was honored to have been awarded a **Sustainable Jersey/Walmart grant of *$25,000*** enabling us to be the first town in N.J. to install

Public Charging Stations

for

Electric Vehicles

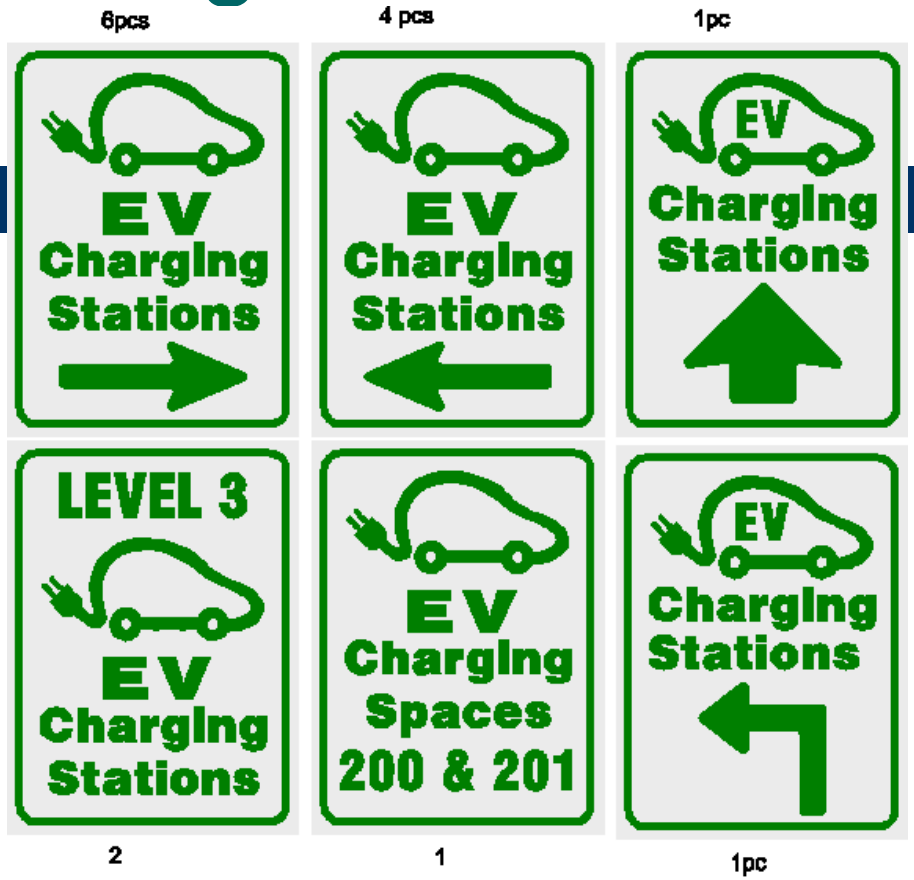

POWER
TOWNSHIP OF MONTCLAIR
Montclair
PARKING AUTHORITY
PUBLIC CHARGING STATIONS
FOR
ELECTRIC VEHICLES
Less Gasoline = Less Emissions
"GET CHARGED UP IN MONTCLAIR"
Walmart
31

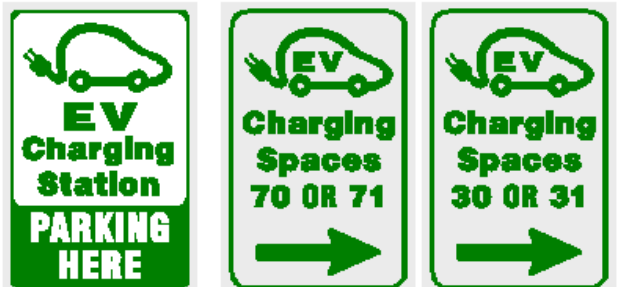

ChargePoint
2
1
PAYSTATION
REMEMBER YOUR
SPACE NUMBER
ChargePoint
Network


PAYSTAT
PLUG-IN HYBRID

Good Signage Means Friendly Drivers

Signage Design: Locators & Spaces






EV
Charging
Stations
NJ TRANSIT

Local Businesses Install Chargers

“Ride & Drive” @ Drive Electric Week!

“Ride & Drive” @ Drive Electric Week!

2020: Public Charging Stations in Montclair

U.S. Department of Energy's Alternative Fuels Data Center Station Locator:

6 owned by our Municipal Parking Authority,
7 owned by local businesses, and
2 at Montclair State University

Current Total Count:

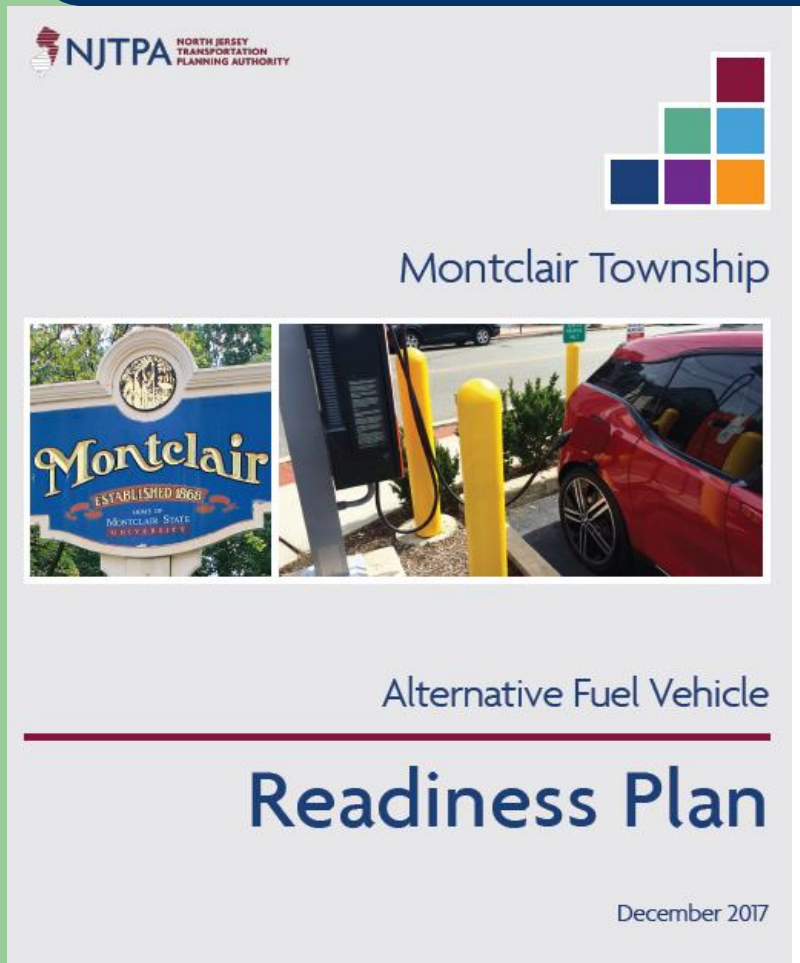
15 public charging stations in Montclair.

Sustainable Jersey Action: 15 points "Public EV Charging Infrastructure"

This action recognizes towns that build publicly available **charging stations** for Plug-in Electric Vehicles (PEVs)

The goal of this action is to **increase adoption of electric vehicles in NJ** by reducing "range anxiety" barriers through increased access to public charging systems.

NJTPA/Montclair Alt. Fuel Vehicle Readiness Plan



Our **Montclair Alternative Fuel Vehicle Readiness Plan** outlines actions that the Township can take to reduce and resolve barriers to AFV usage.

NJTPA/Montclair Alt. Fuel Vehicle Readiness Plan

It includes **28** recommendations across **5** action areas for community leaders & other stake-holders interested in expanding the use of **plug-in electric vehicles (PEVs)** and **compressed nat gas vehicles (CNGVs).**

Sustainable Jersey Action: 15 points "Make Your Town EV Friendly"

This action addresses initiatives by the municipality to accelerate and facilitate the adoption of Plug-in Electric Vehicles (PEVs); it's intended to enable increased consumer adoption of PEVs in NJ.

And now our Municipal Fleet: **taking our 1st step this year, 2020!**

Electrifying How We Move

Sustainable Jersey Action: 5/10/15 points
"Purchase Alternative Fuel Vehicles"

Procuring more fuel-efficient and low impact vehicles (cars, buses, and service vehicles) is a primary component of greening a local fleet. These vehicles produce fewer emissions and therefore improve air and water quality in addition to public health.

Township of Montclair
Town Center
Distributed Energy Resource
M I C R O G R I D

Montclair

N.J. Board of Public Utilities' Microgrid Pilot Program

Microgrid: a local energy grid with control capability, meaning it can **disconnect** from the regional power grid and **continue to operate** using its own sources of generation.

A Microgrid for Resiliency

N.J. Board of Public Utilities' Microgrid Pilot Program

BPU initiated the Microgrid program due to:

1) multiple weather-induced, longer-term **power outages** throughout NJ;

2) concern about **grid security** due to human-caused disruptions, such as:

a) Cyber-Hacking; and/or,

b) Terrorism

N.J. Board of Public Utilities' Microgrid Pilot Program

Microgrids can be developed in NJ communities with the ability to keep critical facilities – such as **hospitals, fire stations, mass transit,** and **buildings for sheltering residents** – powered up and running, open and operational, independent of the regional grid, **during *emergencies*** or ***grid disruptions.***

Montclair Microgrid

<u>Our proposal consists of 8 Facilities</u>
interconnected to PSE&G thru

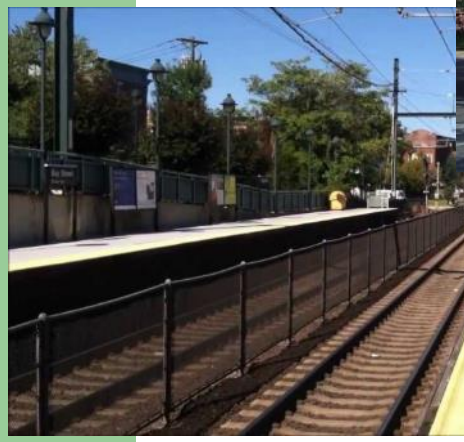
Mountainside Hospital,

with 5 sources of power generation,

including CHP, solar PV, & storage batteries

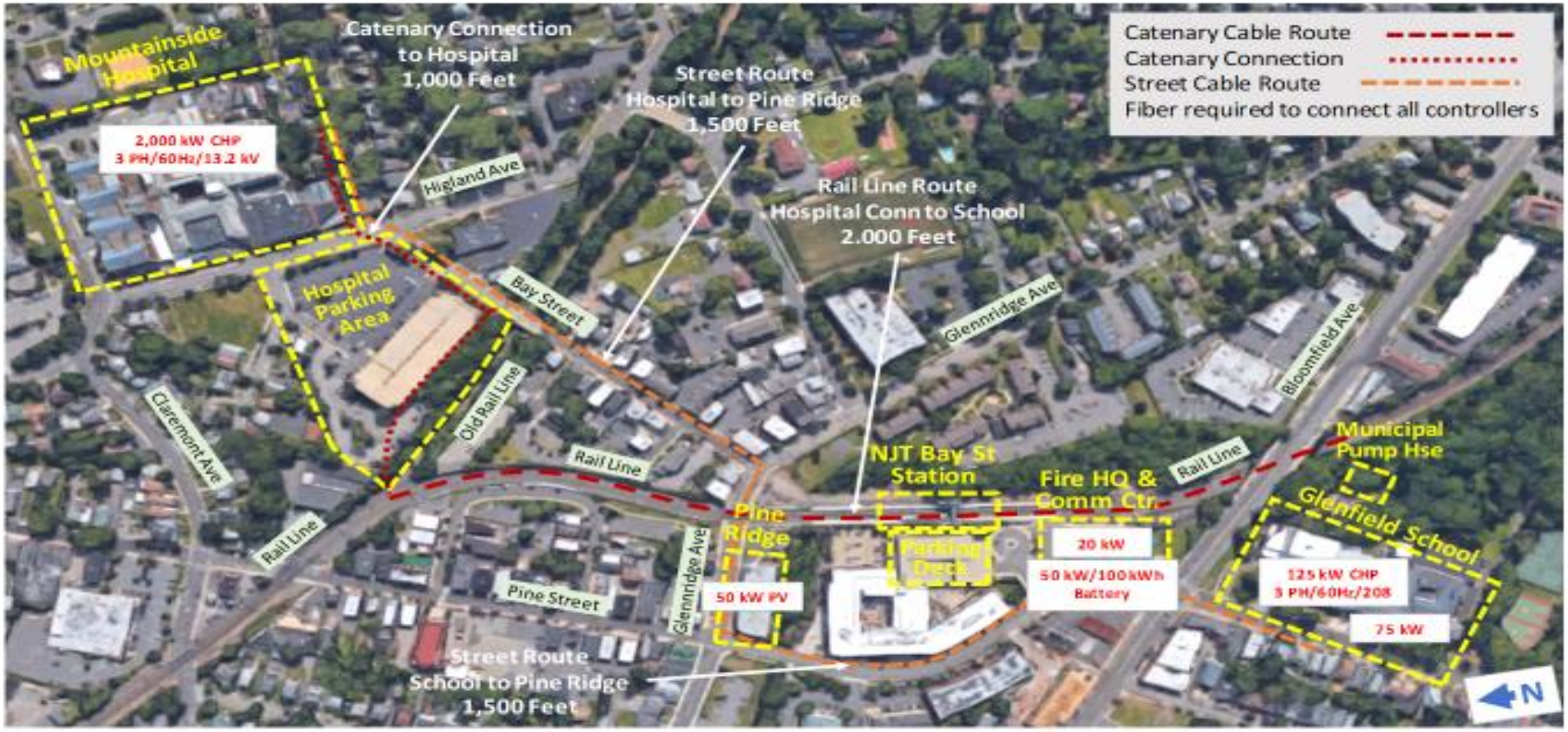
totaling **4.275 mW.**

NJ BPU's MICROGRID Project, Montclair



Critical Infrastructure for *Security & Resilience*

Montclair Microgrid Layout



Montclair Microgrid: Major Assumptions

- **All facilities** other than the hospital will **disconnect from PSE&G;**
- **PSE&G interconnects thru the hospital**; high-efficiency energy provided by the microgrid, plus power from our regional grid, generated from the hospital to all of the connected facilities;
- All facilities on the microgrid get resilient **combined heat & power** supplemented by solar PV and battery storage…

…while ensuring uninterrupted power during emergencies or disruptions.

CO2 Reduction, EE, Renewables, Storage, Resilience

Next Steps / Actions

Latest Update…BPU is currently reviewing our recent applications for **Phase II Design Plan Incentives;** this will provide funding for **detailed engineering & design plans** with grants of up to $1 million offered.

Sustainable Jersey Action: 10 points
“Innovative Community Project”

A project that showcases new approaches to sustainability issues by implementing **innovative initiatives** that are not outlined elsewhere in the Sustainable Jersey program, but have a **demonstrable impact on sustainability** and be models that can be replicated by other towns.

Montclair, NJ:

A Sustainable Energy Community

"Alternative Fuel Vehicles, and a Town Center Microgrid"

Thank you!
Questions?...

Gray Russell
Sustainability Officer, Township of Montclair
Office of Environmental Affairs
Department of Health and Human Services
205 Claremont Avenue, Montclair, NJ 07042
973-509-5721; grussell@montclairnjusa.org

HIGHLAND PARK ENERGY PROJECTS

Emma Missey
Assistant to the Borough Administrator

HIGHLAND PARK SOLAR CHALLENGE

Sustainable Jersey Action Item:
Community – Led Solar Initiatives

HOW IT WORKED

- **Leveraged partnership with Sustainable Jersey and Energy Sage to connect residents w/ solar installers**
- **Communications campaign launched by Sustainable Highland Park (SHP)**
  - **Letter from mayor**
  - **In-person info sessions**
  - **Press releases**
  - **Street fair tabling**
  - **Social media**
  - **E-newsletter**

HIGH LAND PARK

RESULTS

- Campaign ran from October 2016 – May 2017
- 68 households inquired about going solar
  - 42 properties deemed solar eligible
  - One home installed solar panels
- Lessons learned:
  - Equity
  - Cost
  - Resident interest

HIGH LAND PARK

ENERGY EFFICIENCY IN MUNICIPAL OPERATIONS

Sustainable Jersey Action Items:
Energy Efficiency for Municipal Facilities
Energy Tracking & Management
Municipal On-Site Solar System
Fleet Inventory
EVSE & Electric Vehicle Purchases

HIGH LAND PARK

PSEG DIRECT INSTALL

- **Participated in NJ Clean Energy Program local government energy audit in 2018**
- **Installed energy upgrades in all Borough buildings in May 2019 through PSEG Direct Install Program**
- **No out-of-pocket costs**
- **Upgrades included:**
  - **Lighting retrofits**
  - **HVAC components**

HIGH LAND PARK

ON-SITE SOLAR ARRAYS

- **Borough Hall (~ 14 years old)**
- **Public Safety Complex (~ 6 years old)**
- **Track monthly usage and input for SREC**

HIGH LAND PARK

FLEET INVENTORY

- 68 vehicles in our fleet
- Fleet inventory worksheet has allowed for:
  - Tracking mileage
  - Tracking fuel usage
  - Finding ‘lost’ vehicles
  - Finding redundant vehicles

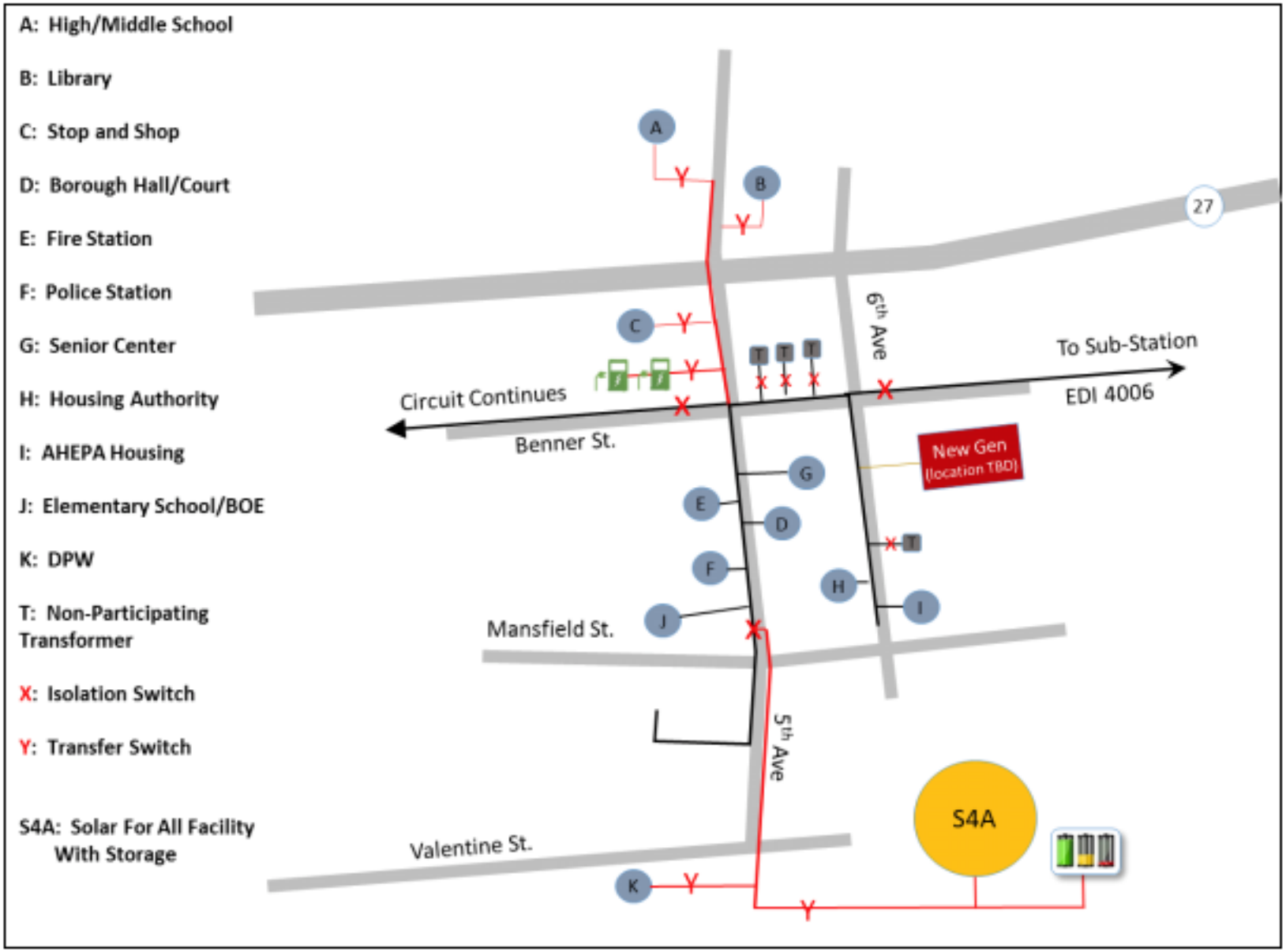
HIGH LAND PARK

ELECTRIFYING OUR FLEET

- Ordered 3 hybrid police vehicles
- Ordered first 2 all-electric vehicles for Code Enforcement
- NJDEP ‘It Pays to Plug In’ grant recipient
  - $5,000 per single-port charger in public space
  - Can’t do any installation until grant is awarded and agreement is signed
  - ChargePoint partner on ESCNJ contract

HIGHLAND PARK BRITE - MICROGRID

***B*eing *R*esilient *I*n *T*emporary *E*mergencies**


A: High/Middle School
B: Library
C: Stop and Shop
D: Borough Hall/Court
E: Fire Station
F: Police Station
G: Senior Center
H: Housing Authority
I: AHEPA Housing
J: Elementary School/BOE
K: DPW
T: Non-Participating Transformer
X: Isolation Switch
Y: Transfer Switch
S4A: Solar For All Facility With Storage
27
6th Ave
To Sub-Station
EDI 4006
Circuit Continues
Benner St.
New Gen
(location TBD)
Mansfield St.
5th Ave
Valentine St.
S4A

FEASIBILITY STUDY

- **Submitted Highland Park – Being Resilient In Temporary Emergencies (BRITE) to NJBPU in December 2018**
- **Nominal configuration (previous slide) is most complete form of Microgrid project**
  - **Alternative A: eliminates need to cross over Route 27**
  - **Alternative B: eliminates connection to Stop & Shop for EV chargers**

HIGH LAND PARK

KEY BENEFITS

- Emergency Management
- Community Coordination
- Warming Centers/Distribution Points
- Senior & Disabled Housing
- Impact on Surrounding Communities

HIGH LAND PARK

NEXT STEPS

- **Phase II Design Incentive Program application submitted to BPU in May 2020**
  - **Design step will bring project more than 50% of the way to completion**

HIGH LAND PARK

Sustainable Energy Communities

June 24, 2020

THE ENERGY MASTER PLAN

2019 Energy Master Plan

- The 2019 Energy Master Plan was released on January 27, 2020
- Received significant stakeholder engagement throughout the process
- Comprehensive roadmap to meet our goals
- Seven Strategies to get New Jersey to 100% Clean Energy by 2050

Overarching Goals

- 100% clean energy by 2050
- 80x50 GWRA emissions reductions
- Stronger and Fairer NJ

BPU New Jersey's cleanenergy program™

The Seven Strategies

1. Reduce Energy Consumption and Emissions from the Transportation Sector
2. Accelerate Deployment of Renewable Energy and Distributed Energy Resources
3. Maximize Energy Efficiency and Conservation and Reduce Peak Demand
4. Reduce Energy Consumption and Emissions from the Building Sector

BPU New Jersey's cleanenergy program™

The Seven Strategies (cont.)

5. Decarbonize and Modernize New Jersey's Energy Systems
6. Support Community Energy Planning and Action with and Emphasis on Encouraging Participation by Low- and Moderate-Income and Environmental Justice Communities
7. Expand the Clean Energy Innovation Economy

EXPANDING ACCESS TO RENEWABLE ENERGY

Community Solar: What is it?

NJCleanEnergy.com/COMMUNITYSOLAR

- A larger, remotely located solar array or facility that is virtually divided among multiple participants ("subscribers") by means of a credit on their utility bill
- Provides access to solar energy to renters as well as households, institutions or businesses whose roofs aren't appropriate for solar installation

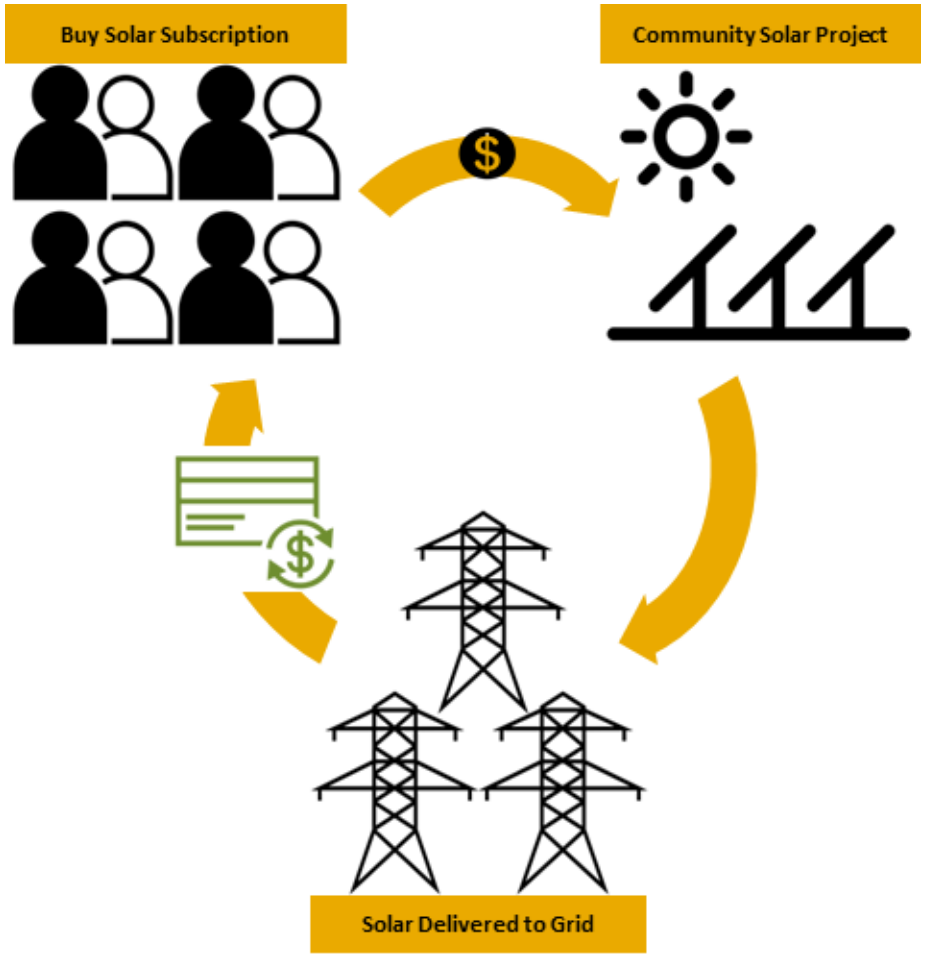
Community Solar: Is it for you?

NJCleanEnergy.com/COMMUNITYSOLAR

- Do you….
  - Want solar but don’t have a place for panels?
  - Can’t afford to put panels on your facility
  - Have room for more panels but not the energy use?

Community Solar

NJCleanEnergy.com/COMMUNITYSOLAR



COMMUNITY ENERGY PLANS

Community Energy Plan Grant

NJCleanEnergy.com/GRANTS

Localizing the Energy Master Plan Goals

Community Energy Plan Grant

NJCleanEnergy.com/GRANTS

- Planning grant
- Look at energy use as a whole
  - Residential
  - Business
  - Government
- Identify areas for improvement
- Create a plan to reduce energy use, increase renewables and meet the EMP goals
- Application is available at NJCleanEnergy.com
- Grants are based on population size

Step 1 – Benchmarking

- Completed in the first 6 months
- Process to establish current energy use and practice. Can include:
  - Average energy use by type and size
  - Breakdown of housing stock
  - Municipal energy use (can use an LGEA).
  - Percentage of residential, municipal and business utilizing renewable energy
  - Average commute for residents

Step 2 - Identify strategies

- Within 12 months, identify opportunities and obstacles to achieving 7 Strategies of EMP.
- The final report should assess the feasibility of creating a localized action for each strategy and identify obstacles and opportunities within the community to achieving goals of the strategy

Government and Business

For Government and Business opportunities and obstacles may include:

- The need to participate in an LGEA or to perform identified measures
- The need to preform a fleet audit
- The need to have businesses do energy and water benchmarking
- The number of businesses that have participated in CEP
- The number of businesses that have EV charging or utilize EVS in their fleet
- Do Zoning and Land use allow for Renewable Energy, encourage Complete Streets, Green Infrastructure, EV charging

Residential

For residential opportunities and obstacles may include:

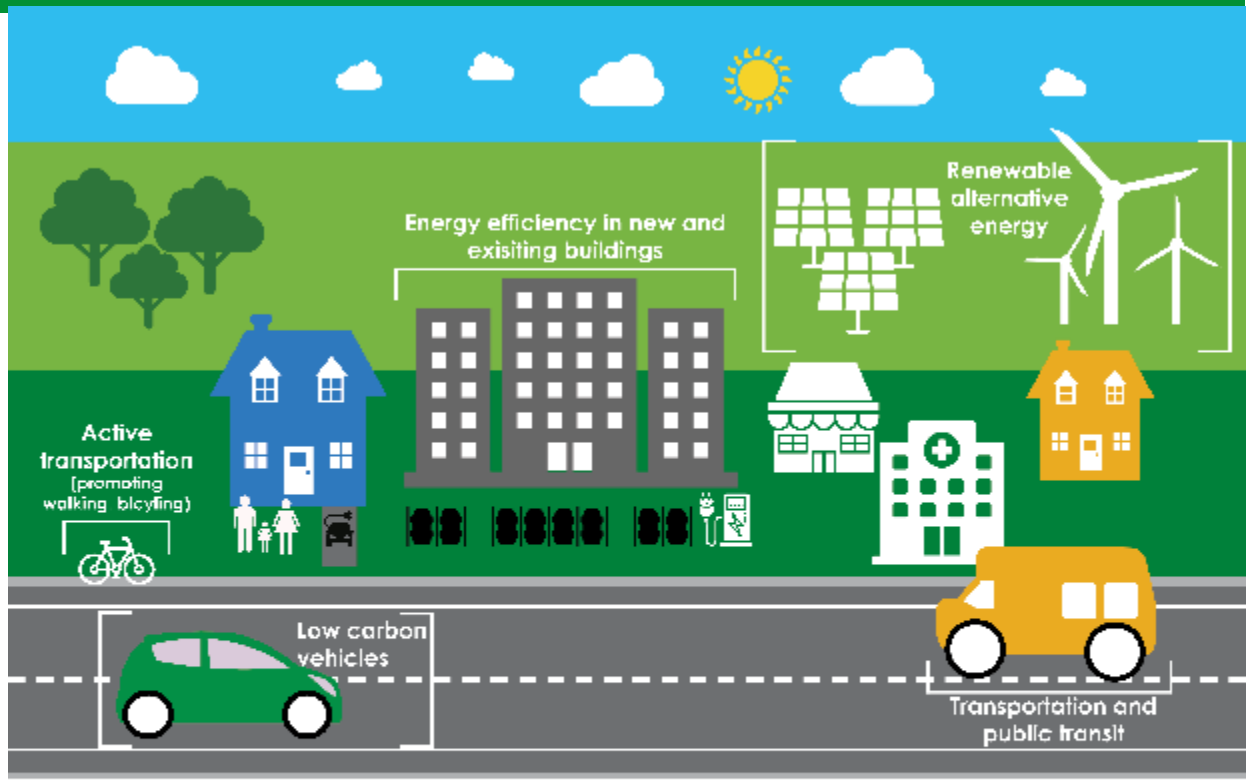
- The percent of housing stock that is owned vs. rented
- The percent of housing stock that is single vs multifamily
- The age of housing stock
- The percentage of residents who have participated in CEP
- The percentage of residences with access to renewable energy
- The number of residences with Evs

Next steps

- Once the Task Force has identified the opportunities and obstacles to creating localized strategies, the NJBPU encourages the Task Force to continue its work by:
- Creating Goals and timelines for each strategy
- Identifying programs that can assist in reaching those Goals
- Create a plan for Implementation

Community Energy Plan Grant

NJCleanEnergy.com/GRANTS



Community Energy Plans

A Community Energy Plan is a way for a community to work towards a better environment for all residents by using the state's Energy Master Plan (EMP) as a guide to develop goals and strategies to increase clean energy production, reduce energy use, develop sustainable strategies and reduce emissions.

https://www.energy.gov/eere/slsc/guide-community-energy-strategic-planning

CLEAN ENERGY ECONOMY

NJCEP Portfolio of Programs

RENEWABLE ENERGY

- Offshore Wind
- TREC Registration
- Community Solar

SPECIALIZED ENERGY EFFICIENCY

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

COMMERCIAL & INDUSTRIAL

- Energy Audits
- Energy Efficiency Incentives
- High Performance Building Competition
- Trade Allies

DISTRIBUTED ENERGY RESOURCES

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

RESIDENTIAL

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

** coming soon!*

BPU New Jersey's cleanenergy program™

C&I Portfolio of Programs

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

MEASUREMENT & AUDITS	COMPREHENSIVE PROGRAMS	SINGLE MEASURE REBATES	DISTRIBUTED ENERGY RESOURCES

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

FY20

Some programs offer enhanced incentives to buildings:

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

** coming soon!*

New Jersey's cleanenergy program™

Residential Portfolio of Programs

NJCleanEnergy.com/RESIDENTIAL

HOME PERFORMANCE W/ ENERGY STAR®	*WARM*ADVANTAGE & *COOL*ADVANTAGE	ENERGY EFFICIENT PRODUCT REBATES	RESIDENTIAL NEW CONSTRUCTION	COMFORT PARTNERS
• Whole-house and safety solutions for existing homes • Air sealing, insulation, heating and cooling upgrades • Up to a $4,000 rebate + 0% financing up to $10,000 or .99% up to $15,000	• Stand-alone rebates for heating and cooling systems • Furnaces, boilers, water heaters, central air conditioners, mini-splits, heat pumps, etc.	• Includes ENERGY STAR® certified refrigerators, dryers, washers, air purifiers, dehumidifiers, room air conditioners, Refrigerator/Freezer Recycling and Lighting Discounts	• Builders work with a rater to properly certify the homes to ENERGY STAR® certified or Zero Energy Ready Home levels	• A FREE program including lighting upgrades, hot water conservation, replacement of fridges and thermostats, insulation upgrades and heating and cooling maintenance **for income eligible families**

FY20

Some programs offer enhanced incentives for homes located in an UEZ, low to moderate income and affordable housing units

BPU New Jersey's cleanenergy program™

More Information

CATHLEEN LEWIS
Outreach Coordinator
Cathleen.lewis@bpu.nj.gov

VISIT
NJCleanEnergy.com

NEWSLETTER
NJCleanEnergy.com/NEWSLETTER

LISTSERVS
NJCleanEnergy.com/LISTSERVS

@NJCleanEnergy

BPU New Jersey's cleanenergy program™

THANK YOU

Sustainable Jersey Supporters & Sponsors

Program Underwriters

The Geraldine R. Dodge Foundation — Imagine a Better New Jersey

New Jersey's cleanenergy program — njcleanenergy.com

PSEG Foundation

Robert Wood Johnson Foundation

Grants Program

PSEG Foundation

Gardinier Environmental Fund

Corporate Sponsors

PLATINUM

New Jersey Natural Gas

PSEG — We make things work for you.

South Jersey Gas

GOLD

Elizabethtown Gas

SILVER

Atlantic Health System

Horizon Blue Cross Blue Shield of New Jersey

New Jersey American Water

NJ AGG — New Jersey Aggregation

Bayshore Family of Companies

Ørsted

NJM Insurance Group

Northfield Bank

BRONZE

Anbaric New Jersey

Covanta — Powering Today. Protecting Tomorrow.

First Environment

Greener by Design

Red Oak

Bryan Electric

The ECG Group

Florio Perrucci Steinhardt Cappelli Tipton & Taylor LLC

Republic Services

Grant Opportunities

Atlantic City Electric's Sustainable Communities Grant Program
Applications are due July 16

- Environmental Stewardship Grants
  - Six (6) $5,000 grants
  - Ten (10) $2,000 grants
- Resiliency Grants
  - Two (2) $10,000 grants
  - One (1) $5,000 grant

Local Public Information & Engagement (PIE) Planning Opportunity
Applications are due August 9

For more information visit: https://www.sustainablejersey.com/grants/

Support Available to NJNG Municipalities for Energy Efficiency Outreach

Partnering with green team students at Montclair State University's PSEG Institute for Sustainable Studies

Contact Susan Ellman for more information SEllman@njng.com, 732-378-4924

Upcoming Energy Events

Adding EVs to Your Municipal Fleet and Community Webinar

Wednesday, June 24, 1-2:30PM

Going for Gold Happy Hour

Tuesday, June 30th from 3:30-5:00pm

Registration available at www.sustainablejersey.com/nc/events

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