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
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!
Yesterday:
- Few large power plants
- Centralized, mostly national
- Based on large power lines and pipelines
- Top to bottom
- Passive, only paying

Tomorrow:
- Many small power producers
- Decentralized, ignoring boundaries
- Including small-scale transmission and regional supply compensation
- Both directions
- Active, participating in the system

Source: https://commons.wikimedia.org/wiki/File:Staying_big_or_getting_smaller.jpg
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
7. Expand the Clean Energy Innovation Economy
The 2019 City Clean Energy Scorecard

David Ribeiro, Stefan Samartipas, Kate Tamahe, Hannah Bastian, Emma Cooper, Ariel Drehobl, Shruti Vaidyanathan, Alexander Jarrah, and Mary Shoemaker

July 2019
Report U1904
ACEEE Scorecard

<table>
<thead>
<tr>
<th>Categories Included in ACEEE Scorecard</th>
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</thead>
<tbody>
<tr>
<td><strong>Local Government Operations</strong></td>
</tr>
<tr>
<td>• Climate and energy goals</td>
</tr>
<tr>
<td>• Procurement &amp; construction policies</td>
</tr>
<tr>
<td>• Asset management</td>
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<td><strong>Community-wide Initiatives</strong></td>
</tr>
<tr>
<td>• Community-wide goals</td>
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<tr>
<td>• Distributed energy systems</td>
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<tr>
<td>• Equitable climate action and energy planning</td>
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<tr>
<td>• Mitigation of urban heat islands</td>
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<tr>
<td><strong>Buildings Policies</strong></td>
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<tr>
<td>• Building code adoption</td>
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<tr>
<td>• Building code compliance</td>
</tr>
<tr>
<td>• Incentives</td>
</tr>
<tr>
<td>• Building benchmarking, rating, and energy use transparency</td>
</tr>
<tr>
<td>• Required energy actions</td>
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<tr>
<td>• Workforce development</td>
</tr>
<tr>
<td><strong>Energy and Water Utility Policies</strong></td>
</tr>
<tr>
<td>• Efficiency efforts of energy utilities</td>
</tr>
<tr>
<td>• Targeted energy efficiency programs</td>
</tr>
<tr>
<td>• Energy data provision</td>
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<tr>
<td>• Renewable energy efforts of energy utilities</td>
</tr>
<tr>
<td>• Efficiency efforts in water services</td>
</tr>
<tr>
<td><strong>Transportation Policies</strong></td>
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<tr>
<td>• Sustainable transportation strategies</td>
</tr>
<tr>
<td>• Location efficiency</td>
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<tr>
<td>• Mode shift strategies</td>
</tr>
<tr>
<td>• Public transit</td>
</tr>
<tr>
<td>• Efficient vehicle policies</td>
</tr>
<tr>
<td>• Sustainable freight</td>
</tr>
<tr>
<td>• Clean, efficiency transportation for low-income communities</td>
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</tbody>
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Local Clean Energy Self-Scoring Tool, Version 4.0
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

<table>
<thead>
<tr>
<th>Municipal Operations</th>
<th>Community Energy Use</th>
<th>Alternative Fuel Vehicles (AFVs)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Energy Efficiency</strong></td>
<td><strong>Renewable Energy</strong></td>
<td><strong>Fleet Inventory</strong></td>
</tr>
<tr>
<td>- Energy Tracking and Management</td>
<td>- On-Site Solar Energy</td>
<td>- Green Fleet Target</td>
</tr>
<tr>
<td>- Energy Efficiency for Municipal Facilities</td>
<td>- On-Site Geothermal</td>
<td>- Purchase AFVs</td>
</tr>
<tr>
<td><strong>Community Energy Use</strong></td>
<td><strong>Renewable Energy</strong></td>
<td><strong>Make Your Town Solar Friendly</strong></td>
</tr>
<tr>
<td>- Residential Energy Efficiency Outreach</td>
<td>- Make Your Town Solar Friendly</td>
<td><strong>Public EV Chargers</strong></td>
</tr>
<tr>
<td>- Commercial Energy Efficiency Outreach</td>
<td>- Community-Led Solar Initiatives</td>
<td></td>
</tr>
<tr>
<td><strong>Alternative Fuel Vehicles (AFVs)</strong></td>
<td></td>
<td><strong>Community Choice Aggregation (R-GEA)</strong></td>
</tr>
</tbody>
</table>
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
Local Government Energy Audit (LGEA)

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, lobbies, 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 will 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 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:
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
### Municipal Operations Action (Gold)

#### Baseline Year

<table>
<thead>
<tr>
<th>Municipality:</th>
<th>2015</th>
</tr>
</thead>
</table>

**Electricity Factor (lb CO2e/MWh)**: 798.373865

#### Weather Normalized Stationary Fuel Consumption

**Municipal Operation - Natural Gas**
- Building & 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, e.g., coal, diesel, etc.)**
- Building & Facilities
- Water & Wastewater Treatment Facilities
- Other: Other Fuel 1 Total

#### Weather Normalized Purchased Electricity

<table>
<thead>
<tr>
<th>Municipality:</th>
<th>2015</th>
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</thead>
</table>

**Electricity Total**

#### Mobile Fuel Combustion

<table>
<thead>
<tr>
<th>Municipality:</th>
<th>2015</th>
</tr>
</thead>
</table>

**Motor Gasoline (per gallon)**

### Recent Year and Percent Change

**Recent Year**
- Recent Year (Select from dropdown): 2016
- Electricity Factor (lb CO2e/MWh): 719.875

#### Weather Normalized Stationary Fuel Consumption

**Municipal Operation - Natural Gas**
- Total Thermals
- Converted to Million BTU
- CO2 Emissions (lbs)
- CO2 Emissions (Metric Tons)
- CH4 Emissions (Metric Tons)
- N2O Emissions (Metric Tons)
- Total Emissions (Metric Tons)

**Municipal Operation - Heating Oil**
- Total Gallons
- Converted to Million BTU
- CO2 Emissions (lbs)
- CO2 Emissions (Metric Tons)
- CH4 Emissions (Metric Tons)
- N2O Emissions (Metric Tons)
- Total Emissions (Metric Tons)

**Municipal Operation - Other Fuel 1 (specify fuel, e.g., coal, diesel, etc.)**
- Total (specify unit)
- Converted to Million BTU
- CO2 Emissions (lbs)
- CO2 Emissions (Metric Tons)
- CH4 Emissions (Metric Tons)
- N2O Emissions (Metric Tons)
- Total Emissions (Metric Tons)

### Recent Year Emissions & GHG Emission Reductions

**Total Emissions (Metric Tons CO2e)**: 4734.094753
- **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

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

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

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
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
• $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 Receive 20 Points

<table>
<thead>
<tr>
<th>Municipality</th>
<th>County</th>
<th># C&amp;I Taxed Parcels (2018)</th>
<th># of Projects Needed to receive 20 point (2.5%)</th>
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</thead>
<tbody>
<tr>
<td>Aberdeen Township</td>
<td>Monmouth</td>
<td>187</td>
<td>5</td>
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<tr>
<td>Absecon City</td>
<td>Atlantic</td>
<td>188</td>
<td>5</td>
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<tr>
<td>Alexandria Township</td>
<td>Hunterdon</td>
<td>36</td>
<td>1</td>
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<tr>
<td>Allamuchy Township</td>
<td>Warren</td>
<td>19</td>
<td>1</td>
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<tr>
<td>Allendale Borough</td>
<td>Bergen</td>
<td>65</td>
<td>2</td>
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<tr>
<td>Allenhurst Borough</td>
<td>Monmouth</td>
<td>27</td>
<td>1</td>
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<tr>
<td>Allentown Borough</td>
<td>Monmouth</td>
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<td>1</td>
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<tr>
<td>Alloway Township</td>
<td>Salem</td>
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<tr>
<td>Alpha Borough</td>
<td>Warren</td>
<td>70</td>
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<td>Alpine Borough</td>
<td>Bergen</td>
<td>18</td>
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<tr>
<td>Andover Borough</td>
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<td>Andover Township</td>
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<tr>
<td>Asbury Park City</td>
<td>Monmouth</td>
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<td>Atlantic City</td>
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<td>Atlantic Highlands Borough</td>
<td>Monmouth</td>
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<tr>
<td>Audubon Borough</td>
<td>Camden</td>
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<tr>
<td>Audubon Park Borough</td>
<td>Camden</td>
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<td>0</td>
</tr>
</tbody>
</table>
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...

...starting it all off in 2002...
An Alternative Fuel... 
...for a change!

Montclair Cares...About Clean Air!
This car is fueled by compressed natural gas.
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.
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.
PUBLIC CHARGING STATIONS FOR ELECTRIC VEHICLES

Less Gasoline = Less Emissions

“GET CHARGED UP IN MONTCLAIR”

Walmart
Unauthorized vehicles not connected for electric charging purposes may be towed away at owner's expense.

Towed vehicles may be reclaimed at designated towing facility or by calling Montclair Police Department. (973)744-1234

ELECTRIC VEHICLE PARKING
ONLY WHILE CHARGING
Signage Design: Locators & Spaces

- EV Charging Stations: 6pcs
- EV Charging Stations: 4pcs
- EV Charging Stations: 1pcs
- Level 3 EV Charging Stations: 2pcs
- EV Charging Spaces 200 & 201: 1pcs
- EV Charging Stations: 1pcs
- EV Charging Stations: 4pcs
- EV Charging Stations: 1pcs
- EV Charging Station: Parking Here
- EV Charging Spaces 70 or 71: Arrow Right
- EV Charging Spaces 30 or 31: Arrow Right
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.
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.
Our Montclair Alternative Fuel Vehicle Readiness Plan outlines actions that the Township can take to reduce and resolve barriers to AFV usage.
It includes 28 recommendations across 5 action areas for community leaders & other stakeholders 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 1\textsuperscript{st} step this year, 2020!

ELECTRIFYING

\textbf{How We Move}
“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.
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

Four good reasons for community microgrids

1. Electric reliability
2. A strong grid
3. Economic development
4. Efficient and green energy supply
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
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

Our proposal consists of 8 Facilities 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”

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 with 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
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
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
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
ON-SITE SOLAR ARRAYS

➢ Borough Hall (~ 14 years old)
➢ Public Safety Complex (~ 6 years old)
➢ Track monthly usage and input for SREC
FLEET INVENTORY

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

Being Resilient In Temporary Emergencies
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
KEY BENEFITS

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

June 24, 2020
THE 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
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
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
  o Residential
  o Business
  o 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
• 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.
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
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 energy production, reduce energy use, develop sustainable strategies, and reduce emissions.

https://www.energy.gov/eere/slsc/guide-community-energy-strategic-planning
## 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!
C&I Portfolio of Programs

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

MEASUREMENT & AUDITS
- Energy Benchmarking
- Local Government Energy Audits (for non-profits too)

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

SINGLE MEASURE REBATES
- SmartStart
  - Existing Buildings
  - New Construction

DISTRIBUTED ENERGY RESOURCES
- 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!
## Residential Portfolio of Programs

NJCleanEnergy.com/RESIDENTIAL

### HOME PERFORMANCE W/ ENERGY STAR®
- 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

### WARMADVANTAGE & COOLADVANTAGE
- Stand-alone rebates for heating and cooling systems
- Furnaces, boilers, water heaters, central air conditioners, mini-splits, heat pumps, etc.

### ENERGY EFFICIENT PRODUCT REBATES
- Includes ENERGY STAR® certified refrigerators, dryers, washers, air purifiers, dehumidifiers, room air conditioners, Refrigerator/Freezer Recycling and Lighting Discounts

### RESIDENTIAL NEW CONSTRUCTION
- Builders work with a rater to properly certify the homes to ENERGY STAR® certified or Zero Energy Ready Home levels

### COMFORT PARTNERS
- 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
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VISIT
NJCleanEnergy.com

NEWSLETTER
NJCleanEnergy.com/NEWSLETTER

LISTSERVS
NJCleanEnergy.com/LISTSERVS

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THANK YOU
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](http://www.sustainablejersey.com/nc/events)
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