

RUMSON FOR CLEAN ENERGY

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WHAT CRISIS?

- **IPCC (UN): “The Impacts of Global Warming of 1.5°C”, Oct 2018**
- **National Climate Assessment, Nov 2018**
- **Yale Climate Opinion Maps, Aug 2018**
- **2018 Arctic Report Card, NOAA, Dec 2018**
- **Global Assessment Report on Biodiversity and Ecosystem Services, May 2019**



IPCC REPORT

- Issued by UN Intergovernmental Panel on Climate Change, October 2018; 2-year study by 100 scientist authors
- Conclusion: Paris Agreement limit of 2°C global warming **NOT** sufficient to avert human catastrophe
- Warming above 1.5°C would produce consequences:
 - Extreme storms and flooding; sea level rise
 - Heat waves [kill people]
 - Drought [crop failure, food shortages]
 - Fires
 - Marine system collapse; species loss [food shortages, disease]



NATIONAL CLIMATE ASSESSMENT 2018

- **Produced by 13 US government agencies led by NOAA, 300 experts**
- **Conclusions consistent with IPCC Report; broken down by US region, eg**
 - **More rain and flooding in Northeast**
 - **More drought and fires in the West**
- **Quantified the economics of non-action:**
 - **Annual losses in US \$200 billion by 2050**
 - **Contracting of US GDP by 10% by 2100**



YALE CLIMATE OPINION MAPS 2018

- **Show how Americans' climate change beliefs, risk perceptions, and policy support vary at the state, congressional district, metro area, and county levels**
- **<https://climatecommunication.yale.edu/visualizations-data/ycom-us-2018/?est=happening&type=value&geo=county>**
- **70% of people favor enacting policies to address climate change**
 - In US
 - In NJ
 - In Monmouth County



2018 ARCTIC REPORT CARD

- **Issued annually; peer reviewed; written by more than 80 scientists from 12 countries**
- **Sea Ice Coverage during 2015 thru 2018 are lowest in satellite record**
- **Surface Temperatures are breaking records; increasing more than 2X faster than rest of globe**
- **Atmospheric Warming is more rapidly melting Greenland ice sheet**
- **Increased Air Temperatures result in sluggish/wavy jet-stream. Deep jet stream waves coincided with:**
 - **North Pole heat wave, late 2017 (50 degrees above normal, Feb 25, 2018)**
 - **Severe winter storms in Eastern US in 2018**
 - **Extreme cold in Europe in March, 2018**



SIXTH MASS EXTINCTION

- **Global Assessment Report on Biodiversity and Ecosystem Services, 6 May 2019, on the global state of biodiversity**
- **Produced by UN Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services**
- **Due to human impact on the environment, Earth's biodiversity has suffered a catastrophic decline unprecedented in human history. Faced with extinction:**
 - 40 percent of [amphibians](#)
 - Almost a third of reef-building [corals](#)
 - More than a third of [marine mammals](#)
 - 10 percent of all [insects](#)
- **Catastrophic consequences on human food supply**



A nighttime photograph of Paris, France, featuring the Eiffel Tower illuminated in gold on the left. The Seine River flows through the center, with a bridge and ornate structures on the right. The sky is a deep blue with some clouds. The text is overlaid on the right side of the image.

In the 2015 Paris Agreement,
every nation in the world agreed
to work together to achieve net zero
greenhouse gas emissions by mid-century.

The U.S. cannot legally withdraw
until the day after the 2020
Presidential election.

WE ARE STILL IN

200+ Cities

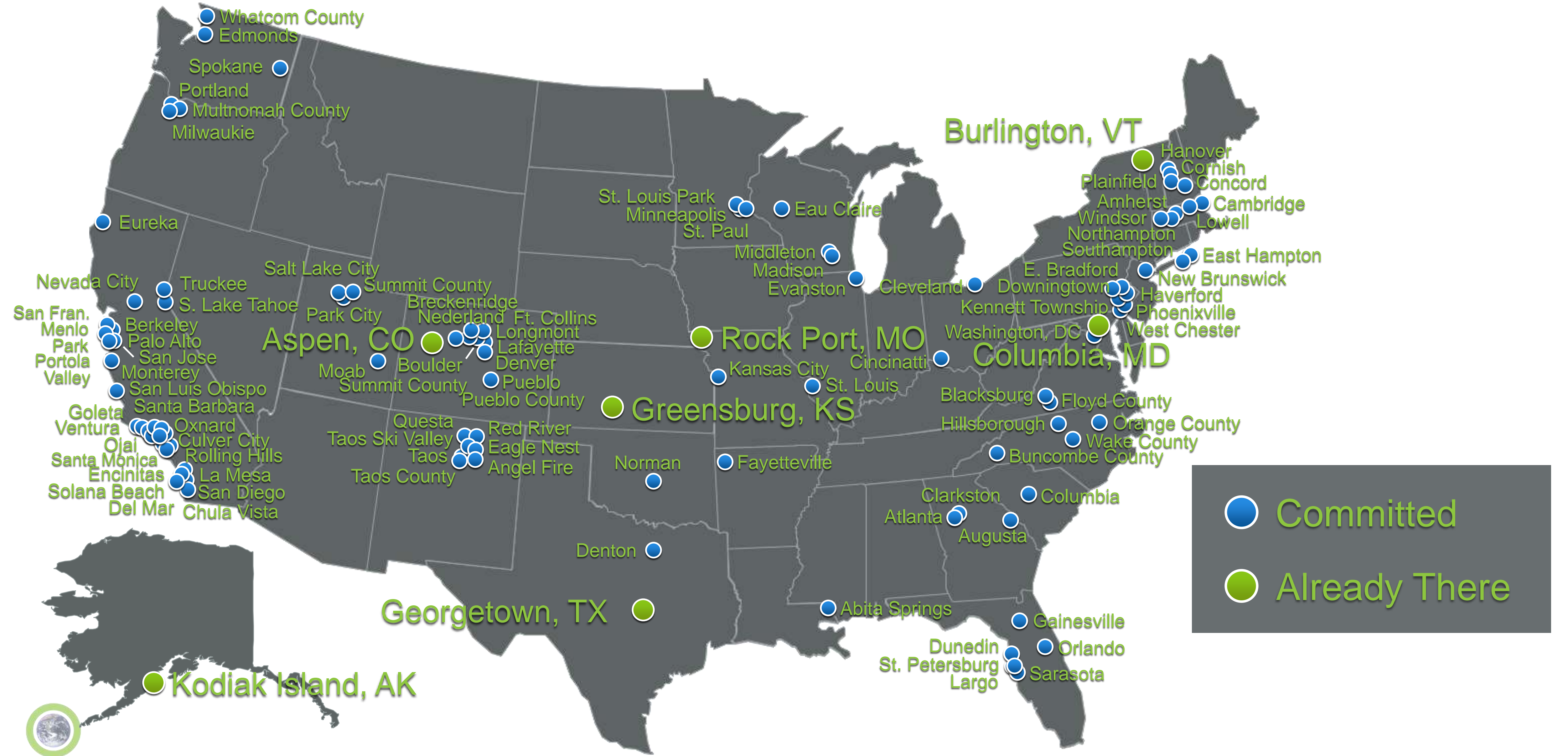
9 States

183 Colleges And Universities

1,700 Businesses And Investors

**ALL COMMITTED TO THE PARIS CLIMATE
AGREEMENT**

U.S. Commitments to 100% Renewable Electricity



New Jersey's Clean Energy Initiatives

- **100% Clean Energy by 2050**
- **Rejoin Regional Greenhouse Gas Initiative (RGGI)**
- **Join US Climate Alliance**
- **Renewable Energy Law**
 - **Renewable Energy Standard (graduated to 50% by 2030)**
 - **Solar, Offshore Wind, Energy Efficiency, Energy Storage**
 - **Community Solar**
- **NJ Energy Master Plan forthcoming**





**The Climate
Reality Project®**

100% Committed

Sierra Club



100%

EVERY TOWN FOR CLEAN ENERGY

As concerned citizens, we recognize the ongoing environmental threats posed to our community, our loved ones, and our own health and property. We aspire to the following **VISION for our town and are working toward achieving it:**

Our legacy of a town (and world) where our children and grandchildren can flourish: leave it better than we found it





Middletown for Clean Energy Letter Campaign: The Letter

- **Vision/Mission:** 100% Clean Energy by 2050
- **Near-Term Benefits**
 - Clean Energy Businesses and Jobs
 - Prestige as Leader in NJ; Enhanced Quality of Life
 - Improved Air Quality and Health
 - Gold Star in Energy
- **Strategy:** Sustainable Jersey Gold Star in Energy
- **Actions:** Efficiency, EV, Solar, Green Building in Master Plan





Middletown for Clean Energy Letter Campaign: Getting Signers

- **Goal of 200 signers (Middletown popn: 67,000)**
- **MCE organization has email list of 150 members, monthly meetings**
- **Asked all members to sign letter and solicit family and friends**
- **Good response from tabling at Green Fairs or environmental orgs, speaking at orgs (homeowners, etc), door-to-door neighbors, personal friends, orgs we belong to**
- **Less successful: letters, email, phone**
- **Gathered 290 signed letters from Middletown; also many other Monmouth Co towns at tabling events**





Middletown for Clean Energy Presentation to Township Committee

- **Private meetings with 4 of 5 Committee members and Township administrator; this feedback refined our letter before introduction.**
- **At April 15 Committee meeting, presented binder and CD of all letters.**
- **3 people spoke during general comments time (5 minutes ea); meeting was video recorded.**
- **Cover letter asked for a resolution to charter a Green Energy Stakeholder Team to create a 10-year plan toward 100% clean.**
- **We relayed that Sustainable Jersey was there to help with Gold Star in Energy.**
- **April 15 – May 8, MCE members sent emails, texts to Committee members, submitted letters to editor endorsing clean energy.**





Middletown for Clean Energy Outcome

- **On May 8, 6 MCE members met with Mayor.**
 - **The Mayor described his vision - a grand, long-term plan much broader than just energy.**
- **On May 16, 12 members of MCE wrote letter to Mayor describing comparable cities, and accepting his challenge to work on Energy portion of his Plan.**
- **On May 18, we again met with Mayor and learned:**
 - **Middletown will revise Master Plan starting in fall, and will have our Stakeholder Team as a subcommittee to work on Energy Plan.**





Middletown for Clean Energy Further Status

- **We will solicit people with skills we need for the Green Energy Stakeholder Team (project management, risk management, energy, accounting, technical writing)**
- **We will begin data collection by attending May 31 Sustainable Jersey Going for Energy Gold Workshop in Ewing.**
- **Now want to expand to towns throughout Monmouth County.**





Sustainable Jersey Actions: A Framework for Getting To 100% Clean Energy

- **Sustainable Jersey Certification: A Prestigious Designation For Municipal Governments In New Jersey**
- **450 NJ Towns Participating**
- **203 Towns Currently Certified**
- **Actions To Score Points Toward Certification Are Documented And Reviewed.**
- **Certification Is Free And Completely Voluntary.**
- **<http://sustainablejersey.com> Has All Actions, Resources, Numerous Presentations, And Complete Documentation From All Certified Communities.**
- **See Certification For Fair Haven And Haddonfield Boro (A Peer City?)**





Sustainable Jersey Certifications

- **Bronze** certification: commitment to sustainability, implemented first significant steps, 150 points
 - 2 of 12 priority actions
 - Completed actions in 6 of 18 categories
- **Silver** certification: significant progress toward sustainability, 350 points, state-wide and national leader
 - 3 of 12 priority actions
 - Completed actions in 8 of 18 categories
- **Gold Star** Standard is a NEW level of recognition for silver certified communities.
- 1 Town has Achieved Gold Energy Star: Woodbridge



100%

**YOUR TOWN FOR
CLEAN ENERGY**

Your Town For Clean Energy Sustainable Jersey Actions

○ PRIORITY ACTIONS

Climate Adaptation: Flooding Risk	*Municipal Carbon Footprint
Diversity on Boards & Commissions	Natural Resource Inventory
*Energy Tracking & Management	Prescription Drug Safety and Disposal
*Energy Efficiency for Municipal Facilities	Recycling and Waste Reduction Education and Compliance
*Fleet Inventory	Sustainable Land Use Pledge
*Green Business Recognition Program	Water Conservation Ordinance

***ENERGY-RELATED**

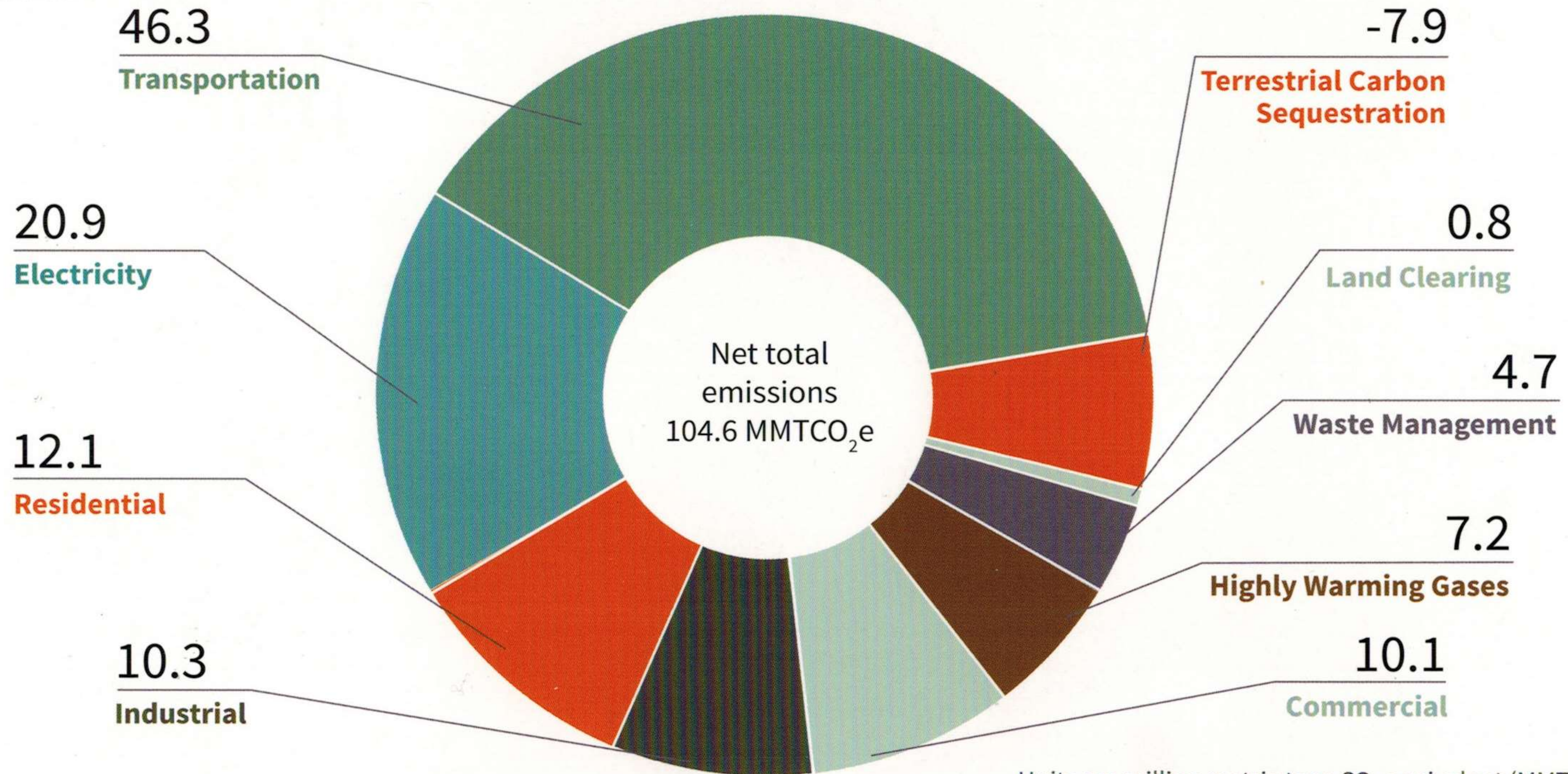


Your (Typical NJ) GHG Emissions

“Reducing NJ Greenhouse Gas Emissions”, Rutgers, Jan 2018

WHAT ARE THE SOURCES OF GREENHOUSE GAS (GHG) EMISSIONS IN NEW JERSEY?

The transportation sector is the largest source of emissions in the state, followed by electricity generation and fossil fuel used in the residential, industrial and commercial sectors mainly for heating.



Units are million metric tons CO₂ equivalent (MMTCO₂e).





GOLD STAR STANDARD IN ENERGY

MUNICIPAL OPERATIONS: GHG REDUCTION STRATEGIES AND GOAL

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





GOLD STAR STANDARD IN ENERGY

COMMUNITY-WIDE GHG EMISSIONS: REDUCTION STRATEGIES AND GOAL

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



Improve Your Town's Master Plan

- Add a “Green Building and Environmental Sustainability” Element to the Master Plan.
This Green Team “Action” provides:

- Efficient use of natural resources
- Renewable Energy Systems in new and retrofitted buildings
- Impact of buildings on environment
- Allow Ecosystems to function naturally
- Conserve and reuse water
- Treat storm water on-site
- Optimize site orientation and design for the Climate

[HTTP://WWW.SUSTAINABLEJERSEY.COM/ACTIONS-CERTIFICATION/ACTIONS/#OPEN/ACTION/484](http://www.sustainablejersey.com/actions-certification/actions/#open/action/484)



Path To 100% Clean Energy In Your (Every) Town In New Jersey

CERTIFICATION HIGHLIGHTS OF TOWNS DETAILS OF HOW “SOLUTIONS” WERE IMPLEMENTED

- WOODBRIDGE TOWNSHIP (A ROLE MODEL FOR NJ)
- HADDONFIELD BORO (MANY CHARACTERISTICS OF RUMSON)
 - FAIR HAVEN BORO (NEXT DOOR NEIGHBOR!)

REVIEW SOLUTIONS OF RUMSON SCHOOLS

<http://climate.smiller.org>
<http://electric.smiller.org>

