

# Local Government and Green Team Decarbonizing Efforts

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- Suburban Bedroom Community
  - Population 16,400+
- Unique Features
  - Two Universities: Drew and Fairleigh Dickinson (Florham)
  - Municipal Electric Utility
    - Buys wholesale power from PJM,
    - Owns and manages distribution grid
  - A very supportive administration
    - Excellent support for the Green Teams - Environmental Commission, Sustainability Committee, Climate Action Committee, and Shade Tree Management Board





# Decarbonizing Initiatives

- **Promoting EV Growth**

- 2020: 10 Public Dual-Port Level II stations
- 2023: EV Info-Hub on Borough web
- 2023: Incentives for Borough employee EVs
- 2024: Anti-idling Campaign
- 2024: Incentives for Home EV Chargers
- 2025: Installing the first Public Fast-Charger
- Annual “EV Expo” 2021 - 2024 ( and April 26, 2025)

- **Greening the Municipal Fleet**

- 5 Hybrid Ford Police Interceptors (2021, 2022, 2023)
- 3 Chevy Bolts (inspectors & parking patrol, 2022-2023)
- Electric lawn equipment (DPW + educating public)
- EV Shuttle Bus for our Senior Center (Feb 2025)
- Next: Light-Duty Trucks

- **Electrifying Municipal Buildings**

- 2020: Local Govt. Energy Audit for 5 buildings
- 2024: Installing electric heat pumps in:
  - 1933 Hartley Dodge Memorial Borough Hall
  - 1824 Church being refurbished as a senior center
- Next: Plans for electrification of remaining municipal buildings

- **Green Building for Affordable Housing**

- **Home Electrification and Efficiency**

- 2017-2025: Borough subsidizes home energy audits
- 2023: Home-Energy Info-Hub on Borough Web
- 2024: Rebates for heat pumps and EV chargers
- 2024: Completed townwide SmartMeter installation
- 2025: Time-of-Use electric rates
- 2025: Web-based benchmarking tool for homes
- Next: How can developers be encouraged to include energy efficiency and renewables?

- **Renewable Energy**

- Residential solar
  - Favorable net-metering tariff incentivizes solar
  - Solar Info-Hub on Borough Web
  - SolSmart Certified permitting procedures
- Utility solar:
  - Building three solar carports on municipal parking lots
- Next: Working with the school system to implement solar

- **Tree Canopy Preservation**

- **A Recurring Climate Action Process**

# Electrifying Municipal Buildings



- 2020: Local Govt. Energy Audit for 5 buildings
- 2024: Installing electric heat pumps in:
  - Hartley Dodge Memorial (built 1933)
  - Masonic Lodge, previously the First Presbyterian Church (built 1824) , being refurbished to a Community Center
- Supported with two \$100k BPU CEPI grants
- **Next:** Detailing electrification plans for remaining municipal buildings



# Passive Affordable Housing Development

- New complex with 44 units of affordable housing
- Certified to Passive Housing/Zero Energy Standards
  - 164 kW rooftop solar
  - triple-glazed windows
  - heat pumps
  - extra insulation and advanced sealing
  - a specialized energy-efficient appliance package,
  - 100% Electric
- A partnership of government and private development (RPM Development Group).
- Funded by Federal Community Project Funding, New Jersey Housing and Mortgage Finance Agency, Morris County HOME Program, New Jersey Special Needs Housing Trust Fund, New Jersey Affordable Housing Production Fund, Madison Housing Authority, and private financing.

**First 100 % Affordable Passive-Certified  
Multi-Family Complex in New Jersey!**



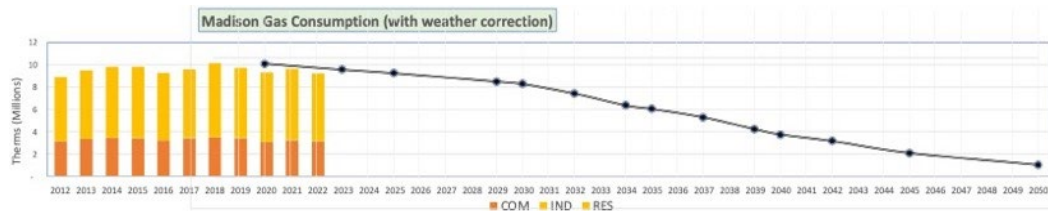
# Home Electrification and Efficiency

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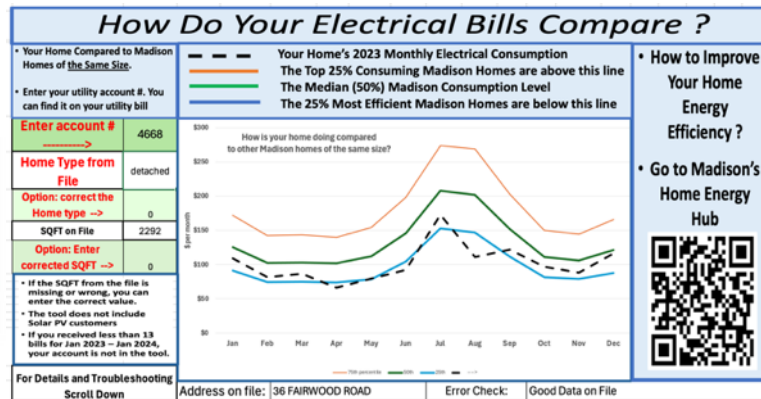


## Madison Utility Rebates

- Heat Pumps - SEER2 > 15.2\* - \$600
- Heat Pumps - SEER2 > 17.1\* - \$1,000
- Ductless Mini Split - EER2>12, - \$400
- Water Heater Heat Pump - \$750
- Level 2 EV Charger - \$300



Goal curve derived from NJ State Goal in the 2019 Energy Master Plan



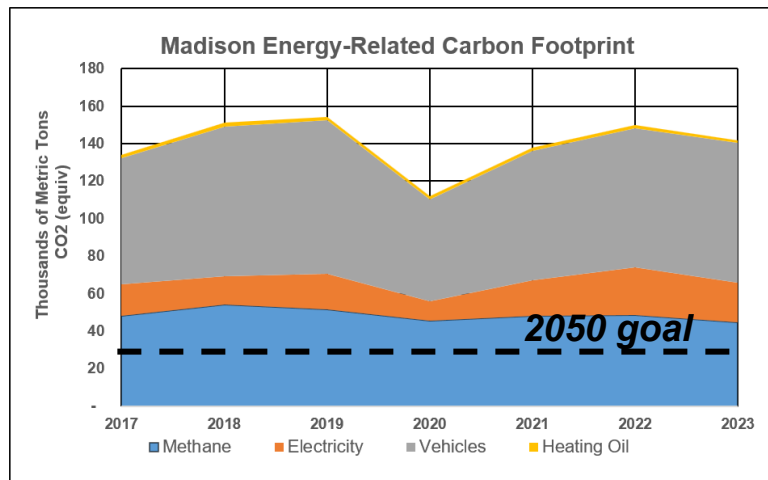


# Decarbonization Initiatives in Madison

- In 2024, for the fifth year in a row, Madison was recognized by Sustainable Jersey as the # 1 mid-size town in NJ for sustainability activity.
- Our Decarbonization Goal: decrease the total carbon footprint by **80%** by **2050** (goal is derived from the New Jersey State Goal for 2050)
- The Borough Council has instituted an annually recurring Climate Action Process managed by the Madison Climate Action Committee to:
  - Reduce Transportation Emissions
  - Accelerate Renewable & Clean Energy
  - Improve Energy Efficiency & Affordability
  - Reduce Emissions through Building Electrification
  - Build Climate-Resilient Communities



A Complete Description of all of  
Madison's initiatives in these areas  
is on the Borough [Climate Hub](#).



Data provided by utilities and NJTPA. Emissions are calculated with Sustainable Jersey factors based on ICLEI's industry-standard emissions management tool. See Appendix A of the 2022 Climate Action Report for more information.

2017-2023 vehicle emissions are being calculated with a new model (source: North Jersey Transportation Planning Authority), raising the entire footprint.

# A Recurring Climate Action Process to Measure, Report, and Recommend Actions

A process to get to 2050



Climate Action Committee conducts the process with Borough staff, with recurring reports to the governing body and public. It is linked to the Borough's budget process and supports Madison's Community Energy Plan.



# Questions?

Peter Fried, Sustainable Madison Advisory Committee

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# Back-up

# Promoting EV Growth

EV Information Hub



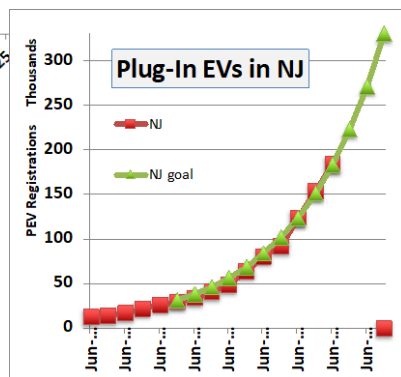
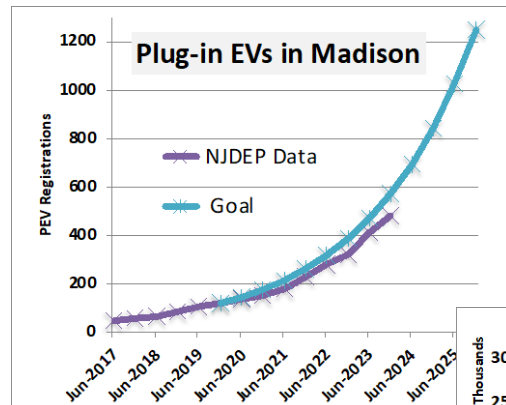
- 10 Public Dual-Port Level II Stations
  - Funded by NJ “It Pay\$ to Plug-In” (2020 & 2021)
  - Installed by Madison Electric Utility
- Installing the first Public Fast-Charger
- Municipal Web EV “Info-Hub”
- Incentives for Home EV Chargers
  - Provides Data for Grid Upgrades
- Incentives for Borough Employee EVs
- The annual “EV Expo” first began in 2021
  - Save the date for this year's expo on April 26, 2025





# EV Growth: Results

- Designated “Destination Electric” by NJ DEP
- DOE EVAL Platinum Certified
- Tracking our EV Population
  - Madison's goal of 1200 PEVs by 2025
    - Derived from NJ goal of 330k
  - Madison lag's goal by ~20%
  - NJ on track
- What else can we do?
  - Incentives for EV Purchases?
  - Setting an Example with the Municipal Fleet



# Greening the Municipal Fleet

- 5 Hybrid Ford Police Interceptors (2021, 2022, 2023)
- 3 Chevy Bolts (inspectors & parking patrol, 2022-2023)
- Electric lawn equipment (DPW + educating landscapers & public)
- EV Shuttle Bus for our Senior Center (Anticipated for early 2025)
  - Enabled by “Stop-the-Soot” NJDEP Grant

## Results

- By late 2025, 25% of non-emergency muni mileage will be EV
- 18% fleet-wide decline in CO2 emissions from 2018 to 2023
- Annual Savings of 29 tons of CO<sub>2</sub> and over \$10,000 in fuel

## Next

- Light-Duty Trucks – Challenge: most muni trucks become plows in a snowstorm, and this challenges an EV



# Renewable Energy

- Residential solar
  - Favorable net-metering tariff incentivizes solar
  - Solar Information Info-Hub on Borough web
  - SolSmart Certified permitting procedures
  - Currently, 1.8% of 5000 homes, ~ 1 % of our energy is Res. Solar
  - Goal: ~ 20% of the homes and ~ 6% of total energy by 2050 to meet NJ EMP goals
- Utility solar: Building three solar carports on Municipal Parking Lots
  - Power: 1.24 Mw (AC)
  - Annual energy: 1,810 Mwh
  - ~ 1.4% of Madison's annual consumption
- Purchased PJM power
  - Purchased wholesale on 1-3 year contracts
  - Cost is the main criterion, with an eye to minimizing carbon

**NEXT:** working with the schools to implement solar



Solar Hub

