



# Energy Reduction Plan Green Communities Update

November 19th, 2025



Photo Credit: Daniel Mennerich, 2011





# Agenda

- **Energy Reduction Plan**

- What is the Energy Reduction Plan?
- Why adopt an Energy Reduction Plan?
- Marblehead's Energy Use Baseline
- Marblehead's Energy Use Reduction Strategies and Implementation

- **Green Communities Update**

- Adoption of Energy Reduction Plan
- Requesting Light Department to adopt Renewable Energy Charge

# Energy Reduction Plan



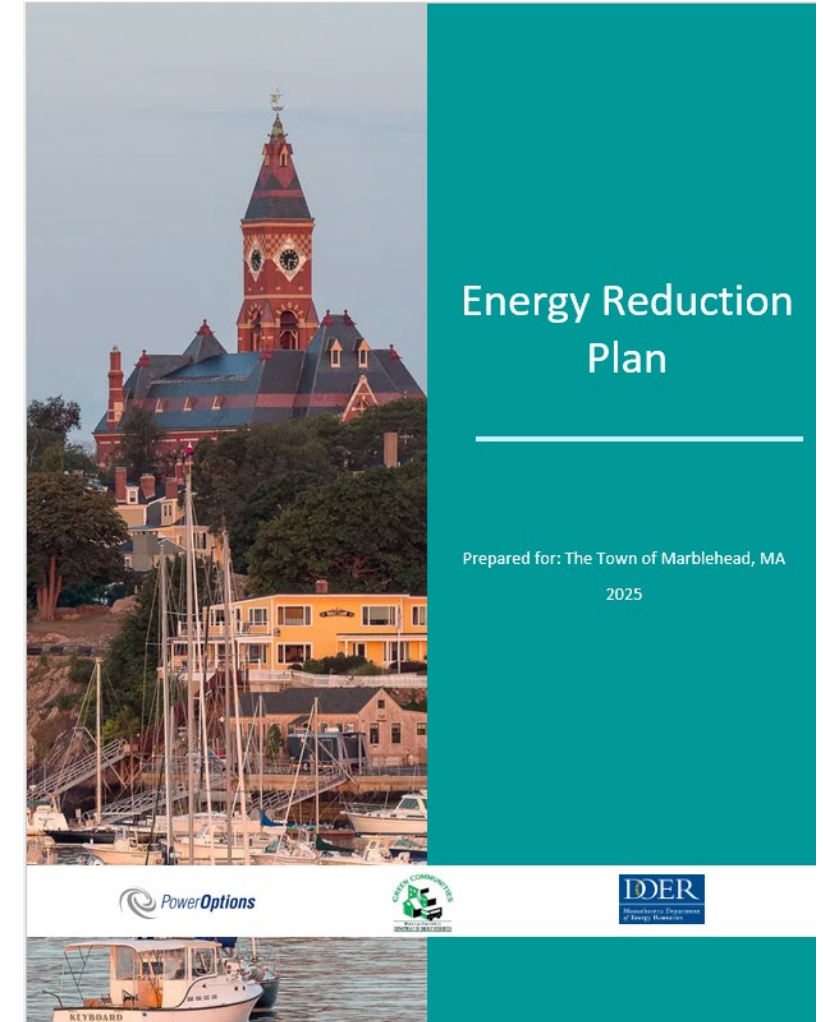
# What is the Energy Reduction Plan?

**Goal: Reduce Energy Use in Municipal Buildings by 20% over 5 years**

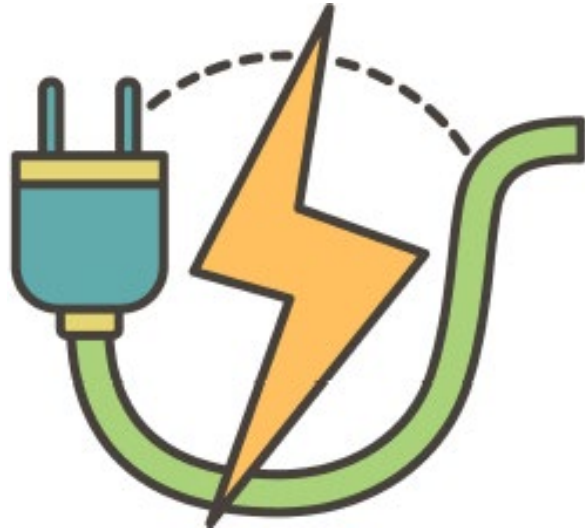
- Non-binding

## Contents

- Energy Baseline
  - FY 2024
- Energy Reduction Plan
  - Building specific reduction strategies/projects
    - Insulation/Energy Efficiency measures
    - Lighting Retrofits
    - Building Control Systems
    - HVAC
    - Vehicles
  - Plan outlines projects that are projected to save up to 45% of annual energy usage.
- Developed with PowerOptions
  - \$9,500 – Funded with American Rescue Plan Act (ARPA) funds



# Why Adopt an Energy Reduction Plan?



**Improved  
Efficiency**



**Reduced Energy  
Consumption**



**Lower  
Emissions**

**Requirement to apply for Green Communities Program**

# Marblehead Energy Baseline

**Baseline Year - Fiscal Year 2024**

## Building Inventory

- 25 buildings
- 28 Water & Sewer stations

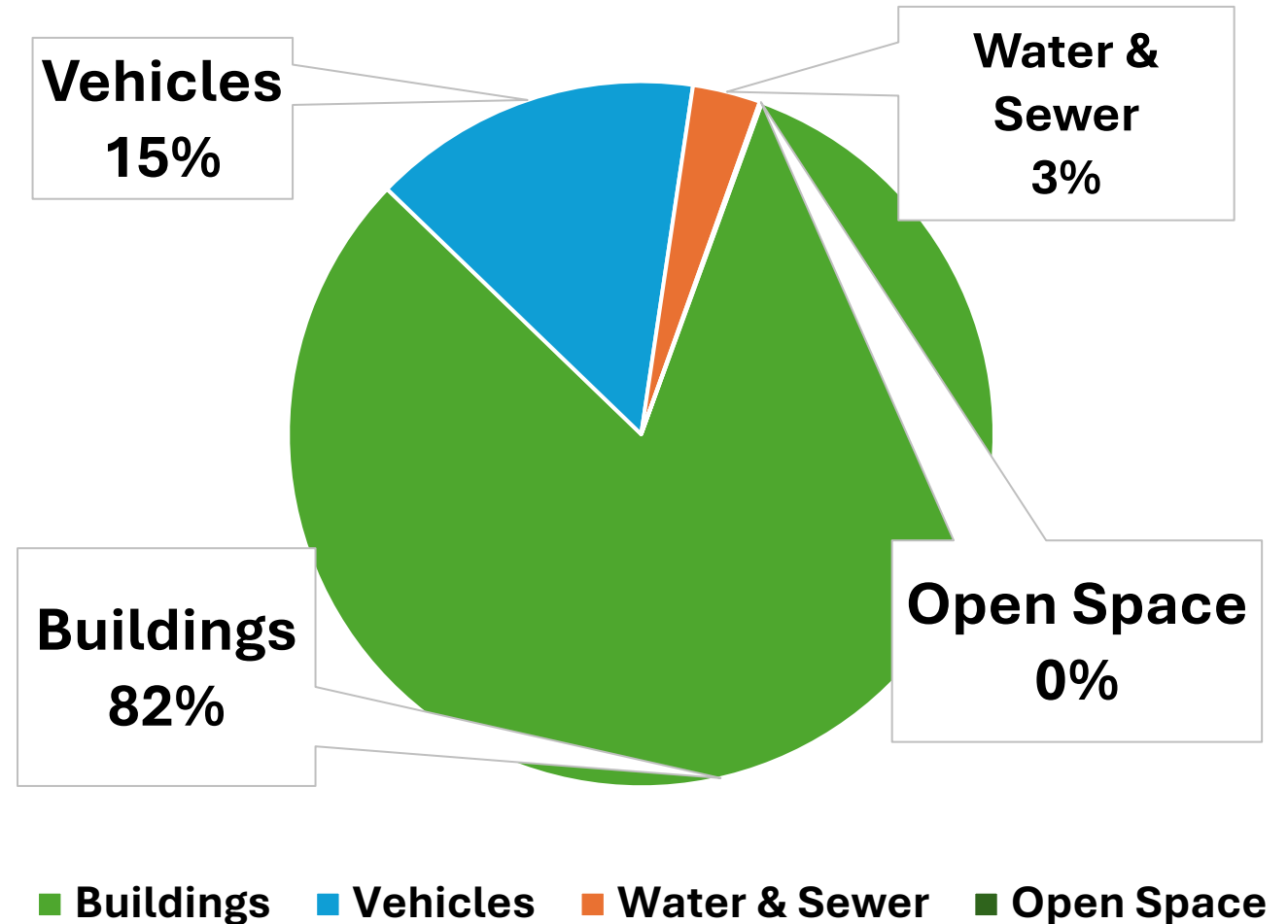
## Vehicles

- 175 Municipal vehicles
  - 69 Light duty
  - 65 Medium duty
  - 41 Heavy duty Vehicles

## Total Energy Consumption

- 62,442 MMBtu
- 3,796 MT of CO<sub>2</sub>e
- 2% of Marblehead's Community-wide CO<sub>2</sub>e emissions

**Municipal Energy Consumption – FY2024**



# Marblehead Recommended Strategies - Buildings

- **Focuses on 14 of highest energy using buildings**
  - School buildings
  - Public Works Building
  - Mary Alley Building
  - Central Fire Station
  - Police Station
- **Near-term strategies (1-3 years)**
  - Projects with estimated payback periods less than 2 years
    - Evaluate heating setpoints, equipment schedules, optimize ventilation
    - Reduce lighting loads
    - Reduce plug loads
- **Long-term strategies (5-10 years)**
  - Projects with long-term payback periods, meet our Net Zero Goal
    - Electrification projects
    - Deep energy retrofits
    - Renewable energy generation
- **Projected 25% energy savings**





# Marblehead Recommended Strategies – Cont.

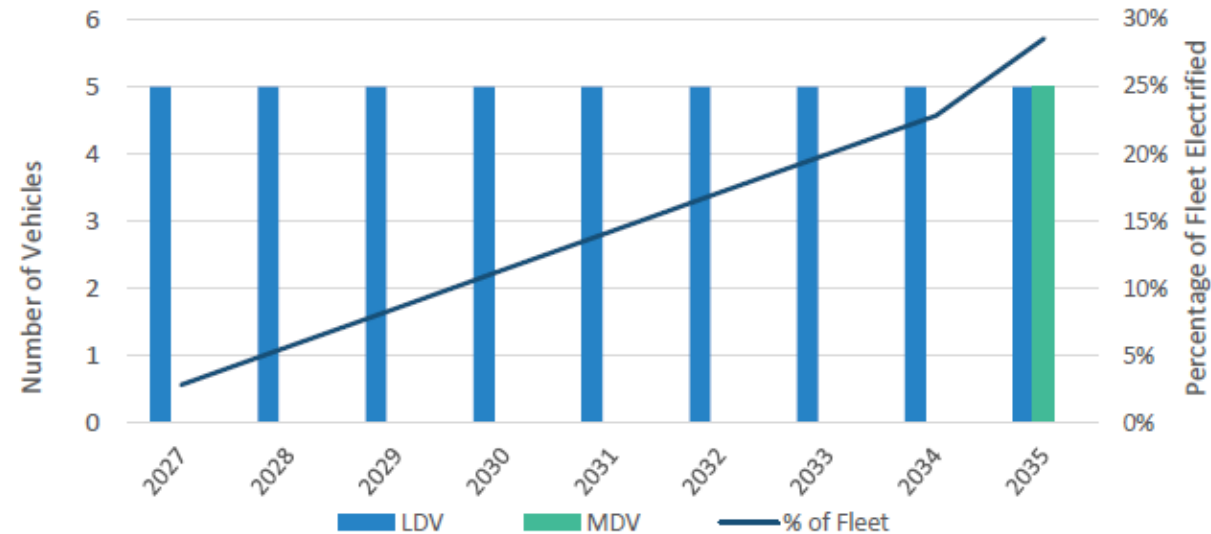
## Municipal Vehicles

- Zero-Emissions First Procurement Policy
- Adopt ~6 Light duty ZEVs per year
  - FY 2024 - Town purchased 6 hybrid and 2 all-electric
- **Projected 20% energy savings**

## Available Funding

- Green Communities
  - Designation Grant - ~\$150K
  - Competitive Grant - \$250K standard / \$500K electrification
- MassSave Incentives

Figure 4. Possible vehicle replacement schedule by vehicle class (light-duty [LDV], and medium-duty [MDV])





# Green Communities Update

The slide features a large, bold title "Green Communities Update" in black text centered on a white background. Below the title, there is a thick green horizontal bar on the left side. At the bottom of the slide, there is a light gray horizontal bar, and a small number "9" is positioned in the bottom right corner.

# Application Requirements

- ☐ As-of-right zoning for renewable energy facilities
- ☐ 1 year or less permitting process for siting renewable energy facilities
- ☐ Adopt fuel-efficient vehicle procurement policy
- ☐ Adopt the Stretch Building Code
- ☐ Establish a Municipal Energy Baseline and develop an Energy Reduction Plan
- ☐ **Municipal Light Plant Communities: Must adopt Renewable Energy Charge**

# Application Requirements

- ☒ As-of-right zoning for renewable energy facilities
- ☒ 1 year or less permitting process for siting renewable energy facilities
- ☒ Adopt fuel-efficient vehicle procurement policy
- ☒ Adopt the Stretch Building Code
- ☐ Establish a Municipal Energy Baseline and develop an Energy Reduction Plan
  
- ☐ **Municipal Light Plant Communities: Must adopt Renewable Energy Charge**



# Remaining Actions to Consider

## Energy Reduction Plan

- Town staff to request to adopt plan at future SB meeting

## Light Commission Request – Renewable Energy Charge

- Reaffirming support for Green Communities application
  - Town staff to propose language for consideration at future SB meeting
- Section 3A Non-compliance
  - DOER will withhold designation funds as well as competitive grant funds, if applied for
  - Consider holding applying for Green Communities Designation



# Questions? Thank you.

