

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENERGY RESOURCES

Elizabeth Mahony, Commissioner

Climate Leader Communities Roadmap Assistance

March 2024

Today's Webinar

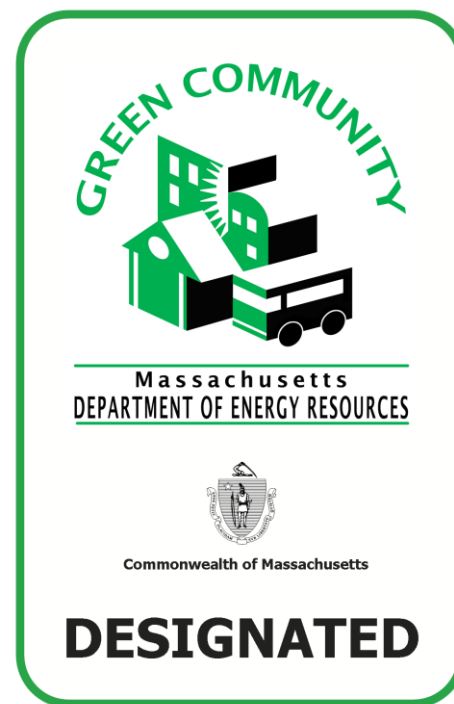
- Overview of Climate Leader Communities
- Decarbonization Roadmap Assistance
 - Review of Municipal Decarbonization Roadmap requirement
 - Review of DOER assistance offered
 - Q and A

Green Communities Designation and Grant Program

Established by the Green Communities Act of 2008

Designation Criteria

1. Adopt as-of-right siting for renewable/alternative energy generation, research and development, or manufacturing
2. Adopt expedited permitting process
3. Create an energy use baseline and a plan to reduce municipal energy use by 20% in 5 years
4. Purchase only fuel-efficient vehicles
5. Reduce life-cycle costs of new construction by adopting the stretch energy code

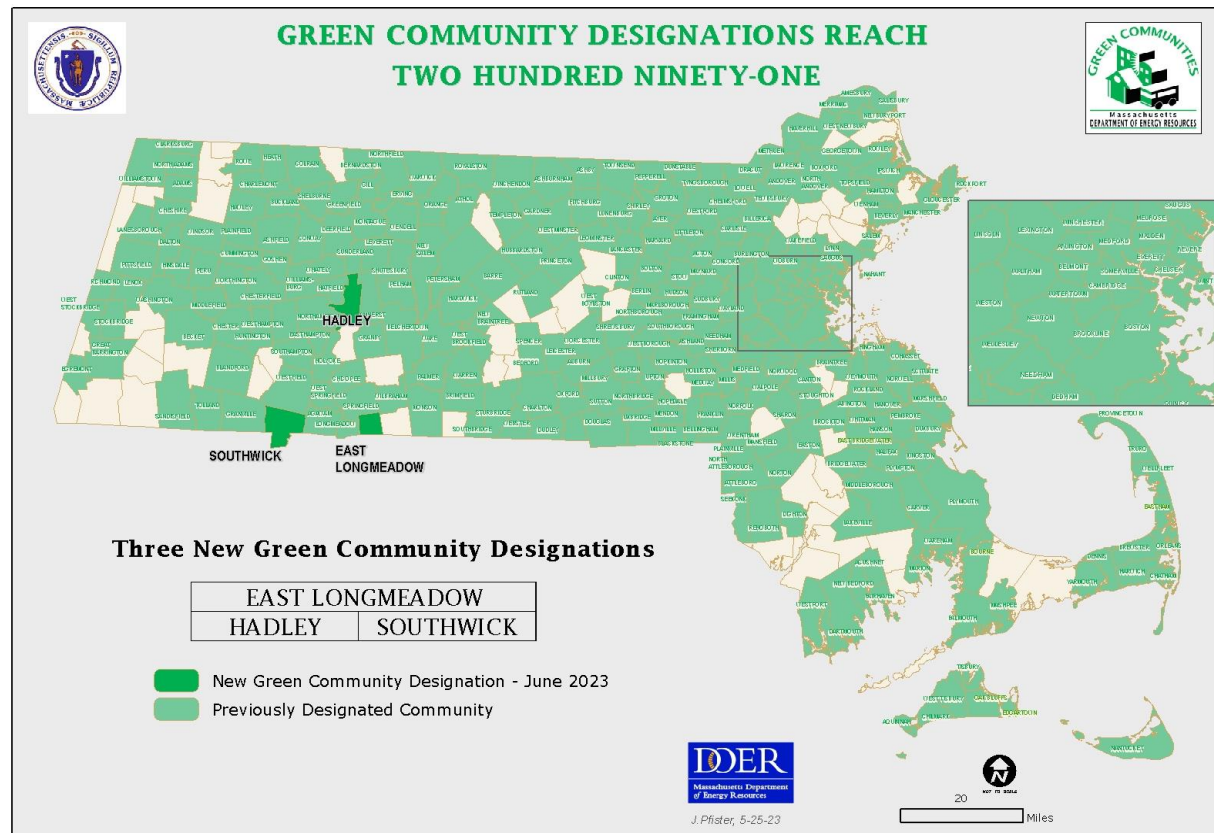


Eligible for Grants on Municipal Property

- Energy efficiency projects
- Renewable energy projects

Green Communities Progress

- **291 of 351**
Cities/Towns are
Green Communities
- **89%** of the population
lives in a Green
Community
- **\$177M+** grants
awarded since 2010
- **\$41M** Leveraged in
MassSave Incentives
- **\$28M** Annual Energy
Cost Savings
- **72K** tons GHG reduced



Climate Leaders – Next iteration of Green Communities



Builds on success for Green Communities program



Aligns resources for municipalities with EEA energy and climate goals



Enhances engagement and forward progress with municipalities



Encourages adoption of climate/clean energy policies and programs



Expands opportunities for community engagement

Program Evolution: From Green Community to Climate Leader

Green Communities Criteria

Adopt as-of-right siting for RE/AE generation, R&D, or manufacturing

Adopt expedited permitting process

Create an Energy Reduction Plan to reduce energy use by 20% in 5 years

Purchase only fuel-efficient vehicles

Minimize life cycle cost in new construction – a.k.a adopt the Stretch Code

Climate Leaders Criteria

Establish/maintain local committee to advise, coordinate, and/or lead clean energy and climate activities

Municipal decarbonization commitment

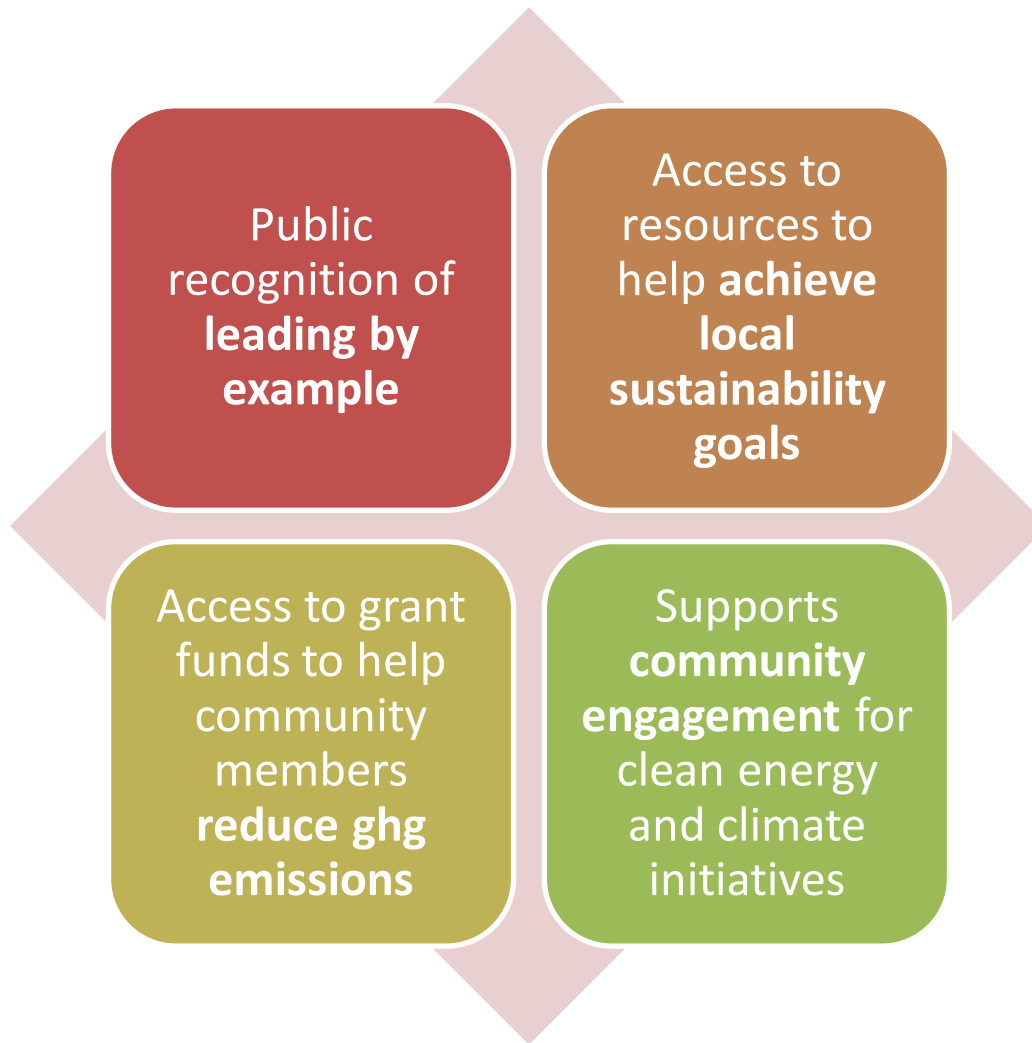
Create Municipal Decarbonization Roadmap with 2030 & 2050 goals

ZEV-First vehicle policy

Specialized Stretch Code Adoption

Recertify every 3 years – must complete a community engagement "best practice" for 1st recertification

Why Be a Climate Leader



Straw Proposal Grant Ideas



Implementing Climate Leader Best Practices



Municipal building electrification/decarbonization



Seed funds for a municipal clean energy/climate coordinator



Support for on-site solar PV + storage



Support for geothermal for new and existing buildings



Other innovative projects

Approach to Grants

Include capacity-building and non-capital intensive projects on existing Competitive Grant application

- Encourages continued focus on efficiency
- Encourages “best practice” implementation
- Simpler application/evaluation process

Create a Climate Leader “accelerator” grant focusing on:

- Building decarbonization
- On-site solar + storage
- Geothermal technologies

Municipal Decarbonization

Climate Leaders Criteria

Establish/maintain local committee to advise, coordinate, and/or lead clean energy and climate activities

Municipal decarbonization commitment

Create Municipal Decarbonization Roadmap with 2030 & 2050 goals

ZEV-First vehicle policy

Specialized Stretch Code Adoption



Municipal Decarbonization

Create Municipal Decarbonization Roadmap with 2030 & 2050 goals

End Use Energy



Transitioning buildings, vehicles, and other end uses away from consuming fossil fuels

Energy Efficiency and Flexibility



Aggressively pursuing energy efficiency and flexibility to enable cost-effective decarbonization

Decarbonizing Energy Supply



Producing zero and low-carbon energy supplies to power our energy system

Carbon Sequestration



Balancing remaining emissions by facilitating carbon dioxide removal

Decarbonization Roadmap

For municipal operations only

- Guidelines for **existing buildings**:
 - Include as a design option an alternative to fossil fuels for thermal energy that includes low- or zero-carbon fuels or alternative electricity technologies
 - If not practical, projects shall ensure that steps are taken to incorporate plans for the future transition to low or zero-carbon fuels
 - Incorporate building envelope upgrades when technically and fiscally feasible
 - Establish low target energy use intensity
 - Where appropriate , design and install renewable energy and energy storage, while building the infrastructure necessary to support future installations
 - Maximize resilient design to protect critical infrastructure

Decarbonization Roadmap

- For **new construction or substantial renovation**:
 - Strive to achieve zero net energy, where sufficient renewable energy is generated onsite to offset the building's annualized energy consumption
 - Implement energy storage wherever possible, especially when paired with onsite renewables
 - Prioritize sites that provide access to public transportation and alternative modes of transportation

Decarbonization Roadmap: Zero Over Time

Roadmaps to use the “Zero Over Time” approach that uses triggering events, such as:



End of life of HVAC equipment



Building renovation



Roof replacement



Building replacement

Trigger Event Worksheet

Key	
Trigger Event	Icon
New Building Entering Portfolio	— 🔑 —
Lease Turnover or Renewal	— 🧑‍🤝‍🧑 —
Major Equipment Replacement	— 🏢 —
Building Leaving Portfolio	— 🗑️ —
New Construction or Major Renovation Project	— 🏗️ —
Regular Energy Checkups	— ⚡ —

Building Name	Trigger Event	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Town Hall	Regular Energy Checkups	— ⚡ —			— ⚡ —			— ⚡ —						
Library	Regular Energy Checkups		— ⚡ —			— ⚡ —			— ⚡ —			— ⚡ —		
Police Station	Regular Energy Checkups		— ⚡ —			— ⚡ —			— ⚡ —			— ⚡ —		
Elementary School	Regular Energy Checkups	— ⚡ —			— ⚡ —			— ⚡ —			— ⚡ —			— ⚡ —
Police Station (new)	New Construction or Major Renovation Project											— 🏗️ —	— 🏗️ —	— 🏗️ —
Middle-High School	Major Equipment Replacement	— 🏢 —												
Fire Station	Regular Energy Checkups	— ⚡ —		— ⚡ —		— ⚡ —								
Town Hall	Major Equipment Replacement					— 🏢 —								

Focus on Eliminating on-site Fossil Fuels

Targets	2027	2030	2040	2050
Reduce emissions from onsite fossil fuels	-20%	-35%	-60%	-100%
Zero emission vehicles (ZEVs) in light-duty fleet adoption	5%	20%	75%	100%
Zero emission vehicles (ZEVs) in heavy-duty fleet adoption	0%	20%	50%	100%
Energy Use Intensity reduction (deep energy retrofits/retro commissioning)	-20%	-25%	-25%	-30%
Total Emissions Reduction Goals (% of 2022 emissions)	>15%	>35%	>65%	>95%

Assistance Available



Option 1: A desktop analysis and roadmap development for municipalities that have complete, up-to-date building inventories in MassEnergyInsight and can provide information on the characteristics of the buildings in its portfolio



Option 2: Facility condition assessment plus roadmap development for municipalities that need assistance with cataloging existing building characteristics. As necessary, Consultants will conduct walk-throughs with municipal representatives of buildings



Roadmaps must include **all school buildings** as applicable and account for at least 75% of the community's total building emissions

How Planning Assistance Works

DOER assigns communities to a consultant

2 phases likely in 2024

1st served closest to meeting all requirements

Consultants to schedule a meeting (in-person or virtual) with municipality within 30 business days

Consultants review municipality's materials, assess next steps, and develop a timeline for completion of the roadmap within 90 days

Application Requirements



Provide a **letter of commitment** from the Chief Executive Officer of the city or town to **meet all Climate Leader Community requirements** within one year of the technical assistance award



Documentation that the municipality has established an **energy committee and/or partnership with a community energy organization** to address clean energy and climate issues – *(attach minutes from most recent meeting)*



Have gathered pertinent information on most of their facilities

ESCO Report - Building Level Usage (MMBTU) - Fiscal

Facility	Gross Floor Area (SF)		FY 2022				Total
			Diesel	Electric	Gas	Gasoline	
Ames Elementary	66,971	Use (MMBTU)		3,672	2,674		6,346
		kBTU/sf		55	40		95
Animal Shelter	805	Use (MMBTU)		161			161
		kBTU/sf		200			200
Cemetery Building	1,725	Use (MMBTU)		708			708
		kBTU/sf		410			410
DPW	16,828	Use (MMBTU)		227	1,380		1,607
		kBTU/sf		13	82		95
Public Safety	15,322	Use (MMBTU)		323	2,199		2,523
		kBTU/sf		21	144		165
Street Lights	Null	Use (MMBTU)		1,505			1,505
		kBTU/sf					
Town Hall	17,800	Use (MMBTU)		371	1,328		1,698
		kBTU/sf		21	75		95
Vehicles	Null	Use (MMBTU)	500			672	1,173
		kBTU/sf					

Climate Leader Community Status

- Be an existing Green Community in “good standing”
 - ✓ _____ *Date of FY23 Green Communities Annual Report submittal*
- Have a local body (sustainability committee, energy committee, etc.) that advises the municipality on clean energy/climate initiatives.
- Commit to eliminate on-site fossil fuel use by 2050 (municipal buildings/operations)
 - ✓ *Please attach a copy of the municipality’s decarbonization commitment. If using a climate action plan adopted by the municipality, include a weblink in the CEO-signed letter of commitment*
- Adopt a zero-emission vehicle first policy
 - ✓ *Please attach a copy of the policy*
- Adopt the specialized opt-in building code
 - ✓ *Please provide evidence that the specialized opt-in building code has been adopted*

Be Prepared

To prepare for roadmap development, municipalities should conduct an inventory of all its facilities. **At a minimum** this inventory should encompass at least 75% of the municipality's building emissions and include all public school facilities under the municipality's jurisdiction. This shall include:

- Age of building
- Square footage of conditioned space
- Use profile
- Fuel for heating/hot water and cooling (if any)
- Condition of HVAC and expected replacement date
- Age & condition of building envelope
- Condition and type of kitchen equipment
- Future plans for facility
- Capital improvement plans

Program Timeline

Spring 2024	Summer/fall 2024
Issue Roadmap Planning Assistance Grant – application deadline April 12	Start accepting applications: deadline 7/25; 12/31
Support Specialized Code votes	Announce 1 st Climate Leaders at GC Summit in October
MassEnergyInsight updates	Issue PON for Climate Leader grants

Green Communities Contacts

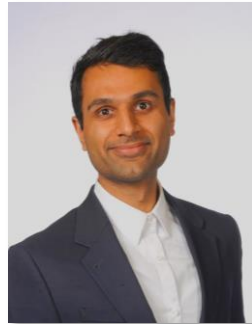
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