Balancing Preservation and Climate Action

Lessons from Marblehead's Sustainable Heritage Project

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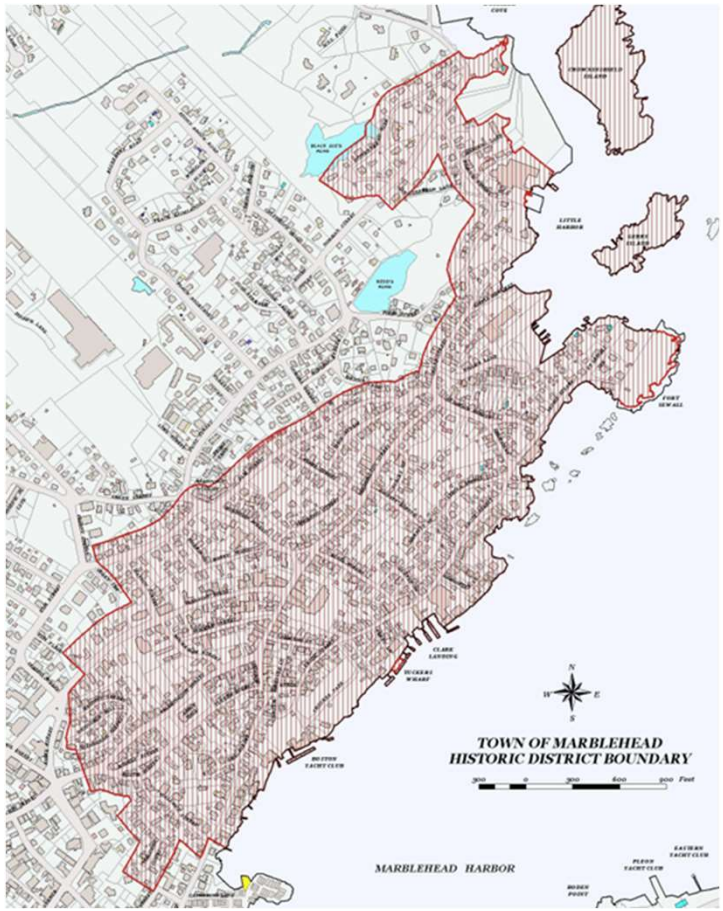
Marblehead Sustainable Heritage

Marblehead's 2040 commitment

- In 2018, Town Meeting adopted Article 45.
- Goal: 100 percent carbon-free energy by 2040.



Partnership and project charge

Marblehead asked the **Massachusetts Historical Commission** and the **Metropolitan Area Planning Council** for help and funding.

The charge was to revise guidelines so they better balance historic preservation with clean energy retrofits.

Starting point and standards

Work began with the **Secretary of the Interior's Standards for Rehabilitation** and guidance from the **Advisory Council on Historic Preservation**.

These federal references served as the foundation and continual touchstone, ensuring local criteria are predictable, defensible, and teachable.

ACHP CLIMATE CHANGE AND HISTORIC PRESERVATION POLICY STATEMENT

Principles for decisions

- **Reversibility:** Upgrades can be removed later without damaging historic fabric.
- **Distinguishability:** New elements are compatible yet clearly contemporary, avoiding a false sense of history.
- **Scale:** Additions remain proportionate so the historic building stays the visual focus.

*These principles **demonstrate** that new interventions, including clean energy retrofits, can **strengthen** rather than weaken preservation when **grounded** in accepted professional standards.*

How the comparison worked

We reviewed current Marblehead historic district guidelines alongside federal guidelines, peer communities, and the town's climate goals.

Color	Meaning
Green	Meets or exceeds national standards or fully aligns with the *Marblehead Climate Vision Plan* and *Net Zero Roadmap*.
Orange	Mostly meets national standards with some differences or partially aligns with the *Marblehead Climate Vision Plan* and *Net Zero Roadmap*.
Blue	Does not meet national standards or is out of alignment with the *Marblehead Climate Vision Plan* and *Net Zero Roadmap*.

- Looked at guidance from the **Secretary of the Interior** and the **Advisory Council on Historic Preservation**
- Compared Marblehead's current guidance to peer examples from **Nantucket**, **Concord**, and **Salem**
- Checked where Marblehead's current guidance <u>supports</u> the **Climate Vision** and **Net Zero Roadmap**, and where it <u>does not</u>

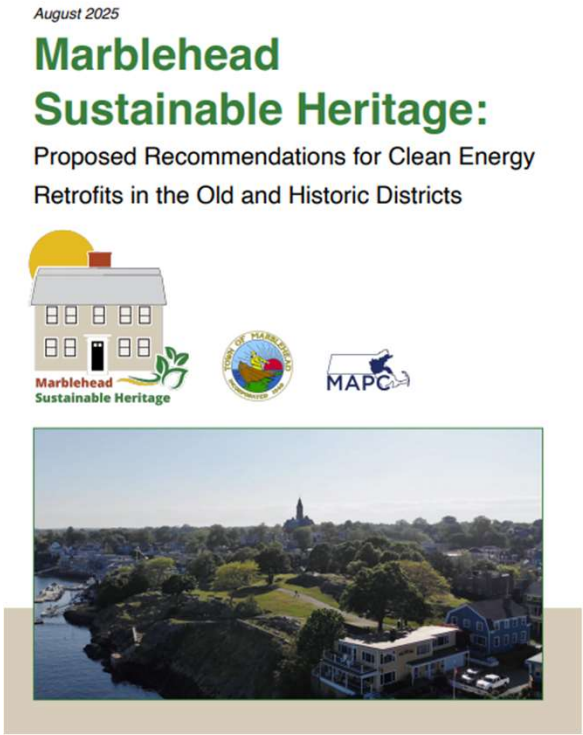
Solar Energy Systems (SES)

Criteria	National Historic Preservation Standards	Nantucket	Salem	Concord	Marblehead Guidelines	Marblehead Guidelines Alignment with Marblehead Climate Vision Plan and Net Zero Roadmap
Visibility from Public Way	Panels should be minimally visible to avoid altering historic character.	Minimize visibility; blend with roof design.	Minimize visual impacts; place on rear slopes.	Preference is for placements on secondary elevations.	PV systems must not be visible from Public Way.	Partially Aligned: Visibility restrictions hinder solar adoption but don't out right stop it.
Location and Placement	Install panels on rear slopes or hidden locations.	Consider less visible locations first; minimize impact and visibility.	Minimize visibility; place on rear or side slopes.	Focus on minimizing visibility.	Panels should have no visibility from Public Way.	Out of Alignment: Limits optimal placement for energy generation.
Color Compatibility	Panels should match roof materials in color.	Match roof color and plane.	Choose compatible colors for energy systems.	Choose low-profile panels in complementary colors.	Not specifically addressed.	Partially Aligned: Additional guidance could help align with aesthetic goals.
Mechanical Equipment	Should be unobtrusive and reversible.	Blend with roof design; screen ground equipment.	Screen mechanical units at grade.	Not specifically addressed.	Equipment should not be visible from Public Way.	Partially Aligned: Restrictions may increase installation complexity.
Solar Shingles	Should look like conventional materials and not replace original materials.	Not specifically addressed.	Use low-profile, compatible shingles.	Mentioned, but not specifically addressed.	Not specifically addressed.	Out of Alignment: Lack of guidance limits innovative solutions.
Freestanding Systems	Should be installed to minimize visibility and screened if necessary.	Not specifically addressed.	Not specifically addressed.	Not specifically addressed.	Not specifically addressed.	Out of Alignment: Lack of guidance limits adoption of alternative solutions.
Removal of Historic Materials	Avoid altering historic features to install solar systems.	Not specifically addressed.	Retain original features when installing.	Retain original features when installing.	Not specifically addressed.	Partially Aligned: Additional guidance could help align with preservation goals.
Installation Procedure Impact	Installations should be reversible and not damage historic fabric.	Avoid impact on primary structure; ensure reversibility and compatibility.	Design for minimal impact on historic fabric.	Ensure no perceptible change in massing or roofline; cannot obscure distinctive features.	Not specifically addressed.	Partially Aligned: Additional guidance could help align with preservation goals.

Proposed Recommendations

Guideline language for solar siting, heat pump locations, EV charging, and windows. Each section expresses principles as approval criteria that applicants can meet.

- **Criteria** specify siting, mounting, screening, and relative visibility.
- **Written** to be clear in hearings and workable for applicants.
- **Developed** through meetings, tours, expert input, and comparative checks.



How the recommendations were drafted – Collaboration Steps

- **Joint committee session:** The Old and Historic Districts Commission and the Green Marblehead Implementation Committee met to share priorities and perspectives on clean energy retrofits.
- **Community charrette with experts:** Residents, local stakeholders, Historic New England, and the Newport Restoration Foundation worked through scenarios and language together.
- **Shared purpose and expert guidance:** Build criteria that reflect national standards, local goals, and lived experience.

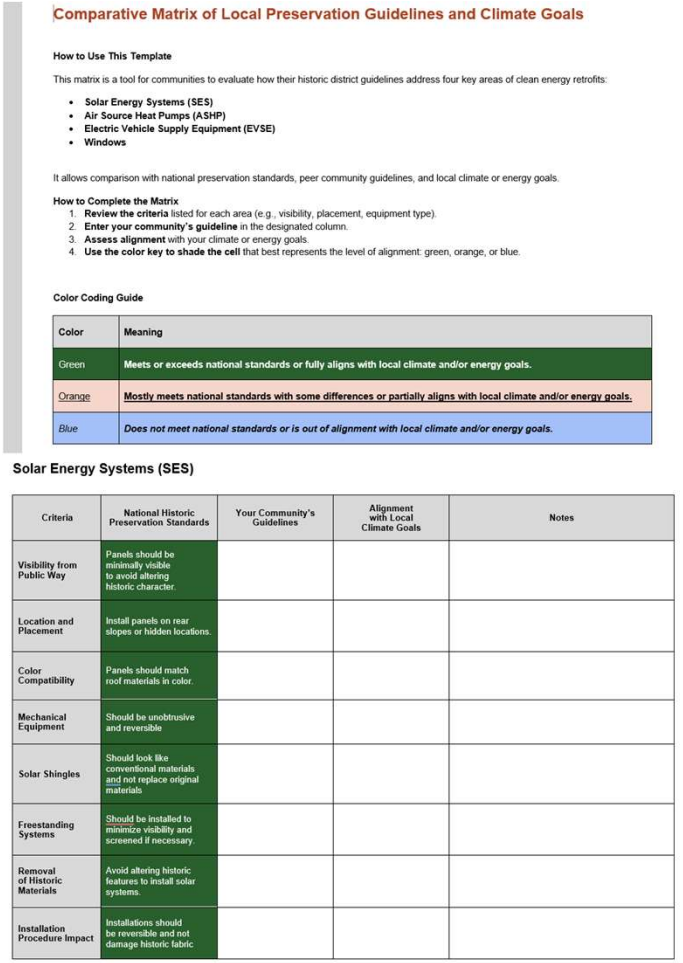
How the recommendations were drafted – Field work and review

- **Walking tours:** In Marblehead and Salem, real installations were examined for placement, mounts, and screening within historic districts.
- **External and staff review:** Experts from the City of Salem and the Newport Restoration Foundation, along with the OHDC, the Green Marblehead Implementation Committee, and Town staff, reviewed drafts.

Result: Clearer language, better usability, and alignment with the Secretary of the Interior and the Advisory Council on Historic Preservation.

How to adapt this approach in your community

- **Start** with the Secretary of the Interior's Standards so decisions follow best practice.
- **Use** the comparative matrix to test local rules against national standards from the Secretary of the Interior and the Advisory Council on Historic Preservation.
- **Write** guidelines that allow clean-energy retrofits when sited, scaled, and screened to protect significant features, making compatibility a design requirement.
- **Ground** review in shared observation using tours or site photos, and share drafts with external experts and local boards to confirm clarity and workability.



Comparative Matrix of Local Preservation Guidelines and Climate Goals

How to Use This Template

This matrix is a tool for communities to evaluate how their historic district guidelines address four key areas of clean energy retrofits:

- **Solar Energy Systems (SES)**
- **Air Source Heat Pumps (ASHP)**
- **Electric Vehicle Supply Equipment (EVSE)**
- **Windows**

It allows comparison with national preservation standards, peer community guidelines, and local climate or energy goals.

How to Complete the Matrix

1. **Review the criteria** listed for each area (e.g., visibility, placement, equipment type).
2. **Enter your community's guideline** in the designated column.
3. **Assess alignment** with your climate or energy goals.
4. **Use the color key to shade the cell** that best represents the level of alignment: green, orange, or blue.

Color Coding Guide

Color	Meaning
Green	**Meets or exceeds national standards or fully aligns with local climate and/or energy goals.**
Orange	**Mostly meets national standards with some differences or partially aligns with local climate and/or energy goals.**
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Solar Energy Systems (SES)

Criteria	National Historic Preservation Standards	Your Community's Guidelines	Alignment with Local Climate Goals	Notes
Visibility from Public Way	Panels should be minimally visible to avoid altering historic character.			
Location and Placement	Install panels on rear slopes or hidden locations.			
Color Compatibility	Panels should match roof materials in color.			
Mechanical Equipment	Should be unobtrusive and reversible			
Solar Shingles	Should look like conventional materials and not replace original materials			
Freestanding Systems	Should be installed to minimize visibility and screened if necessary.			
Removal of Historic Materials	Avoid altering historic features to install solar systems.			
Installation Procedure Impact	Installations should be reversible and not damage historic fabric			

A shared path forward

- Preservation and climate action advance together when reviews start from shared federal standards and are translated into clear, local criteria.
- Predictable guidance helps applicants plan, helps boards decide, and helps communities keep the qualities they value.

Remember to treat climate action as a form of care for places that your community values.