



Energy

Tying closely to the improvements of building performance, transitioning to clean, renewable energy, as well as having a reliable energy system is critical to reducing Gloucester’s GHG emissions. The electrification of cars and home heating and cooking equipment is key to achieving net zero – both in Gloucester and contributing to the state’s overall goal of becoming carbon neutral by 2050.



Photo by Vivint on Unsplash

Goals

1. Energy consumption (e.g., building HVAC, transportation) in Gloucester is supplied from fossil-fuel free, renewable, reliable, and affordable sources.
2. All municipal electricity consumed in Gloucester will come from or be offset by renewable energy sources.
3. The City participates in regional collaboration to support state legislation and policies to decarbonize the region’s electricity.

What’s been done so far?

Renewables Development. In 2011 the City permitted a two-turbine 4MW renewable energy project proposed by Equity Industrial Partners LLC, located in the Blackburn Business Park. After permitting the project, the City successfully negotiated a Power Purchase Agreement with the operator of the project, Equity Industrial Turbines LLC. Under the agreement, a substantial portion of the City’s electricity is purchased from this highly local renewable energy source at a discounted rate. The two turbines currently offset approximately 85% of Gloucester’s municipal electricity demand (data updated as of May 2022).



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Clean Energy Commission (CEC). The City established the Clean Energy Commission (CEC) in 2009 to promote clean energy options in Gloucester including energy efficiency, conservation, and the development of clean and renewable energy sources.

Community Aggregation. Since 2018, the City of Gloucester offers a Community ElectriCity Aggregation (CEA) Program, which has demonstrated to be highly impactful in reducing emissions from electricity. This program uses bulk purchasing power to offer residents and businesses an unobtrusive path to renewable, local electricity sources. Community members pay fixed, competitive rates by purchasing power together, and support the local clean energy economy. All National Grid accounts in Gloucester are automatically enrolled in the default program, which provides 10% renewable energy.

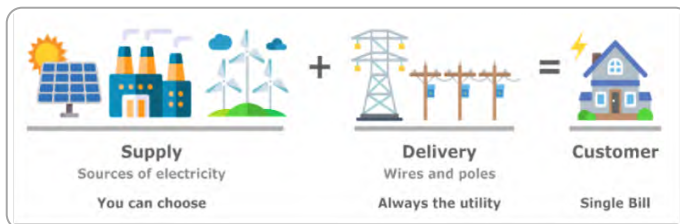


Figure 18: How CEA works

Take Climate Action Today

Gloucester residents and small businesses can easily switch over to the City's 100% renewable energy option – you'll still receive a single utility bill each month from National Grid. Compare prices and sign up for the 100% energy option at gloucester-cea.com

Follow Innovate Gloucester for more ways to take climate action:



Green Justice Coalition

Regional Highlight: Chelsea Microgrid

In partnership with Resilient Urban Neighborhoods (RUN) and the Green Justice Coalition (GJC), the City of Chelsea and Boston's Chinatown have been working to develop community microgrids for residential neighborhoods in the City of Chelsea and Boston's Chinatown since 2016. What makes this effort special is its collaboration with local community leadership, from identifying these communities' needs and priorities to incorporating their input into the microgrid model design. The community leaders also serve as the project leaders.

Visit greenjusticecoalition.org/blog/community_microgrids-2/ for more details.

E1 Ensure designated shelters and facilities used for emergency are retrofitted and equipped with energy-efficient and renewable back-up power.



Sphere of Influence:
City



Implementation Partners:

- **Service Organizations:** YMCA, Addison Gilbert Hospital, North Shore CDC, SeniorCare, The Open Door, Action Inc., Wellspring House, Annisquam Good Neighbors, Pathways for Children, Younity
- **Government and Municipal Bodies:** Mayor’s Office, City Council, Board of Public Health, Community Preservation Committee, Clean Energy Commission, School Board
- **City Departments:** DPW, Planning, Building, Public Safety, Community Development (CDBG), School Department, Veterans Services, Rose Baker Senior Center



Funding Sources:

- MVP
- Office of Energy and Environmental Affairs (EEA)
- National Grid
- MassCEC
- Green Communities
- AARP Age and Dementia Friendly Program

Next Steps:

- Host a working group that includes representatives from the Mayor’s office, public safety departments, and facilities managers of key sites to assess vulnerabilities and adaptive capacity of all current designated shelters and facilities.
- Consider how Gloucester can improve the connectivity of designated shelters and other key public health and safety sites (microgrids).
- Catalog and note the location of all emergency response resources in the City, such as generators and battery backup capacity.

Improving Equity:

- Prioritize shelters and facilities that are located in EJ communities and identified climate vulnerable areas.
- Ensure accessibility of designated shelters by people with disabilities.
- Work with local community support groups to ensure that emergency response protocols and support systems are communicated to residents where necessary. Including consideration of the need for food, health care, and pet care etc. in an emergency sheltering scenario.

Co-benefits:

Reduced public safety risks.

Reduced long-term operational and maintenance costs of City facilities.

Measure of Success:

All designated shelters and facilities are energy retrofitted and equipped with energy efficient and renewable back-up power.

A catalog of emergency response resources in the City, such as generators and battery backup, is regularly updated by designated staff persons.

E2 Update local policies, codes, and zoning to increase the feasibility of solar installations and streamline the permitting and inspection processes, including for residential, businesses, and industrial uses.



Sphere of Influence:
City Ordinances or Regulations



Implementation Partners:

- Homeowners and landlords
- Gloucester development community
- **Climate Activist Organizations:** Cape Ann Climate Coalition, TownGreen2025, Seaside Sustainability
- **Government and Municipal Bodies:** City Council, Clean Energy Commission, Planning Board, Mayor's Office
- **City Departments:** Planning, Conservation, Building



Funding Sources:

- Executive Office of Energy and Environmental Affairs (EEA)
- District Local Technical Assistance (DLTA)

Next Steps:

- Research best practices on language that define net zero technology.
- Review current policies, building codes, and zoning regulations to determine existing barriers as well as opportunities for incorporation of net zero technology. For example: add a provision to exclude solar energy systems (as well as other emerging green technologies) from building height requirements.

Improving Equity:

- Ensure that any zoning changes that benefit residents are clearly communicated in accessible terms.

Co-benefits:

Increased access to renewable energy through on-site generation.

Measure of Success:

More streamlined processes to incorporate energy efficient and renewable energy technologies in homes and businesses.

E3 Promote 100% Local Green energy opt-in⁹ provided through Gloucester's municipal aggregation program.



Sphere of Influence:
City



Implementation Partners:

- National Grid customers
- Department of Energy Resources (DOER)
- GoodEnergy or applicable aggregation consultant
- MassCEC
- Action Inc. (LEAN Agency)
- **Climate Activist Organizations:** Cape Ann Climate Coalition, TownGreen2025, Seaside Sustainability
- **Government and Municipal Bodies:** Clean Energy Commission, Mayor's Office
- **City Departments:** Planning



Funding Sources:

- GoodEnergy or applicable aggregation consultant
- Mass Save

Next Steps:

- Work with aggregation consultant to develop educational and promotional materials; conduct outreach and info-sessions for residents about the program.

Improving Equity:

- Ensure robust engagement with residents, landlords, and renters in EJ communities and climate vulnerable populations, to better understand their priorities, needs, and barriers that prevent them from participating in the program.
- Partner with trusted community organizations on messaging rate options.

Co-benefits:

Improve stability in electricity pricing for residents.

Promote development of local renewable energy generation.

Measure of Success:

Number of aggregation customers that opt into the 100% Local Green energy opt-in.

⁹ Products described as Green contain Renewable Energy Certificates (MA Class I RECs) above that required by the Commonwealth and come only from solar, wind, anaerobic digestion and low-impact hydro located within New England. Local refers to New England. All of the additional RECs included in the program are designated as Massachusetts Class I. RECs are the accepted legal instrument used to track renewable energy generation and to substantiate claims of renewable energy use.

E4 Encourage local schools to offer vocational training on energy efficiency/building retrofit techniques, clean energy technologies and high-performance building measures.



Sphere of Influence:
State/Federal/Regional



Implementation Partners:

- National Grid, Grid for Good Program
- Gloucester High School
- Essex Technical and Agricultural High School
- North Shore Community College
- GMGI
- The Cornerstone Creative
- Local Parent Teacher Organizations (PTOs)
- **Climate Activist Organizations:** Cape Ann Climate Coalition, TownGreen2025, Seaside Sustainability
- **Government and Municipal Bodies:** School Committee, Mayor's Office, Clean Energy Commission
- **City Departments:** School Department



Funding Sources:

- MassHire
- National Grid

Next Steps:

- Work with local technical schools and technical programs at Gloucester High School to incorporate green technology into curriculums, as an example integrate EV training in vocational classes.
- Incorporate high school student participation in energy efficiency measures taken by the City.
- Identify existing programs that can be leveraged or partnered with to promote green technology education in Gloucester.

Improving Equity:

- Consider financial assistance to support students from low-income households participating in training programs, purchase training materials/supplies, etc.

Co-benefits:

Increased new and local clean energy workforce.

Increased community resilience.

Measure of Success:

One or more training programs offered at local schools and institutions.

Additional Strategies for Energy

Strategy	Realm of Influence
E5 Consider how renewables can be incorporated into the design of any updates of local facilities including the wastewater treatment facility.	City
E6 Conduct a community-wide energy resiliency assessment.	City
E7 Conduct a feasibility assessment to install solar on municipal facilities and properties (rooftops, parking lots, etc.) as well as brownfields. In particular, consider feasibility of installing rooftop solar and on-site battery storage at schools for resilience and demonstration purposes.	City
E8 Provide information and assist businesses in applying for grants, technical assistance, and utilities incentives to invest in renewables. Partner with local businesses and institutions to install solar PVs on their properties, particularly key community spaces like the YMCA and Blackburn Industrial Park.	Residents/Businesses
E9 Provide information to residents (homeowners, landlords, condo associations, and renters) in applying for grants, technical assistance, and utilities incentives to invest in renewables.	Residents/Businesses
E10 Make municipal emissions data and communications more accessible to the community.	City
E11 Conduct a grid feasibility assessment of increasing renewable energy sources for municipal and community's energy demand. Evaluate equity of access to local renewable energy sources.	City
E12 Develop educational materials on components of high-performance building standards for renters and homebuyers to reference in their home search.	Residents/Businesses
E13 Conduct a feasibility assessment to pilot microgrid or energy storage projects at municipal critical facilities, local institutions (such as hospitals), business centers/districts, housing developments, etc.	City
E14 Conduct education outreach to support increasing share of renewable energy portfolio in the Community Energy Aggregation program. Consider potential costs and cost stabilization to residents.	City

Additional Strategies for Energy

Strategy	Realm of Influence
E15 Advocate for state and federal policies and incentives to support renewables and needed retrofit efforts, particularly for low-income households, with the long-term goal of transitioning to clean energy.	State/Federal/Regional
E16 Explore options for adding new City-sponsored renewable energy.	City
E17 Identify potential City partnerships to create a community solar program.	City
E18 Continue participating in state and regional discussions to align strategies to achieve statewide GHG reduction and net zero energy goals.	State/Federal/Regional
E19 Collaborate with neighboring communities in the region to advocate for increased renewable energy sources on the grid.	State/Federal/Regional
E20 Encourage local tech schools/institutions to offer curriculum on energy efficiency/ building retrofit techniques, clean energy technologies, high-performance building measures through vocational training program at the high school. Potential partnership includes National Grid's Grid for Good program.	State/Federal/Regional
E21 Continue to monitor and participate in regional conversations regarding Gloucester's opportunities to support offshore wind development. Advocate for discussion of potential offshore wind development that is in concert with ocean habitat and the seafood/ fishing industry.	City