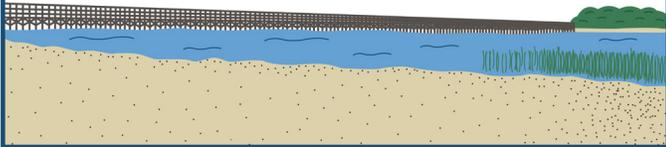


Sustainability - Energy

DRAFT: TO BE REFINED WITH YOUR HELP!

DRAFT FOR DISCUSSION 12-18-18

Envision Duxbury



Envision Duxbury is a comprehensive master plan being developed by the Town of Duxbury to guide the future growth and economic development of the town, using goals and ideas generated by community members.

The Town of Duxbury has made steady improvements towards reducing municipal greenhouse gas (GHG) emissions and installing renewable energy. In 2017, Duxbury received designation as a Green Communities from Massachusetts Department of Energy Resources. Through the program, Duxbury has committed to reducing municipal energy use by 20% over the next 5 years through a variety of technical and behavioral projects. The highest municipal energy users are the schools, which account for 42% of the municipal energy use. However, many efforts have already been made to reduce energy and the Duxbury Middle-High Schools is considered a Collaborative High Performance School for sustainability.

In addition to energy efficiency, the Town has taken efforts to support renewable energy generation both for municipal buildings as well as allowing access for residents to take advantage of solar. The town owns several rooftop solar arrays, as well as purchases electricity from solar and wind systems in the region. The Town also allows accessory, rooftop solar by-right in several major zones.

Recommendations

The following goals and strategies are intended to support continuing efforts to reduce greenhouse gas emissions, reduce energy usage, and save on energy costs both at the municipal level and community wide.

Goal 1: Reduce municipal greenhouse gas emissions.

- Continue projects to reduce energy usage at municipally-owned buildings, including schools through energy efficiency measures, retrofitting HVAC and boilers, and behavioral changes.
- Continue to reduce energy use from municipally-owned vehicles including investing in fuel efficient and alternative fuel vehicles, and tracking vehicle usage.
- Install and purchase renewable energy for municipal use, either through direct ownership or power purchase agreements (PPA's) with solar and wind sources nearby.
- A majority of the streetlights in Duxbury are owned by Eversource. The town should continue working towards municipally owned streetlights and lights at facilities, and consider retrofitting to LED's and/or dimming lights where appropriate (as identified in the 2017 Energy Reduction Plan).

Goal 2: Develop a community-wide Climate Action Plan that sets the community on a path towards being net-zero, including buildings, transportation, and waste sectors.

- Extend the Ad-Hoc Alternative Energy Committee's goals to include considering a feasibility analysis of net-zero commitment and supporting a long-term GHG reduction plan.
- Establish a GHG baseline for community to better understand usage across residential, commercial and industrial, transportation and waste.
- Explore targets for GHG reductions and Net-Zero goal, including interim targets for every decade (i.e. 2030 and 2040) and near-term targets for reduction.

- Develop a strategy for reaching GHG reductions and launch projects and initiatives that balance greatest impact and costs.

Goal 3: Increase access for local residents and businesses to clean energy for electricity and heating/cooling needs.

- Increase the percentage of renewable energy for residents and businesses through a Community Choice Aggregation (CCA) (also known as Municipal Green Aggregation), where the Town chooses a competitive electricity supplier to provide additional renewable electricity.
- Encourage the development and participation in Community Shared Solar (CSS), in which multiple subscribers can benefit from a single, large solar array (within the same utility load-zone). CSS helps provide access to solar to those who are unable to install it on their own property, whether they have roofs that aren't appropriate or are renters who don't own their home.
- Host a Solarize plus or Heat Smart campaign to promote and reduce costs of air source heat pumps and the electrification of heating/cooling systems, while also reducing costs for solar through bulk purchasing of rooftop solar (Solarize).

Goal 4: Support local residents and business in reducing their energy use through energy efficiency programs and initiatives.

- Educate property owners about the benefits and programs to conduct a home energy audit and partner with existing programs through Eversource and MassSave.
- Establish a weatherization program for homeowners and business owners, or explore partnerships with existing programs.

Goal 5: Increase energy resilience at critical facilities and public safety buildings.

- Identify critical facilities ideal for resilient energy systems, including facilities that may be used as emergency shelters or command centers.
- Explore the technical and financial feasibility of installing islanding capabilities at municipally-owned solar energy systems to be used during power outages (such as at the schools).
- Explore the technical and financial feasibility of installing battery storage with solar either at existing solar arrays, or building a new solar array plus storage.

Questions for Stakeholders

1. What is your initial reaction to this material?
2. Given what you know about major goals, challenges, or opportunities in the Town, does anything appear to be missing or seem incomplete?
3. Are there goals or strategies that are difficult to understand or that need to be clarified?
4. Does this material raise any additional questions for you?
5. From your perspective, what is the highest priority among the goals and strategies?
6. What do you think your role, or the role of the group you represent, could be in implementing these goals and strategies?
7. Is there someone else who we should talk to in Duxbury who is knowledgeable of this topic?
8. What action items do you see as critical to achieving these goals and strategies?
9. Do you know of other resources that could be used to address these goals and strategies?
10. How do you see this element relating to other elements of the Master Plan?
11. Do you have any other comments?