

Ashfield News March 2023- Solar Resource/Infrastructure Report and Community Solar Survey

The Ashfield Energy committee is continuing to partner with the University of Massachusetts Clean Energy Extension (CEE) to develop a community solar plan for the town of Ashfield. The goal of the plan is to assess solar resources in Ashfield and to determine where town residents would want to locate future solar installations. In 2022 Ashfield revised our Solar Bylaw, which sets limits on what kind of solar development can happen in Ashfield and where. The solar planning process complements the bylaw, looking at where Ashfield may want to locate solar installations if we are to play a part in meeting the goals set forth in the Massachusetts climate roadmap that was passed last year.

Grace Theberge, an undergraduate student working with CEE, used town maps and data to create the first part of the solar plan, the Ashfield Solar Resource and Infrastructure Report. She looked at many factors, including the electric grid infrastructure in our area, square feet of rooftops in Ashfield, open vs forested land, and potential sites for battery storage.

An important factor in determining solar potential in Ashfield is the electric grid in our area and whether it's "hosting capacity" is adequate to support significantly more solar. Hosting capacity means how much solar power can be added without causing problems to the grid as a whole.

Grid balancing is what utility companies need to do to supply the correct amount of electricity to meet customer needs. As renewable energy supplies are dependent on natural phenomena they can often provide fluctuating supplies of electricity to the grid. If supply and demand for electricity are not correctly balanced the excess voltage can cause damage to the system. (AZOCleantech.com)

Hosting capacity is a relative concept and always in flux- when grid updates are completed, hosting capacity is increased, and when more solar and other decentralized sources of power are added, more hosting capacity is used up and it decreases. The current hosting capacity in Ashfield is quite low. Smaller solar arrays such as residential scale installations can likely be incorporated but larger commercial scale arrays would require grid updates. Grid updates are typically paid for by developers by being added to the cost of a solar project. Grid modernization is a huge issue nationwide right now as the US begins a significant transition away from centralized power plants and towards more distributed generation like solar and wind power. Our state representative Natalie Blais reports that the 2021 Massachusetts climate bill included legislation she introduced related to grid modernization. It is possible Ashfield may be able to use the information provided in this Solar Plan to advocate for grid upgrades here in the future.

Grace's Solar Resource and Infrastructure Report assessed the amount of solar which could potentially be generated in Ashfield in different categories: residential scale, medium to large rooftops, parking lots, landfills or other disturbed sites, agricultural resources, and undeveloped land. Using maps and available data Grace was able to determine the amount of power which could potentially be generated in each category:

Residential Scale	5.2 MW
Medium to large roofs	2.4 MW
Parking Lots	0.2MW
Landfills/disturbed sites	4.17 MW
Agricultural	345.8 MW
undeveloped land	693 MW
TOTAL POTENTIAL:	1,050.8 MW

Currently there are 157 small scale solar arrays in town, 2 large scale arrays, and 5 large arrays in progress. All of these together add up to 0.02 MW of electricity, a tiny amount compared to what is possible.

In addition to generating solar power the report looked at spots in town where it would be a good idea to consider solar installations with battery storage. Sanderson Academy, the Fire Department and the Wastewater Treatment Plant were all flagged as good sites for battery storage due to need for emergency shelter, increased resilience during extended outages, and high energy use respectively.

Community Solar Survey

Now that we have an idea what solar is POSSIBLE in Ashfield, we need to learn what town residents want to see happen. In March, CEE will conduct a town-wide survey of residents' thoughts and feelings about solar in general and about the possibility of increasing solar installations in Ashfield in particular. CEE will mail a survey to every town address by the time you are reading this. **Please fill out a survey** and return it with the enclosed SASE. Each household will be mailed one survey but we would like to hear from as many people as possible. Additional copies of the survey will also be available at the Belding Library and at Town Hall. Links to fill out a survey online will be on the town and library websites and facebook pages. We want to hear from you! We will be hosting survey completion parties at the library and town hall. The first one will be at Belding Library Saturday March 11 1pm-2:30pm. Come have some free Country Pie pizza and fill out a survey! While surveys are anonymous, anyone filling out or turning in a survey can enter their name in a drawing to win cash prizes and gift certificates for local businesses! While surveys are for those of voting age we want to hear from young people as well. We are working on a 1 page youth survey and would like to hear from as many young people as possible about your thoughts and feelings about solar energy in our town!

Next Steps

In early April, UMass CEE will tabulate survey results showing how Ashfield residents feel about solar energy of different types (ie rooftops vs parking canopies vs large "solar farms"). This information will be used in combination with the initial infrastructure report discussed in this article to produce a final report highlighting projects which might be of interest for the town to consider.

Contact the Energy Committee at energy@ashfield.org with suggestions, comments and questions. The Energy Committee meets monthly in lower town hall. You are invited to attend a meeting. Propose ways to increase the use of clean energy and reduce our carbon footprint in Ashfield. Offer support for one of our projects. We truly welcome your input. Our next meeting will be Friday March 17 at 8:30am.