



# Renewable Communities

Massachusetts cities and towns leading the way to 100% renewable energy

## Sterling and Ashburnham: Battery storage

The town of Sterling, with a population just under 8,000, has become a global leader in energy storage. Government officials and utility operators from Germany, Japan, Taiwan, and Norway have visited the 2-megawatt, 3.9-megawatt-hour lithium ion battery storage system installed by the Sterling Municipal Light Department (SMLD). The first of its kind in Massachusetts, this utility-scale battery went online in 2016.<sup>1</sup>

The system allows SMLD to store energy produced by the town's solar arrays and release it back into the grid during hours of peak demand. In addition to cutting back on greenhouse gas emissions, the battery is projected to save SMLD customers over \$400,000 on their electricity bills every year.<sup>2</sup> The storage system also provides a reliable supply of electricity to critical facilities in the event of a natural disaster. SMLD's battery stores enough energy to power the Sterling police station and dispatch center for up to 12 days, preserving local first responders' ability to protect their community during a power outage.<sup>3</sup>

In 2018, Sterling installed a second energy storage project. The new 1-megawatt, 2-megawatt-hour battery storage system is paired with a 1-megawatt rooftop solar array. This "solar + storage" system is expected to produce enough electricity to power 228 homes each year.<sup>4</sup> Residents of Sterling can choose to purchase electricity from the solar panels at a predictable, fixed rate for 25 years.<sup>5</sup>

Another Central Massachusetts community, Ashburnham, is also an early adopter of energy storage technology. Ranked sixth in the United States for solar capacity per customer, the Ashburnham Municipal Light Plant (AMLP)

received a \$600,000 grant from the Advancing Commonwealth Energy Storage Initiative in 2017.<sup>6</sup> The 3-megawatt, 5-megawatt-hour system went online in January 2019, and is expected to reduce capacity and transmission costs for electric customers.<sup>7</sup> The completion of this project allowed AMLP to lift a moratorium on new solar energy development in town, since the battery system can be used to store excess solar energy produced at times when the generation of solar power is higher than the demand for electricity on the local grid.<sup>8</sup>

1. "Sterling, Massachusetts Changes the Business of Electricity in New England – Forever," Todd Olinsky-Paul, Renewable Energy World, 17 April 2017, <<https://www.renewableenergyworld.com/ugc/articles/2017/04/14/sterling-massachusetts-changes-the-business-of-electricity-in-new-england-forever.html>>. "Sterling Municipal Light Dept. Energy Storage System," Clean Energy Group, <<https://www.cleangroup.org/ceg-projects/resilient-power-project/featured-installations/sterling-energy-storage/>>.

2. "Sterling Municipal Light Dept. Energy Storage System," Clean Energy Group, <<https://www.cleangroup.org/ceg-projects/resilient-power-project/featured-installations/sterling-energy-storage/>>.

3. Ibid.

4. "MA Solar Storage I – Sterling Community Solar + Energy Storage," Origis Energy, <<https://www.origisenergy.com/projects/ma-solar-storage-sterling-community-solar-energy-storage/>>.

5. "First Community Solar Plus Storage Project in Massachusetts Dedicated Today," Origis Energy, 17 April 2018, <<https://www.origisenergy.com/first-community-solar-storage-project-in-ma-dedicated/>>.

6. "State grant will enable Ashburnham to expand its usage of renewable energy," Paula J. Owen, Telegram.com, 14 December 2017, <<https://www.telegram.com/news/20171213/state-grant-will-enable-ashburnham-to-expand-its-usage-of-renewable-energy>>. *Annual Town Report 2017*, Town of Ashburnham, 2017, <[http://www.ashburnham-ma.gov/sites/ashburnhamma/files/uploads/town\\_of\\_ashburnham\\_annual\\_report\\_2017.pdf](http://www.ashburnham-ma.gov/sites/ashburnhamma/files/uploads/town_of_ashburnham_annual_report_2017.pdf)>.

7. "Ashburnham Municipal Light Plant cuts ribbon on energy storage project," The Gardner News, 31 May 2019, <<https://www.thegardnernews.com/news/20190531/ashburnham-municipal-light-plant-cuts-ribbon-on-energy-storage-project>>.

8. *Annual Town Report 2017*, Town of Ashburnham, 2017, <[http://www.ashburnham-ma.gov/sites/ashburnhamma/files/uploads/town\\_of\\_ashburnham\\_annual\\_report\\_2017.pdf](http://www.ashburnham-ma.gov/sites/ashburnhamma/files/uploads/town_of_ashburnham_annual_report_2017.pdf)>.