



Renewable Communities 2021

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

Chelsea: Community microgrid

In 2018, the Massachusetts Clean Energy Center awarded grants to study the potential for community microgrids in Chelsea and 13 other communities.¹

A microgrid is a localized energy grid that can be disconnected from the larger grid. Microgrids typically include a source of electricity generation to keep a building or group of buildings powered during a power outage. Some microgrids use a combination of energy storage and renewable energy resources like solar panels.²

The Green Justice Coalition, together with Resilient Urban Neighborhoods, a collaborative of organizations with technical expertise, completed a feasibility assessment for a microgrid in Chelsea in June 2020.³ The assessment examined three facilities in detail: an elderly housing facility owned by the Chelsea Housing Authority, a health care center, and Chelsea City Hall. The study also identified more than a dozen other buildings that expressed interest in joining the microgrid, with a focus on buildings that provide important services and protect vulnerable residents during emergencies.⁴

While typical microgrids include buildings that are physically adjacent and connected to each other with wires, the Chelsea microgrid would allow non-contiguous properties to participate, with the generation and consumption of energy managed by a cloud-based algorithm. During a power outage, each building would function independently, with renewable energy generation and energy storage located on-site. This design reduces regulatory obstacles to the creation of a microgrid by installing assets behind the meter, and allows for greater

flexibility in adding buildings to the project in the future.⁵ The Chelsea microgrid project has empowered community groups to make decisions around the project's design.⁶

In June 2021, the city of Chelsea issued a request for proposals (RFP) to begin building a microgrid. The project described in the RFP includes solar, battery storage, energy efficiency improvements, and electric vehicle charging stations at the police station, city hall, and a housing complex, as well as a cloud-based system to manage the microgrid elements.⁷ The RFP also asks respondents to identify other locations in Chelsea suitable for solar and battery storage installations.⁸ The city expects to approve a contract for the project in September.⁹

1. "Community Microgrids Program: Feasibility Assessment Award Summary," Massachusetts Clean Energy Center, <<https://files.masscec.com/Community%20Microgrid%20Awardee%20Summary.pdf>>.

2. "How Microgrids Work," Allison Lantero, U.S. Department of Energy, 17 June 2014, <<https://www.energy.gov/articles/how-microgrids-work>>.

3. *Chelsea Community Microgrid Feasibility Assessment*, Clean Energy Solutions Inc., June 2020, <<https://greenjusticecoalition.org/wp-content/uploads/2021/04/RUN-GJC-Task-6-Chelsea.pdf>>.

4. *Ibid.*, 11-15.

5. *Chelsea Community Microgrid Feasibility Assessment*, Clean Energy Solutions Inc., June 2020, <<https://greenjusticecoalition.org/wp-content/uploads/2021/04/RUN-GJC-Task-6-Chelsea.pdf>>, 16; and "Getting onto the New Grid in Greater Boston," Meg Wilcox, Next City, 7 December 2018, <<https://nextcity.org/daily/entry/getting-onto-the-new-grid-in-greater-boston>>.

6. Email communication with Jen Stevenson Zepeda, Associate Director, Climable.org, 6 August 2021.

7. "Request for Proposals for Clean Energy Systems and Energy Services Chelsea Microgrid Project," City of Chelsea, June 2021, <https://www.chelseama.gov/sites/g/files/vyhlif396/t/pages/rfp_2021-425_clean_energy_systems_and_energy_services_chelsea_microgrid_project.pdf>, 26-27.

8. *Ibid.*, 36.

9. *Ibid.*, 44.