

1. Resilience Planning

The Massachusetts Department of Energy Resources (DOER) develops and implements policies and programs aimed at ensuring the adequacy, security, diversity, and cost-effectiveness of the Commonwealth's energy supply to create a clean, affordable and resilient energy future for all residents, businesses, communities, and institutions. [Executive Order 569: Establishing an Integrated Climate Change Strategy](#) and the [Statewide Resilience Master Plan \(SRMP\)](#) are driving forces for the DOER in pursuing programs and initiatives aimed at energy resilience and infrastructure hardening.

The [Community Clean Energy Resiliency Initiative \(CCERI\)](#) is a major initiative created by the state to help address service interruptions caused by severe weather. The \$40 million grant program helps cities and towns use clean energy technologies, including CHP, in order to mitigate and address the impacts of climate change. In 2017, the Commonwealth also initiated the Municipal Vulnerability Preparedness Grant Program, which provides direct funding and support to cities and towns to complete a community-driven process to develop priority actions to improve the municipality's resilience to all natural and climate-related hazards using an approach called the [Community Resilience Building \(CRB\)](#) workshop guide. The program provides access to a variety of resources, including a standardized toolkit for assessing vulnerability and developing strategies, and the best available statewide climate projections and data.

As part of this effort, the DOER is developing a Municipal Vulnerability Preparedness Community Tool. The purpose of the tool is to help state agencies and communities perform self-assessments and evaluate infrastructure risk while providing guidance for improvements and investments to enhance resiliency by relying on data, maps and analytics.

2. Program or Project Implementation

The DOER is identifying critical infrastructure and critical infrastructure risks, and coordinating with cities, organizations, and facility managers to create programs and implement energy resilience solutions that protect against weather hazards throughout the state. DOER's main approach to improving resiliency has been project-based. Rounds 1 and 2 of the CCERI grant program focused on implementation of critical infrastructure projects and awards for technical assistance. To date, the DOER has awarded 27 projects with technical assistance support, which includes an in-depth analysis of critical facility vulnerabilities and recommendations for resilient clean energy solutions. Round 3 of the CCERI is focused on energy resilience implementation at hospitals, feasibility studies for state owned and operated medical facilities, and resilience assessment tool development.

The DOER is also focused on accelerating the adoption of CHP through the [Alternative Energy Portfolio Standard \(APS\) as a way to improve onsite resiliency for a variety of facilities throughout the state](#). Additionally, the DOER is investigating incorporating energy storage as an APS-eligible technology as part of its overall strategy to encourage pairing clean energy solutions and other technologies that contribute to energy resilience. In addition to supporting the development of resilient CHP through the ability to black start and island enhanced by energy storage, the DOER supports the development of resilient solar PV energy resources through the addition of energy storage in the Solar Massachusetts Renewable Target (SMART) Program.

3. Lessons Learned

The Massachusetts DOER is well aware of the resilience benefits CHP can provide, and incorporates

CHP for Resiliency Accelerator Partner Profile

those benefits into policy and program development. One of the primary resilience benefits of enabling CHP to black start and island, is that because CHP is running nearly all the time it has a higher likelihood of operating during an actual outage. This is opposed to Diesel Backup Generators, which are operated infrequently, and have historically had high failure rates during extended outage conditions. If accounted for correctly, the resilience benefit of a CHP can improve the project return on investment in addition to the normal operational benefits that don't come with traditional backup generation. Additionally, the DOER has learned that energy storage can provide supplemental operational benefits to CHP, enabling enhanced demand charge reduction, improved CHP operating efficiency during normal grid connected operation, and improved CHP operation while in island mode.

The DOER has also realized the importance of working closely with other organizations and agencies. DOER has worked extensively with the Massachusetts Emergency Management Agency (MEMA) when designing programs focused on resiliency and addressing emergency management related to energy.

4. Additional Information

- ▶ [Mass DOER Resilience Program](#)
- ▶ [Statewide Resilience Master Plan \(SRMP\)](#)
- ▶ [CCERI Round 1 and 2 Implementation Awards](#)
- ▶ [CCERI Round 3 Grant Awards](#)
- ▶ [Municipal Vulnerability Preparedness Grant Program Request for Responses](#)
- ▶ [Massachusetts State of CHP Page](#)