

# Action Implementation Blueprints



## ACTION NAME

**Deploy utility-scale energy storage.**

### DESCRIPTION OF ACTION

Energy storage is an essential technology for better integrating renewables to support grid optimization, increase system reliability, reduce peak demand period supply, transmission and capacity costs, increase control over how and when CMLP purchases power from ISO-NE, and accelerate the pathway to a decarbonized electricity grid. This action is to evaluate opportunities to contract and install utility-scale energy storage in Concord.

### CHAMPION

CMLP

### IMPLEMENTATION STEPS

### PLANNING CONSIDERATIONS

#### TIME FRAME

#### KEY PARTNERS

1. Evaluate options for the installation of a utility-scale energy storage battery system. Evaluation considerations to include:
  - a. Technology options
  - b. Ownership vs. lease or PPA models
  - c. Additional financing options and grant availability
  - d. Renewables integration potential
  - e. Cost-benefit analysis for CMLP and ratepayers, including potential stacked value streams (e.g. upcoming MA Clean Peak Standard credits)
  - f. Siting considerations (optimum substation location; proximity to existing and potential solar sites)
  - g. Potential to support building and transportation electrification
  - h. Potential for key town facility microgrid integration
  - i. Resiliency benefits

**2021-2022**

- CMLP
- Concord Municipal Light Board

2. Leverage results of META grant report to evaluate installing distributed battery storage systems at critical municipal buildings and the potential to deploy energy storage systems in a virtual power plant (VPP).

**2021-2023**

- CMLP
- Sustainability Division
- Facilities Division
- MA DOER

3. Engage vendors and install utility-scale energy storage system. Monitor and manage equipment performance, and adjust software algorithms, as needed, to optimize battery discharge, especially during peak demand periods to maximize financial benefits. Evaluate technical and economic performance of energy storage system. Deploying energy storage will enable Town to install additional in-town solar arrays on town property as recommended in 2010 Utility-scale Solar Strategy to develop 25MW of CMLP operated solar generation capacity.

**2022-2024**

- CMLP

4. Explore potential for offering incentives for customer-sited energy storage projects, an Energize promotion campaign for residential and commercial battery storage, and a VPP pilot.

**2022-2024**

- CMLP
- Sustainability Division
- Solar customers

## Deploy utility-scale energy storage.



### FINANCING RESOURCES AND MECHANISMS

- CMLP ratepayers DOER
- MassCEC
- MVP Grant Program
- Green Communities
- Energy storage project developers
- U.S. DOE Energy Storage Project Developers
- 2010 Town Meeting Article 64 Authorization of Long-Term Lease for Solar Energy
- 2015 Town Meeting Article 36 Authorize Long-Term Lease for Municipal Building Rooftop and Ground Mounted Solar Energy

### TRADEOFFS (CHALLENGES/BARRIERS)

- High upfront technology ownership costs (approximate 7-year payback, without grants or subsidies), however costs continue to decline dramatically.
- Infrastructure upgrades may be required to accommodate energy storage.

### EQUITY CONSIDERATIONS

- A larger share of the electricity cost savings resulting from the energy storage project could be apportioned to low-to-moderate income (LMI) residents.

### TRACKING SUCCESS

#### Outputs:

- Utility scale battery storage feasibility study
- Utility-scale storage solicitation
- Utility-scale storage installation

#### Outcomes:

- Reduced electricity costs
- Lowered peak demand
- Reduced GHG emissions
- Increased renewable energy generation capacity
- Increased flexibility, reliability and resiliency of the electricity grid

### ENGAGING THE COMMUNITY

- Initiate a community-wide outreach effort to educate town residents and businesses on the benefits of energy storage. Will be especially important if rate payers must bear any additional costs.