



## Community Microgrids Program: Feasibility Assessment Award Summary

The MassCEC Community Microgrids Program seeks to catalyze the development of community microgrids throughout Massachusetts to lower customer energy costs, reduce greenhouse gas (GHG) emissions, and provide increased energy resilience. The Program awarded funding for 14 feasibility assessments to advance proposed microgrid projects through the early project origination stages and attract third party investment to these opportunities.

Charlestown Navy Yard	
<b>Application Team</b>	PartnersHealthCare, Thompson Consultants Inc., RussElectric
<b>Location</b>	Charlestown
<b>Utility</b>	Eversource
<b>Critical Facilities</b>	Spaulding Rehabilitation Hospital & Charlestown Navy Yard Medical Research buildings (buildings 114, 75, 79 & 96)
<b>Project Attributes</b>	Serves a hospital; Vulnerable to flooding and storm damage
<b>Project Summary</b>	
<p>The Charlestown Navy Yard is a high-density area containing over 2 million square feet of academic medical research facilities and an acute rehabilitation hospital. Due to its proximity to Boston Harbor, Charlestown Navy Yard is vulnerable to extreme weather events as a result of exacerbated climate change. The proposed community microgrid would combine existing assets with new solar, energy storage, and other control technologies that would provide greater resilience to the hospital and reduce GHG emissions.</p>	

City of Pittsfield	
<b>Application Team</b>	City of Pittsfield, Microgrid Institute, Berkshire Medical Center, Pittsfield Housing Authority, UMass Clean Energy Extension, Berkshire Regional Planning Commission, Skyview Ventures Renewable Energy Fund, Berkshire Environmental Action Team, The Center for EcoTechnology
<b>Location</b>	Pittsfield
<b>Utility</b>	Eversource
<b>Critical Facilities</b>	Berkshire Medical Center; Pittsfield Fire Station; Pittsfield Police Station; Pittsfield City Hall
<b>Project Attributes</b>	Serves a hospital; Serves local emergency operations; Serves emergency shelters; Serves affordable housing; Gateway City
<b>Project Summary</b>	
<p>The proposed City of Pittsfield Downtown Microgrid would serve, with uninterrupted sustainable energy, vital facilities that serve the City's most vulnerable populations alongside critical municipal services. The project represents an opportunity to modernize community energy infrastructure in a</p>	

Gateway City to provide resilience and attract and retain employers that rely on a high degree of power quality.

<b>Community Clean Energy Project (CCEP) - Worcester</b>	
<b>Application Team</b>	E4TheFuture, RENEW/Clean Water Action, Energrid/IPP Connect, Worcester Community Clean Energy Cooperative, Foley Hoag, LLC
<b>Location</b>	Worcester
<b>Utility</b>	National Grid
<b>Critical Facilities</b>	Worcester Boys and Girls Club; Dolan Field House, Clark University
<b>Project Attributes</b>	Serves affordable housing; Serves emergency shelters; Gateway City
<b>Project Summary</b>	
<p>The CCEP seeks to integrate local renewable energy resources with existing community generation assets to provide lower cost electricity, as well as strengthen the energy infrastructure and resiliency, of the Main South neighborhood, an economically disadvantaged community. The project also seeks to create a replicable community energy model by creating a membership-based cooperative.</p>	

<b>CoMWIT</b>	
<b>Application Team</b>	Willdan, RDK Engineering, Dynamic Energy Networks, Wentworth Institute of Technology (WIT)
<b>Location</b>	Boston
<b>Utility</b>	Eversource
<b>Critical Facilities</b>	Boston Fire Department Engine 37; Wentworth Institute of Technology; Madison Park High School
<b>Project Attributes</b>	Serves local emergency operations; Serves emergency shelter; Serves affordable housing
<b>Project Summary</b>	
<p>This proposal involves a community microgrid centered on WIT campus, serving a collection of university students with 72% of students requiring need-based scholarships. Population density in neighborhoods adjacent to the project continue to increase, making the project an opportunity to address capacity issues, potentially saving on utility infrastructure upgrade costs. The inclusion of two educational institutions in the proposed project could provide a valuable workforce education opportunity.</p>	

<b>Downtown Melrose</b>	
<b>Application Team</b>	B2Q Associates, City of Melrose, Shaws Corporation, B2Q Associates Inc., E3I Inc., Zapotec
<b>Location</b>	Melrose
<b>Utility</b>	National Grid
<b>Critical Facilities</b>	Melrose City Hall; Melrose Memorial Hall; Fire Department; Shaw's Supermarket

Project Attributes	Serves local emergency operations; Serves emergency shelter; Serves local grocery store
<b>Project Summary:</b> The prime motives of the project include providing resiliency to the regional IT server hub and emergency services communication, as well as allowing Shaw's to remain open during an emergency event to protect residents' access to food and water. Previous grid outages in Melrose have impacted emergency dispatch services located in City Hall, resulting in delayed crisis response time. The City hopes that the microgrid project would help meet GHG emissions reductions goals and move the City toward becoming a net zero community.	

Golden Triangle Microgrid - Sandwich	
Application Team	Catalyze, Autonomous Energy Solutions (AES), Cape Light Compact, Clean Energy Collective, Beaumont Solar, Ovivo
Location	Forestdale Village, Sandwich
Utility	Eversource
Critical Facilities	Ovivo Decentralized Wastewater Plant; Water Pump Station; Briarpatch Assisted Living Facility; Forestdale Shell
Project Attributes	Serves proposed new development, including affordable housing and a wastewater treatment facility; Serves local gas station
<b>Project Summary:</b> Residential and commercial projects in Sandwich have been abandoned due to lack of an affordable wastewater solution. The Feasibility Assessment will support development of Cape Cod's first wastewater treatment facility powered by a community microgrid within the planned Forestdale Village project. In addition to serving the wastewater treatment plant, the proposed microgrid will service senior and low-income housing units, as well as surrounding gas station and convenience stores.	

Hanscom Microgrid	
Application Team	Hanscom Air Force Base, MIT Lincoln Laboratory (MIT-LL), US Air Force Office of Energy Assurance, L.G. Hanscom Field, Massachusetts Military Assets & Security Task Force
Location	Bedford
Utility	Hanscom/Eversource
Critical Facilities	DoD Communications Infrastructure; Joint Forces Headquarters for Mass National Guard; Central Utilities Plant; Firehouse; Control Tower
Project Attributes	Serves Department of Defense Communications Infrastructure & Military assets; Serves backup air field to Logan Airport during regional emergencies
<b>Project Summary:</b> The proposed multi-user microgrid will directly support the missions of the Hanscom Air Force Base, MIT's Lincoln Labs, and LG Hanscom Field (airport) and their ability to assist civil authorities during emergencies and natural disasters. The proposed project would leverage existing generation, including a new 4.6 MW CHP facility, and planned assets on the base/MIT-LL campus, including energy storage and distribution technology. New upcoming construction at HAFB, MIT-LL, and Massport will bring new and higher energy loads online in the coming years, making the proposed microgrid an important step to meet growing energy demands.	

Hull Community Microgrid	
Application Team	Hull Light Department (HLD), MMWEC, USA Microgrids
Location	Hull
Utility	Hull Light Department
Critical Facilities	Hull Town Hall; Atlantic Court Housing; Public Works Garage
Project Attributes	Serves affordable housing; Serves emergency shelter; Area vulnerable to flooding and storm damage; MLP territory
<p><b>Project Summary:</b> The town of Hull, located in an area at high-risk of wind and flooding damage from hurricanes and other strong coastal storms, relies on the Hull Light Department MLP for local electric distribution. HLD receives electric power through a single point of interconnection with the regional power system and is highly susceptible to prolonged outages during and after severe weather events. In an effort to ensure energy resilience of critical facilities, the Hull Light Department proposes to use an existing 1.7MW wind turbine and backup diesel generators, along with a new energy storage system and solar, to fuel a microgrid.</p>	

Raymond L. Flynn (RLF) Marine Park	
Application Team	BPDA, Mayor’s Office of Environment, Energy, and Open Space
Location	Boston
Utility	Eversource
Critical Facilities	RLF Black Falcon Cruise Terminal; EDIC/Fire Department; Boston Harbor Patrol; MassDOT Highway Operations Center; Innovation and Design Building and Drydock Center; Mass Turnpike Authority Ventilation Building
Project Attributes	Serves MassDOT Highway Operations Center, Boston Harbor Patrol, and temporary emergency operation center; Area vulnerable to flooding and storm damage
<p><b>Project Summary:</b> The RLF Marine Park, a former military base along the South Boston Waterfront, is home to businesses that support over 5,000 jobs as well as various critical facilities like the Boston Harbor Patrol, the MassDOT Highway Operations Center and the Mass Turnpike Authority’s ventilation building. There is urgency to enhance resiliency in the area due to projected sea level rise.</p>	

RUN-GJC Chelsea	
Application Team	Peregrine Energy Group, Energrid LLC, Clean Energy Solutions Inc, Climate Action Business Association, Climable, Green Justice Coalition, Community Labor United, Clean Water Action, GreenRoots
Location	Chelsea
Utility	Eversource
Critical Facilities	Beth Israel Deaconess HealthCare-Chelsea; New England Produce Center; Chelsea High School; Mary C. Burke Complex; Williams Middle Schools; Silber Early Learning Center

Project Attributes	Serves a hospital; Serves regional produce distribution center; Serves emergency shelters; Serves affordable housing; Area vulnerable to flooding and storm damage; Gateway City
<b>Project Summary:</b> The proposed project seeks to assess a community-led microgrid in low-income neighborhoods in the highly-diverse and densely populated city of Chelsea. The project includes important critical facilities such as public schools, a health care facility, and the New England Produce Center, the second largest produce distribution center in the country. The project team is strongly committed to modeling a grassroots-driven microgrid project which seeks to address energy justice challenges by engaging politically and economically marginalized communities who are disproportionately affected by high energy costs and the impacts of climate change.	

RUN-GJC Chinatown	
Application Team	Peregrine Energy Group, Energrid LLC, Clean Energy Solutions Inc, Climate Action Business Association, Climable, Green Justice Coalition, Community Labor United, Clean Water Action, Chinese Progressive Association
Location	Boston
Utility	Eversource
Critical Facilities	Josiah Quincy Elementary School
Project Attributes	Serves affordable housing; Serves neighborhood emergency shelter
<b>Project Summary:</b> The proposed project would improve energy resiliency in Boston’s Chinatown neighborhood, which is projected to experience regular flooding, assuring reliable transportation and mobile communications, as well as delivery of essential services like food, water, and energy. The proposal includes 8 affordable housing complexes. The project team is strongly committed to modeling a grassroots-driven microgrid project which seeks to address energy justice challenges by engaging politically and economically marginalized communities who are disproportionately affected by high energy costs and the impacts of climate change.	

Town of Acton	
Application Team	MacLeod Energy Group, DCFusion, Acton Water District
Location	Acton
Utility	Eversource
Critical Facilities	South Acton Water Treatment Plant; Stop N’ Shop; Acton Wastewater Treatment Plant; Waste Water Pump Station
Project Attributes	Serves local water district, including water and wastewater treatment plants; Serves local grocery store
<b>Project Summary:</b> The proposed project would bring backup power to the supermarket in order to protect the community’s access to food and water, and to the town’s water and wastewater treatment facilities. The project proposes to include the implementation of a planned ~1MW solar array and energy storage system to reduce energy demand challenges and provide emergency power to local critical infrastructure. The proposed project would minimize or eliminate usage of existing backup diesel generation at both the water treatment plant and Stop N’ Shop.	

Town of Montague	
Application Team	MacLeod Energy Group, DCFusion, Town of Montague, Turner Falls Fire District
Location	Montague
Utility	National Grid
Critical Facilities	Turners Fall Fire Department; Montague Policy Headquarters; Gill Montague Secondary School
Project Attributes	Serves local emergency operations; Serves emergency shelter
<p><b>Project Summary:</b> Located along the Connecticut River, the town is exposed to severe winter storms that bring heavy snow fall and ice, resulting in extended outages and limited travel. The proposed microgrid project calls for back-up energy supplies for emergency services, such as the fire and police departments, and for emergency shelters, such as the middle and high school. In addition to safety and energy resiliency the proposed project is intended to provide a variety of benefits, such as reduction in energy demand and integration of renewables.</p>	

Town of Palmer	
Application Team	Town of Palmer, Thorndike Energy, Eaton, Baystate Wing Hospital, Big Y, Palmer Redevelopment Authority
Location	Palmer
Utility	National Grid
Critical Facilities	Wing Hospital; Palmer Fire Station; Palmer Police Station; Palmer High School
Project Attributes	Serves local emergency operations; Serves emergency shelters; Serves wastewater treatment plant; Serves local grocery store & gas station
<p><b>Project Summary:</b> This microgrid feasibility study would be conducted by Thorndike Energy for the Town of Palmer, leveraging its existing solar and hydropower assets. The proposed project will support emergency response providers as well as critical facilities, including a regional hospital, local food sources, and a school which could serve as an emergency shelter.</p>	