

Helping Communities Prepare for Climate Change

Community Clean Energy Resiliency Initiative

**Amy McGuire
December 3, 2014**

Climate Preparedness – Top EEA Priority

“We need to do more to address the extreme threats from climate change...We must properly assess the risks and vulnerabilities, plan for them and ensure our emergency services have the ability to keep our residents safe. And we must take action to protect our natural habitats to maintain healthy communities.”

Governor Deval Patrick
July 24th, 2013



(Photo: Eric Haynes/Governor's Office)

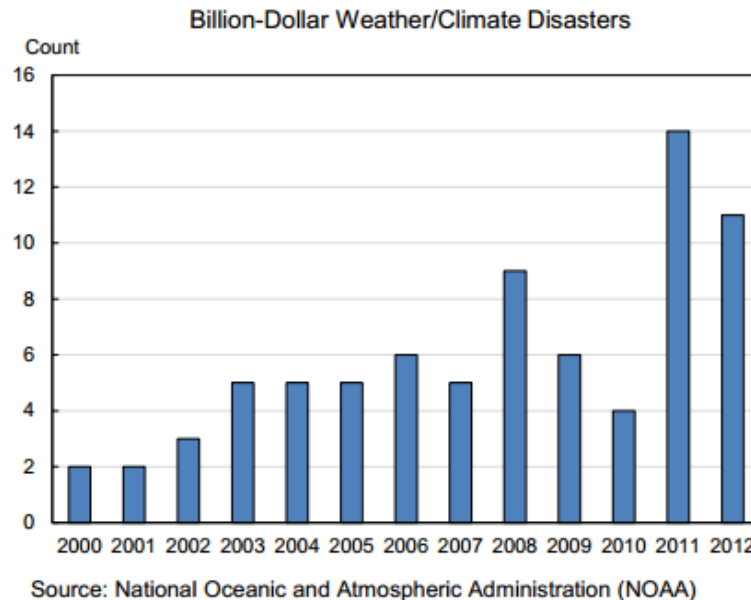
DDER

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Creating A Cleaner Energy Future For the Commonwealth

A Multi-Dimensional Strategy

- **The Goal:** Prepare for climate change and the increasing incidence of severe and costly weather events
- **The Approach:** Invest in new technologies to increase energy infrastructure resiliency and reliability
- **The Climate Preparedness Initiatives:** \$52M in climate change initiatives announced in January 2014



Coordinated Climate Preparedness Initiatives

- **EEA with NEPGA** – Identifying resiliency efforts at generation facilities
- **DPU** – Grid modernization
- **CZM, \$10M** – Coastal infrastructure projects
- **DCR with MassDOT, \$2M** – Assessing transportation vulnerability
- **DOER with Governor's Military Task Force** – Evaluating clean energy opportunities at military bases
- **DOER, \$40M** – Community Clean Energy Resiliency Initiative



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Community Clean Energy Resiliency Initiative

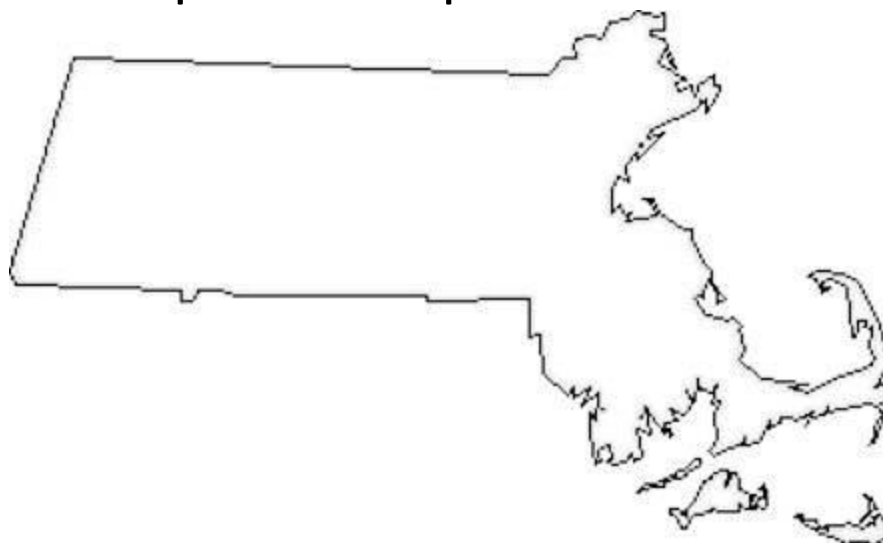
- \$40 million municipal grant program
- Energy resiliency at critical facilities using clean energy technology
- Round 1 applications were available for Technical Assistance or Project Implementation
- Round 2 applications were available for Project Implementation



Eligible Applicants

All Massachusetts municipalities were eligible

- Single municipality
- Joint applications by multiple municipalities
- Regional Planning Agencies
- Regional districts (water, wastewater, school, etc)
- Public/private partnerships



Eligible Critical Facilities

Critical facilities = *“buildings or structures where loss of electrical service would result in disruption of a critical public safety life sustaining function”*



Critical facilities could include:

1. Life safety resources
2. Lifeline resources
3. Community resources

Eligible Clean Energy Technologies

- Projects including:
 - Clean energy generation
 - Energy storage
 - Energy management systems
 - Technology used for DG operation in island mode
- Single building facilities or microgrids



Application Types: Technical Assistance

An overview:

- Available at no cost to awarded applicants
- Provided by a consulting team – The Cadmus Group with MCFA and HOMER Energy
- Awarded applicants had the opportunity to use the resulting plan to apply for a follow-up round of project implementation funding

By the numbers:

- 27 applications received, July 15, 2014
- 27 awards made, July – August 2014
- All 4 regions of the Commonwealth supported
- 43 stand-alone facilities analyzed
- 5 microgrid configurations analyzed
- 27 Technical Assistance reports completed October 2014



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Applicant	Facility	Technology	Applicant	Facility	Technology
ABRSD	High School - Shelter	Biomass heating/ CHP/PV/Storage	Leverett	Elementary School - Shelter	PV/Battery/Biomass CHP
ABRSD	RJ Grey Junior High School - Shelter	Biomass heating/ CHP/PV/Storage	Lincoln-MAPC	Public safety building	PV/Battery
Acton	Public safety building	PV/Battery	Medford	Medford City Hall	PV/Battery
Acton	Department of Public Works	PV/Battery	Medford	Department of Public Works	PV/Battery
Amherst/UMass	Microgrid: Wastewater treatment plant, Fire Station, Champion Center	CHP/PV/Battery	Medford	Andrews School - Shelter	PV/Battery
Andover	Water treatment plant	NG Turbines	Melrose	Microgrid: City Hall, Main St. Fire Station, Memorial Hall - Shelter	PV/Battery (solar canopy)
Andover	Senior Center - Shelter	CHP/Absorption Chiller	New Bedford	High School - Shelter	CHP/PV/Storage
Barnstable	Middle School - Shelter	CHP	New Bedford	City Yard	Interconnect w/ High School
Beverly-MAPC	Regional emergency supply cache site	PV/Battery	New Bedford	Hillman Complex	CHP/PV/Storage
Boston	Microgrid: Boston Medical Center	CHP	Newton	Waban Comms Facility	PV/Storage
Boston	Madison Park High School - Shelter	CHP/PV/Battery	Newton	City Hall	PV/Storage
Cambridge	Sullivan water treatment plant	PV/Battery	Northampton	Microgrid: High school - shelter, Department of Public Works, Hospital	CHP/PV/Battery
Cambridge	Cambridge Rindge & Latin School	CHP/PV/Battery	Sandwich	High School - Shelter	CHP/PV/Battery
Chicopee	Safety Complex	CHP/PV/Battery	Sandwich	Emergency Operations Center	PV/Battery
Chicopee	Wastewater treatment plant	CHP/PV/Battery	Saugus	Senior Center - shelter	PV/Battery
CVEC	High School - Shelter	PV/Battery	Saugus	Public safety building	PV/Battery
Falmouth	High School - Shelter	PV/Wind/Battery/CHP	Scituate	Public safety building	PV/Battery
Greenfield	Wastewater treatment plant	AD/CHP or Gas Turbine	Shirley	Police Department	Biomass/PV/Battery
Greenfield	High School - Shelter	PV/Battery	Somerville	Public safety building	PV/Battery
Holyoke	Dean School - Shelter	PV/Battery	Somerville	Early Childhood Center	CHP/PV/Battery
Holyoke	Fire Station	PV/Battery	Somerville	Department of Public Works	PV/Battery
Holyoke	Mt. Tom Tower	PV/Battery/Wind	Wayland-MAPC	Middle School - shelter	PV/Battery
Lawrence	Water treatment plant	PV/Battery	West Boylston	Microgrid: 3x schools, DPW, Fire Dept., Library	Fuel Cell
Leverett	Public safety building	PV/Battery			

Technical Assistance awards

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Application Types: Project Implementation Round 1

An overview

- Required to meet specific project threshold criteria
- Projects could be retrofit or new install

By the numbers:

- 9 applications received, July 15, 2014
- 6 awards totaling \$7.4m made, September 25, 2014
- 4 applications to be reconsidered in the second round
 - Deadline – November 10, 2014
- 3 regions of the Commonwealth supported
- 8 stand-alone facilities considered
- 1 microgrid configuration awarded

Applicant	Project Title	Grant Amount	Brief Description	Facility(ies)	Technology(ies)
Berkley and Taunton	Taunton/Berkley Community Microgrid	\$ 1,455,000	Community microgrid	(1) Middle School - shelter (2) Emergency Services Building - Police and Fire (3) Community School - shelter (4) Municipal fueling station/pump (5) Police/fire radio repeater	- Energy management system - Lithium Ion battery - Solar PV (existing) - Diesel generators (existing)
Boston	Solar PV with Battery Storage for select Boston Community Centers	\$ 1,320,000	Solar and storage based islandable community shelters	(1) Shelburne Community Center - shelter (2) Roslindale Community Center - shelter (3) Tobin Community Center - shelter (4) Curtis Hall Community Center - shelter	- Solar PV - Battery storage
Greater Lawrence Sanitary District	Organics to Energy Upgrade Project	\$ 611,000	Islandable and black start capable self-sustaining wastewater treatment facility	(1) Wastewater treatment facility	- Biogas storage - Combined heat and power system - Anaerobic digestion (existing)
Northampton	Batteries and PV Islanding Capability for Fire HQ	\$ 525,401	Solar and storage based islandable fire station, that incorporates existing backup generation for further resiliency	(1) Northampton Fire Department	- Solar PV - Battery storage - Diesel generators (existing)
South Essex Sewerage District	Combined Heat and Power Facility	\$ 700,000	Islandable and black start capable combined heat and power facility at wastewater treatment facility	(1) Wastewater treatment facility	- Combined heat and power system
Springfield	Baystate Health Cogeneration Project	\$ 2,790,099	Islandable and black start capable combined heat and power facility at regional hospital	(1) Baystate Health - hospital	- Combined heat and power system
Total		\$ 7,401,500			

Round 1 Project Implementation awards



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Application Types: Project Implementation Round 2

An overview

- Applications are currently under review
- Awards to be announced in December 2014

By the numbers:

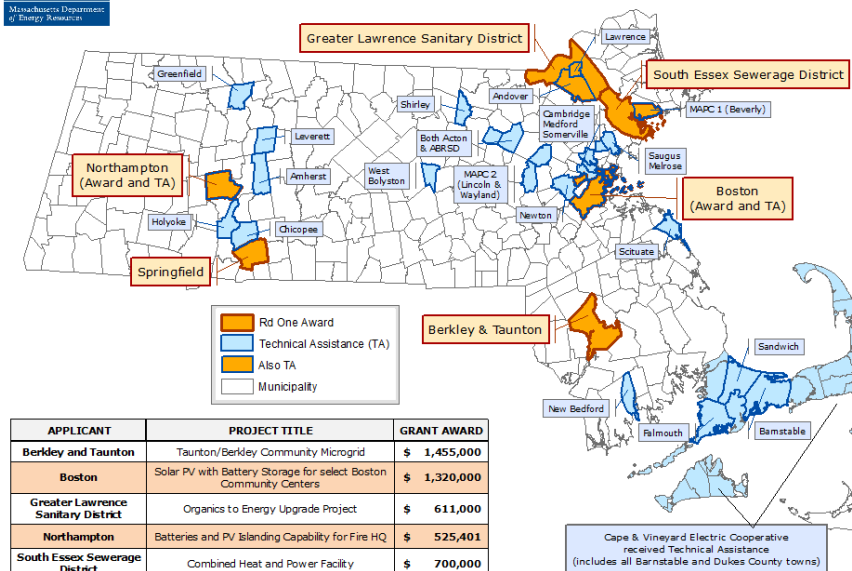
- 13 applications received, November 10, 2014
- All 4 regions of the Commonwealth supported
- 13 stand-alone facilities considered
- 3 microgrid configurations considered

Program Achievements

- Geographic diversity among applicants
- Wide range of facilities and technologies considered
- Single facility projects and microgrid configurations
- Projects demonstrating daily benefits and ability to island, operate and provide resilient support



Community Clean Energy Resiliency Initiative - Round One Awards



DDER, #Filer: 9-24-14



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Lessons Learned

- Learn and share with as many people as possible
 - Throughout program development and implementation
- Develop clear goals and program design
 - Prioritized critical facilities
 - Clean energy technology
 - Technical assistance support and/or direct project implementation
- Provide as much information as possible to applicants
 - Webinars
 - Extensive Q&A
- Flexibility in project implementation
 - Phased contract approach
 - Milestone funding disbursements



PHOTO: SCOTT OLSON/GETTY IMAGES



Questions?

Thank you

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<http://www.mass.gov/eea/energy-utilities-clean-tech/renewable-energy/resiliency-initiative.html>

Additional Information

Program Timeline – TA Application

DOER issues PON	May 15, 2014
DOER begins to review TA Applications (DOER will review on a rolling basis through final TA deadline)	June 16, 2014
Deadline for submitting TA Application questions	June 30, 2014
DOER begins TA Application awards	June 30, 2014
FINAL TA APPLICATION DEADLINE	July 15, 2014
Final TA Application awards announced (subject to change)	August 15, 2014
FINAL ROUND 2 PI APPLICATION DEADLINE	November 10, 2014
Final Round 2 PI Application awards announced (subject to change)	December 3, 2014



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Program Timeline – PI Application

DOER issues PON	May 15, 2014
Deadline for submitting PI Application questions	July 7, 2014
FINAL ROUND 1 PI APPLICATION DEADLINE	July 15, 2014
Round 1 PI Application awards announced (subject to change)	August 15, 2014
FINAL ROUND 2 PI APPLICATION DEADLINE	November 10, 2014
Final Round 2 PI A awards announced (subject to change)	December 16, 2014

Evaluation Criteria



The highlights:

- Proposal content
- Project commitment
- Proposal finances
- Proposal technical details

Submission

- Incomplete applications will not be accepted.
- Submit via email to Amy McGuire at Amy.McGuire@state.ma.us.
- This application information is available at: www.commBuys.com as PON-ENE-2014-035 and PON-ENE-2014-036.