

Community Clean Energy Resiliency Initiative

Technical Assistance Application

May 27, 2014

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Community Clean Energy Resiliency Initiative

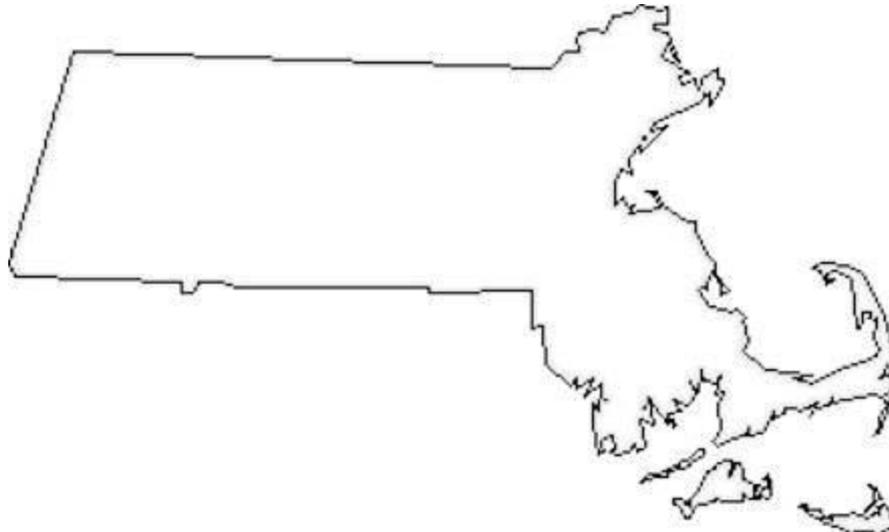
The highlights:

- \$40 million municipal grant program
- Energy resiliency at critical facilities using clean energy technology
- All Massachusetts municipalities are eligible
- Applications available for Technical Assistance or Project Implementation

Eligible Applicants

All Massachusetts municipalities are eligible:

- Single municipality
- Joint applications by multiple municipalities
- Regional Planning Agencies
- Regional districts (water, school, sewerage, etc)
- Partnerships



Creating A Cleaner Energy Future For the Commonwealth

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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 may include:

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

Eligible Clean Energy Technologies



- 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 (TA) Application

- Available at no cost to awarded applicants
- Expecting to offer between 40 and 80 awards
- Consulting team will provide these services
- Awarded applicants have the opportunity to use the resulting plan to apply for a follow-up round of project implementation funding.

The Application

- General Applicant Information
- Municipality Information
- General Project Information
- Identification of Prioritized Critical Facilities
- Further Documentation and Background Information
- Critical Facility Data
- Supplemental Form

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	October 15, 2014
Final Round 2 PI Application awards announced (subject to change)	November 15, 2014

Evaluation Criteria



The highlights:

- Geographic diversity
- Proposal content
- Project commitment

Technical Assistance Team

CADMUS

Cadmus Group (Waltham, MA)

- Supported 50+ communities in Massachusetts with clean energy project implementation
- Green Communities - Owner's Agent Technical Assistance

HOMER Energy (Boulder, CO)

- Staff has 20+ years of experience designing & evaluating hybrid power systems & microgrids

MCFA (Haddonfield, NJ)

- Clean Energy Assessment & Strategic Plan for Massachusetts Military Bases

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Technical Assistance Process

Following selection by DOER, the Cadmus Team will:

1. Scope technical investigation
 - **Prioritize facility(ies):** considering eligible life-safety, lifeline, & community resources
 - **Select appropriate strategy:** system compatibility with site and desired functionality
 - **Identify additional data needs:** Prefer 15-minute electrical data
2. Model system energy and economic performance using HOMER Energy software
3. Summarize results & conclusions in a technical report for the municipality

Project Technical Report

Cadmus Team will prepare a system **conceptual design** to meet identified resiliency goals, balancing cost and reliability. Report to include:

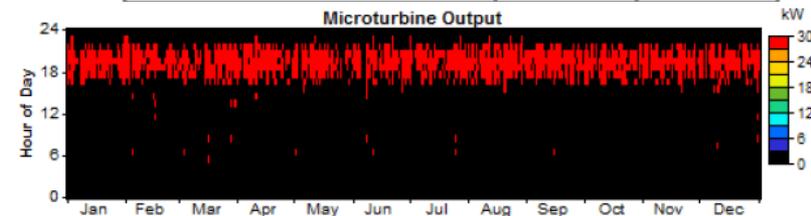
- Preliminary system sizing & configuration
- Installed cost & financial performance
- Energy performance
- Sensitivity analysis to fuel cost, resource availability, and DG system & storage sizing

Project Technical Report can support municipality’s Project Implementation Application.

Microturbine

Quantity	Value	Units
Hours of operation	1,343	hr/yr
Number of starts	434	starts/yr
Operational life	33.5	yr
Capacity factor	15.3	%
Fixed generation cost	1.40	\$/hr
Marginal generation cost	0.0250	\$/kWhyr

Quantity	Value	Units
Fuel consumption	18,131	m3/yr
Specific fuel consumption	0.450	m3/kWh
Fuel energy input	179,039	kWh/yr
Mean electrical efficiency	22.5	%
Mean total efficiency	61.3	%



Application Tips

Better information → quicker & more reliable results

1. Project narrative: include utility-outage history
2. 15-minute electrical data preferable
3. Gas & oil (heating) data → only needed if considering thermal system (SHW, CHP, etc.)
4. Utility providers/contact information
5. Can provide signed Utility Data Release waiver
6. Provide existing DG/back-up generation capacity, relevant studies

Technical Assistance Team



We are here to support you.



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>