



**Request for Expressions of Interest:
MassCEC Community Microgrid Feasibility Assessment Participants
(EOI FY2017MKTDEV-02)**

May 5, 2017

1. SUMMARY

The Massachusetts Clean Energy Center (“MassCEC”) is soliciting Expressions of Interest (“EOIs”) from groups interested in participating in feasibility assessments for community microgrid projects across the Commonwealth. This Request for EOIs will help MassCEC and other stakeholders identify projects which are attractive to the relevant local authorities, electric and/or gas utility, and have a strong likelihood of success. MassCEC seeks to support community microgrids that meet a range of objectives including reducing GHG emissions, enabling the integration of renewable energy sources, supporting the local distribution system, and providing energy resilience for critical facilities during electrical grid outages. In addition, successful responses will identify opportunities for microgrids to empower community leaders, foster public-private partnerships, protect vulnerable populations, complement planned, or existing district thermal systems, and integrate Massachusetts based technology.

Respondent teams must include support from the local government and the relevant electric or gas distribution company. Successful teams may (1) work with technical consultants or other entities that have the capacity to carry out the technical feasibility assessment or (2) elect to work with MassCEC’s approved (pre-selected) technical consultant (the “Primary Consultant”). MassCEC will accept proposals for multiple feasibility studies within a city or town, but all projects must demonstrate buy-in from local officials.

This solicitation for EOIs represents the first step of a multi-phase process. MassCEC anticipates selecting 3-5 EOIs for an initial round of microgrid feasibility studies valued at approximately \$75,000 per project. Projects that produce a favorable feasibility assessment may then be eligible for additional technical assistance or grants for later stages of project development. MassCEC anticipates awarding the first round of feasibility assessments in Q3 2017.

2. PROGRAM OVERVIEW

MassCEC seeks to catalyze the development of community microgrids throughout Massachusetts to reduce customer energy costs, reduce greenhouse gas emissions, and increase resiliency of critical facilities and infrastructure.

For the purposes of this Request for EOIs, community microgrids are defined as multi-user microgrids, which provide electrical and/or thermal energy to multiple site owners¹ and have broad support from

¹ This solicitation is not designed to support campus or single-user microgrids. However, MassCEC will consider proposals from Applicants with an existing campus wishing to extend the microgrid to additional parties outside of its borders.

the local community, relevant utility(ies), and building or site owners. MassCEC is providing funding for Community Microgrid Feasibility Assessments (“Assessments”) in order to advance microgrid projects through the early development stages and attract third party investment to these opportunities. MassCEC seeks to support Assessments for prospective community microgrid projects that have the following characteristics:

- Are community, multi-user microgrids (as opposed to single owner or campus-style microgrids) located in Massachusetts;
- Demonstrate significant potential to reduce GHG emissions through the integration of energy efficiency, Combined Heat and Power (“CHP”), renewable energy systems, electric and/or thermal storage technologies, demand management, energy efficiency, and other relevant technologies;
- Have the active and engaged support of the local utility (either investor-owned or municipal light plants) and other relevant stakeholders;
- Encompass a public or private critical facility², including but not limited to schools, hospitals, shelters, libraries, grocery stores, service (gas) stations, fire/police stations or waste water treatment plants;
- Support the distribution system by addressing capacity concerns, providing black start capability, facilitating renewables integration, or providing other services that are meaningful to the local utility;
- Attract third party investment; and
- Highlight Massachusetts-based clean energy/microgrid technology.

3. WHO SHOULD RESPOND?

MassCEC is seeking Expressions of Interest from municipalities and their public works departments, electric distribution companies, municipal light plants, emergency services departments, owners of critical infrastructure such as hospitals and financial institutions, self-organized groups of commercial building owners, developers or any other actor that either owns property within a potential microgrid or can demonstrate that they represent stakeholders with the capability of developing a community microgrid addressing the criteria listed above. Teams which have applied for or been granted project funding through other state and federal programs (such as the Department of Energy Resources’ Community Clean Energy Resiliency Initiative³, or “CCERI”) are eligible to apply.

Respondent teams may include an entity which has the capacity to carry out an Assessment, or may elect to receive a free Assessment from the Primary Consultant engaged by MassCEC. If the respondent team does include an entity which can carry out the Assessment, MassCEC will require that entity to

² A critical facility is a structure that – because of its function, size, service area, or uniqueness – has the potential to cause serious bodily harm, extensive property damage, or disruption of vital socioeconomic activities if it is destroyed or damaged or if its functionality is impaired. It is incumbent upon respondents to adequately justify that a facility included in the response serves a vital function to the community in the event of an emergency and is thus a “critical facility.”

³ See <http://www.mass.gov/eea/energy-utilities-clean-tech/renewable-energy/resiliency/resiliency-initiative.html> for more information on CCERI.

respond to a Request for Proposals for Technical and Financial Feasibility Assessment of Community Microgrid Projects in Massachusetts before releasing any funds.

ELIGIBILITY

The proposed microgrid must meet the following criteria:

1. Is located in Massachusetts;
2. Is a multi-user microgrid;
3. Integrates renewable energy; and
4. Serves at least one critical facility.

PROJECT GUIDELINES

The following attributes are not requirements, but should be taken into consideration by Applicants as qualities of a successful microgrid project:

- Encompasses no more than 8 – 12 buildings which are in close proximity to one another;
- Encompasses buildings with symbiotic loads, i.e. buildings which, in the aggregate, have a flat load profile⁴;
- Includes a substantial thermal component to leverage the efficiency benefits of combined heat and power (CHP);
- Located in an area or community with a minimum population density of approximately 4,500 people / square mile;
- Serves one or more vulnerable populations;
- Demonstrable support from the local utility and local government. Local government support may be indicated in a number of ways (both financial and non-financial), including, but not limited to: designating staff to support the project, providing city-owned space for generation assets, or developing policies that enable deployment of microgrids.

A list of relevant resources is available as Appendix 1 to this Request for EOIs.

4. EXPRESSION OF INTEREST PROCESS

Step 1: Respond to Request for Expressions of Interest

MassCEC will accept Expressions of Interest through June 30, 2017. Questions will be accepted through June 16, 2017 and will be posted with responses to the MassCEC website on a rolling basis.

Step 2: EOI Review and Preliminary Selection

MassCEC and a team of external reviewers will review the Expressions of Interest based on the criteria indicated in Section 5 and identify selected respondents to participate in the next evaluation step.

Step 3: Project Viability Assessment and Interview Process

⁴ A load curve or load profile illustrates the variation in electrical and thermal demand load over the course of a day. A flat load profile indicates that electrical and thermal demand are relatively constant throughout that period.

Selected respondents will be asked to complete a detailed project viability assessment questionnaire to be provided by MassCEC at the time of selection. Those respondents will be invited to interview with MassCEC to provide further details on the project and its viability characteristics.

Step 4: Notification of Projects Selected for Feasibility Assessments

Projects that meet the review criteria and have the active and engaged support of both the local community and utility will be selected to receive free Assessments through the Program valued at up to \$75,000 or will be awarded funding to conduct an Assessment in line with MassCEC’s specifications.

Timeline:

| | |
|--|-------------------------------------|
| Release Request for EOIs | May 5, 2017 |
| Informational Webinar | June 1, 2017 |
| Questions due to MassCEC | June 16, 2017 |
| Expressions of Interest due to MassCEC | June 30, 2017 |
| Project Viability Assessment for Selected Applicants | 4-6 weeks from EOI Due Date |
| Respondent Interviews | 3-5 weeks from Viability Assessment |
| Notification of Selected Projects | Within 4 weeks of Interviews |

5. REQUIRED RESPONSE COMPONENTS AND EVALUATION CRITERIA

To respond to this Request for EOIs, submit a completed Expression of Interest Form (Attachment A) and Signature and Acceptance Form (Attachment B), anchored by a project narrative of up to five (5) single-spaced pages, and at least two (2) letters of support from relevant stakeholders.

Respondents who elect to propose a consultant to conduct the Assessment must also respond to the Request for Proposals for Technical and Financial Feasibility Assessment of Community Microgrid Projects in Massachusetts (RFP FY2017MKTDEV-02), indicating the project for which the consultant is responding.

PROJECT NARRATIVE

The Project Narrative should describe the proposed community microgrid project and include the following: (1) the goals of the project including, but not limited to, resilience, greenhouse gas emissions reductions, energy cost reductions; and (2) a characterization of the buildings in the proposed microgrid area, including approximate size, purpose, and energy usage if known.

In addition, the Project Narrative should include a description of the critical facility(ies) contained within the proposed microgrid area, including their uninterrupted power duration needs. If multiple facilities are included, please describe the unique needs of each facility and articulate why improved resilience is important for the facilities identified. To the extent relevant, please also describe other investments in resilience at the selected host sites or within the community (e.g. updated operational plans responsive to extreme weather events or other hazards, physical infrastructure investments, community-wide resilience strategies, etc.) and how those investments may impact the microgrid.

Executive Summary (1 page – does not count against 5-page limit)

The Executive Summary should briefly summarize the community microgrid systems-related problem or opportunity and the potential energy, environmental and economic benefits of the proposed microgrid to Massachusetts. Briefly identify and prioritize the goals of the project, including, but not limited to: resilience, greenhouse gas emissions reductions, and energy cost reduction. Identify any other sources of funding support for the project (e.g. other state or federal grant programs, public or private investment, etc.)

Project Team

Identify Project Team members who will play an active role in the Assessment. Describe their role in conducting and/or supporting the Assessment, as well any relevant experience and qualifications. Identify the time commitment of each team member to support the project as well as an hourly rate, if applicable.

Identify public interests, organizations and/or customers involved in the Project Team and describe their respective roles in and relationship to the project:

- Local electric distribution company (required)
- Local government (required)
- Local fuel (e.g., gas) distribution company (required for non-renewable, fuel-based generation)
- Regional Economic Development Council
- Business associations and/or chambers of commerce
- Low- to- moderate income tenant associations and/or affordable housing authority
- Local/regional emergency management
- Retail/institutional customers
- Non-profit organizations
- Third party implementers/project developers
- Vendors
- Relevant Citizens' Councils (e.g. energy taskforce) or community groups
- Others

Project Description and Benefits

Describe the proposed project configuration, the project's purpose, the intended use, and the public benefits expected to result from the project.

- Provide a description of the site. Include a copy of any maps or other documentation (such documentation does not count against the page limit) that well-defines the geographical area and scale of the project including descriptions of customers and properties and locations of existing or proposed electric generation options. Include a copy of the map and lot number(s) of the site as identified by the Tax Assessor's Office for the municipality in which the site is located. Identify the substation(s) serving the site, as well as any known natural gas infrastructure. Provide a flood map for the site, if applicable.
- Describe the mix of properties, public and private interests, and critical functions that are expected to benefit from the project (e.g., diversity in mix of residential, critical public facilities

and private commercial facilities). Critical facilities must be identified as a Tier 1 or Tier 2 facility⁵, and Applicants should provide a justification for the determination.

- Describe the population of the community, including census tract income data, population density, Gateway City status, and the expected beneficiaries of the project. Describe how the interests of the affected population are to be served by the proposed project.
- Describe the preferred mix of fossil-fueled and renewable power generation sources and energy storage as a percent of total community microgrid requirements. If applicable, identify any existing generation resources at the site.
- Provide any evidence demonstrating electric service disruption related to severe weather, particularly for critical facilities within the proposed microgrid, including the Customer Average Interruption Duration Index (CAIDI) and the System Average Interruption Duration Index (SAIDI) for the region where applicable. Please consider (1) what the current options are for the critical facilities in the event of a power outage related to severe weather, (2) the facilities' power duration needs, and (3) why improved resilience is important for the facilities identified.
- Identify any services or characteristics of the local electric utility that are unique in the area. If applicable, provide any evidence demonstrating historic power quality and/or reliability issues that are not storm-related that the project is expected to address. If so, describe the underlying cause.
- If known, identify any existing or planned investments from the local utilities in the project area that may be leveraged and/or supplemented by the proposed microgrid.

Ownership and Operation

If there is a preferred ownership and operating model for the microgrid, describe who is expected to own, maintain, and control generating and other assets of the community microgrid project. Describe how the owner(s), operator(s), and utility(ies) involved in the project will work together.

LETTERS OF SUPPORT

Respondents should include letters of support from the following stakeholders, at minimum:

- A town, city or other local government official
- The electric or gas utility
- The relevant site owner or authorized representative at one or more critical facilities located within the proposed microgrid
- The anchor load for the proposed microgrid

If the critical facility also serves as the anchor load, one letter of support may be submitted.

Respondents may include additional letters if relevant.

Utility letters of support should indicate possible distribution system benefits that may be realized as a result of the microgrid.

⁵ Tier 1 Critical Facilities are essential for the delivery of vital services and for the protection of the community (e.g. fire stations, police stations, emergency operation centers, hospitals, utilities, etc.) Tier 2 Critical Facilities provide non-vital services and are not essential for the short-term protection of the community (e.g. grocery stores, gas stations, pharmacies, etc.) Applicants should justify their determination in the Project Narrative.

Letters of support should provide evidence from these stakeholders signifying their participation in project implementation and their commitment to providing any resources necessary to successfully participate in an Assessment. At this stage, commitments may not be financial, but letters should signify active support for conducting an Assessment.

EVALUATION CRITERIA

Expressions of Interest will be competitively evaluated against the following criteria:

| Criteria | Sub-Criteria |
|----------------------------|---|
| Minimum Threshold | <p>MassCEC reserves the right to only consider applications that, in its sole judgment, meet the minimum threshold criteria including:</p> <ol style="list-style-type: none"> 1. The respondent is eligible for selection. 2. The Expression of Interest is complete and responsive to the requirements within the posted deadline(s). 3. The respondent has demonstrated sufficient time resources and flexibility to participate in a feasibility assessment. 4. The respondent is in good standing with any other awards received through MassCEC and other state or federal entities. |
| Project Projected Benefits | <p>Top Priority Criteria:</p> <ol style="list-style-type: none"> 1. Does the proposed microgrid show potential to address distribution system problems that the utility faces? 2. Does the proposed microgrid show potential to provide resilience to one or more critical facilities? <p>Secondary Criteria:</p> <ol style="list-style-type: none"> 1. Does the proposed multi-user microgrid serve a low-income area, a Gateway City or a vulnerable population? 2. Does the proposed microgrid include Massachusetts-based⁶ clean energy/microgrid technology? |
| Proposed Project Design | <ol style="list-style-type: none"> 1. Does the proposed microgrid integrate storage? 2. Does the proposed microgrid encompass a diverse mix of public and private facilities with a variety of functions? |
| Project Team | <p>Top Priority Criteria:</p> <ol style="list-style-type: none"> 1. Does the proposed project have the active and engaged support of the local government, the critical facility and the anchor load? 2. Has the project team engaged the local utility? 3. What is the Team’s experience and capacity to implement a project long-term? <p>Secondary Criteria:</p> <ol style="list-style-type: none"> 1. Have any stakeholders (local government, local utility, building owners, etc.) expressed willingness to provide financial support for the project? |
| Quality of EOI | Completeness, quality, and level of detail of Expression of Interest. |

⁶ To qualify as a “Massachusetts-based company,” at least three of the following must be located in Massachusetts: headquarters, manufacturing, sales, research and development.

In addition to the criteria outlined above, MassCEC will seek to meet the following criteria across the pool of awarded projects:

- Geographic diversity within Massachusetts
- Diversity in function of critical facilities supported
- Distribution among Investor Owned Utilities and Municipal Light Plants

6. HOW TO RESPOND

Expressions of Interest must be submitted to MassCEC by 4:00 PM EDT on June 30, 2017. The submission must be in electronic form, including a scanned *Signature and Acceptance Form* (Attachment B), submitted via email to microgrids@masscec.com. “Community Microgrids Feasibility Assessments – EOI” must appear in the email subject line.

Only complete, timely responses will be considered. MassCEC, at its sole discretion, may determine whether an application is complete. Expressions of Interest will be reviewed and ranked by MassCEC staff against the evaluation criteria indicated above.

7. GENERAL CONDITIONS

Public Records Statement

As a public entity, MassCEC is subject to Massachusetts’ Public Records Law, codified at Chapter 66 of the Massachusetts General Laws. Thus, any documentary material, data, or other information received by MassCEC from an applicant is a public record subject to disclosure. Applicant acknowledges and agrees that MassCEC, in its sole discretion, shall determine whether any particular document, material, data or other information is exempt from or subject to public disclosure. Applicant agrees and acknowledges that it shall not send MassCEC any confidential or sensitive information under this RFP.

CONTRACTUAL REQUIREMENTS

Upon MassCEC’s authorization to proceed with the proposal, MassCEC and the Technical Consultant will execute a contract which will set forth the respective roles and responsibilities of the parties.

DISCLAIMER

This RFP does not commit MassCEC to award any funds, pay any costs incurred in preparing an application, or procure or contract for services or supplies. MassCEC reserves the right to accept or reject any or all applications received, negotiate with all qualified applicants, cancel or modify the RFP in part or in its entirety, , to waive minor irregularities in submittal requirements, or change the application guidelines.

This RFP has been distributed electronically using MassCEC’s website. It is the responsibility of applicants to check the website for any addenda or modifications to a RFP to which they intend to respond.

MassCEC accepts no liability and will provide no accommodation to applicants who submit an application based on an out-of-date RFP document.

APPENDIX I: RESOURCE LIST

Related Programs in Massachusetts:

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

Massachusetts Resources:

Massachusetts Distributed Generation and Interconnection website:

<https://sites.google.com/site/massdgic/home>

The Interconnection page has interactive charts and project-by-project listing:

<https://sites.google.com/site/massdgic/home/interconnection>

The DG Working Group page has recommended materials for folks seeking to site DG (includes circuit by circuit Utility Service Quality reports):

<https://sites.google.com/site/massdgic/home/interconnection/distributed-generation-working-group>

The MA Technical Standards Review Group page provides materials and details for past and future meetings (see storage and hosting capacity topics):

<https://sites.google.com/site/massdgic/home/interconnection/technical-standards-review-group>

The Grid Modernization page provides background on DOER work with utilities on DER Integration, Hosting Capacity, and progress in other jurisdictions:

<https://sites.google.com/site/massdgic/home/interconnection/grid-modernization>

Other Resources:

Department of Energy Combined Heat and Power Technical Assistance Partnership (CHP TAP) Northeast:

<http://northeastchptap.org/support-microgrids>

Example Microgrid Projects:

NYSERDA NY Prize Phase 1 Feasibility Studies: <https://www.nyserda.ny.gov/All-Programs/Programs/NY-Prize/Feasibility-Studies>

Hartford, CT Parkville Microgrid; funding awarded through [Connecticut's microgrid program](#):

<http://www.hartfordbusiness.com/article/20160414/NEWS01/160419952/hartford-microgrid-construction-begins>