

Bipartisan Infrastructure Law - Section 40101(d)

Preventing Outages and Enhancing the Resilience of the Electric Grid

Program Narrative of the Commonwealth of Massachusetts

May 11th, 2023

Introduction

The U.S. Department of Energy's (DOE) Preventing Outages and Enhancing the Resilience of the Electric Grid Program (the "Program") will be administered primarily by the Massachusetts Clean Energy Center (MassCEC), which has been designated by Governor Maura Healey as the recipient for the Program and the sole entity within the state to apply for, receive, and administer the Program's formula funding. MassCEC plans to coordinate the administration of the Program in collaboration with the Massachusetts Department of Energy Resources (DOER).

MassCEC is a state economic development agency dedicated to accelerating the growth of the clean energy sector across the Commonwealth to spur job creation, deliver statewide environmental benefits and to secure long-term economic growth for the people of Massachusetts. MassCEC works to increase the adoption of clean energy while driving down costs and delivering financial, environmental, and economic development benefits to energy users and utility customers across the state.

DOER is a state agency whose mandate is to analyze and develop policies and programs to ensure that Massachusetts' citizens have adequate and diverse energy supplies, at a reasonable cost, with a minimal impact on the environment. To that end, DOER strives to create a clean energy future for the Commonwealth, economically and environmentally, including:

- Ensuring deployment of all cost-effective energy efficiency,
- Maximizing development of clean energy resources,
- Creating and implementing energy strategies to assure reliable supplies and improve the cost of clean energy relative to fossil-fuel based generation, and
- Supporting Massachusetts' clean energy companies and spurring Massachusetts' clean energy employment.

MassCEC and DOER have historically collaborated on a range of programs across the clean energy sector, including the Massachusetts Energy Storage Initiative and associated programs.

MassCEC and DOER plan to use the DOE funding consistent with the Program goals and objectives to identify and improve the resiliency of communities' electric service equitably, with a preference for projects located in Environmental Justice (EJ) communities. In doing so, this proposal builds upon over a decade of collaboration among stakeholders and state agencies in Massachusetts to define objectives and metrics for grid reliability and resiliency. In 2013 the Department of Public Utilities (DPU) created a stakeholder process to address Grid Modernization in the commonwealth. DOER has convened and collaborated with stakeholders through major proceedings orchestrated by the DPU that have resulted in a basic architecture for consideration of grid modernization objectives and metrics. Since then, the Electric Distribution Companies (EDCs) have submitted two rounds of grid modernization plans, in 2015 with an order pre-authorizing investments in May 2018 and in 2021 with an order pre-authorizing grid-facing investments in November 2022. These approvals allow for the installation of advanced metering infrastructure and other investments intended, among other goals, to improve grid reliability and resiliency, enable increased, timely adoption of renewable energy, promote energy storage and electrification, and minimize impacts on ratepayers.

“An Act driving clean energy and offshore wind,” signed into law in Massachusetts in August 2022, established the Grid Modernization Advisory Council (GMAC), which is designed to carry further grid modernization and electrification efforts forward for the Commonwealth. The GMAC is comprised of thirteen members appointed by the governor representing a variety of interests including low- and moderate-income consumers, the environmental and environmental justice communities, energy storage and electric vehicle developers, and municipalities. DOER chairs the GMAC and MassCEC is one of the voting members; the EDCs are non-voting members. The GMAC seeks to encourage least-cost investments in the distribution system to support net zero goals and increase transparency and stakeholder engagement in the grid planning process. The GMAC will provide recommendations on future grid modernization plans that maximize net customer benefits and demonstrate cost-effective investments in the distribution grid, including investments to:

- Enable interconnection of, and communication with, DERs and transmission-scale renewable energy resources,
- Facilitate electrification of buildings, transportation, and other sectors,
- Improve grid reliability and resiliency, and
- Minimize or mitigate impacts on ratepayers, especially low-income ratepayers.

GMAC will first convene in March 2023, with electric companies submitting its first plan for review; input and recommendations by September 1 and thereafter once every 5 years.

MassCEC intends to utilize the process below to identify eligible applicants and projects that will further the efforts already underway in Massachusetts, linking decarbonization, resiliency, environmental justice, and grid modernization.

I. Objectives and Metrics

Under the Program, established by Section 40101(d) of the Infrastructure Investment and Jobs Act (IIJA), DOE will provide grants to eligible applicants to improve the resilience of their electric grids. These grants offer unique opportunities to advance the capabilities of States and Indian Tribes to address current and future resilience needs. DOE is encouraging eligible applicants to undertake an objectives-led planning process to formulate strategies that address resilience and lead to needed improvements in infrastructure, including necessary and supporting grid modernization investments in underserved communities, in line with the Administration’s Justice40 Initiative.

Consistent with Executive Order 604, signed on January 6th, 2023, by Governor Maura Healey, which calls for “a consistent, forceful, and unified approach in every aspect of State government’s engagement with climate, energy, and environmental issues,” MassCEC and DOER intend for the Program’s objectives to align with existing energy efficiency, electrification, resiliency, and clean energy programs in the Commonwealth. MassCEC and DOER established the objectives below in order to support intelligent project selection, which may prove to be the most challenging obstacle to successful Program execution. Because the opportunities for investing in resiliency are numerous and far exceed the financial limits of the Program, and because eligible applicants may not understand which applications carry the greatest benefits for communities, close collaboration between host communities and eligible applicants is essential to propose projects that most serve the public good.

Informed by these principles, the DOE’s goals for the Program, and the statewide public hearing and comment process, MassCEC and DOER have defined the following objectives:

Objective 1: Identify and fund projects that can improve energy reliability and resilience, reducing the cost and number of outages for communities and underserved populations, including environmental justice communities.

Objective 2: Support clean energy and decarbonization solutions, including building electrification.

Objective 3: Advance MassCEC and DOER's equity, environmental and energy justice priorities, sharing the benefits of the Program equitably and in line with the Justice40 Initiative.

Objective 4: Create good-paying jobs with the free and fair choice to join a union.

Tying these objectives together, it is expected that there are many potential projects that may qualify under the Program. A representative project type may include all or some the following characteristics: support the resilience of a building or buildings that provide clear public benefit, perhaps as identified in a Municipal Vulnerability Preparedness Plan, be sited in an EJ Community, include buildings that have already taken advantage of existing Commonwealth energy efficiency programs, for example through MassSave, Green Communities, and/or Leading By Example, and include commitments from the subrecipient to create good-paying jobs with the guaranteed right to join a union. The work itself might include, for example, grid enhancements that allow for islanding, or it could include storage (or solar+storage) that supports a site's backup power in the event of an outage. While the description above represents an archetypical project that MassCEC and DOER would seek to fund with this Program, it in no way should limit the set of possible projects that may ultimately be deemed most serving the public good and is therefore funded by the Program.

In addition to traditional reliability metrics, MassCEC and DOER will also collect implementation and resiliency metrics. The metrics should include data relevant to future program design and refinement. For example, in reflecting on the project selection process, MassCEC and DOER may track how many different towns or communities expressed interest in the Program and how successful the conversion of that interest to credible collaborations with subrecipients was (e.g., in the form of a completed application). MassCEC and DOER may also collect qualitative data on how well the subrecipients worked with communities in finding the best projects and providing a compelling benefits case, and how informed the community is of the project, its benefits, and how to operate its resiliency solution to maximal effect. DOER has supported the use of and regular reporting of metrics in several utility proceedings, including recent dockets on performance-based ratemaking (D.P.U. 22-22), grid modernization (D.P.U. 21-80/81/82), electric vehicle programs (D.P.U. 21-90/91/92) and DER interconnection through the Provisional Program (D.P.U. 22-47, D.P.U. 22-61, D.P.U. 22-51).

MassCEC and DOER intend to collect appropriate metrics to measure progress relative to these objectives, which may include the following.

1. In relation to Objective 1, draft metrics may include:
 - a. SAIDI and SAIFI as compared to historic baseline,
 - b. The project installation time and other project implementation metrics,
 - c. The estimated number of customers by customer class that the project benefits,
 - d. The estimated savings in any avoided outages that the project conferred or would confer in the event of an outage,
 - e. An overall retrospective cost-benefit analysis of the project, including documenting assumptions regarding non-monetizable resiliency benefits for economic and human health, and
 - f. The educational impacts of the project, for example through evaluating evidence of the community's greater understanding of clean energy technologies and the benefits of electrification, when paired with backup power, for resiliency.
2. In relation to Objective 2, draft metrics may include:
 - a. The estimated greenhouse gas emissions impact of the proposed project using the most recent year of observed average and marginal grid emissions for New England, and
 - b. The estimated air pollutant emissions impact of the proposed project and the associated health impacts.

3. In relation to Objective 3, draft metrics may include:
 - a. The economic impacts of the proposed project on EJ communities located at or near the project site, and
 - b. The health impacts of the proposed project on EJ communities located at or near the project site.
4. In relation to Objective 4, draft metrics may include:
 - a. The anticipated job impacts of the project,
 - b. The expected hourly wages for those jobs,
 - c. Job impacts within EJ communities,
 - d. Expected hourly wages and salary of employment opportunities within EJ Communities, and
 - e. Any workforce development or trainings that were conducted.

These metrics are provisional and subject to further refinement during Program development. Through requiring annual reports and case study summaries, MassCEC and DOER intend to track and publish the resiliency metrics associated with selected projects, noting any improvement in resiliency in EJ Communities and system wide.

II. Criteria

DOE has identified eligible entities for subawards as:

- An electric grid operator,
- An electricity storage operator,
- An electricity generator,
- A transmission owner or operator,
- A distribution provider, and
- A fuel supplier.

Funding provided by DOE under this Program may be used to implement a wide range of resilience measures intended to mitigate the impact of disruptive events. DOE has identified eligible projects as:

- Weatherization technologies and equipment,
- Fire-resistant technologies and fire prevention systems,
- Monitoring and control technologies,
- Undergrounding of electrical equipment,
- Utility pole management,
- Relocation of power lines or the reconductoring of power lines with low-sag, advanced conductors,
- Vegetation and fuel-load management,
- Use or construction of distributed energy resources (DERs) for enhancing system adaptive capacity during disruptive events, including:
 - microgrids; and
 - battery-storage subcomponents,
- Adaptive protection technologies,
- Advanced modeling technologies,
- Hardening of power lines, facilities, substations, of other systems, and
- Replacement of old overhead conductors and underground cables.

In reviewing potential awards, MassCEC and DOER will also keep in mind the following minimum criteria set forth in Section 40101(d)

- a. The entity applying is eligible under the definitions established by the DOE and the proposed project is sited in Massachusetts,
- b. Priority will be given to projects that generate the greatest community benefit in reducing the likelihood and consequences of disruptive events, and
- c. The percentage of awards made available to eligible entities that sell not more than 4,000,000 megawatt hours of electricity per year will not be less than the percentage of all customers in Massachusetts that are served by those eligible entities (approximately 14.1% as of December 2021).

III. Methods

Both MassCEC and DOER have conducted programming focused on improving the resilience of electric service for critical facilities, primarily through deployment of resilient DERs. DOER funded deployment of such resources through its Community Clean Energy Resiliency Initiative (CCERI).¹ Most recently, MassCEC has funded over 20 site-specific resiliency studies through its Community Microgrids and Clean Energy and Resiliency (CLEAR)² programs. Through these programs, MassCEC and DOER have learned that resilient site-specific microgrids (e.g., solar-and-storage installations capable of islanding during a grid outage) are often economically viable based on the Commonwealth's existing policy environment, but for high interconnection costs associated with islanding capability.

Moreover, MassCEC and DOER have received feedback from stakeholders that there is significant interest in community-driven "behind the meter" resiliency projects to ensure critical services can continue to be provided even during major event grid outages. EJ communities in Massachusetts are often vulnerable to climate-related disturbances such as heat islanding, storm-related flooding, and hurricanes. MassCEC and DOER may work with community stakeholders as well as with the Electric Distribution Companies (EDCs) and Municipal Light Plants (MLPs) to identify the most promising project types to provide the resilience services desired by communities.

MassCEC will release a competitive Request for Proposals (RFP) for eligible entities to apply for funding through the Program. The RFP will be released on MassCEC's public website. As with most MassCEC RFPs, it will be widely advertised through numerous channels, including MassCEC's newsletter, in targeted emails to relevant communities, and on social media. There will be an opportunity for interested parties to submit questions and receive timely responses. MassCEC will also explore establishing a platform such as Slack for facilitating connections between eligible subrecipients and towns, cities, and communities. MassCEC will partner with DOER's Green Communities Division, which serves all 351 Massachusetts cities and towns, to conduct additional outreach, seeking wide representation of applicants across the state. MassCEC may also host virtual (or in-person) opportunities for communities and subrecipients to meet and discuss potential projects. Central to this process is the goal of ensuring that communities are receiving significant benefits from the projects, and project benefits are not flowing primarily to subrecipients.

Responses to this RFP will be evaluated by MassCEC and DOER. All proposals received by the due date and meeting the requirements established in the RFP will be reviewed and evaluated by MassCEC and DOER staff in accordance with the criteria established in the RFP to support the objectives and metrics outlined in Section I above , which may include:

¹ <https://www.mass.gov/community-clean-energy-resiliency-initiative>

² <https://www.masscec.com/program/clean-energy-and-resilience-clear>

- Demonstrated partnership with municipalities, hospitals, town halls, or critical infrastructure or relationship with community or municipal entity that assisted in project identification.
- Demonstrated benefits from the project to communities and underserved populations, including environmental justice communities.
- Demonstrated expertise in Massachusetts energy markets and electric sector resiliency. Strong familiarity with the Massachusetts electric distribution companies and energy regulations, particularly electric resiliency, and electric service quality standards.
- Demonstrated expertise in energy resiliency technologies and strategies.
- Plan for stakeholder communication with customers and towns, including a plan for construction and identification of community impacts.
- Detailed budget information and implementable project timelines.
- Demonstration of how the proposed project will improve the performance of the worst below average SAIDI and SAIFI metrics identified in the project area.
- Demonstration of how the proposed project will minimize momentary and low voltage outages in the project area.
- Demonstration of how the proposed project will ensure continuity of critical services during major event-related outages, especially services to underserved populations, including environmental justice communities.
- Description of how the proposed project would complement projects of critical needs facilities, such as hospitals, or projects of municipalities, especially to facilities serving to underserved populations, including environmental justice communities.
- Additional metrics besides SAIDI and SAIFI that would show the electric system is resilient.

Specific applicants, where possible, should have already taken (or seek in parallel to take) advantage of other Massachusetts programs related to energy efficiency, electrification, resiliency, and clean energy.

As suggested in public comment, MassCEC and DOER will consider setting a cap on the funds available for each individual project. However, at this point in the process, MassCEC and DOER are interested in designing a flexible program that prioritizes the identification of projects with the greatest benefits, as described above. Based on programmatic learnings from this process and the initial two years of awards, the Program will continue to be refined.

In making selections, of utmost importance is the relationship between the community which should stand to receive a project's benefits and the eligible subrecipient, which is responsible for delivering the project. The community should identify the problem that the investment can help to solve and the eligible subrecipient should provide the relevant solution. Eligible subrecipients should show evidence of strong channels of communication with the relevant community. For example, in Massachusetts, there are forty-one MLPs that serve all or part of fifty municipalities with electric service that should be able to demonstrate relations and a strong understanding of the communities they serve. As such, and in keeping with the Small Utilities provision of IJA described below, the Program should consider whether MLPs are adequately represented as Program recipients.

Through requiring annual reports and case study summaries, Massachusetts intends to track and publish relevant metrics associated with selected projects. Key deliverables to be completed by the selected applicants to support this tracking may include:

- Draft and Final Report documenting activities, analyses, findings, and recommendations associated with the tasks of the scope of work, and
- Improvements in resiliency in the EJ Communities and system wide.

IV. Funding Distribution

MassCEC will provide the required 15% cost match on the total Federal grant allocation, some of which may be in-kind in the form of administrative expenses. Subrecipients are further required to match 100% of the award, unless the subrecipient sells not more than 4,000,000 megawatt hours of electricity each year (a “Small Utility”), in which case the subrecipient must match 1/3 of the subaward granted to it by Massachusetts (pursuant to Section 40101(h) (2) of the IIJA). The cost match can be in cash or in-kind.

In line with the Administration’s Justice40 Initiative, at least 40% of the awarded funds will be directed to underserved communities. Pursuant to 40101(d)(6), of the funds made available to eligible entities, Small Utilities shall receive not less than the percentage of all customers in Massachusetts that are served by Small Utilities (approximately 14.1% as of December 2021).

V. Equity Approach

Quality Jobs:

Consistent with MassCEC’s mission to spur economic development in the clean energy sector, applicants should seek to provide good-paying, safe jobs in the execution of their projects. In particular, MassCEC and DOER will be seeking to spur job creation within EJ communities in line with the metrics identified in Section I. In determining priority for projects with the greatest community benefits, MassCEC and DOER may prefer applicants that can:

- Demonstrate how the project will use strong labor standards and protections (including for direct employees, contractors, and sub-contractors), such as through the use of project labor agreements, and outline of a plan to attract, train, and retain an appropriately skilled workforce (i.e., through registered apprenticeships and other joint labor-management programs that serve all workers, particularly those underrepresented or historically excluded); plans to partner with a training provider (labor, community college, etc.); and the use of an appropriately credentialed workforce (i.e., requirements for appropriate and relevant professional training, certification, and licensure).
- Provide metrics that will accompany the objectives to measure outcomes associated with improving resilience, creating good-paying jobs with the free and fair choice to join a union, and advancing energy justice.

Community Benefits:

The core objective of the program is to identify and create significant community benefits through direct relationships between municipalities and sub-awardees. This is in line with the Administration’s Justice40 Initiative, address the impacts of climate change through implementing clean energy to increase resilience, prioritizing coordination with existing energy efficiency programs. The program will also prioritize engagement with community stakeholders to ensure there is meaningful involvement in identifying projects that will result in significant program benefits. In order to ensure significant community benefits, MassCEC, with support from DOER, may conduct public outreach campaigns in order to highlight the opportunities for the Program to communities. This may be through DOER’s Green Communities Division which provides grants, technical assistance, and local support to help municipalities reduce energy use and costs by implementing clean energy projects in municipal buildings, facilities, and schools.

Applicants will be encouraged to conduct an initial screening analysis to help municipalities identify opportunities with their utilities for projects that will measurably improve electric resiliency for the municipality or a substantial community within that municipality. This initial analysis should compare the cost of the project to the identified benefits the project will provide, including both monetizable benefits, such as peak demand reduction and renewable energy generation revenue, and non-monetizable benefits such as increased resiliency. Applicants may be requested to complete project forms that report community

and labor stakeholder engagement, workforce impacts, and diversity, equity, inclusion, and accessibility considerations to support a holistic review of the community benefits realized through the implementation of the 40101(d) funding.

Additionally, to ensure that the program continues to be refined effectively, MassCEC will provide the metrics and reporting data directly to communities affected by the projects.

Diversity, Equity, Inclusion, and Accessibility (DEIA):

In order to promote DEIA and further the Administration's Justice40 Initiative, applicants should seek to benefit EJ communities, as defined by Massachusetts state law,³ or seek to partner with those EJ communities. Identification of opportunities may include one or more of the following approaches:

- Identify SAIDI and SAIFI data for circuits performing below average for the distribution service territory, with a preference for those circuits located in the EJ Communities that are not currently identified in approved capital investment plans.
- Review of major event outage restoration performance, especially in EJ communities
- Identify Momentary Outages, defined as outages less than five minutes, especially in EJ Communities.
- Identify low voltage outages, especially in EJ Communities.
- Utilize the ICE Calculator methodology ([ICE Calculator](#)) to estimate the value associated with a given reliability improvement, especially in EJ Communities
- Show the variance among outages in terms of sizes, duration, and impact on EJ Communities, and critical sectors, especially in EJ Communities.

VI. Technical Assistance and Administration

MassCEC will use not more than 5% of the Federally allocated amount for technical assistance (TA) and administrative expenses associated with the program each fiscal year. The 5% is being applied for both TA and administrative costs combined in order to effectively manage the solicitation for proposals and the Program execution.

VII. Public Notice and Hearing

In developing this Program Narrative, MassCEC and DOER provided public notice and stakeholder engagement that included the following elements:

- **Prior Stakeholder Sessions:** Preceding the establishment of the Program, MassCEC and DOER have collected numerous stakeholder perspectives on energy resiliency and grid modernization through MassCEC's 2014 Microgrids Report, its 2016 Boston Community Energy Study, the state's ongoing Municipal Vulnerability Program, and MassCEC's Resiliency Certification (developed as part of MassCEC's CLEAR program).
- **Public Notice:** MassCEC posted information about the Program on its website in early December 2022, and subsequently alerted interested stakeholders to the planned Public Hearing by email. DOER also shared information about the Program and Hearing by email.

³ Defined in the 2021 law, "An Act Creating a Next-Generation Roadmap for Massachusetts Climate Policy" as "a neighborhood that meets 1 or more of the following criteria: (i) the annual median household income is not more than 65 per cent of the statewide annual median household income; (ii) minorities comprise 40 per cent or more of the population; (iii) 25 per cent or more of households lack English language proficiency; or (iv) minorities comprise 25 per cent or more of the population and the annual median household income of the municipality in which the neighborhood is located does not exceed 150 per cent of the statewide annual median household income."

- **Public Hearing:** On January 11th, MassCEC and DOER hosted a Public Hearing that outlined the approach the Commonwealth was planning for the implementation of the Program and solicited stakeholder feedback. Over eighty participants were present (See "Appendix 1" for the list of organizations), representing project developers, advocacy groups, environmental and community-based groups, consultants, municipal leaders, corporations, academics, MLPs, and investor-owned utilities. Over twenty questions and comments were submitted, and where appropriate, responded to.
- **Public Comment:** In addition to the public hearing, MassCEC and DOER solicited public comment on the design and implementation of the Program in Massachusetts through February 17th, 2023. MassCEC and DOER received three submissions in response.

In addition to the public engagement to date, MassCEC and DOER may undertake further public process in preparation to disburse the funds, possibly including such components as:

- **Release of Program draft** guidelines for public comment and host draft guideline workshops;
- **Presentation of Program guidelines** for public comment and formal approval; and/or
- **Release of first funding opportunity** with pre-application workshop.
- The **GMAC** may also serve as an ongoing forum for MassCEC and DOER to learn about stakeholders concerns around these topics.

Appendix 1: Organization List at Public Hearing

January 11th, 2023

Organization
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Action For Equity
Alternative Energy Systems Consulting, Inc.
Anterix
AOL
Bedford Public Schools
BioLabs
Bloom Energy
Bluewave
Boston Planning & Development Agency
bp Pulse Fleet
Brown University
Cadmus Group
Cape Light Compact
CEK Boston
Center for Sustainable Energy
City of Boston
City of Framingham

City of Melrose
City of Salem
City of Somerville
Clean Energy Solutions
Converge Strategies
Convergent Energy + Power
Department of Public Utilities
EarthLink
Emerson Swan
Enel X
ERS Advisors
Expert Research Group
Framingham State University
Green Roots Chelsea
ICF
Innovation Center Denmark
Massachusetts Municipal Association
Massachusetts Municipal Wholesale Energy Company
McKinsey & Company
Mills Cities Community Investments
National Grid
NECEC
New Balance
Nexamp
Northeast Home Energy Rating System Alliance
Northeastern University
NPV Energy
Ocean Renewable Power Company
Office of Energy Resources, Rhode Island
Reading Municipal Light Department
Reliable Energy Analytics
Renewable Heating Solutions

Rhode Island Energy
Sagewell, Inc
Sun Partners Solar
The Green Project Management
Town of Wellesley
Tufts University
University of Massachusetts at Lowell
Vacuum Process Technology
Vanasse Hangen Brustlin
Veloce Energy
Verizon
Vermont Energy Investment Corporation
Wampworx
Weg
West Boylston Municipal Light Plant
WinnCompanies