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Evaluation of the Community Clean Energy Resiliency Initiative Application Process

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Submitted by:

Thomas Buonomano
Kayla McAvoy
Ronelle LeBlanc
John Scarborough

Approved by:

Professor Seth Tuler
Professor Susan Vernon-Gerstenfeld

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Abstract

The Massachusetts Department of Energy Resources (DOER) has implemented the Community Clean Energy Resiliency Initiative to develop resilient systems based on clean and renewable technology within the Commonwealth. The Initiative provides funding for municipalities to design and implement resilient electrical systems at critical facilities. Resilient electrical systems allow critical facilities to serve the needs of the community in times emergencies that result in prolonged power outages.

The goal of our project was to evaluate the Technical Assistance application process of the grant program. We accomplished this goal by surveying and interviewing the awarded applicants of the grant program for feedback on their experience with the application process. With these data we identified the strengths and weaknesses of the process. We developed recommendations about the distribution of the program, application time-frame, application process information and assistance provided by the DOER and consulting firms towards helping the DOER mitigate the identified issues in future grant programs.

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Executive Summary

BACKGROUND

The Massachusetts Governor and State Legislature have identified distributed energy generation as an important step towards dealing with the threat of prolonged outages. Climate change is increasing the frequency of severe storms in New England which increases the threat of power outages (Field, 2014). Their plan of action, as part of a $50 million climate change preparedness effort, was to begin the funding and promotion of distributed energy generation to service critical facilities such as hospitals and other emergency services. Under the direction of Governor Deval Patrick, the Massachusetts Department of Energy Resources (DOER) administered a $40 million grant program to fund energy resiliency at critical facilities in municipalities using clean energy technology. This grant program is titled the *Community Clean Energy Resiliency Initiative* (Community Clean Energy Resiliency Initiative, 2014). The DOER disbursed the grant funds throughout the Commonwealth to allow municipalities to implement energy resiliency in critical facilities. All projects were expected to be underway by the end of 2014.

The Community Clean Energy Resiliency Initiative involved an application process in which municipalities or regional planning agencies (RPAs) throughout the Commonwealth could apply for funds for projects that are ready to be implemented or request technical assistance to help prepare for implementation. The DOER then reviewed the applications and selected projects to fund. With an increasing number of initiatives the DOER is responsible for, the department lacked the time and resources with which to conduct an evaluation of their application process for the grants. As a result, the WPI team offered the resource to fill the information gap by conducting an evaluation of the application process.

The goal of this project was to evaluate the Department of Energy Resources (DOER) Community Clean Energy Resiliency Initiative Technical Assistance grant application process.

METHODOLOGY

To accomplish this goal, we completed the following objectives:

1. **Designed an evaluation procedure for the grant application process.** We began by categorizing the Webinar and Q&A questions on the DOER website into the following topics: eligible applicants, site selection, technologies, finances, technical assistance, verbiage & legal. We used these categories to form four topics that would guide our survey questions: distribution, time-frame, application clarity & DOER assistance. We interviewed Lisa Capone of Green Communities to determine how she conducted a program evaluation of the Green Communities application process. We also interviewed a representative from the Connecticut Department of Energy & Environmental Protection

(DEEP) to determine how they conducted a program evaluation of their recent Microgrid Grant & Loan Program application process.

2. **Collected feedback from awarded Technical Assistance grant applicants.** We designed a survey using the Qualtrics.com platform with the topics mentioned above. Before sending the survey out to the twenty seven Technical Assistance Awardees, we obtained approval from DOER staff and our WPI advisors. We then requested a follow-up phone interview with each respondent of the survey to elaborate on their application experience.

FINDINGS

We received responses from fourteen contacts representing thirteen of the twenty-seven awardees. Our findings address the issue of application distribution, time-frame, process information and demographics of the awardees.

Application Distribution

Finding 1: Email was an effective method of distribution to eligible applicants.

Application Time-Frame

Finding 2: The time-frame of the application process was adequate for a majority of applicants.

Application Process Info

Finding 3: Most surveyed applicants did not seek assistance from sources outside of the DOER for the application and program documentation.

Finding 4: The descriptions of what was eligible for funding was clear to applicants.

Application Assistance

Finding 5: Assistance from the DOER was helpful in answering applicant questions.

Finding 6: Applicants wanted greater feedback from DOER and consultants regarding their project's status.

Awardee Demographics

Finding 7: A majority of municipal Technical Assistance awardees were under the leadership of a mayor.

RECOMMENDATIONS

Based on our findings, we recommend the following to the DOER for the design and implementation of future grant programs:

Application Distribution

Recommendation 1: Continue to use email as the primary form of distribution.

We suggest that the DOER continues to use email as the primary form of distribution for future grant programs. There is a degree of uncertainty as to which form of email had reached the respondents. Some had learned about the initiative through direct emails from the Community Clean Energy Resiliency Initiative staff and others had learned via an email from the DOER Green Communities newsletter. We recommend that both venues continue to be utilized to their maximum extent.

Application Time-Frame

Recommendation 2: Continue to follow a similar application time-frame.

Our findings suggest that the majority of applicants did not need additional time on any part of the application. Most respondents stated in phone interviews that because the application was so simple to fill out, they would not have needed any additional time. However, the minority stated that they could have used more time. From this data, we recommend that the DOER not change the time-frame of any future grant programs.

Recommendation 3: Distribute paper mailings to eligible applicants.

During one interview, a respondent suggested that the DOER include paper mailings as part of their publicity and distribution for future grant programs. The applicant stated that they personally are far more likely to read and pay attention to paper mail they receive because they receive less of it. We questioned some subsequent interviewees about their support for receiving paper mailings for future DOER grant opportunities and they agreed that it would be more likely to get their attention than emails.

Recommendation 4: Reach out to meetings of Green Communities leaders.

Some of the respondents stated that they participated in regional meetings of municipal leaders and employees. Two of these meeting groups are the Regional Green Communities Meetings (RGCM) and the Metropolitan Area Planning Council (MAPC). Both serve as potential venues through which the DOER can advertise new grant programs for green energy to

the participating municipalities. Sending representatives to meetings of this type can give new DOER grants direct personal exposure to potential applicants.

Application Process Info

Recommendation #5: Emphasize within the Technical Assistance grant that the Project Implementation funding does not fund electrical generation technologies.

Numerous Technical Assistance respondents had stated they were unsure what technology would be funded by the DOER in later grant stages. In our review of the Technical Assistance solicitation document, we found that it was potentially misleading to applicants that they would be provided assistance in their incorporation of new generation technologies but the proposed generation would not be funded. We recommend an explicit statement under the "Eligible Clean Energy Technologies" heading that clarifies what is meant by "eligibility". A repetition of this statement should be placed under the section "Funding Guidelines" as well.

Recommendation #6: Include a glossary of technical terms within the Technical Assistance solicitation document or use the page margins to define technical terminology as it appears.

Based on our findings of whether terminology in the application documentation was clear, we recommend that the DOER include definitions of technology terms within the actual solicitation documentation, with a potentially expanded upon list of terms and definitions in a secondary document. Several key terms needing explicit definitions were repeatedly mentioned throughout our data collection. Those are "Islanding", "Black-start", "Resiliency", "Combined Heat & Power" and each eligible technology such as "Micro Grids" and "Fly Wheels".

Recommendation #7: Continue defining eligible applicants as municipalities or regional planning agencies.

We recommend that the DOER continue to exclusively allow municipalities, regional planning agencies or a partnership of municipalities or regional planning agencies to be eligible for funding. Through the help of internal departments and the resources that the DOER provided, municipal or RPA staff were able to complete the application thoroughly and with overall ease.

Application Assistance

Recommendation #8: Continue posting question & answer (Q&A) documents and conducting webinars throughout the application process.

Awardees found the three webinars and the Q&A documents posted on the DOER website to be helpful throughout the application process. We recommend that the DOER continue the process of posting all questions and answers to their website so they can serve as a tool for other applicants with similar questions and concerns.

Recommendation #9: Make a list of external contacts available to applicants.

Most awardees did not seek external assistance to complete any part of the application. However, a significant majority stated that they did solicit assistance outside of their respective departments. Although the DOER and the state is not able to encourage the use of specific vendors or recommend any for assistance, we recommend that the DOER compiles and posts a

list of possible directions applicants could take to get their questions answered. The DOER could compile a list of private and state assistance that the applicants could utilize.

Future Evaluations

Recommendation #10: Conduct an evaluation with a greater scope to determine whether timing kept some municipalities from applying.

We recommend the DOER determine if time was a factor that kept municipalities from applying. Municipalities may have not applied knowing that they would not finish the application in the time allotted from the DOER.

CONCLUSION

By gathering input from the awardees and DOER, the team developed recommendations to improve future grant application processes within the DOER. Our findings and recommendations may further aid application process design to benefit distribution techniques, application clarity, application requirements, and resources provided by the DOER. Future successful initiatives will continue the growth of renewable energy and the implementation of energy resilient technologies in municipalities, thus making Massachusetts more resilient to the effects of climate change.

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CHAPTER ONE: Introduction

Today more than ever, the services a community relies on are often dependent on electricity to function. These services include communications, lighting, sanitation, information storage and numerous other needs of individuals and organizations. Vital services such as emergency first response and healthcare can become disabled due to storms, fuel shortages, grid infrastructure failures or a myriad of other issues that can interrupt the supply of electrical power (Schewe, 2006).

Major storms are one of the leading causes of prolonged power outages in developed nations. The northeastern United States frequently experiences major storms throughout the year such as blizzards, hurricanes and other natural disasters (Field, 2014). Climatologists predict that the frequency and severity of storms will be worsening over the coming century. Meeting the power needs of critical facilities that serve the community through these disasters has become a matter of vital importance (Tilghman, 2014). Man-made energy shortages have also become an issue in Massachusetts. For example, environmental activists filed a lawsuit against the town of Salem to prevent the construction of a new natural gas electricity generation plant in the city to replace an old coal-fired plant that had served the region for decades. As the old plant was decommissioned and the new plant's construction was tied up in litigation, the possibility of rolling blackouts and power disruptions became a reality as the generation capacity for the region was diminished (Ailworth, 2014).

Historically, the problem of unstable or disrupted power supplies has been addressed with on-site generators that ran on fossil fuels. With Massachusetts facing more severe storms such as Superstorm Sandy and Hurricane Irene, these measures are insufficient due to the need to store large amounts of fossil fuels for extended power generation. Fossil fuel generation is also

counterproductive to a health environment due to the greenhouse gas emissions of generators (Fulkerson, 1990). More sustainable measures are required by critical facilities to ensure operability and not exacerbate climate change.

There are two leading methods for improving the resiliency of critical facilities during times of natural disasters or other emergencies. First, distributed generation, the practice of placing energy generation and storage equipment in multiple locations, typically near electricity's end-users. Second, islanding, allowing a building or series of buildings' electrical system(s) to be isolated from the broader electrical grid system. When combined, these methods allow facilities to disconnect from the electrical grid and use local energy generation in the event of an outage (Masters, 2013).

The Massachusetts Governor and State Legislature have identified distributed energy generation and islanding as an important and effective approach to addressing the problems associated with prolonged outages. Their plan of action, as part of a $50 million climate change preparedness effort, has been to provide funding and promotion of distributed energy generation to service critical assets such as hospitals and other emergency services. In order to implement the Commonwealth's new policy in 2014, the Massachusetts Department of Energy Resources (DOER) administered a $40 million Community Clean Energy Resiliency Initiative grant program to fund energy resiliency at critical facilities in municipalities using clean energy technology (Community Clean Energy Resiliency Initiative, 2014). As of writing this report, the DOER disbursed the grant funds to 33 projects throughout the Commonwealth to allow municipalities to implement energy resiliency in critical facilities. All projects are expected to be underway by the end of 2014.

The Community Clean Energy Resiliency Initiative involved an application process in which municipalities or regional planning agencies (RPAs) could apply for funding for projects that are ready to be implemented or request technical assistance to help prepare for implementation. The DOER, with the help of consultants, then reviewed the applications provided funding to selected projects. The DOER had wished to conduct an evaluation of this initiative's application design to allow strengths and weaknesses to be identified within the process as well as aid in the design of future grant programs within the DOER. Formulating lessons learned for this grant process allows future grant programs to be effective in their implementation of distributed and resilient energy. Other state or local governments awarding grants to implement resilient energy at critical facilities can also use these lessons in the design of their program.

The goal of this project was to evaluate the Technical Assistance grant application process within the Community Clean Energy and Resiliency Initiative and to provide recommendations for future grant programs within the DOER. Aspects of the initiative's application process that the grant awardees found helpful and effective or in need of improvement were determined via surveys and interviews. Recommendations were developed on mitigating issues we discovered within the application process while retaining the process's strengths. Our team discovered issues such as unclear terminology, what technologies are eligible for funding as well as process successes such as the assistance provided to applicants, time-frame and distribution. The DOER can use our provided recommendations in the design of future grant programs to further address the growing need for resilient energy systems in an overall climate change preparedness effort by the Commonwealth.

CHAPTER TWO: Background

OVERVIEW

In this chapter we will provide an overview of the need for and details about the Department of Energy Resources' (DOER) Community Clean Energy Resiliency Initiative. First, we outline the need for distributed energy generation incorporated with islanding technology both globally and locally in Massachusetts. We continue to discuss the concept of distributed generation and vulnerability of critical facilities to power outages. We then outline the DOER's process to address the vulnerability through their initiative as well as the laws that created it. We provide an overview of the DOER initiative's grant funding available to municipalities to design and implement resilient and distributed energy systems. Lastly, we discuss the need for conducting an evaluation of the grant application process.

VULNERABILITY OF THE TRADITIONAL ELECTRIC GRID

The nation's reliance on electricity is a highly visible issue whenever there is a lapse in the power supply from the electrical grids. An average of 500,000 Americans go without power for at least one hour a day (DOE, 2013). Storms are the most frequent cause of these outages in the United States (Eaton, 2014). Figure 1 shows the increase in electrical outages in the US from 2008 to 2013. The graph shows a steep increase of outages in recent years. There are several reasons for this increase.

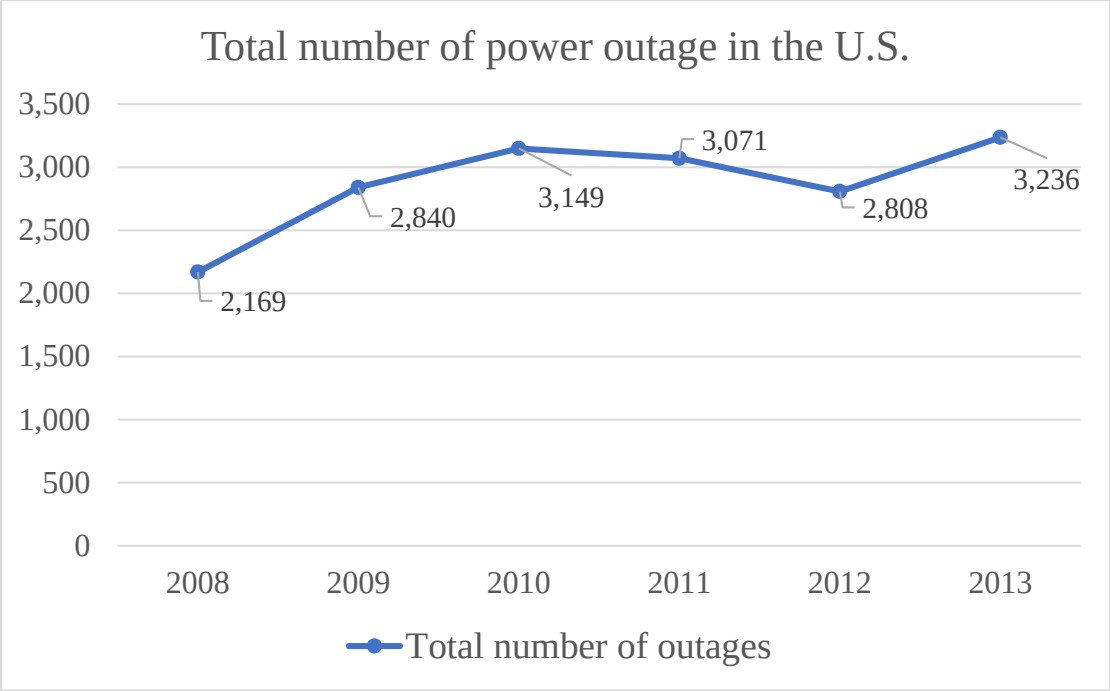

Figure 1 – Power outages in the US since 2008 (Adapted from Eaton, 2014)

Natural Disasters

In 2010, US major weather-related power outages (defined by affecting 50,000 or more people) have risen from 5 to 20 per year in the mid-1990's to 50 to 100 per year in 2005-2010. Weather-related electrical grid damages cost the US an average of $17 billion per year (infrastructureusa.org, 2010). The increasing magnitude of natural disasters puts the existing grid at an even greater failure risk as the majority of power lines in the United States are installed above ground (DOE, 2013). Underground lines, while less exposed to natural elements, cost nearly four times as much as above ground lines to install (Cassidy, 2011).

One particular area of the US, New England, can experience major storms at any time during each season. In the summer, New England is vulnerable to hurricanes that bring about flooding and wind damage. In the winter, ice storms and blizzards render roads inoperable and

add extra weight to power lines causing them to break. Weather-induced power outages during all seasons have become more frequent throughout Massachusetts over the course of the last decade. Since 2010, five major storms have struck Massachusetts. Each storm resulted in power outages which put the health and safety of those in need of emergency care and services at risk (Governor Patrick, 2014). The impact of these storms have been long-lasting and affected a number of Massachusetts communities.

Some notable examples include Hurricanes Sandy and Irene which resulted in coastal flooding and strong winds that carried debris and damaged power lines throughout Massachusetts. Hurricane Sandy left 380,000 without power as it passed through Massachusetts (Schworm, et al, 2010). Winter storm Nemo delivered considerable snowfall to Massachusetts, up to 30 inches in some communities, resulting in damaged power lines due to falling tree branches and ice accumulation. Nemo left over 400,000 people in the state without power and many went days before power was restored as local utilities deemed certain areas too dangerous to begin repairs (The Latest: Nemo's Impact State by State, 2013).

Traditional On-Site Generation

Historically, the need for resilient energy has been addressed with on-site generators powering the loads of a facility. On-site generators typically burn fossil-fuels to produce electricity. These generators produce greenhouse gases from the combustion of fossil fuels (Lucero, 2008). Scientific consensus has linked anthropogenic greenhouse gas emissions to the acceleration of climate change (Michener, 1997; Burt 2009; DiMento 2014). Additional emissions from combustion, such as Sulfur dioxide (SO2) and NOx, are leading contributors to smog and acid rain (Wolman, 2012).

Health concerns also exist with fossil fuel generation. The Massachusetts Department of Environmental Protection states “The air contaminants emitted by engines and turbines can have significant health impacts....Particulate matter, especially the finer-particle-size particulate matter generated by fuel combustion, can cause and contribute to serious respiratory problems” (Wolman, 2012). Due to these health and environmental effects, a combustion generator is restricted to a maximum of 300 hours of operation per year in both testing and emergency use. For critical sites in New Jersey after Hurricane Sandy, where power was not restored for over a week (Robert, 2013), facilities could deplete their 300 hours due to a single natural disaster.

Fossil fuel generation means a limited supply of energy on-site. During natural disasters, a re-supply of fuel may not be possible due to impassable transportation routes such as roads or bridges. In the aftermath of Hurricane Katrina in 2005, diesel fuel generators of four hospitals when off-line due to fuel depletion and mechanical failure. Since most access roads were flooded or blocked by debris, these critical facilities were unable to refuel inducing evacuations for all four of the sites (Gray & Hebert, 2006). The practical issue with the method of on-site fossil fuel generation is that it relies on finite fuel supplies which could become depleted during a prolonged outage unless resources are available for refueling.

DISTRIBUTED GENERATION

In the effort to mitigate the effects of prolonged power outages caused by increasing natural disasters and the limitations of on-site fossil fuel generation, distributed generation offers a promising solution by improving the resiliency and reducing the vulnerability of the electrical grid. Distributed generation is defined as a method of electrical generation using multiple small energy sources nearer to where the electricity is used (Distributed Generation, 2014). In contrast,

the centralized generation method is currently used to service most of the electrical demand worldwide. Centralized generation relies on fewer, but much larger generation facilities to service large regions via long distance transmission of power. All coal and nuclear power plants and many natural gas and petroleum power plants operate on the centralized generation model (Masters, 2013). Transmission lines and transformers branch out for miles from each facility carrying megawatts of electricity many miles away from the source.

Distributed generation is typically not used as an alternative to centralized generation due to cost. Instead, it is usually implemented in tandem with existing centralized systems. The distributed generation system typically remains connected to the rest of the central distribution system and only isolates itself when the central grid is incapacitated. This type of system design is usually referred to as a Microgrid (Masters, 2013). The voltage and magnitude of distributed generation systems vary greatly due to variances in the size and generator properties of individual systems. Since the centralized grid maintains a steady voltage to deliver to the consumers, connected sources of generation must all be in sync. This requires devices that regulate and transform the output voltage of the distributed generation systems to match the larger grid. This is an important consideration for connecting a site's own electrical distribution system with the existing grid in order to ensure compatibility and functionality (Jenkins et al., 2010).

The makeup of distributed energy generation sources vary. Renewable energy sources are often utilized for distributed generation due to their low upkeep costs and resource requirements. Solar, wind, and hydro-electric sources as well as other sources that will be relevant to the DOER program later in the chapter fall into either the renewable and/or clean energy category.

Distributed Generation Increases Resiliency

Multiple points of generation allow for resiliency of a system. Resiliency is defined as a system's ability to operate effectively in the event a disruption occurs such as a natural disaster or other damages (Biringer, Vugrin & Warren, 2013). The significance of a generation source going off-line due to damage from man-made or natural disasters is diminished with multiple power sources in the same grid. Additionally, the risk of an aging electrical infrastructure and power grids exposed to natural elements is reduced by eliminating the need for long-distance transportation of power through on-site generation. Distributed generation sources implemented with renewable generation further increase the resiliency of a system by eliminating the need for large on-site fuel storage and replenishment.

Issues in Implementing Distributed Generation

Distributed generation faces a number of barriers in its implementation that, despite steadily being overcome with technological innovations, are still important factors. Large, fossil-fuel based sources of generation still have benefits outlined below.

Lack of Power Regulation. The current grid is designed as 'passive', meaning a source of power delivers electricity to some type of electricity consuming element. Electricity flows in one circuit loop back to the source of generation. With multiple points of generation, power is flowing from multiple locations and grid management must account for that. The United States' standard for power delivery is 60 Hertz power, meaning the electricity reverses direction sixty times per second during transmission. Many loads depend on this frequency in order to operate properly. Larger and central points of generation automatically account for frequency changes by

changing their electrical output (Masters, 2013). Smaller on-site points of generation lack the ability to vary electrical output depending on the frequency of the connected grid. Instead, the output of electricity from a renewable source is proportional to the state of the natural source of energy at the time of generation. For instance, at times of peak sunlight a solar electric system has the highest output with cloud cover potentially causing short bursts of electrical generation. This is problematic for ensuring a steady source of power from such generation.

Grid Integration. Fossil-fuel based plants can be called upon to supplement distributed generation in the case of an increased load or decreased generation due to the plant's nature of having a consistent energy density (Jenkins et al., 2010). Renewable sources are intermittent, therefore they require voltage controls and regulations independent of generation sources to be implemented in the grid. For regulatory and economic reasons, the majority of on-site generation is connected to the grid but is disconnected when there is a massive loss of frequency sensed from the grid, for example if a large generation source goes offline (KEMA, 2014). This 'fault detection' procedure is to prevent back feeding of electricity into a presumably unstable, offline grid. The protocol also means that most distributed sources cannot provide back-up power on a grid during an outage to loads other than the ones on-site.

DISTRIBUTED GENERATION TO REDUCE VULNERABILITIES OF CRITICAL FACILITIES

The implementation of distributed energy with resilient technology is a trend forming across the nation. As Figure 3 shows below, eleven states across the nation have partnered with the United States Department of Energy through the Energy Storage Technology Advancement

Partnership (ESTAP). Examples of ESTAP programs are Maryland's grant program to fund solar electric installations with battery technologies and Alaska's funding for installations of battery storage to support wind and hydro-electric generation on the Kodiak islands (Olinsky-Paul, 2014). An overall initiative has been taken on by the Northeast states in response to Hurricane Sandy to implement resilient energy. States such as NY funded a $40 million Microgrid program to harden their energy infrastructure. The Northeast's contribution towards these initiatives exceeds $400 million. (Olinsky-Paul, 2014). These programs reveal that state and local governments are taking the initiative to address vulnerabilities of critical facilities and the need for on-site generation and energy storage.

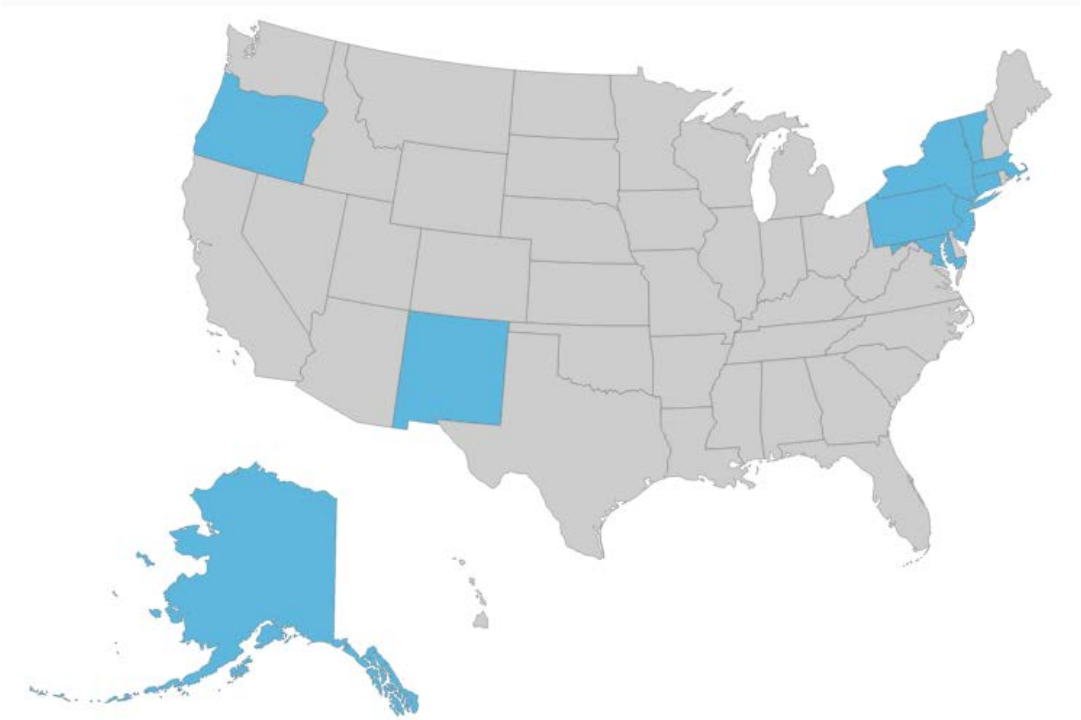

Figure 2 – ESTAP states with resilient energy initiatives (adapted from Olinsky-Paul, 2014)

In Connecticut, the Connecticut Department of Energy and Environmental Protection (DEEP) led one of the first programs in the nation at addressing the vulnerability of their critical facilities through energy resiliency. In a $45 million loan initiative, Microgrid installations were funded at nine sites across Connecticut in the summer of 2013. The Microgrids they have implemented are designed to provide critical services to residents in need of those services during such disasters. Connecticut has designated critical sites as hospitals, police stations, fire stations, water treatment plants, sewage treatment plants, public shelters, jails, telecommunications equipment, gas stations, pharmacies and grocery stores. Table 1 lists the projects completed by the program, showing the vulnerable sites selected by the DEEP in the first execution of the initiative. Connecticut's program can serve as a model for similar initiatives throughout the country.

Project	Facilities
UConn Depot Campus/Storrs	Campus Buildings
City of Bridgeport-City Hall/Bridgeport	City hall, Police Station, Senior Center
Wesleyan/Middletown	Campus, Athletic Center (Public Shelter)
University of Hartford-St. Francis/Hartford	Dorms, Campus Center, Operation Building
SUBASE/Groton	Various Buildings and Piers
Town of Windham/Windham	2 Schools (Various Public Purposes)
Town of Woodbridge/ Woodbridge	Police Stations, Fire Station, Department of Public Works, Town Hall, High School, Library
City of Hartford-Parkville Cluster/Hartford	School, Senior Center, Library, Supermarket, Gas station
Town of Fairfield-Public Safety/Fairfield	Police Station, Emergency Operations Center, Cell Tower, Fire Headquarters, Shelter

Table 1 - Round One awardees of CT DEEP Microgrid Grant & Loan program (Adapted from Olinsky-Paul, 2014)

MASSACHUSETTS COMMUNITY CLEAN ENERGY RESILIENCY INITIATIVE

Establishment of the Massachusetts Community Clean Energy Resiliency Initiative

On January 14th, 2014, the Governor's office announced the Patrick Administration's comprehensive climate change preparedness effort. The purpose of this effort was to ready Massachusetts for future storms and the effects of climate change that pose significant threats to local communities. In this legislation, $50 million was allocated for investment within

municipalities to address present and future effects of climate change. Of the $50 million, $10 million was allocated towards sea level rise countermeasures along the Commonwealth's coast. The remaining $40 million has been allocated towards the Community Clean Energy Resiliency Initiative.

The Initiative is overseen by the Massachusetts Department of Energy Resources (DOER). Its goal is to strengthen the electrical systems of critical facilities within the Commonwealth with clean, distributed energy generation and storage. These technologies include, but are not limited to, combined heat and power (CHP), battery storage, lithium-ion, flywheels and thermal storage. Appendix F discusses these technologies along with other topics to consider when integrating clean, distributed energy generation. The Initiative defines critical sites as "buildings or structures where loss of electrical service would result in disruption of a critical public safety life sustaining function." Through the implementation of independent electrical systems that use such sources of clean and renewable electricity generation, critical facilities will be better equipped to meet the needs of their communities during natural disasters and prolonged electrical grid failures.

To achieve this goal, the initiative is comprised of three separate grant application processes. These processes are a Technical Assistance (TA) application and Round One & Round Two Project Implementation (PI) applications which will be outlined in the next section. They provide funding for municipalities and regional planning agencies (RPAs) to implement energy resiliency technology at critical sites across Massachusetts. Figure 4 shows the two paths for eligible grant applicants, depending on the need of an applicant for implementing resilient energy. As part of the Initiative, energy storage and interconnection technologies (integrating the site's electrical system to the existing grid) are eligible for grant funding that comes from

Alternative Compliance Payments (ACPs), which are paid by electric utilities that do not meet minimum standards for alternative energy certificates from the state (Governor Patrick, 2014). The first part of the Initiative includes Technical Assistance and Round One Project Implementation applications.

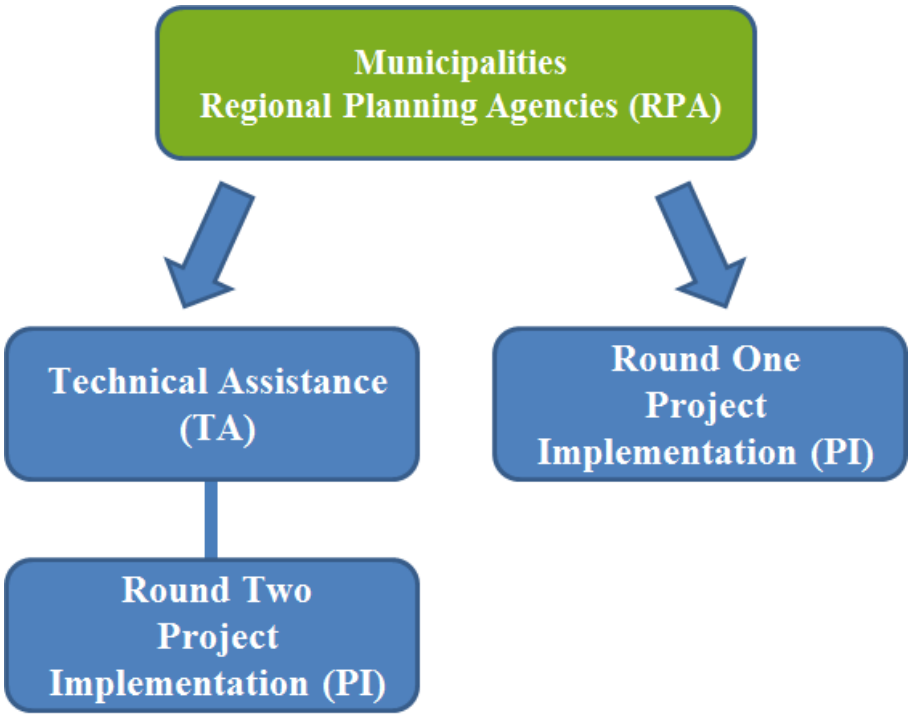

Figure 3 – Grant program paths in the Initiative for eligible applicants

Technical Assistance Grant Program

Technical assistance funds were available for those applicants who require a technical design of a resilient energy system or otherwise do not yet have the technical analysis completed to implement a resilient energy system. The DOER contracted with an external technical consultant firm that provides free technical assistance to the awarded applicant. Applicants could

request technical assistance for one, multiple or multiple inter-connected buildings. Awardees of the grant can use the proposal created by the DOER's consulting firms to apply for funds to implement the proposed resilient energy system. The Technical Assistance solicitation document can be found in Appendix H.

Round One Project Implementation Grant Program

Round One Project Implementation grants were for those applicants who had an understanding of the technical needs of their proposed project but required additional funding to implement it. For those municipalities or RPAs who do seek funds to implement clean generation technologies, Massachusetts has set up numerous grants, tax incentives, and other initiatives in the green energy sector to help cover the costs of the generation technologies by themselves. Information on green Energy grants can be found in Appendix G. The eligible clean energy technologies are located in the solicitations in Appendix H. The breakdown of determining the eligible funding amount for each applicant is also located in Appendix H. Several requirements needed to be met by an applicant before its submittal to the DOER.

- Project should use green electrical generation (as defined in the application solicitation);
- Project should be implemented at a critical facility;
- Project should have means of powering only critical loads;
- Project should fund technology that extends existing runtime of back-up power;
- Project should generate usable electricity that can be fed into the existing grid;

Round Two Project Implementation Grant Program

Round Two Project Implementation requires that the applicant was previously awarded Technical Assistance through the DOER. Those applicants who had successfully submitted a Round One Project Implementation application but were not awarded due to limited funds, were also eligible for funding in Round Two. The application requires full detail of the proposed system. It also required evidence of communication between the applicant and their utility provider that the proposed system will be interconnected with the existing grid.

Time-Frame

The DOER's Community Clean Energy Resiliency Initiative application process was initiated with a set timeline. Figure 5, Figure 6, and Figure 7 are three separate timelines that includes the procurement calendar, TA Application and PI Application timeline. These timelines outline the spacing of the deadlines. The procurement calendar was comprised of any outstanding questions being answered about the Initiative, as well as any specific information regarding the application process that needs to be ready in order to award the applicant. The TA Application timeline demonstrates the dates in which the applications was distributed to eligible applicants, when the submissions were due, when the DOER announced awardees, and when the funds were disbursed. The PI Application timeline includes all of the same aspects of the TA Application timeline.

The time-frame of the Initiative is important to review in order to understand what the applicant is facing when applying. The application requires multiple tasks for the applicant to complete, some of which requires internal and potentially external resources to assist in the

application. The response rate of those sought out resources and the time an applicant has in their position to complete all necessary documentation will influence the process. The time-frame serves as the linking factor between all tasks and components of the application.

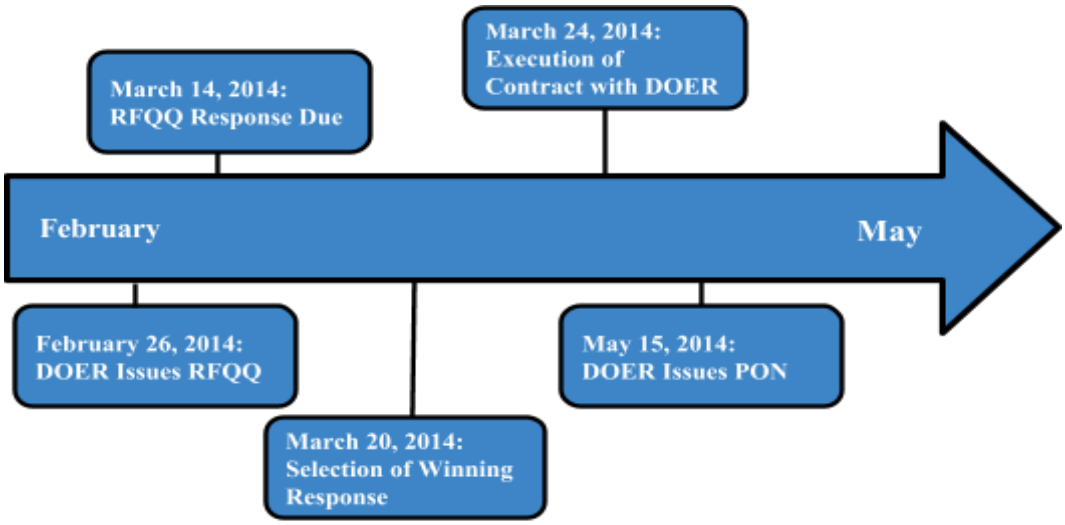

Figure 4 – Procurement calendar for Clean Energy Resiliency Initiative

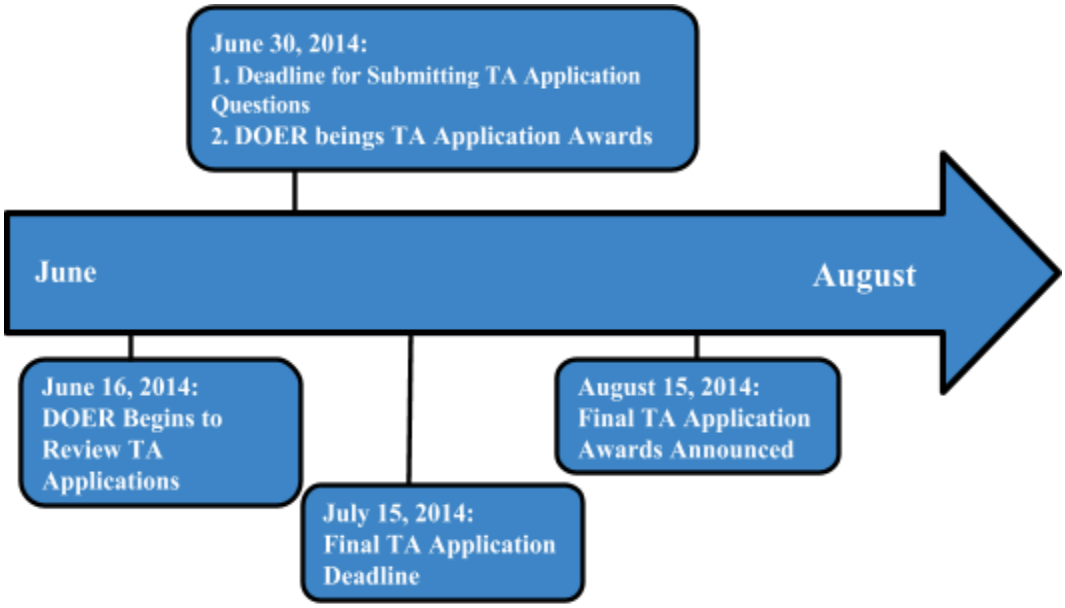

Figure 5 – Technical Assistance calendar for Clean Energy Resiliency Initiative

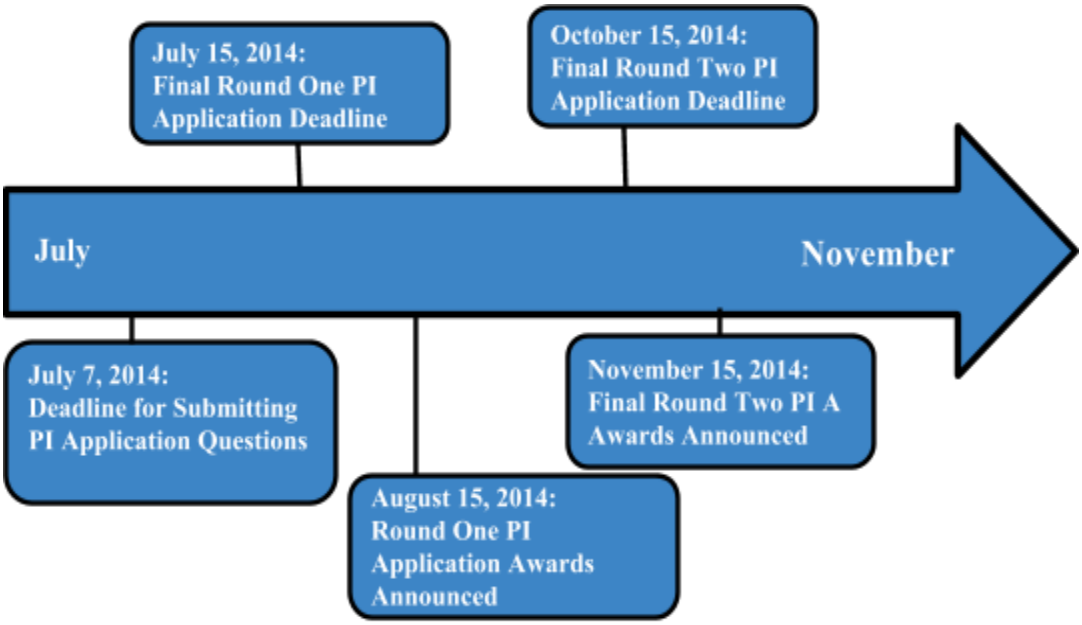

Figure 6 – Project Implementation calendar for Clean Energy Resiliency Initiative

The Need for an Evaluation

The DOER had wished to conduct an evaluation of the Initiative's application design, but lacked the available staff and resources to execute such an evaluation because of other initiatives in progress. An evaluation would allow strengths and weaknesses to be identified within the process as well as aid in the design of future grant programs within the DOER. The identification of areas in the application process in need of change would allow future DOER programs to be more effective in meeting the growing need for resilient energy at critical facilities. It is important to evaluate the various parts of the application process including the distribution of the Initiative, design of the application form, assistance provided by the DOER and consulting firms as well as how those aspects performed together.

By formulating lessons learned for this grant process, other state or local governments awarding grants to implement resilient energy at critical facilities can use these lessons in the design of their program. Finally, a program built on the foundations of lessons learned will potentially have a greater impact and thus further increase the distribution of renewable and resilient energy across the Commonwealth. Due to the time the team has available with the DOER and given the number of applicants, the team will be focusing on the Technical Assistance awardees for feedback.

CHAPTER THREE: Research Methods

The goal of this project was to evaluate the Technical Assistance grant application process within the Community Clean Energy Resiliency Initiative and to provide recommendations for future grant programs within the DOER. We achieved this goal by designing an evaluation procedure for the grant application process and applying the evaluation procedure in the collection of feedback from awarded Technical Assistance grant applicants. By completing these objectives, we will provide the DOER with a written report that includes our findings, recommendations and complete respondent data set.

OVERVIEW

Figure 8 illustrates our evaluation design and data collection method for this project. First we identified topics of potential application issues by consulting with the DOER staff and categorizing questions within the webinar and Q&A documentation. We then designed and distributed an online survey to gather general feedback about the application process from the twenty-seven Technical Assistance grant awardees. We followed up with respondents of the survey to request phone interviews that focused on issues and successes revealed from the particular respondent's survey. Finally, we developed recommendations from our data for improvements for the application process.

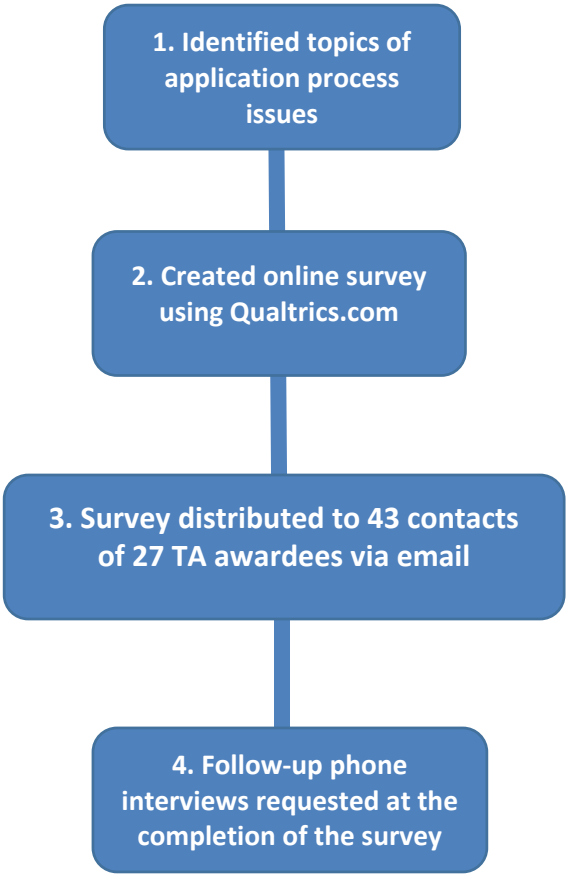

Figure 7 – Application evaluation design

Technical Assistance Surveys

Our first step in soliciting feedback from contacts was the creation and distribution of an online survey. Technical Assistance (TA) survey questions are targeted specifically towards the TA application process strengths and weaknesses as well as potential issues faced by contacts completing the TA application. At the completion of each TA survey, respondents were emailed by our team requesting a follow-up phone interview. In the rest of this chapter, we will discuss the formulation of the survey questions, confidentiality of the respondents, the follow-up interview guide and analysis of data collected.

In order to collect data from applicants regarding their experience in the application process, surveys were sent out to individuals affiliated with the completion of the grant applications that were selected by the DOER to receive funding. The Technical Assistance contacts consisted of twenty-seven primary individuals listed on the twenty-seven awarded grant applications as well as sixteen additional contacts from the approved applicants. These additional contacts were made available to us by the DOER's Amy McGuire. The additional contacts were added because they were included on emails between the primary contact and the DOER or referenced in the applications as contributors.

Feedback Confidentiality

A level of confidentiality was assured between each respondent and our team. A preamble was created and displayed on the top of each online survey as well as included in the body of the survey email. As stated in the preamble, the WPI team has no involvement in the grant application review process and the program evaluation will not be connected to any completed or pending grant applications within the DOER. The full preamble is available in Appendix B: Technical Assistance Survey Results. The reason for this confidentiality is that a large majority of the Technical Assistance applicants plan to apply for Round Two Project Implementation and thus may be weary of providing honest feedback to the DOER.

In addition, the Internal Review Board (IRB) at WPI reviews any research involving human subjects within student projects. To ensure a respondent's feedback did not compromise their position and follow the IRB ethic guidelines, it was important to guarantee their feedback was confidential from the DOER and the public. Our goal was to receive honest feedback from each applicant, even if the process was not ideal to them. Ensuring confidentiality allows

respondents to state openly what their critiques of the application process were without any fear of negative views they may hold being held against them in future interactions with the DOER.

STEP ONE: IDENTIFIED TOPICS OF APPLICATION PROCESS ISSUES

In order to develop the questions for our survey, we drew from the knowledge we had gained from the Initiative's Q&A documentation, the Connecticut DEEP's experience with the Microgrid Grant and Loan Program, and the Green Communities' grant program evaluation within the DOER. By combining our knowledge from these three sources, we were able to determine what issues we should be aware of within an application process. We began by reviewing the three webinars and Q&A documents released by the DOER that aided in the formulation of our survey questions. These documents included questions from eligible applicants regarding the process and answers from DOER staff.

From the three webinars and the general Q&A document, the team drew conclusions on which issues arose during the application by evaluating the full list of questions and forming the topics of eligible applicants, finances, site selection, eligible technology, technical assistance (what preliminary technical work is needed?) and verbiage. A copy of all of the questions with the category of each question can be found in Appendix K. This allowed the group to preview the most common issues that applicants faced. Survey questions were tailored to ask about those issues while still allowing broad, open feedback with a free-response section as the final question.

In order to further gain insight into application process review, we conducted an in-person interview with the DOER's Green Communities (GC) Director Lisa Capone on her department's recent program evaluation of the GC application process. Appendix C: Interview

with Lisa Capone, Director at Green Communities Division (DOER) outlines the questions and minutes from the interview with Lisa Capone. This interview allowed our team to determine existing institutional procedures for conducting evaluations. This interview also provided us knowledge of best practices on analysis of the collected data.

The team also emailed the Connecticut Department of Energy and Environmental Protection (DEEP) officials involved in their on-going Microgrid grant application process to request a phone or email interview regarding methods used in the DEEP's first application round evaluation. The DEEP response helped the group understand if feedback was direct or indirect and gather greater insight into best practices for grant application program review. Since the interview was conducted after the online surveys were released, the DEEP's feedback primarily aided in insight into future feedback collection methodology. The email interview is outlined in Appendix D.

Evaluation Topics

Through suggestions from our sponsors, our interview with Lisa Capone and CT DEEP, and from the three webinars and Q&A document posted on the DOER website, the team developed four topics to evaluate the application process of the Community Clean Energy Resiliency Initiative. Below are the four topics and the justification for each.

1. Application Distribution

   It is important to determine how awardees found out about the Initiative. The spreading of information about the program influences the type and number of applicants that apply for the grants. In order to improve the distribution of future grant programs, the initiative's distribution successes and failures must be determined.

2. Application Time-Frame

   The time-frame is defined by the time between the availability of the application and the deadline of the submission. This topic was requested by the DOER to assess. In the Q&A documents, applicants frequently asked about the time-frame. In order to provide recommendations on future grant program timeframes, the feedback solicited from awardees should be taken into account.

3. Application Process Knowledge and Information

   The understanding of the application includes the following subsets of issues brought up as a result of the information on the application's requirements available to the applicants. These include: site selection, technology, finances, technical analysis requirements, eligible applicants, legal, and verbiage. Applicants most frequently asked about these topics throughout the application process.

4. Responsiveness/Assistance from the DOER

   Assistance provided by the DOER staff to applicants, includes resources on the website and response to questions asked of the DOER staff. Knowing this will better assist the DOER in helping applicants throughout future grant programs application processes.

STEP TWO: CREATED ONLINE SURVEY USING QUALTRICS.COM

Online Survey Platform Selection

Our surveys were constructed and distributed via Qualtrics surveying software. Qualtrics is a web-based software that allows users to create and distribute surveys as well as generate reports based on responses (www.Qualtrics.com). Through the WPI School of Business, Qualtrics is free for all WPI members. SurveyMonkey is also a web-based survey creation and analysis tool offered free, but does not allow users with free accounts access to certain survey

analysis and creation options. Through a comparison of the software offerings the group deemed Qualtrics to be more beneficial for a variety of different reasons.

Table 2 shows the different features available with the free version of SurveyMonkey compared to the features available for free to the WPI community from Qualtrics. SurveyMonkey costs upwards of $100 for all premium data analysis features including respondent tracking and surveys greater than ten questions (SurveyMonkey.com, 2014). Qualtrics allows our survey to have unlimited questions, to contain question logic (answer to one question resulting in the hiding/appearance of another question), to display the WPI logo on survey headers, and to provide all forms of data analysis and respondent tracking for no additional charge (Worcester Polytechnic Institute Academic Technology Center, 2014). Because our project would require all of these features, Qualtrics offered the best platform to collect and evaluate data.

Another issue that arose when choosing which program to use was confidentiality. As mentioned previously, it is crucial that our respondents feel comfortable enough to give honest answers to all of our questions. Since we are using WPI-sponsored Qualtrics, the WPI logo appears on every page of the survey. This promises the contacts that this survey has no direct affiliation with the DOER and allows them to answer questions freely. Lastly, if the team required technical support then assistance would be more accessible from the WPI community using the WPI-sponsored Qualtrics than if we had used SurveyMonkey and relied on external support.

	Respondent Tracking	WPI Branded	10+ Questions	Question Logic	Data Analysis
Qualtrics	■	■	■	■	■
SurveyMonkey Free				■	

Table 2 – Qualtrics vs. SurveyMonkey features

STEP THREE: SURVEY DISTRIBUTED TO CONTACTS VIA EMAIL

Our preliminary survey design, including questions, was submitted to our sponsors for their review. In their review, our sponsors provided input on topics they felt important to be assessed in the overall application process evaluation. As the primary influence for the formation of the questions asked to individuals is the DOER staff and webinars and Q&A documents, there is an inherent issue in the wording the questions so as not to guide the respondent towards a particular answer.

The final surveys were tested on DOER employees who were not directly involved in the grant application process but still had a working understanding of green energy and the Initiative. Therefore, this pool of testers was drawn from other DOER divisions such as the Green Communities division. Based on feedback solicited from them, the survey was kept to a single page and limited to ten questions. This was to encourage the respondent to answer the questions as thoughtfully as possible. The survey was sent out to a total of forty-three primary and additional contacts of the twenty-seven awarded applicants provided by the DOER via individual links to the surveys in an email generated through Qualtrics. The individual links allowed the team to view the status of each individual in completing the survey or whether they had received the email containing the link at all.

STEP FOUR: FOLLOW-UP PHONE INTERVIEW

Compilation of Survey Responses

The collected feedback from individuals was compiled into a summarized format for each individual, beginning with the online survey responses. The summaries from the online surveys included the results of the multiple choice responses and the complete free-response submission without identifying information. These summaries allowed the team to assess the individual's general experience before the phone interviews were conducted to further evaluate their experience.

Follow-Up Interview

Using the summaries created for each individual outlined in Appendix J, the team directed the follow up interview questions towards the particular issues presented in the responses. The full interview guide for the follow-up phone interviews is located in Appendix A. Focusing on particular application issues allowed us to maximize the utility of the interviews. Before each interview, the respondent was reminded of their confidentiality as well as asked for the permission to record the conversation for our note-taking purposes.

DATA ANALYSIS

The response to each interview was categorized into the evaluation topics and added to the summary of each applicant for our assessment. The summaries allowed us to compile the various categories and the responses about those categories into overarching trends observed

across the data set. Ultimately, the summaries served to compile the feedback of each individual in a concise form for later analysis and are included in

Identifying Trends and Generating Findings

The identification of trends within our data was the first step in generating our findings outlined in Chapter Four. The identification of a trend is a combination of evaluating objective data for similar grouping and placing those groupings into the greater context of the environment from which they were collected. We generated our findings by first looking for similar responses amongst our online surveys and interviews. For example, those who found eligible technology unclear or the timeframe adequate. Once we were able to identify groups, we would first identify whether the grouping comes from a majority of our respondents. If it did, then we had reasonable assurance of it being a trend due to the preponderance of data. If the grouping did not form a majority, then we would use our best judgment to determine whether the minority was significant enough in numbers and composition to be considered a minor trend. Lastly, if the grouping had a minority that we judged to be insignificant enough in numbers and composition, then we deemed the grouping a non-trend and could disregard it from our findings.

EVALUATE POTENTIAL RECOMMENDATIONS

Our project goal was to provide recommendations and information on how to alleviate any issues we identified in our evaluation of the application process. The recommendations were determined by used our judgment and understanding of the program's background to determine which solutions were best suited for the DOER's specific case. When generating

recommendations we verified that they comply with the DOER's mission and the goals of the Massachusetts Governor's office. This was accomplished by discussion with the sponsors, review of the DOER's program documentation, and review of the law that created the program. We also verified with our sponsors that our planned recommendations fell within the realm of feasibility within the existing application structure. We then wrote a report of how such issues are mitigated by other organizations with similar processes and presented our findings to our sponsors as part of our projects final report.

CHAPTER FOUR: Findings

This chapter contains the findings which allowed us to provide the DOER with a list of the application's assets and issues as identified by trends we identified within the replies we received from the grant program's applicants. The recommendations contained within the next chapter represent our proposed solutions to the issues identified in this chapter. We have divided our findings into four categories based on what aspects of the application process they apply to. In each category, we first identify findings that illustrate components of the project that worked well in the first round and require no immediate revision. Then we discuss each issue we found. We also evaluate each finding based on their validity derived from the evidence and their significance to the overall execution of the application process. Our findings from interviewing the DOER's Green Communities division director and the Connecticut DEEP's staff member were discussed in the methods chapter as they had pertained to the design of our methodology. We organized this chapter into the aspects of the application distribution, time frame, process information, and the assistance provided to application by the DOER which we have found to be either efficacious or in need of improvement.

Application Distribution

The first category of findings regards the distribution of the Initiative to eligible applicants, particularly how and when applicants became aware of the grant program. The reasoning behind certain potential applicants not starting or following through with the process has no part of these findings because the information on non-applicants falls outside the scope of this evaluation. The findings in this section can help the DOER in effectively publicizing their initiatives to potential applicants in future grant programs.

Finding 1: Email was an effective method of distribution to eligible applicants.

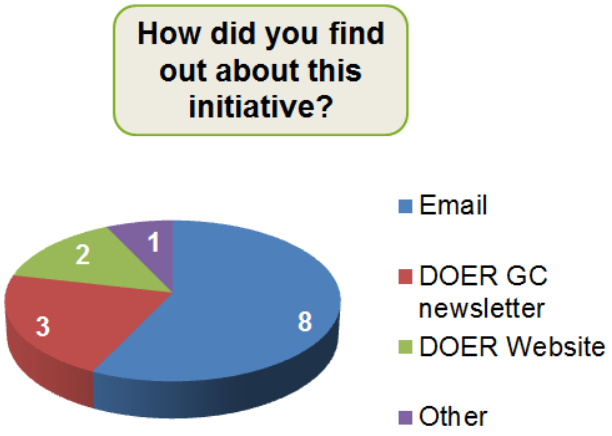

Figure 8 – Distribution survey response

According to Figure 9, eleven of the fourteen survey respondents became aware of the initiative through email, with seven out of the eight interviewees noting email as the preferred method of distribution. Other preferred methods, selected by one of the fourteen respondents, included telephone, the DOER website, press, other web resources and print mailings. We found a majority of eight of the survey respondents who learned about the Initiative via direct email from the DOER Initiative's support staff while three others were informed via the DOER's Green Community division's newsletter via email. The selection of email is substantiated through interview feedback as well. Two interviewees claimed they checked their email frequently and thus were able to be reached quickly with information on the Initiative.

Two other interviewees stated they had received the email about the Initiative, as well as gaining more information through word of mouth and Green Community representatives. In regards to the "Other Web Resources", one potential resource is the Massachusetts grant warehouse recently created by Governor Patrick's administration.

Finding 2: Paper mailings will reach additional applicants.

Two interviewees explained weaknesses with using email as a contact method. The first stated from Respondent #3 “You see this email...you read the headline of Resiliency Grant...nobody knows what that means. It wasn’t one I would have opened because I didn’t understand it.” The second stated from Respondent #12, “We used to get all grant announcements in the mail...I hate to say it but we actually read the mail. Emails are so much easier to ignore and skip over because there's something more important behind it.” They continued on to say that paper mailings should be considered if the DOER is faced with a low response rate.

Application Time-Frame

The second category of findings regards the time tables on which the grant program was executed and the application process was conducted. These findings cover the timing of deadlines, grant program and the interplay of the DOER’s and consultant’s response times with the application deadlines. The findings in this section may inform future actions which can improve the deadline planning in future grant programs so that applicants, DOER staff, and consultants will not be overburdened.

Finding 3: The time-frame of the application process was adequate for a majority of applicants.

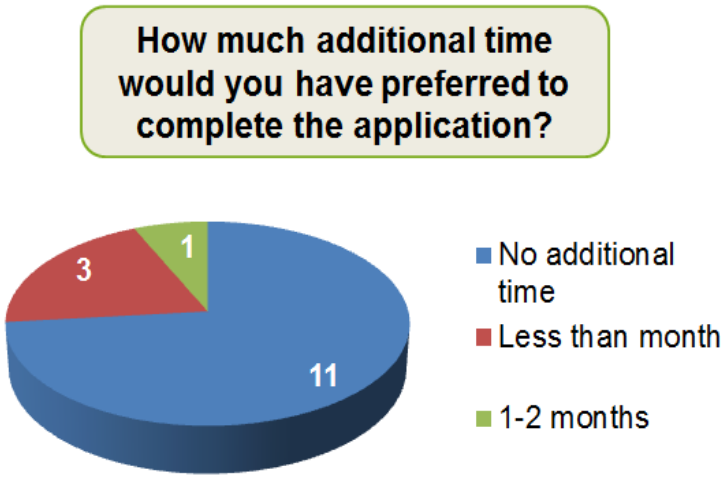

Figure 9 – Time survey response

According to Figure 10, ten out of fourteen survey respondents stated that the amount of time they were given was sufficient to allow them to complete the application. The other four respondents stated that an extended deadline would have been preferable. The majority of those who responded in favor of an extended deadline stated that less than one month of extra time would have sufficed. Respondent #6 stated that "the timeline is overly ambitious." That respondent is an outlier in the overall data set and it may be safe to assume that factors outside the immediate purview of the application procedure may have resulted in this reaction. This data represents ten out of the twenty-seven total applicants stating that deadlines did not need to be lengthened. This finding is significant because this means that the spacing of deadlines within a grant application process of this type does not need revision for similar future programs.

Application Process Information

The third category of findings regards the information made available to applicants throughout the application process in the form of DOER documentation, contact with DOER staff, and external experts. These findings cover the clarity and understanding of the documentation and information resources provided by the DOER to applicants, as well as the application document itself. The information in question included issues of technology, financing and applicant eligibility as well as general information and definitions about resiliency technologies. The findings in this section will inform future actions to improve the clarity and depth of future DOER grant program documentation so that applicants will be able to understand and complete applications with minimal questioning and required assistance.

Finding 4: Most surveyed applicants did not seek assistance from sources outside of the DOER for the application and program documentation.

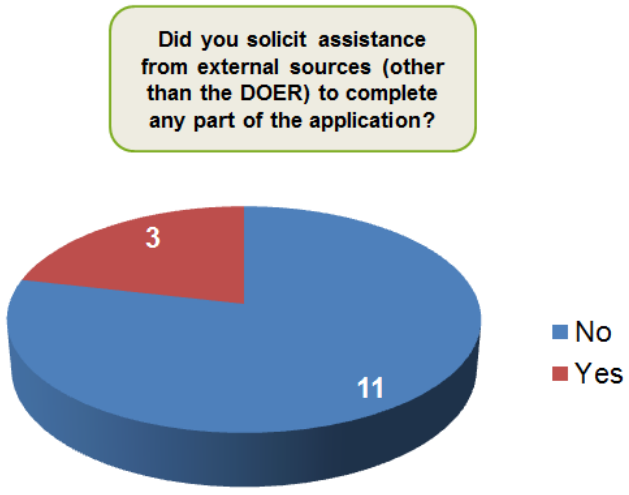

Figure 10 – External resources survey response

According to Figure 11, three of the fourteen respondents said they needed outside assistance from the DOER. An example from the survey's free response questions is Respondent #3 who said "The CCERI technologies are unknown to many municipal staff." After performing and analyzing our interviews, our team came across three interviewees who had trouble understanding certain technical terms. One interviewee said that many applicants were caused to act as middlemen between experts and the DOER. Another interviewee mentioned that they had to reach out to other parties for different permissions. The third interviewee was unsure of what "clean energy resiliency" exactly was as well as the term "islanding".

The validity of this finding is high because of the consensus formed by most respondents stating they did not need assistance. This finding is significant because it means that the DOER is providing all of the necessary information and assistance that most of the grant program's applicants would need.

Finding 5: The descriptions of eligible technologies and facilities for funding were clear to most applicants.

The majority of applicants did not have difficulty determining which technologies and facilities were eligible for grant funding. Out of the 201 questions asked in all three webinars and the Q&A document, thirty-two of them asked about eligible sites. Only eighteen out of 201 asked about eligible technologies. This means that approximately one quarter of respondents were unclear about what was being funded. A quarter is a significant minority for an applicant pool of this size. The existence of this minority would be more significant to the execution of the grant program if it weren't for the fact that their questions were answered by the DOER prior to the submission deadline for the round one applications.

Respondent #1 stated “The list of qualified projects was not very clear, such as which types of renewable/alternative energy were eligible.” The evidence shows a small but significant minority of respondents who needed further clarification before completing their application due to a lack of clarity within the solicitation document. Throughout our interviews, respondents revealed they were unclear on the meaning of certain terms such as “Islanding”, “Black-start”, “Resiliency”, “Combined Heat & Power” and each eligible technology such as “Micro Grids” and “Fly Wheels”. This finding is significant because this means that some of the applicants may have been initially hindered by lack of clarity, but their questions were eventually answered by the DOER.

Application Assistance from the DOER and Consultants

The fourth and final category of findings regards the assistance furnished by the DOER to the applicants. These findings cover the necessity of outside help for the applicants, the procedure for requisitioning seeking professional help, the quantity of applicants who sought their own experts to complete the application, and the response speed of consultants necessary for the applicants to meet their deadlines. The findings in this section will inform future actions to increase the effectiveness of consultants and reduce the necessity for applicants to get help outside of the DOER.

Finding 6: Assistance from DOER staff was helpful in answering applicant questions

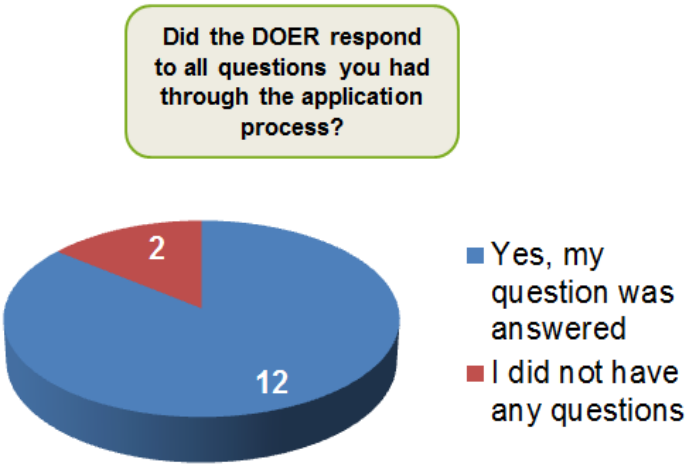

Figure 11 – DOER staff assistance survey response

According to Figure 12, twelve out of the fourteen survey respondents said that they had a question before or during the application process that the DOER answered. The remaining two out of fourteen said they did not have any questions before or during the process. This means that out of all the respondents who completed the survey, all questions were answered or no questions arose. Ten out of fourteen respondents said that the resources on the DOER website helped them complete their applications.

As for the DOER staff, numerous respondents identified the DOER's rapid response time and insightful feedback as hallmarks of the DOER's servicing of the applications. Amy McGuire served as the applicant's primary point of contact at the DOER and our respondents mention her by name in their responses. Respondent #8 said that "Amy was very helpful" and Respondent #12 "There were some questions I didn't get answered but I just ended up calling Amy McGuire directly. Everything I did ask her she answered very clearly." The validity of this finding is high

due to the vast majority of respondents all affirming that the DOER helped them during the application process.

Finding 7: Applicants wanted greater feedback from DOER and consultants regarding their project's status

Two out of eight interview respondents commented that they were waiting on feedback from the DOER for status on their application's progress. The validity associated with this conclusion is tentative as the amount of evidence does not provide reasonable assurance that the conclusion is correct by virtue of the fact that only two out of the fourteen total survey and interview respondents gave feedback supporting it. The risk also exists that the other applicants would have liked to receive status updates during the progress but never considered mentioning it in the written survey free responses or interviews. Conversely, the other applicants may have been genuinely unconcerned with the daily status of the project after the application was submitted.

Awardee Demographics

Finding 8: A majority of municipal Technical Assistance awardees were under the leadership of a mayor.

In Massachusetts there are 351 municipalities, fifty-three are designated as cities and 298 as towns. The designation is dependent on the type of government; with cities having either a mayor or city manager in charge. Towns generally have either town managers or town administrators in charge with open town meetings (OTM) and representative town meetings (RTM). Of the municipalities awarded funding, twelve out of twenty-three were designated as cities and eleven out of twenty-three were towns. This means 23% of cities in the

Commonwealth were awarded and 4% of towns were awarded (Massachusetts Municipal Association, 2008).

A possible reason for this trend is the finite nature of the town employee's available time and resources. In a tabulation of the primary applicants of the cities and towns in Table 3 and Table 4 a trend can be seen. A strong majority of the primary applicants for cities hold titles containing "energy" or "sustainability". For towns, applicants hold a much wider range of positions and thus potentially have greater responsibilities than the scope of the Initiative.

Towns	Lead Applicant Position
Shirley	Chair of the Energy Committee
Leverett	Town Administrator
Sandwich	Emergency Management Director
Scituate	Director of Public Works
West Boylston	Town Administrator
Acton	Municipal Properties Director at Town of Acton
Amherst	Amherst Sustainability Coordinator
Andover	Plant & Facilities Department
Barnstable	Chief Procurement Officer
Falmouth	Falmouth Fire Chief
Saugus	Economic Development Coordinator

Table 3 – Primary applicants of TA town awardees

City	Lead Applicant Position
Boston	Chief of Environment and Energy City of Boston
Chicopee	Mayor
Greenfield	Energy/Sustainability Coordinator
Holyoke	Senior Planner
Lawrence	Mayor
Medford	Director, Office of Energy & Environment
Melrose	Energy Efficiency Manager
New Bedford	Director, Energy Office
Newton	Director of Sustainability
Northampton	Energy & Sustainability Officer
Somerville	Director of Sustainability & Environment
Cambridge	Cambridge Environmental planner in the Community Development Department

Table 4 – Primary applicants of TA city awardees

CHAPTER FIVE: Recommendations

OVERVIEW

In this chapter, we will discuss the recommendations we have formed based off the findings in our previous chapter and our research. These recommendations were presented and discussed with our DOER sponsors to ensure they were in line with the mission of the Initiative and the DOER as an agency. We wanted to ensure that our recommendations were feasible for the DOER to implement and discuss. With a limited data set, the recommendations were formed from varying trends among respondents of issues they faced and ideas formulated, either by the respondent or through research from the team on how those issues could be mitigated. We discuss recommendations through our topics of time frame, distribution, assistance and eligibility.

Recommendations Related to Application Distribution

Recommendation 1: Continue to use email as the primary form of distribution.

In our findings, we outlined how our data reflected the effectiveness of email in reaching the applicants of the Community Clean Energy Resiliency Initiative. Based on the preponderance of this data, we suggest that the DOER continue to use email as the primary form of outreach for future grant programs. There is a degree of uncertainty as to which form of email had reached the respondents. Some had learned about the Initiative through direct emails from the Community Clean Energy Resilience Initiative staff and others had learned via an email through the DOER

Green Communities newsletter. We recommend that both venues continue to be utilized to their maximum extent.

Recommendation 2: Reach out to meetings of Green Communities leaders.

During the interviews conducted within our data collection, some of the respondents stated that they participated in regional meetings of municipal leaders and employees. Two of these meeting groups are the Regional Green Communities Meetings (RGCM) and the Metropolitan Area Planning Council (MAPC). With the RGCM's being administered by the DOER and the MAPC having their own green energy initiatives, both serve as potential venues through which the DOER can advertise new grant programs for green energy to the participating municipalities. Sending representatives to meetings of this type can give new DOER grants direct personal exposure to potential applicants. This can also allow questions about issues such as eligibility to be answered well before the applicants begin filling out their applications.

Recommendation 3: Distribute paper mailings to potential applicants

During one interview, a respondent suggested that the DOER should include paper mailings as part of their publicity and marketing for future grant programs. The rationale behind this suggestion was the fact that public officials and employees who would be filling out these applications often receive enormous amounts of emails every day. A DOER opportunity notification sent via email could easily be buried in their inboxes and not seen by those who would take action to fill out the application. The applicant stated that they are more likely to read and pay attention to paper mail they receive because they receive less of it. Respondent #12 stated "We used to get all grant announcements in the mail...I hate to say it but we actually read the mail. Emails are so much easier to ignore and skip over because there's something more

important behind it." We questioned some subsequent interviewees about their support for receiving paper mailings for future DOER grant opportunities and they agreed that it would be more likely to get their attention than emails.

Recommendations Relating to Time-Frame

Recommendation 4: Continue to follow a similar application time-frame.

As seen in Finding 1, we found that the majority of applicants did not need additional time on any part of the application. The approximate two months allotted between the Request for Proposals and the deadline to submit them was sufficient for most applicants. According to the DOER staff, this reflects a typical timetable for their grant programs. Most respondents stated in phone interviews that because the application was so simple to fill out, they would not have needed any additional time.

However, a minority stated that they could have used more time. The majority of that minority stated that less than a month would have sufficed. This could have been due to any number of internal and external factors faced by the respondent. A respondent stated in a phone interview that they could have used more time to gather information required in the application from various internal departments with that information. Because this is a small minority, we considered this response an outlier. From this data, we recommend that the DOER should not change the time-frame of future grant programs.

Recommendations Relating to Application Process Information

Recommendation 5: Emphasize within the Technical Assistance grant that the Project Implementation funding does not fund electrical generation technologies.

From our interviews, respondents stated they were unsure what technology would be funded by the DOER in later grant stages. In our review of the TA solicitation document, we found that it was potentially misleading to applicants that they would be provided assistance in their incorporation of new generation technologies but the proposed generation would not be funded.

As the goal of the TA is to prepare applicants to implement their project through the Round Two PI grants, we recommend an explicit statement under the "Eligible Clean Energy Technologies" heading that clarifies what is meant by "eligibility". Those who are advancing to Round Two PI may not have reviewed that solicitation document until they had received their technical proposal from DOER's consulting firms. A repetition of this statement should be placed under the section "Funding Guidelines" as well. Currently, under that section, it states "Awarded TA Applications will result in a project plan that can then be converted into a second round Project Implementation (PI) Application" (see PON-ENE-2014-036). Without a review by the applicant of that solicitation document the scope of assistance from the DOER is not clear.

Recommendation 6: Include a glossary of technical terms within the Technical Assistance solicitation document or use the page margins to define technical terminology as it appears.

Based on our findings on whether terminology in the application documentation was clear, we recommend that the DOER includes definitions of technological terms within the solicitation documentation, with an expanded upon list of terms and definitions in a secondary

document. As evident in Finding 7, limiting eligible applicants to municipalities or RPAs may mean that the lead applicant does not have a technical background and prior knowledge of such terminology. Definitions ensure that applicants are not being dissuaded by unclear terms regarding eligible technology or the scope of the project. Several key terms needing explicit definitions were repeatedly mentioned throughout our data collection and reported in Finding 4. “Resiliency” is of particular importance for clarification as it defines the mission of the project, yet varies in meaning from applicant to applicant and pending on the context of its use. In the case as in Finding 2, lack of clarity on a term may dissuade them from ever knowing about the Initiative. We recommend the DOER uses assistance from its consulting firms to formulate these definitions.

Recommendation 7: Continue defining Eligible Applicants as municipalities or RPAs.

We recommend that the DOER continue to exclusively allow municipalities, RPAs or a partnership of municipalities or RPAs to be eligible for funding. Through the help of internal departments and the resources that the DOER provided, municipal or RPA staff were able to complete the application thoroughly and with overall ease. The advantage of the lead applicants being in such positions is it allows them to take into account the needs of one or several municipalities and through their position, bring together resources to determine what sites are the most vulnerable. Where eligible applicants may lack in technical knowledge, they gain in an understanding of the functions of the community and an ability in their position to see a larger need to be met.

Initially, our team had formed the recommendation that municipal utilities should be eligible as lead applicants, with the understanding that they would be both well versed in dealing

with the technology and have the needs of the community in mind. However, through further interviews and consultation with our sponsors at the DOER, it came to light that opening up eligible applicants to municipal utilities could raise questions from private utilities or utilities under the oversight of a public utilities commission (PUC) as to why they were not eligible.

We also determined that municipal utilities may not have the same resources as a town manager/administrator or other official to bring together the resources needed to determine what sites are the most vulnerable. In light of this, we recommend that the DOER encourages eligible applicants to work closely with the forty-one municipal utilities in Massachusetts in such application processes for input. As displayed in Finding 7, lead applicants of towns may lack the necessary resources to complete the application, so this partnership is beneficial in particularly to them.

Recommendations Related to Assistance from the DOER and Consultants

Recommendation 8: Continue posting question & answer documents and conducting webinars throughout the application process.

As outlined in our findings, awardees found the three webinars and the Q&A document posted on the DOER website to be helpful throughout the application process. Most awardees attended the webinars and had their questions answered. Others did not attend, but benefitted from having the questions and answers posted on the DOER website. The general Q&A document posted on the DOER website proved helpful to most awardees. We recommend that the DOER continues this process of posting all questions and answers to their website so they serve as a tool for other applicants and potential applicants with similar questions and concerns.

Recommendation 9: Make a list of external contacts available to applicants.

In Finding 3, we outlined how most awardees did not seek external assistance to complete any part of the application. However, a significant majority stated that they did solicit assistance outside of their respective departments. Those awardees sought advice and information from experts to help with engineering, solar equipment & facilities, and annual gas usage. In Finding 7, we discovered that the primary applicants of town awardees were not directly involved in energy, based on their titles. This list will assist a town or any applicant who does not have the necessary background or resources to complete the application.

Although the DOER and the state are not able to encourage the use of specific vendors or even recommend any for grant program assistance, we recommend that the DOER compiles and posts a list of possible directions applicants could take to get their questions answered. The DOER could compile a list of state assistance that the applicants could utilize. Similar to the financial resources posted on the DOER website, lists of contacts that could help applicants with engineering information, legal information and renewable energy consultants are recommended.

Future Evaluations

Recommendation 10: Determine whether timing kept some municipalities from applying.

In our evaluation, we did not collect feedback from those who were not awarded funds. Although this did not fall under our scope of work, we recommend that the DOER determines if time was a factor that kept municipalities from applying. Municipalities may not have applied knowing that they would not finish the application in the time allotted from the DOER. In order to grow their market for grant programs, our team recommends that the DOER should consider

studying whether changing the time-frame of future grant programs will result in greater numbers of applicants.

Conclusion

Through the collection of data from grant awardees, the team developed recommendations for the DOER on the Community Clean Energy Resiliency Initiative grant application process. These recommendations are not only relevant to this Initiative, but future initiative application processes within the DOER to better the process' distribution, clarity and assistance provided to applicants. Our findings and recommendations will further aid application process design to benefit distribution techniques, application clarity, application requirements, and resources provided by the DOER. Future successful initiatives will continue the growth of renewable energy and the implementation of energy resilient technologies in municipalities. Our hope is that this growth will result in a sustainable Commonwealth with a modern and resilient electric grid.

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Appendix A: Technical Assistance Interview Guide

Interview Goal: The goal of the interviews were to elaborate on the successes and issues faced by respondent in the application process as presented in the survey results. The group wanted to receive feedback on why the contact chose the options they did on the survey. The contact was asked to share anything about the application process that was not included on the survey.

Interviewee Selection: Respondents of the Technical Assistance online survey were emailed to request a phone interview. In the event of no response to the email requesting an interview, respondents were contacted via phone with the intentions of conducting the interview if the respondent was available.

Interview Request Email:

> "Greetings,
>
> Thank you for completing our survey! Our team would like to schedule a confidential phone interview with you at your earliest convenience. During the phone interview, we would like to review your responses to the survey and discuss your application experience in greater detail. As with the survey results, the information you provide may be used in our final report but without any identifying information.
>
> Please expect a 30 minute phone interview (or greater if you wish). If you are willing to participate, what day and time works best for you? If you have any questions, please feel free to contact us at bos14energy@wpi.edu.
>
> For your convenience, your survey response is included below."

Interview Topics:

1. Application Distribution (Distribution & PR)
    a. The spreading of information about the program influences the type and number of applicants that apply for the grants.
2. Application Time-Frame
    a. The time-frame, defined by the time between the availability of the application and the deadline of submission, was important for DOER staff to assess as well as brought up as an issue by applicants in Q&A responses.
3. Application Process Knowledge and Information
    a. This includes the following subsets of issues brought up as a result of the information on the application's requirements disseminated/available to the applicants: Site Selection, Technology, Finances, Technical Analysis Requirements, Eligible Applicants, Legal, and Verbiage.
4. Responsiveness/Assistance from the DOER
    a. Assistance provided by DOER staff to applicants, including resources on the website and response to questions asked of the DOER staff.

Appendix A: Technical Assistance Interview Guide

Interview Questions:

General Openers

1. When did you become aware of the Initiative?
2. Describe your role in the application process?
3. What benefit does this project have on your community?

Successes

4. What about the application process did you find to be effective or helpful? (If they can't think of anything, prompt with: For example, webinars, online resources, application information document, DOER staff, etc)

Application Clarity

5. Why did you choose _____ as the most difficult part of the application process?
6. Were you able to understand the requirements of the application through its wording? Did you seek out DOER resources to clarify any aspects?

Assistance

7. *Conditional* Describe any external or internal help you received on any parts of the application? What caused you to seek them out?
    a. What qualifications/experience did your help have?
    b. Were you satisfied with the assistance?
    c. If you did not seek help, why?

Site Selection

8. Did you submit an application that contained multiple sites?
    a. How many sites did you include in your application?
    b. Did this make the application more difficult?
    c. How did you choose these sites?
    d. If not, was it difficult to select one site? How did you select this one site?

Time-Frame

9. Why would _____ be a sufficient amount of extra time? -AND/OR- If you had additional time, is there an aspect of the application you would have improved upon?

Distribution

11. What could be done to further market DOER initiatives to applicants such as yourself?

Open Response

12. What would you improve about the application process? And how?
13. Are you planning on applying for the Round Two Project Implementation grant funding?
14. Is there anything else you'd like to share about your experience with the Community Clean Energy Resiliency Technical Assistance application process?

Appendix A: Technical Assistance Interview Guide

Appendix B: Technical Assistance Survey Results

Online Survey Preamble:

" We are Worcester Polytechnic Institute (WPI) students who are evaluating the Department of Energy Resources (DOER) Community Clean Energy Resiliency Initiative application process as part of our interdisciplinary project. It is our goal to use both the feedback from this survey and interviews with Technical Assistance applicants to make recommendations about the initiative. We, the WPI team, were not involved in the application review process and this evaluation is not connected to any completed, pending, or future, grant applications within the DOER.

Your feedback may be used in our final public report but will be presented without identifying information. Any and all feedback will remain confidential between you (the applicant) and us (the WPI students). This confidentiality has been reviewed and approved by WPI's Internal Review Board. Thank you for your time. Please email our team at bos14energy@wpi.edu with any questions. This survey will take approximately 5 minutes to complete. The link for this survey will expire on Thursday, September 25th at 5pm.

Please fill out the following questions to the best of your ability. "

1. How did you find out about this initiative?

#	Answer		Response
1	Email		8
2	Telephone		0
3	DOER Website		2
4	Press		0
5	Other web resources		0
6	Word of Mouth		0
7	Other (please specify)		1
8	DOER Green Communities representative or newsletter		3
	Total		14

Other (please specify)
All of the above, multiple times

2. Rate the distribution of this program to eligible applicants on a scale of 1 – 5

3. Which method of communication would you have preferred to become aware of this initiative?

#	Answer		Response
1	Email		7
2	Telephone		1
3	DOER Website		1
4	Press		1
5	Other web resources		1
6	Word of Mouth		0
7	Other (please specify)		1
8	DOER Green Communities representative or newsletter		2
	Total		14

Other (please specify)
paper mailing

4. Which part(s) of the application were difficult to answer due to a lack of sufficient information in the application?

#	Answer		Response
1	General Applicant Information		1
2	Municipality Information		1
3	General Project Information		4
4	Identification of Prioritized Critical Facilities		2
5	Background Information & Further Documentation (i.e. Invoices, municipal critical facilities submitted to utilities, etc.)		4
6	Critical Facility(ies) Data		3
7	Critical Facility(ies) Energy Information		5
8	Other (please specify)		4

Other (please specify)
no dificulaties
No difficulties
hourly utility data; generator invoices
Qualified Projects

5. Did you solicit assistance from external sources (other than the DOER) to complete any part of the application?

#	Answer		Response
1	Yes		3
2	No		11
	Total		14

6. Which part of the application required additional assistance?

#	Answer		Response
1	General Applicant Information		0
2	Municipality Information		0
3	General Project Information		0
4	Identification of Prioritized Critical Facilities		0
5	Background Information & Further Documentation (i.e. Invoices, municipal critical facilities submitted to utilities, etc.)		0
6	Critical Facility(ies) Data		2
7	Critical Facility(ies) Energy Information		3
8	Other (please specify)		0

7. What type of assistance was solicited?

#	Answer		Response	%
1	Financial		0	0%
2	Legal		0	0%
3	Engineering		1	33%
4	Other (please specify)		2	67%

Other (please specify)
solar consultant and facilities
annual gas usage

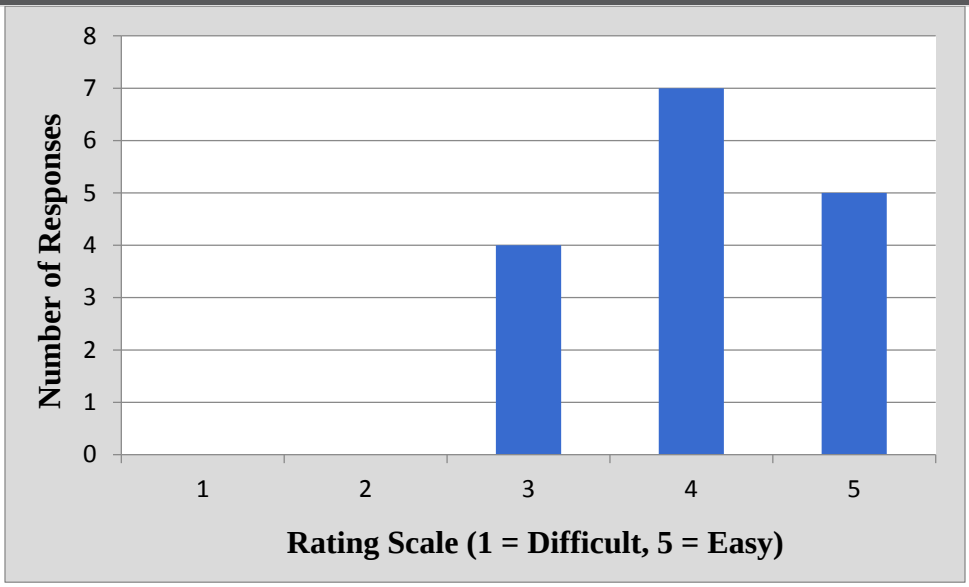
8. Did the DOER respond to all questions you had throughout the application process?

#	Answer		Response
1	Yes, my question was answered		12
2	Yes, but the response was not adequate		0
3	No		0
4	I did not have any questions		2
	Total		14

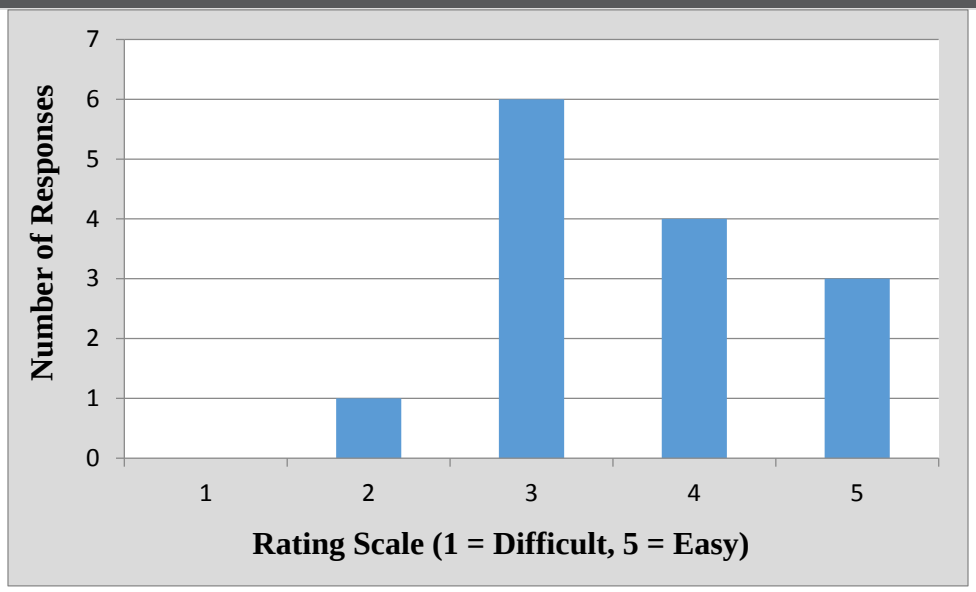
9. Were the resources DOER provided on their website helpful (i.e. Question & Answer Forum, Financial Resources, Webinars, etc.)?

#	Answer		Response
1	Yes		10
2	No		1
3	I did not use those resources		3
	Total		14

10. Rate the ease of accessibility of the above DOER resources



11. Rate the difficulty of meeting the deadlines of the application process



12. How much additional time would you have preferred to have to complete the application?

#	Answer		Response
1	I did not need additional time		10
2	Less than a month		3
3	1-2 months		1
4	2-3 months		0
5	3+ months		0
	Total		14

13. Please elaborate on any other issues not identified above that you perceived in the application process (resources, information, time, etc.)

Text Responses*
1. The list of eligible clean energy technologies includes, micro-grids. This bullet appears to independent of any other criteria but DOER prefers projects with renewable energy (i.e. solar, wind) DG systems, which at not very resilient.
2. The constraints and framework of the application were vague at times and the timeline is overly ambitious. Moreover, it was not clear from the application that only remote desktop analyses would be conducted. Overall, it's a great program and DOER tried well to administer it but it still had some challenging aspects.
3. The list of qualified projects was not very clear, such as which types of renewable/alternative energy were eligible. Many applicant's assumed that, for example, a solar facility on their roof would be fully funded by this DOER grant, however this wasn't the case. The municipality needed to arrange a Power Purchase Agreement, or purchase the system themselves. The equipment, such as the storage battery, was the only thing that was being funded. It was just a little misleading on what equipment was actually being funded. There are also 41 municipalites that have Municipal Light Plants (public utilities that serve just their city/town) that were not eligible to apply for this grant. Even though they are a department of the City/Town, and have the expertise and personnel to apply and implement these projects, were not eligible. It forced them to apply through the City Planning or another department, who do not have the knowledge of many of the questions asked when applying.
4. The amount of available information was adequate and very clear and repeated often. One of the challenges with it is that the CCERI technologies are unknown to many municipal staff and it was difficult to get colleagues interested in something they don't understand.

* [ ] denotes modified responses for confidentiality

Appendix C: Interview with Lisa Capone, Director at Green Communities Division (DOER)

Interview Date: September 23rd, 2014

Interview Conducted By: Thomas Buonomano (Lead) & Kayla McAvoy (Minutes)

Interview Goal: The goal of this interview was to determine the methods the Green Communities (GC) division used to evaluate the GC application process for municipalities.

Interview Response:

1. Who conducted the evaluation?
    a. ICF International was hired with the task of evaluating annual report process
2. Evaluation Process
    a. 10 of 123 communities were interviewed, chosen to get a data set of wide ranging demographics such as population and income.
    b. The goal of the interview was to probe each phase of the program and formulate survey questions based on the issues/successes of the interviewees.
    c. Using their responses, an online survey was created and distributed to all of the Green Communities.
    d. The survey was preempted by an email from the Green Communities Division Regional Coordinators, who work one-on-one with Green Communities across Massachusetts.
3. Response Rate
    a. 85 communities responded of the 123 total Green Communities
4. Were the results confidential?
    a. No, the appendix includes all survey responses as well as a summative list of the respondents.
    b. Confidentiality is not a major concern for municipal workers as they are used to being in public view.
5. Does the firm provide recommendations? Provide just feedback? How are recommendations formed?
    a. The evaluation's final report is still in draft format
    b. IFC will not be providing concrete recommendations, just findings categorized by the criteria of the application
    c. GC Division uses findings to formulate changes in future applications.
6. Tips & experience on reaching out to municipality contacts?
    a. CC Amy McGuire in correspondences amongst municipalities as they are more familiar with Amy.
    b. Be prepared to have surveys completed the day of the deadline due to the availability of municipal workers.

Appendix D: Interview with CT Department of Energy & Environmental Protection (DEEP)

Interview Date: September 19th, 2014

Interview Conducted By: Thomas Buonomano (Lead) & John Scarborough (Minutes)

Interview Goal: The goal of this interview was to determine the methods the CT DEEP used to evaluate their Microgrid Grant and Loan program application process.

Interview Response:

1. Overview of the program
    a. Two rounds were conducted, the first in 2013 and the second in spring 2014. DEEP is currently in the middle of the second round, consists of a two phase review.
        - First phase: does the application meet the requirements, i.e. necessary documentation, utility contact, etc.
        - Second phase: more detailed review and ratings of each application,
        - No Technical Assistance, instead DEEP connected municipalities with partners and offered webinars.
        - Five applications were entered for this round, previous round had 17, DEEP asking "why?"
2. How was feedback solicited?
    a. Feedback was solicited in two ways
        - An email was sent out to the DEEP's email contacts including partners and municipalities requesting written feedback on round one of the program.
        - Municipalities were invited to a "Municipal Summit" and allowed to bring a consultant with them to aid in technical comprehension.
        - The feedback process for round one was open to those who are considering applying in round two and for those who went through the process
3. Which method, email or Summit, did you find most beneficial?
    a. Both were equal
4. How did you process the feedback?
    a. "We had a team, between us, utilities, our expert technical consultants and financial partners"
    b. Round two changes: Implement two phase review, limit diesel generation, encourage renewables, hold webinars.
5. Supporting information provided via email
    a. Responses: "17 written comments. Approximately 30 people attended the September 10, 2013 municipal summit representing approximately 18 towns (plus

one member of the Connecticut Conference of Municipalities). Approximately 12 people at the conference asked questions or expressed concerns at the summit." - Interviewee

b. Municipal Summit email invitation:
    - "You are receiving this email because you are listed as a contact person for a municipality in the recently completed Microgrid Grant and Loan Pilot Program administered by the Connecticut Department of Energy and Environmental Protection (DEEP). As you have likely seen, the results of the first round of the program were announced recently, and the Governor has given the green light for a second round of the program to begin soon. The DEEP microgrids team is in the process of collecting feedback on the first round of the program in order to shape the next round, and we are especially interested in tailoring a significant portion of the program to better fit the needs of municipalities. To this end, we would like to invite representatives of municipalities that **either** participated in the recently concluded first round of the microgrids program **or** are thinking about participating in the second round of the program to join us on **September 10th from 1-4pm in the Phoenix Auditorium at DEEP (79 Elm St. Hartford, CT)** for a Municipal Microgrid Summit. The purpose of this event will be to give a brief overview of the direction that we see the program headed in, to solicit municipal input on how best to structure the program moving forward (timelines, connecting with developers, funding process, etc.), and to share some opportunities that will be available to municipalities in the second round of the program. If you would like to bring a developer that might be working with you in the future to the Summit, please feel free to do so. To attend, please RSVP to debra.morrell@ct.gov with the names of municipal representatives that will be attending."

c. Request for written feedback email:
    - "You are receiving this note because you have shown interest in the State of Connecticut's Microgrid Program. As you have probably seen, we have recently made the first round of microgrid project awards (http://www.governor.ct.gov/malloy/cwp/view.asp?A=4010&Q=528770). We are planning on launching the second round of our program this fall, and as we begin to shape the second round of our program we would welcome your feedback. Many of you have expressed interest in providing input on your experiences in and thoughts on the first round of the program. To that end, we'd ask that you please summarize your thoughts in a double-spaced word document no longer than three (3) pages and submit it to debra.morrell@ct.gov."

Appendix E: Process Evaluation Design and Standards

Program Evaluations are studies whose purpose is to gather data and draw conclusions about aspects of a program. An important type of program evaluation is a performance audit. The goal of a performance audit is to collect data and draw conclusions which help guide the program's management to mitigate issues and implement improvements within the program design and execution structures. Below are requirements that guide proper audit planning:

Audit Planning Requirements

1. All work must be documented, planned, and be towards meeting the objectives of the audit.
2. Auditors may not define or adjust the audit objectives or scope.
3. Work plans must be designed in order to mitigate audit risks
4. Work must provide reasonable assurance to back up the auditors' findings
5. Work must be prioritized based on its significance towards meeting the project's objectives

Program Nature

The first step in conducting a program evaluation or performance auditing is to understand the nature of the program. The program's nature includes visibility, sensitivity, and risks that the program receives. The following items all contribute to project to the project nature:

- Laws, Regulations, and Contracts Associated with the Program
- Program Goals and Objectives
- Internal Controls Already in Place
- Inputs: Money, Materials, Personnel, etc
- Program Operations (the processes with which inputs become outputs)
- Outputs: The Goods or Services Produced by a Program

- Outcomes: The Accomplishments or Results of a Program

It is the auditor's responsibility to achieve a working understanding of the program's nature as to allow them to use their best judgment to make decisions about how to conduct the audit. In our background research for this project we familiarized ourselves with the program's nature. The summary of our knowledge about the DOER Clean Energy Resiliency Program is located in the background chapter of this report.

Audit Scope

The scope of the audit is the subject matter that will be assessed and reported on by the auditors in order to meet the objectives of the audit. In the case of our project, the purview of our evaluation is the application process of the DOER Clean Energy Resiliency Initiative.

Audit Objectives

Audit Objectives are the questions about the program which the auditors seek to answer with factual evidence. The objectives shape how the audit is conducted as the auditors must design the research methods around search for evidence to support answers to the questions they pose. Performance audit objectives are created to define metrics to study to provide data to allow program managers to make decisions that improve the performance of the program.

Significance

During an audit, numerous factors with a program can be studied for their effect on a program's performance. It is up to the informed judgment of the auditor to determine what factors are the most significant and require the greatest focus of study. For example, the average annual revenue for a town and the communities' commitment to green energy initiatives are both factors in the success of a green energy initiative for the town. But in this case, the town's

revenue and resources would play a bigger role in the success of the initiative than community support if the goal of the project is expensive, like installing several wind turbines on town property.

Audit Risk

Audit Risk is the possibility that the auditors finding, conclusions, assurance and recommendations may be incorrect or incomplete due to lack of sufficient and appropriate evidence, lack of significance, or fraud. Risk factors include the audit's timeframe, complexity, program size, sample size, and data collection methods. Auditors also risk making mistakes. The identification of risks within an audit acts as a disclaimer for anyone who will view the results of the audit, stating that the findings of the audit have a certain probability of being incorrect or misleading due to one or more of the common risk factors listed above.

Reasonable Assurance

When an auditor has evidence that is sufficient to justify their conclusions, their conclusions are considered to have reasonable assurance. Hypotheses that have not been supported by sufficient evidence to achieve reasonable assurance cannot be classified as an official finding at the completion of an audit.

APPENDIX F: Resilient Energy Technologies

Incorporating resiliency into existing sites requires storage, energy management and generation technologies. Storage technologies supplement power demand when the on-site generation sources are unable to meet the demand needs. For most installations, production is intermittent, as is the case with solar electric systems lacking output at night or during cloudy days. In these cases it is assumed that the storage solutions will be replenished in a given period of time. In other installations, such as those with Combined Heat and Power that traditionally operate from Natural Gas, the storage elements may need to provide the generation to the load for the duration of the outage. There are three common goals of a resilient energy system: resilient generation, high-capacity storage elements, and a minimal critical load.

Load Shedding

Load shedding is the isolation of critical loads to be powered. Installing a system to meet the entire electrical demands of a facility is not economically feasible if that facility is attached to the existing grid. The installed back-up generation should be sized to meet the demands of the critical load without meeting unnecessary loads. What constitutes as a critical load varies from site-to-site but generally encompass loads that provide health and safety services to those served by the facility.

With a constant source of electricity, load shedding incorporates reducing critical loads and eliminating unnecessary loads. Renewable, intermittent sources of electricity add the possibility of deficient generation inside the islanded system. An islanded system is one that is isolated from the electric grid. When that occurs, load prioritization must occur in order to determine the order in which critical loads go offline (Du & Nelson, 2009). For example, a load shedding system may turn off air conditioning in a facility during a power outage and only enable critical loads.

Implementation. The isolation of the critical loads involves the creation of a second circuit to be implemented in the facility. Designated outlets for machines considered critical loads and other elements attached to that same circuit are installed. Once the grid has failed and that circuit is powered by the back-up generation, the frequency of the circuit is monitored to

sense the relationship between the demand and generation. In the event of a raised or lowered frequency, pre-programmed hierarchy of critical load shedding can be implemented to remove certain loads from the circuit that are deemed less important than others. Energy management techniques such as decreasing the speed of fans or the dimming of critical lighting can be enacted to further reduce critical loads. These regulation devices also aid in preventing damages to devices during increased or decreased voltage and instead remove them from the circuit until sufficient power is restored (Du & Nelson, 2009).

Combined Heat and Power

Combined Heat & Power (CHP) involves using the waste heat from an electricity-producing unit to help meet the user's thermal energy needs. By capturing the waste heat and using it for other purposes such as space heating or cooling, the overall efficiency of the electricity production is increased up to 85% and more of the fuel's energy contents are conserved in contrast to that energy being released in the surrounding environment (Masters, 2013). CHP represents a unique system in that it is a source of energy management and generation. Capturing waste heat from CHP systems as opposed to separate electrical and heat generation systems can reduce energy demands for an installation by as much as 40% (Masters, 2013). Details on the resiliency of CHP can be found in Appendix H.

CHP in Massachusetts. Under the Green Communities Act's Alternative Energy Portfolio, CHP was allowed to be researched and implemented for its useful thermal generation despite its reliance on fossil fuels ("Massachusetts," 2014). Massachusetts currently boasts 12 facilities with integrated CHP. The largest of these systems is serving the Longwood Medical Campus in Boston and is rated at 47.5 MW (megawatts) of power output. Currently, high electricity prices and low natural gas prices allow for a 58% savings in cost per kW when generating on-site using CHP. In order to run most efficiently, CHP requires high pressure natural gas, a resource not available in all sections of Massachusetts including portions of Boston. Without the availability of high-pressure natural gas, the return on investments for end-users diminishes, requiring additional financial incentives for installations (Belden, Veilleux, Crowe, & Wright, 2013).

Battery Storage

The incorporation of on-site batteries allows a cycle of depletion and charging to occur at times where generation is unavailable. A common use of battery storage is within solar electric systems. Solar electric arrays incorporate battery systems, with the array typically connected directly to a charge controller and then the batteries. Solar arrays produce direct current, the same type of current needed to charge the batteries, requiring no power conversion. Since batteries produce a direct current voltage and the common load device uses alternating current, an inverter is used to convert from direct to alternating current. The inverter also acts to allow another alternating current source in the same circuit to charge the batteries by converting that power to direct current.

Design Considerations. Traditional lead-acid batteries found in automobiles are designed to provide short bursts of high electric current and are unsuitable for applications requiring any appreciable usage of the batteries' capacity. Instead, lead-antimony also knows as deep-cycle batteries are used. Deep-cycle batteries have a lifetime of approximately ten years when only drained to 25% of their capacity and five years when drained to 50% of their capacity. Lead-based batteries are temperature sensitive as well, with variances of room temperature increasing or decreasing the discharge rate. For every 10° Celsius above 25° Celsius, the lifespan of the battery is decreased by half (Masters, 2013). This requires facilities to ensure a level of climate control for battery installations, potentially using critical square footage within a facility. The relatively low energy-density of lead-based systems is problematic in this realm. To store the electricity generated from a one megawatt system, the equivalent square-footage of one and a half semi-trailers, or 91 cubic meters would be needed (Masters, 2013).

Lithium-Ion. Lithium-ion batteries represent a system with greater energy density, five times that of lead-acid (Masters, 2013). In Massachusetts, a company called A123 Energy Solutions (2014) has developed a Grid Storage Solution that incorporates a large array of lithium-ion batteries, frequency regulation and power conversion contained inside freight-container-like units. The containers are able to operate in temperatures from -30° to 50° Celsius and can be purchased in lengths from 20 feet to 53 feet with varying storage capacity depending on the needs of the consumer. The application of these systems allows for easy integration with a building's current system and all aspects of the batteries can be monitored and controlled

remotely. In addition, the incorporation of power regulation and conversion in one system saves on installation costs and creates ease for future upgrades as the system is not directly installed into the facility.

Flywheels

Flywheels work by storing electric energy as mechanical energy. When the flywheel is charging and an electric current is applied (connected to a generation source such as the existing grid) the internal generator acts as a motor under the principle induction laws of electricity. The motor functions in the same way as a load, using the supplied power to increase the speed of the rotor. When the current is no longer present, the inertia of the rotor spins the generator which induces a current that generates electricity. Flywheels are versatile in their applications. Systems range from three kW to one megawatt size (Power, 2014). Vacuum-sealed installations and magnetic levitation of the internal mass (as opposed to the traditional friction bearings) means less friction for the system when rotating, resulting in efficiency measures of up to 90% for energy input vs output. Installations cost on average $330/kWh in contrast to lithium-ion battery installations of $500/kwh. If the rotor is suspended magnetically, flywheels have a theoretically indefinite lifespan provided proper routine maintenance occurs. This gives flywheels another advantage over lithium-ion batteries with a five to ten year lifespan (Andrews, 2009).

Installation Examples. Beacon Power (2014) has installed two large-scale fly wheel systems in the United States. In 2010, a system was installed in California to store the energy from a wind turbine. The system was integrated with much success. Another installation took place in New York. A 5 MWh system was installed in order to supplement peak loads on the local grid. Both projects have proved successful and show the feasibility of fly wheels.

Thermal Storage

Thermal storage operates off of the principle of raising the temperature of a substance in order to store energy within it. The dissipation of heat from that substance releases energy that can be used to generate electricity. This process is known as “sensible” thermal storage. “Latent” thermal storage involves the phase change of the substance, such as liquid to ice. The principle behind latent storage is substances (generally water being the favored substance) require a certain amount of heat to reach the next gas phase. When that exact amount of heat is extracted

from the substance, it returns to its liquid state. The advantage of the system is that water is non-toxic, low cost, and easy to obtain and can easily transfer thermal loads (Hyman, 2011). Stored energy from a thermal load can be used to supplement heating and cooling demands, assisting with energy reduction.

INTEGRATION OF DISTRIBUTED ENERGY WITH EXISTING GRID

Efficacious integration of distributed energy generation into the existing grid structure relies on modern advancements on grid management. Through research and development, the transformation from the existing grid to the smart grid has had a dramatic impact on the environment. The impact is due to the technological advances performed on the smart grid in comparison to the existing grid that had been previously adopted. The smart grid is comprised of distributed generation and various facets that allow control of the power distribution. The smart grid ensures that failure of a grid section would not result in a larger region without power (Farhangi, 2010). The most prevalent of the technologies is net-metering.

Net-metering allows power to be fed back into the grid and the consumer to be billed based on the net usage during the particular period of use.

Appendix G: Green Energy Grants

Within Massachusetts there are numerous grant programs and tax credits in place for the development and deployment of green energy technologies. These assets can be leveraged towards funding distributed energy projects which utilize renewables for generation. For example, the Massachusetts Clean Energy Center provides grants to commercial and community institutions for the construction of wind turbines within the Commonwealth. The energy produced can be used to either service on-site needs or be sold back to the utilities by means of net-metering. Similar grant programs exist for hydroelectric and anaerobic digestion based generation. The state also currently offers numerous tax incentives and rebates for almost all alternative and renewable energy generation technologies as well as measures to improve energy efficiency of buildings (Massachusetts dsire.org, 2014). These grants can cover the costs of generation technologies for a site looking to add distributed generation to their facilities. These grants must be leveraged by locations in Massachusetts seeking financial help acquiring resilient distributed generation. This is because according to the law that created the DOER's grant program, the grant money is not to be allocated towards generation technologies themselves.

Appendix H: Technical Assistance Application Information

Community Clean Energy Resiliency Initiative

PON-ENE-2014-035

TECHNICAL ASSISTANCE APPLICATION INFORMATION

A. Background

Predicted climate change impacts—in particular, sea level rise and more frequent extreme storm events—have the potential to impair public and private services and business operations across the Commonwealth of Massachusetts. Preparing for these future impacts will take a coordinated effort of private and public sectors, non-profit organizations, and managers and users of infrastructure resources.[1] To increase energy infrastructure resiliency and reliability will also require investments in new technologies. Realizing this, Governor Patrick announced a multi-dimensional strategy to help Massachusetts prepare for climate change and the increasing incidence of severe weather.[2]

B. Clean Energy Resiliency Initiative

As part of the Administration's Climate Change Preparedness Initiatives, the Governor directed the Department of Energy Resources (DOER) to administer a $40 million grant program to ensure energy resiliency at critical facilities in municipalities using clean energy technology.

As such, DOER's "Community Clean Energy Resiliency Initiative" (Initiative) recognizes that climate change-induced events impact our entire Commonwealth and that municipalities and other public entities (as defined in the Eligible Applicants sub-section below) are at the forefront of responding when such events occur. Therefore, the Commonwealth's municipalities and other public entities are eligible to apply for these grants. DOER anticipates geographic distribution of these funds across the Commonwealth.

Applicants can request support for eligible projects by completing and submitting DOER's Technical Assistance (TA) Application through this PON or a Project Implementation (PI) Application through PON-ENE-2014-036. These opportunities are related in that there will be two rounds of PI Applications; the first will fund projects that do not require technical assistance; the second will serve as the process by which plans coming out of the TA Application awards can subsequently apply for project

[1] Massachusetts Climate Change Adaptation Report, Part II, Chapter 5, Key Infrastructure, September 2011
[2] EOEEA Press Release, "Governor Patrick Announces $50M for Comprehensive Climate Change Preparedness Initiatives, Includes $40M to harden energy services," January 14, 2014.

implementation funding. It is important to understand both parts of the Initiative so please review both this solicitation and the PI Application solicitation, and apply for the opportunity that best suits your needs.

1. Eligible Applicants

Massachusetts municipalities are eligible to apply for the Initiative, regardless of Green Community designation status or electric utility provider. Eligible applicants also include regional school districts, regional water districts, regional sewerage districts and regional planning agencies (RPAs).

Municipal Applications – A municipality may submit one application that includes one or more projects involving one or more facilities.

Public/Private Partnerships – Municipalities or other public entities as described above may partner with private entities as the project host, as described in the "Eligible Critical Facilities" section below or as project developers under agreement with the municipality or other public entity. The municipality or other public entity must serve as the lead applicant.

Joint Applications by Multiple Municipalities - Multiple municipalities may submit a joint application to share an energy resilient critical facility project. One municipality must be designated the lead, and if the application is awarded funds, DOER will contract with the lead municipality to manage the funding.

Regional Planning Agencies - RPAs may apply for the Initiative funding on behalf of at least 2 municipalities intending to share an energy resilient critical facility project.

- A single RPA may submit more than 1 application, but no more than 3 applications for multiple municipalities.
- If DOER awards funds for a RPA submitted application, DOER will contract with the RPA to manage the funding.
- To the extent that the facility(ies) addressed in an RPA application is in a municipality that has also applied for support through the Initiative, the RPA facility(ies) must demonstrate serving a regional need.

2. Eligible Critical Facilities

For this grant, DOER defines critical facilities as: *buildings or structures where loss of electrical service would result in disruption of a critical public safety life sustaining function.* DOER has prioritized these critical facilities and provided examples of critical facilities in the list below, but DOER does not limit the critical facilities to only these examples.

1. ***Life safety resources*** – e.g., police, fire, hospitals, wastewater treatment plants, emergency communication resources and shelters;

2. ***Lifeline resources*** – e.g., food and fuel supply, and transportation facilities and resources; and

3. ***Community resources*** – e.g., city/town halls, senior centers, schools and/or multi-family housing developments capable of acting as alternative shelters.

Critical facilities may be publicly or privately owned and operated. The lead eligible applicant, however, must demonstrate to DOER that any private facilities (e.g. hospitals, fueling stations, grocery stores, or housing) have entered into or are pursuing entry into a Memorandum of Understanding to provide the applicant critical functions for public benefit in the case of an emergency event. Such a Memorandum of Understanding must be completed prior to any award being made by DOER.

3. Eligible Clean Energy Technologies

DOER may support projects that incorporate the eligible clean energy technologies ***at critical facilities.*** These eligible technologies may be strategically integrated with existing or new conventional back-up generation (such as diesel generator), and the technical assistance provided through this PON will consider such strategies. But, funds from this Initiative, awarded through a second round PI Application, cannot be expended on such conventional technologies. Eligible clean energy technologies include:

Clean Energy Generation, such as:

- Renewable electric energy generation
- Renewable thermal energy generation
- Combined heat and power (CHP) and district energy systems utilizing natural gas and renewable energy fuels
    - CHP or Fuel Cell systems with waste heat utilization must achieve annual system efficiency of at least 65%
- High efficiency (at least 50%) fuel cells

Energy Storage, such as:

- Batteries, flywheels, electric vehicles with vehicle to grid capabilities, thermal storage including hot/cold water, ice, and other phase change storage

Energy management systems that enable load shedding used to isolate and serve critical loads during an event, such as:

- Advanced controls, switches, load management software and critical load panels

Islanding Technology, such as:

- Advanced controls, switches, inverters and other grid stability technologies

Microgrids

- Defined as multiple buildings on one or more meter that are interconnected with electric and/or thermal distribution infrastructure, are served by distributed generation, and can operate either in parallel with or islanded from the broader utility grid.

4. Technical Assistance (TA) Application

The Initiative allows eligible applicants to pursue either technical assistance **OR** project implementation. This solicitation is for the Technical Assistance (TA) Application. The solicitation under PON-ENE-2014-036 describes the Project Implementation (PI) Application.

DOER anticipates providing technical assistance, **at no cost**, to about 40-80 eligible applicants who demonstrate that they have satisfactorily considered and are committed to pursue energy resiliency. DOER has procured a consulting team for this technical assistance.[3] DOER will allow applicants the opportunity to use the resulting plan to apply for a follow-up round of project implementation funding. Only applicants who have used the planning technical assistance offered through this PON will be eligible to submit for this follow-up, second round PI Application, and not all projects are guaranteed to be funded (see Section E below for details on the second round PI Application procurement calendar).

For TA Applications, DOER will begin to review technical assistance applications on June 16, 2014, and will continue to receive applications through 5:00 p.m. on July 15, 2014. Awards will be made on a rolling basis beginning June 30, 2014.

5. Applications Criteria and Submittal

Number of Facilities - Applications may consist of a project at a single building project, multiple independent buildings, or multiple interconnected buildings (a microgrid). In an application looking at multiple independent buildings, technical assistance will be provided by the consulting team for up to two buildings with more buildings considered if funding is available.

Incomplete Applications - Applications must contain, at a minimum, the information requested in the application. DOER will reject incomplete applications.

Submittal Process - All applications are to be submitted via the submission process outlined below in the "Instructions" section. All applications or supporting documents received after these dates and times will not be considered.

6. Funding Guidelines

Applicants may request technical assistance from the consulting team procured by DOER for project planning at no cost to them with a **Technical Assistance (TA) Application.**

Awarded TA Applications will result in a project plan that can then be converted into a second round Project Implementation (PI) Application (see PON-ENE-2014-036). DOER will award up to $20 million of the grant funding in the first round of PI Applications. The remaining $20 million or more will be available to follow-on round TA applicants (moving to PI Applications) as well as any PI Application projects that scored well in their evaluation but went un-funded in the first round.

7. Potential Project Outcomes

[3] On February 26, 2014 DOER issued RFQQ-ENE-2014-029: Consulting Services for Technical Assistance for the Community Clean Energy Resiliency Initiative. The Cadmus Group, Inc., in partnership with MCFA and HOMER Energy, was awarded the Technical Assistance contract. This 18 member team will work under DOER's guidance to complete the tasks laid out in the RFQQ.

A broad range of projects are possible under this Initiative. Samples of projects across this range are listed below. These projects are not prescriptive or comprehensive of the possible options, but an example of projects of varying complexity, cost and benefit.

a. ***Single Facility, Electrical: A municipal fire house (single building project)*** – Retrofit of an existing rooftop solar PV system adding battery storage, a critical load panel to allow the system to just serve critical loads, an inverter that will allow for islanded operation, and any necessary interconnection upgrades to satisfy utility requirements.

b. ***Single Facility, Thermal: School serving as community shelter during an emergency (single building project)*** – Installation of an islandable and black-start capable gas-fired CHP system with a thermal storage system to serve critical electric loads and provide building heating or cooling.

c. ***Multiple Facilities: Waste water treatment plant (WWTP) and a municipal police station (multiple building project)*** – Retrofit of an existing anaerobic digestion system at the WWTP to make the system islandable and black start capable; the addition of solar PV, battery storage, a critical load panel, an inverter that will allow for islanded operation, and any necessary interconnection upgrades to satisfy utility requirements at the WWTP; and a similar islandable solar PV and storage system at the municipal police station. These would be projects at two independent sites within one municipality, submitted under the same application.

d. ***Microgrid: Health services and shelter microgrid project*** – The incorporation of an islandable, black-start capable CHP system at a hospital with an islandable solar PV system and battery storage (as described in numbers 1 and 3 above) at a neighboring school that can serve as a shelter. This project requires working with the local utilities to allow the distribution of electricity across public ways.

C. Evaluation Criteria

Geographic Diversity:

In recognition that climate events are known to affect all regions of the Commonwealth, DOER will make awards, to the extent possible, in a manner that fairly distributes this public support across all regions of the Commonwealth.

Proposal Content*:*

- Thoroughness of the entire proposal package;
- High quality and realistic project plan;
- Comprehensive reasoning behind project site selection:
    - Identification of critical services to be supported,
    - Prioritization of critical facilities that will provide those services,
    - Anticipated outage duration being addressed;

- Demonstrated effort to address the primary vulnerabilities and needs of the community including, but not limited to: high population density, high-need populations, and specific environmental hazards and risks to the community; and
- Demonstrated past and ongoing commitment to addressing climate change and emergency response and recovery such as participation in the Green Communities program, energy efficiency audits and measure implementation at critical facility(ies), deep energy retrofit at critical facility(ies), and comprehensive emergency planning .

Project Commitment:

- Demonstrated willingness to engage with technical assistance consulting team and commitment to provide all necessary information for expeditious execution of the technical assistance offered.

D. Webinars and Distribution

DOER will host webinars on Thursday, May 22, 2014 at 1 p.m., Tuesday, May 27, 2014 at 3 p.m., and Wednesday, May 28, 2014 at 11:00 a.m. to provide an opportunity to more thoroughly explain the Initiative and answer questions from potential applicants. The first webinar will provide an overview of the solicitation. The second will provide a more in-depth look at the requirements for TA Application, as well as an in depth discussion of the technical assistance services offered by the consulting team procured by DOER and the potential for applying for second round PI funding. The third webinar will cover the PI Application.

E. Procurement Calendar and Asking Questions

DOER issues PON-ENE-2014-035	May 15, 2014
DOER begins to review TA Applications (DOER will review on a rolling basis through final TA Application deadline)	June 16, 2014
Deadline for submitting TA Application questions	June 30, 2014
DOER begins TA Application awards	June 30, 2014
FINAL TA APLICATION DEADLINE	July 15, 2014
Final TA Application awards announced (subject to change)	August 15, 2014
ROUND TWO PI APPLICATION DEADLINE (DOER will review PI Applications coming from TA Applications awardees AND re-evaluate previously un-funded Round One PI Applications)	October 29, 2014
Final Round 2 PI Application awards announced (subject to change)	November 15, 2014

For reference, the full Project Implementation (PI) Application calendar is available in Section E of the solicitation document for PON-ENE-2014-036. The most important piece for Technical Assistance (TA) applicants is the "Final Round Two PI Application Deadline" of October 29, 2014, noted above.

F. Contact Information

For further information, questions and submissions please contact:

Amy McGuire
Massachusetts Department of Energy Resources
Renewable Energy Project Coordinator - Community Clean Energy Resiliency Initiative
Amy.McGuire@state.ma.us

Questions and answers will be posted periodically on the DOER website at http://www.mass.gov/eea/grants-and-tech-assistance/guidance-technical-assistance/agencies-and-divisions/doer/doer-procurements.html.

G. Instructions

- Applicants must complete all required application forms and attach all requested documents. Incomplete applications will not be accepted.
- Applications must be submitted via email to Amy McGuire at Amy.McGuire@state.ma.us.
- All TA Applications are due to DOER by 5:00 p.m. on July 15, 2014.
- All follow-on Round Two PI Applications are due to DOER by 5:00 p.m. on October 29, 2014.
- Milestone reporting is required for all awarded Project Implementation Applications. DOER will provide grant recipients with detailed requirements after a grant award is executed.
- This application information is available at www.commBuys.com as PON-ENE-2014-035.

Appendix I: Technical Assistance Application

Community Clean Energy Resiliency Initiative

PON-ENE-2014-035

TECHNICAL ASSISTANCE APPLICATION FORM 1

Name of Applicant:	
Title of Proposed Project(s):	

Please fill in this form unless indicated to attach documents separately. All the questions must be answered. DOER requests brevity in your responses, but the spaces expand to allow for complete responses. If a question is not applicable to your particular proposal, please indicate "N/A". Do not leave the questions blank.

___ The Community Clean Energy Resiliency Initiative has both a technical assistance and project implementation component. Please indicate with an 'X' in the space that you have read and understood the solicitations for both of these (PON-ENE-2014-035 and PON-ENE-2014-036), and have elected to move forward with the most appropriate application type for your situation.

General Information
1. Applicant Information
Name of Applicant:
Lead Applicant Entity (name of municipality, RPA, etc):
Affiliated Applicant Entities (name of partnering municipalities, if applicable):
Title of Applicant:
Applicant Mailing Address:
Applicant Phone Number(s):
Applicant Email Address:

2. Authorized Representative: Please state the name and title of the representative who, if the contract is awarded, would be legally authorized to sign the contract. ***Applications which are not signed by a legally authorized individual shall not be accepted.***
Legal name:
Title:
Signature: Date:
Municipality Information
3. Population (based on 2012 US Census data found here) of applying municipality(ies) (for projects beyond one municipality please itemize and then sum the populations within the group of municipalities or region and provide an explanation of how number was reached).
4. Name of municipality(ies) served by the project (municipality, group of municipalities or region).
General Project Information (If more than one project is included in the application, please complete each question for each project. The word count is per project.)
5. Title of the proposed project.
6. Brief project description (300 words maximum). Describe goals and intended outcome of the technical assistance services provided.
7. Purpose and Need for the Proposed Project (300 words maximum). Please describe the purpose of the application, the vulnerabilities addressed by it, and anticipated event duration to be addressed. Identify community needs supported by the project (high-need populations, high risk of flooding, high incidence of storms, high population density, etc.).
Identification of Prioritized Critical Facilities
8. A prioritized list of facilities under consideration for energy resiliency measures. Specify building information as listed below. If more than 3 facilities are being considered attach information separately.

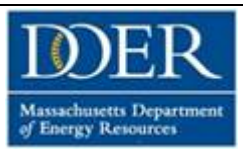
Facility Information	Facility 1	Facility 2	Facility 3
Project Title			
Facility name			

Facility function (on a daily basis)			
Ownership (municipality, regions, or private entity, etc)			
Approximate age of facility			
Address			
Existing gas and electric utility providers, including community liaison contact information			
Critical services provided by the facility			
Approximate number of people served by the facility on a daily basis			
Approximate number of people served by the facility during an emergency			
Existing distributed generation and/or backup infrastructure (type and capacity)			
Further Documentation and Background Information (If more than one project is included in the application, please complete each question for each project.)			
9. List of any previous engineering studies completed by the applicant on the proposed critical facilities within the last 2 years, including: energy efficiency audits, deep energy retrofits, building remodels, energy management studies, demand response studies, and any other relevant studies.			

Appendix I: Technical Assistance Application

10. Copies of invoices for any energy efficiency measures or distributed generation, in addition to backup infrastructure, installed at the critical facilities. **Please attach separately**.
11. Documentation of any participation in state energy, sustainability or emergency planning programs. This includes but is not limited to Green Communities, MEMA emergency planning, EOPS planning, Mass Save and Solarize Mass. **Please attach separately.**
12. Municipal critical facility list submitted to utilities for emergency restoration planning and prioritization. **Please attach separately.**

Community Clean Energy Resiliency Initiative



PON-ENE-2014-035

TECHNICAL ASSISTANCE APPLICATION FORM 2

Name of Applicant:	
Title of Proposed Project(s):	

Please fill in this form unless indicated to attach documents separately. All the questions must be answered. DOER requests brevity in your responses, but the spaces expand to allow for complete responses. If a question is not applicable to your particular proposal, please indicate "N/A". Do not leave the questions blank.

Critical Facility Data (If more than one project is included in the application, please complete each question for each project.)
1. List of available engineering drawings of facilities under consideration for energy resiliency measures, for example, area maps, site plans, electrical one-line drawings, mechanical process flow diagrams, and any other relevant information. **Please attach separately.**
2. One year (CY 2013) of monthly electricity, gas and, where applicable, oil load data for each critical facility. Hourly or 15-minute interval data, if available, will enhance the technical assistance provided. However, monthly load data is the minimum. If possible, split the data into critical and non-critical load categories. Electrical data is required for all systems; however gas and/or oil data are only necessary if the proposed project will affect these. If you do not currently have this data, it can be acquired by contacting your utility account representative(s) OR the applicant can include a signed waiver allowing the technical assistance consulting team to access the data on the applicant's behalf. **Please attach separately.**
3. One year of bills for electric, gas and, where applicable, oil utilities for each critical facility. **Please attach separately.**
4. A statement about planned substantial changes to the use of the facility that may impact the electricity, gas, and oil where applicable. These may include remodeling, new services or additional staff.

Community Clean Energy Resiliency Initiative

PON-ENE-2014-035

TECHNICAL ASSISTANCE SUPPLEMENTAL FORM

Name of Applicant:	
Title of Proposed Project:	

If more than one project is included in the application, please complete a separate supplemental form for each project. Copy the entire Technical Assistance Supplemental Form for each project.

The following information will be required for commencement of any technical assistance. While it is not needed for application review, all awards will be contingent upon providing the below information to DOER and the technical assistance consulting team.

Critical Facility(ies) Energy Information			
Specify building information as listed and is applicable below. If more than 3 facilities are being considered attach information separately.			
Facility Information	Facility 1	Facility 2	Facility 3
ELECTRICAL INFORMATION			
Distribution utility name			
Facility rate class			
Electrical service(s) capacity (Amps), voltage and phase			
Energy supplier name			

Energy supply rate			
How much electricity was used in calendar year 2013?			
Is the electric consumption expected to change? (For example, due to closing portions of the facility, adding AC, etc)			
FUEL INFORMATION (Complete if thermal loads are of interest)			
What are the thermal loads served? (space heating, domestic hot water, etc)			
Does the facility use natural gas? (Y/N) If yes, answer A through C.			
A. What is the name of the gas distribution utility?			
B. What is the rate class for the facility?			
C. How much gas did the facility use in calendar year 2013?			
Does the facility use heating oil? (Y/N) If yes, answer A through C.			
A. What is the name of the oil supplier?			
B. What is the rate? ($/gallon)			
C. How much oil did the facility use in calendar year 2013?			
BACKUP POWER (Complete if the facility currently has a backup power system)			
Type of backup system (For example, diesel generator)			
Capacity of backup system (For example, kW)			
Make and model of backup system			

Fuel storage capacity, if applicable			
Loads served by backup system (For example, all loads or just identified critical loads)			
Describe physical condition of backup system (approximate age, condition, etc)			
Amperage and voltage of the system			
Transfer switch operation (automatic or manual)			
EXISTING RENEWABLE ENERGY (Complete if the facility is currently served by a renewable energy system.)			
Renewable energy technology (For example, solar PV)			
Capacity of renewable system (For example, kW)			
Ownership model (For example, direct-ownership, third party owner, etc)			
For electric systems, method of interconnection (For example, behind the meter, virtual net metering, or not interconnected)			
Loads served by renewable system (For example, X percentage of loads)			
Describe physical condition of backup system (approximate age, condition, etc)			
Amperage and voltage of the system			
Transfer switch operation (automatic or manual)			

Appendix J: Individual Respondent Summaries

Government Type Key: TA = Town Adminstrator; TM = Town Manager; RTM = Representative Town Meeting; OTM = Open Town Meeting;

Technical Assistance: Respondent Summary #1

Government Type: TM, Selectmen, RTM

Survey Response

1. How did you find out about this initiative?
Email

2. Rate the distribution of this program to eligible applicants on a scale of 1 - 5
Program Distribution 3

3. Which method of communication would you have preferred to become aware of this initiative?
Telephone

4. Which part(s) of the application were difficult to answer due to a lack of sufficient information in the application?
Municipality Information
General Project Information
Other (please specify) -- Qualified Projects

5. Did you solicit assistance from external sources (other than the DOER) to complete any part of the application?
No

6. Did the DOER respond to all questions you had throughout the application process?
Yes, my question was answered

7. Were the resources DOER provided on their website helpful (i.e. Question & Answer Forum, Financial Resources, Webinars, etc.)?
Yes

Rate the ease of accessibility of the above DOER resources
Accessibility of DOER Resources 4

8. Rate the difficulty of meeting the deadlines of the application process
Meeting the deadline 4

9. How much additional time would you have preferred to have to complete the application?
I did not need additional time

10. Please elaborate on any other issues not identified above that you perceived in the application process (resources, information, time, etc.)

The list of qualified projects was not very clear, such as which types of renewable/alternative energy were eligible. Many applicant's assumed that, for example, a solar facility on their roof would be fully funded by this DOER grant, however this wasn't the case. The municipality needed to arrange a Power Purchase Agreement, or purchase the system themselves. The equipment, such as the storage battery, was the only thing that was being funded. It was just a little misleading on what equipment was actually being funded.

There are also 41 municipalities that have Municipal Light Plants (public utilities that serve just their city/town) that were not eligible to apply for this grant. Even though they are a department of the City/Town, and have the expertise and personnel to apply and implement these projects, were not eligible. It forced them to apply through the City Planning [omitted for confidentiality], or another department, who do not have the knowledge of many of the questions asked when applying.

Interview Response
Interview Date: September 25th, 2014
Interview Conducted By: Thomas Buonomano (Lead) & John Scarborough (Minutes)

General Openers

1. When did you become aware of the initiative?
    a. The respondent receives grant opportunities from the DOER mailing list. They received the email on May 15, 2014.

2. Describe your role in the application process?
    a. The respondent took the lead on the application.
    b. *"The city brought it to our attention....they handed it off and I filled it out completely."*

3. What benefit does this project have on your community?
    a. The respondent's town has been looking into backup power sources. Everything is looked at in a business model, and none have yet to provide decent payback. These grants allow green tech to be funded, otherwise storage is too expensive.
    b. *"We've been looking at storage batteries for a while now, but they are so expensive."*

Successes

4. What about the application process did you find to be effective or helpful? (If they can't think of anything, you can prompt with: For example, webinars, online resources, application information document, DOER staff, etc)
    a. The respondent found the application easy to fill out.
    b. *"I've filled out tons of different grant applications and I've dealt with easy ones, and very difficult ones..but this one was definitely easy to fill out as all the info was readily available."*
    c. *"Application very easy to put together."*
    d. *"With these grants, they definitely help us. The contractor, CADMUS group, they are definitely helping us out with the design aspect, letting us know how everything is interconnected and works."*

Application Clarity

5. Why did you choose Municipality Information, General Project Information and Qualifying Projects as the most difficult part of the application process?
    a. The respondent was unclear on what was eligible.
    b. *"In the actual description of the grant, they were pretty broad when it came to defining critical facilities as well as the technologies that were eligible. We weren't sure what was eligible for critical facilities. They gave examples [of eligible technologies] on the program description but they didn't explain how it*

was going to work. A lot of people went into this project assuming the DOER would fund solar power."

6. Were you able to understand the requirements of the application through its wording? Did you seek out DOER resources to clarify any aspects?
    a. The respondent asked questions over the webinar.
    b. "It was very strange because they didn't allow municipal utilities to apply for the grant, even though [municipal utilities] were basically the experts when it comes to energy."
    c. *"I asked questions through the Webinar and that was definitely able to help me."*

Assistance

7. *Conditional* Describe any external or internal help you received on any parts of the application? What caused you to seek them out?
    a. What qualifications/experience did your help have?
    b. Were you satisfied with the assistance?
    c. If you did not seek help, why?
        i. The respondent had sufficient technical background and understanding to complete the application independently.

Site Selection

8. Did you submit an application that contained multiple sites?
    a. How many sites did you include in your application?
        i. They applied for multiple buildings but the DOER requested it that was narrowed down.
    b. Did this make the application more difficult?
    c. How did you choose these sites?
        i. The respondent said there was internal deliberation. All departments were contacted for input: oil, gas, police, fire, DPW & water.
        j. *"Site selection came about from choosing variety of sites submitted among the city departments to make everyone happy."*
    d. If not, was it difficult to select one site? How did you select this one site?

9. Are you planning on applying for the Round Two Project Implementation grant funding?
    a. The respondent plans on applying for Round Two Project Implementation but is waiting on the report back from CADMUS.
    b. *"We are waiting on Cadmus group to pick one project and move forward with it. That report will be very helpful in applying for the grant in Round 2."*

Time-Frame

10. Why would _____ be a sufficient amount of extra time? -AND/OR- If you had additional time, is there an aspect of the application you would have improved upon?
    a. The respondent did not need additional time.

Distribution

11. What could be done to further market DOER initiatives to applicants such as yourself?

a. The respondent checks their emails frequently, so email would be the best distribution .

Open Response

12. What would you improve about the application process? And how?
    a. The respondent found the application easy. The program description lacked examples to give a clear explanation of what is eligible. The respondent believed that others would have to reach out to their utilities to get info.

13. Is there anything else you'd like to share about your experience with the Community Clean Energy Resiliency Technical Assistance application process?
    a. There was nothing else that the respondent wanted to share about their experience with the application process.

Technical Assistance: Respondent Summary #2

Government Type: TM, Selectmen, RTM

Survey Response

1. How did you find out about this initiative?
Email

2. Rate the distribution of this program to eligible applicants on a scale of 1 - 5
Program Distribution 4

3. Which method of communication would you have preferred to become aware of this initiative?
Email

4. Which part(s) of the application were difficult to answer due to a lack of sufficient information in the application?
Other (please specify) -- no difficulties

5. Did you solicit assistance from external sources (other than the DOER) to complete any part of the application?
No

6. Did the DOER respond to all questions you had throughout the application process?
Yes, my question was answered

7. Were the resources DOER provided on their website helpful (i.e. Question & Answer Forum, Financial Resources, Webinars, etc.)?
Yes

Rate the ease of accessibility of the above DOER resources
Accessibility of DOER Resources 4

8. Rate the difficulty of meeting the deadlines of the application process
Meeting the deadline 5

9. How much additional time would you have preferred to have to complete the application?
I did not need additional time

Interview Response
Interview Date: October 1st, 2014
Interview Conducted By: Thomas Buonomano (Lead) & Ronelle LeBlanc (Minutes)

General Openers

1. When did you become aware of the initiative?
    a. The respondent first found out about the initiative through email from the DOER.

2. Describe your role in the application process?
    a. The respondent filled out the application themselves.
    b. *"I did to the best of my ability, using the DOER webpage to understand the grant, filled it out."*

3. What benefit does this project have on your community?
    a. It tackles any energy issues within the municipality, reduces greenhouse gases & saves energy.
    b. *"When this request came across my email, I thought it would be a good initiative fitting what we we're trying to do."*

Successes

4. What about the application process did you find to be effective or helpful? (If they can't think of anything, you can prompt with: For example, webinars, online resources, application information document, DOER staff, etc)
    a. They used the DOER website to further learn about the project logistics and contacted Amy with 1-2 questions. She gave sufficient answers. They did not look at webinars, but they looked at the powerpoint posted on the DOER website.
    b. *"Just reading up on the application and what they were looking for on the website was good."*
    c. *"Going on the website, understanding the program through the website based on my understanding on what they were looking for, I think it was very easy for me to put the application together."*
    d. *"Information from their website made it easy for me to put it together."*
    e. *"She answered a couple of questions for me that weren't clear to me what she was looking for, what they were looking for."*
    f. *"They had a powerpoint on their website and I looked at that."*

Application Clarity

5. Why did you choose Municipality Information, General Project Information and Qualifying Projects as the most difficult part of the application process?
    a. The respondent called the DOER for a few questions and got them answered.

6. Were you able to understand the requirements of the application through its wording? Did you seek out DOER resources to clarify any aspects?

a. The respondent reached out to the DOER with 1-2 questions that came up during the application process.
b. *"I was happy with it, I was happy that DOER got back to me in a timely fashion when I had questions for them."*

Assistance

7. *Conditional* Describe any external or internal help you received on any parts of the application? What caused you to seek them out?
    a. What qualifications/experience did your help have?
    b. Were you satisfied with the assistance?
    c. If you did not seek help, why?
        i. The respondent did not need external/internal help.

Site Selection

8. Did you submit an application that contained multiple sites?
    a. How many sites did you include in your application?
    b. Did this make the application more difficult?
    c. How did you choose these sites?
        i. They met with the town manager, police department, fire department and DPW to select sites. The police and fire stations are not in the same vicinity so they chose two other facilities.
        j. *"I got the town manager, police and fire chiefs and DPW director in the room and we discussed the grant and where it would be most beneficial."*
    d. If not, was it difficult to select one site? How did you select this one site?

9. Are you planning on applying for the Round Two Project Implementation grant funding?
    a. The respondent said it depends on when they get the final report back from CADMUS/DOER.

Time-Frame

10. Why would _____ be a sufficient amount of extra time? -AND/OR- If you had additional time, is there an aspect of the application you would have improved upon?
    a. They did not need additional time.

Distribution

11. What could be done to further market DOER initiatives to applicants such as yourself?
    a. They suggested using the regional Green Communities to market the initiative. Depending on the relationship between the DOER & RPAs, distribution the initiative through willing RPAs would be a good idea. Possibly have regional energy directors reaching out to municipalities would also be a good idea.
    b. *"Obviously those type of regional sub-regional meetings would be good."*
    c. *"RPAs, regional planning agencies, could help to market some of these energy initiatives."*
    d. *"I'm not sure what the relationship is between DOER and the RPAs, but that might be a mechanism to get the word out more as well."*
    e. *"Maybe through those regional distribution people at the DOER."*

Open Response

12. What would you improve about the application process? And how?
    a. They could not think of anything to improve. they found that the process worked well.
    b. *"To me, it worked well."*

13. Is there anything else you'd like to share about your experience with the Community Clean Energy Resiliency Technical Assistance application process?
    a. The respondent added that they were pleased with how the DOER answered their questions.
    b. *"I was happy with it, I was happy that DOER got back to me in a timely fashion when I had questions for them."*

Technical Assistance: Respondent Summary #3

Government Type: Mayor, - , Aldermen

Survey Response

1. How did you find out about this initiative?
   Other (please specify) -- All of the above, multiple times

2. Rate the distribution of this program to eligible applicants on a scale of 1 - 5
   Program Distribution 5

3. Which method of communication would you have preferred to become aware of this initiative?
   DOER Green Communities representative or newsletter

5. Did you solicit assistance from external sources (other than the DOER) to complete any part of the application?
   No

6. Did the DOER respond to all questions you had throughout the application process?
   Yes, my question was answered

7. Were the resources DOER provided on their website helpful (i.e. Question & Answer Forum, Financial Resources, Webinars, etc.)?
   Yes

Rate the ease of accessibility of the above DOER resources
   Accessibility of DOER Resources 4

8. Rate the difficulty of meeting the deadlines of the application process
   Meeting the deadline 3

9. How much additional time would you have preferred to have to complete the application?
   Less than a month

10. Please elaborate on any other issues not identified above that you perceived in the application process (resources, information, time, etc.)
   The amount of available information was adequate and very clear and repeated often. One of the challenges with it is that the CCERI technologies are unknown to many municipal staff and it was difficult to get colleagues interested in something they don't understand.

Interview Response
Interview Date: October 1st, 2014
Interview Conducted By: Thomas Buonomano (Lead) & Kayla McAvoy (Minutes)

General Openers

1. When did you become aware of the initiative?
    a. The respondent heard about it in so many different ways, but said email was the most effective.
    b. *"I found out about it so many different ways, I couldn't tell you what was the first time."*

2. Describe your role in the application process?
    a. The respondent filled out the entire application.

3. What benefit does this project have on your community?
    a. It would be an opportunity to get funding for the technology that the community has not been able to fund yet.
    b. *"There was an opportunity to get funding for technology that the city has not been able to fund."*

Successes

4. What about the application process did you find to be effective or helpful? (If they can't think of anything, you can prompt with: For example, webinars, online resources, application information document, DOER staff, etc)
    a. Overall, the respondent thought it was a great process, with a lot of time to complete the application.
    b. The respondent really liked that there were reminders, consistent and thorough information, as well as a fact sheet, the three webinars, and the website. They thought these were all very useful.
    c. The respondent thought the consistency of information across the board was very clear and upfront, so they knew exactly what the process was.
    d. *"Overall I thought it was a great process because there was a lot of lead up time."*
    e. *"There were lots of reminders and consistent and thorough information from the website and the fact sheet that was available."*
    f. *"What was unique about this one was the consistency of information across the board from all of the different sources."*
    g. *"It was very clear upfront what the process was, how it was going to work and the information you needed to gather and pull together in order to apply."*

Application Clarity

5. Why did you choose Municipality Information, General Project Information and Qualifying Projects as the most difficult part of the application process?
    a. The respondent felt that the most difficult part of application was the general project information. There was not enough explanation of terminology that was new to their department.
    b. *"The technologies they were referring to I knew nothing about."*

6. Were you able to understand the requirements of the application through its wording? Did you seek out DOER resources to clarify any aspects?
    a. The respondent struggled with the terminology used in the solicitation and application.
    b. *"I don't think enough [information] for your average municipal employee."*

Assistance

7. *Conditional* Describe any external or internal help you received on any parts of the application?
    a. The respondent reached out to the DOER to ask questions. They specified how great Amy McGuire was.
    b. The respondent reached out to other departments for information on power outages, emergency responses & prioritized buildings.
    c. *"Amy McGuire, she was great."*
    d. *"I did reach out to other departments within the city."*
    e. *"I needed to convene public safety, the IT, emergency management planning, public works, I got them all together in the mayor's office, tried to get them to think about it."*

Site Selection

8. Did you submit an application that contained multiple sites?
    a. How many sites did you include in your application?
        i. Three sites were included in the respondent's application. These sites included IT services, emergency services and an emergency shelter.
    b. Did this make the application more difficult?
        i. The respondent said that because the sites were close in proximity, it was not difficult.
    c. How did you choose these sites?
        i. The respondent reached out to other departments in the city to prioritize what buildings they would want to keep open in the event of power outage.
    d. If not, was it difficult to select one site? How did you select this one site?

9. Are you planning on applying for the Round Two Project Implementation grant funding?

a. The respondent is still waiting on the final proposal from CADMUS. They already had RFI phone call. The respondent won't know if they can apply for Round 2 PI until they receive the final proposal.
b. *"I won't know until I get whatever they're producing next, the final report. I would like to, my gut feeling is that it is not going to be feasible."*

Time-Frame

10. Why would _____ be a sufficient amount of extra time? -AND/OR- If you had additional time, is there an aspect of the application you would have improved upon?
    a. The respondent did not need additional time.
    b. *"No, I didn't know anything more than what I put in the application."*

Distribution

11. What could be done to further market DOER initiatives to applicants such as yourself?
    a. The respondent suggested distribution the initiative at the Regional Green Communities Meetings and to continue using the webinars.
    b. *"Perhaps just a Webinar or Q&A just on the, what this all is, what the different technologies are."*
    c. *"Energy managers have regional meetings, they're coordinated by our regional coordinators, so that might be a venue for talking about it and seeing what other communities are doing."*

Open Response

12. What would you improve about the application process? And how?
    a. The respondent could not think of anything to improve upon.
    b. *"No, it was pretty straightforward. Getting the data was pretty easy, it was not labor intensive."*

13. Is there anything else you'd like to share about your experience with the Community Clean Energy Resiliency Technical Assistance application process?
    a. The respondent reiterated that they found the application process easy and straightforward.

Technical Assistance: Respondent Summary #4

Survey Response

1. How did you find out about this initiative?
   Email

2. Rate the distribution of this program to eligible applicants on a scale of 1 - 5
   Program Distribution 3

3. Which method of communication would you have preferred to become aware of this initiative?
   Email

4. Which part(s) of the application were difficult to answer due to a lack of sufficient information in the application?
   General Applicant Information
   Identification of Prioritized Critical Facilities

5. Did you solicit assistance from external sources (other than the DOER) to complete any part of the application?
   Yes

Which part of the application required additional assistance??
   Critical Facility(ies) Energy Information

What type of assistance was solicited?
   Other (please specify) -- annual gas usage

6. Did the DOER respond to all questions you had throughout the application process?
   Yes, my question was answered

7. Were the resources DOER provided on their website helpful (i.e. Question & Answer Forum, Financial Resources, Webinars, etc.)?
   Yes

Rate the ease of accessibility of the above DOER resources
   Accessibility of DOER Resources 3

8. Rate the difficulty of meeting the deadlines of the application process
   Meeting the deadline 3

9. How much additional time would you have preferred to have to complete the application?
   I did not need additional time

Interview Response
Interview Date: September 30th, 2014
Interview Conducted By: Thomas Buonomano (Lead) & Kayla McAvoy (Minutes)

General Openers

1. When did you become aware of the initiative?
    a. The respondent found out in late spring, close to when the grant deadline for TA was due. They had around a month and a half before that to get everything together.
    b. The respondent found out through email and word of mouth from a colleague.
    c. "It must have been late spring. It was very close to when the grant deadline for the Technical Assistance was due."
    d. "Secondarily, one of my colleagues was in Boston, probably at some kind of maybe energy restructuring round table or some other kind of hearing, and colleagues of ours were discussing it, so it was sort of buzz on the street too."

2. Describe your role in the application process?
    a. The respondent was manager and author of the material. They met with different parties to get permission to take the lead.
    b. "So I took the lead on it, did the basic sifting through all of the projects that we have been installing."
    c. "I solicited any information that was needed for the grant and met with different parties maybe three or four times to make sure everybody understood what I was going to be submitting to get the grant with their permission.
    d. "Essentially, I was the author and the manager of the material."

3. What benefit does this project have on your community?
    a. This will provide more battery storage to an emergency shelter. The respondent complimented the Patrick administration's efforts to reduce the effects of climate change.
    b. "They want to have facilities that we fall back on during a climate change event not be contributing to further climate change events."

Successes

4. What about the application process did you find to be effective or helpful? (If they can't think of anything, you can prompt with: For example, webinars, online resources, application information document, DOER staff, etc)
    a. The respondent found the online webinars helpful.
    b. "I thought the meeting online webinar was helpful."

Application Clarity

5. Why did you choose Municipality Information, General Project Information and Qualifying Projects as the most difficult part of the application process?

6. Were you able to understand the requirements of the application through its wording? Did you seek out DOER resources to clarify any aspects?
    a. On aspects that weren't clear, the respondent reached out to Amy and found her very helpful.
    b. *"I did then reach out to Amy McGuire a couple of times because I was not clear and I think they then changed some of their guidelines for our questions."*
    c. *"I think one thing that wasn't as clear was whether or not preference was for an emergency shelter that already had distributed generation...that could be made clearer in the future."*

Assistance

7. *Conditional* Describe any external or internal help you received on any parts of the application? What caused you to seek them out?
    a. What qualifications/experience did your help have?
        i. The respondent sought help with engineering & interval data.
        j. *"I think we did end up asking NSTAR for the interval data, thats not something we would have been able to provide without NSTAR's help."*
        k. *"I did definitely have to go to some outside resources for some feedback there."*
    b. Were you satisfied with the assistance?
    c. If you did not seek help, why?

Site Selection

8. Did you submit an application that contained multiple sites?
    a. How many sites did you include in your application?
    b. Did this make the application more difficult?
    c. How did you choose these sites?
    d. If not, was it difficult to select one site? How did you select this one site?

9. Are you planning on applying for the Round Two Project Implementation grant funding?
    a. The respondent does plan on applying for Round Two, but hasn't received a report back from CADMUS.
    b. *"The Cadmus Energy Group, they haven't responded with anything yet."*
    c. *"They recently assured us that we will have everything in time to apply for the project implementation grant."*

Time-Frame

10. Why would _____ be a sufficient amount of extra time? -AND/OR- If you had additional time, is there an aspect of the application you would have improved upon?

Distribution

11. What could be done to further market DOER initiatives to applicants such as yourself?
    a. The respondent said that once the projects are implemented, they will draw in more attention.
    b. *"I think it is going to improve with an implementation, the outcome. So once there's something that actually comes out of the program, assuming it's a benefit, that's going to be the key mark that it needs."*
    c. *"I think that they have to show that it can be done and they'll get a lot more participants responding, and people will want to emulate it if it works."*

Open Response

12. What would you improve about the application process? And how?
    a. The respondent would improve the process of actually submitting the application.

13. Is there anything else you'd like to share about your experience with the Community Clean Energy Resiliency Technical Assistance application process?
    a. The respondent is looking forward seeing how the project will impact the community. *"I'll be curious to have a follow-up in January after we've gone through the implementation grant process and maybe have something in the pipeline or not."*

Technical Assistance: Respondent Summary #5

Survey Response

1. How did you find out about this initiative?
   Email

2. Rate the distribution of this program to eligible applicants on a scale of 1 - 5
   Program Distribution 4

3. Which method of communication would you have preferred to become aware of this initiative?
   Email

4. Which part(s) of the application were difficult to answer due to a lack of sufficient information in the application?
   Other (please specify) -- No difficulties

5. Did you solicit assistance from external sources (other than the DOER) to complete any part of the application?
   No

6. Did the DOER respond to all questions you had throughout the application process?
   I did not have any questions

7. Were the resources DOER provided on their website helpful (i.e. Question & Answer Forum, Financial Resources, Webinars, etc.)?
   I did not use those resources

Rate the ease of accessibility of the above DOER resources
   Accessibility of DOER Resources 3

8. Rate the difficulty of meeting the deadlines of the application process
   Meeting the deadline 5

9. How much additional time would you have preferred to have to complete the application?
   I did not need additional time

10. Please elaborate on any other issues not identified above that you perceived in the application process (resources, information, time, etc.)
   The list of eligible clean energy technologies includes, micro-grids. This bullet appears to independent of any other criteria but DOER prefers projects with renewable energy (i.e. solar, wind) DG systems, which at not very resilient.

Interview Response
Interview Date: September 30th, 2014

Interview Conducted By: Ronelle LeBlanc (Lead) & Kayla McAvoy (Minutes)

General Openers

1. When did you become aware of the initiative?
    a. The respondent became aware through email.

2. Describe your role in the application process?
    a. The respondent filled out the application themselves.

3. What benefit does this project have on your community?
    a. The respondent said that it will provide resilient energy to their awarded critical facilities.

Successes

4. What about the application process did you find to be effective or helpful? (If they can't think of anything, you can prompt with: For example, webinars, online resources, application information document, DOER staff, etc)
    a. The respondent said that it was simple to fill out and was straight forward.
    b. "It was very simple."

Application Clarity

5. Why did you choose Municipality Information, General Project Information and Qualifying Projects as the most difficult part of the application process?
    a. The respondent chose this because the scope of work they applied for had to be changed. The proposed changes were not what the respondent wanted.
    b. "I had to kind of refocus them on the original write-up on what I applied for."

6. Were you able to understand the requirements of the application through its wording? Did you seek out DOER resources to clarify any aspects?
    a. The respondent was unclear on what was being funded. They were confused with how microgrids did not fit into the application.
    b. "I see [microgrids] as a stand alone bullet under the eligible criteria."

Assistance

7. *Conditional* Describe any external or internal help you received on any parts of the application? What caused you to seek them out?
    a. What qualifications/experience did your help have?
    b. Were you satisfied with the assistance?
    c. If you did not seek help, why?
        i. The respondent found the overall application simple to fill out. They did not require any internal/external help.

Site Selection

8. Did you submit an application that contained multiple sites?
    a. How many sites did you include in your application?
    b. Did this make the application more difficult?
    c. How did you choose these sites?
    d. If not, was it difficult to select one site? How did you select this one site?
        i. The respondent submitted an application that contained multiple sites.

9. Are you planning on applying for the Round Two Project Implementation grant funding?
    a. The respondent said that it depends on when the report from CADMUS comes in.

Time-Frame

10. Why would _____ be a sufficient amount of extra time? -AND/OR- If you had additional time, is there an aspect of the application you would have improved upon?
    a. The respondent did not need additional time.

Distribution

11. What could be done to further market DOER initiatives to applicants such as yourself?
    a. The respondent suggested to continue using email.

Open Response

12. What would you improve about the application process? And how?
    a. The respondent said that the DOER could be clearer on what is being funded.
    b. The respondent said that the information required was useful for other criteria. However, it wasn't useful for all of their application. The respondent suggested that the DOER shouldn't expect applicants to fill out all sections if it doesn't apply to their situation.
    c. *"Be clear on a scope of work that is eligible for the grant."*

13. Is there anything else you'd like to share about your experience with the Community Clean Energy Resiliency Technical Assistance application process?
    a. The respondent reiterated on how easy he found the application.
    b. *"It was very simple."*
    c. *"If you answer the questions, you get the grant."*

Technical Assistance: Respondent Summary #6

Survey Response:

1. How did you find out about this initiative?
   DOER Green Communities representative or newsletter

2. Rate the distribution of this program to eligible applicants on a scale of 1 - 5
   Program Distribution 3

3. Which method of communication would you have preferred to become aware of this initiative?
   Press

4. Which part(s) of the application were difficult to answer due to a lack of sufficient information in the application?
   General Project Information
   Background Information & Further Documentation (i.e. Invoices, municipal critical facilities submitted to utilities, etc.)
   Critical Facility(ies) Energy Information

5. Did you solicit assistance from external sources (other than the DOER) to complete any part of the application?
   No

6. Did the DOER respond to all questions you had throughout the application process?
   Yes, my question was answered

7. Were the resources DOER provided on their website helpful (i.e. Question & Answer Forum, Financial Resources, Webinars, etc.)?
   No

Rate the ease of accessibility of the above DOER resources
   Accessibility of DOER Resources 3

8. Rate the difficulty of meeting the deadlines of the application process
   Meeting the deadline 2

9. How much additional time would you have preferred to have to complete the application?
   1-2 months

10. Please elaborate on any other issues not identified above that you perceived in the application process (resources, information, time, etc.)

The constraints and framework of the application were vague at times and the timeline is overly ambitious. Moreover, it was not clear from the application that only remote desktop analyses would be conducted. Overall, it's a great program and DOER tried well to administer it but it still had some challenging aspects.

Appendix J: Individual Respondent Summaries

Technical Assistance: Respondent Summary #7

Government Type: TM, Selectmen, RTM

Survey Response

1. How did you find out about this initiative?
   Email

2. Rate the distribution of this program to eligible applicants on a scale of 1 - 5
   Program Distribution 3

3. Which method of communication would you have preferred to become aware of this initiative?
   Email

4. Which part(s) of the application were difficult to answer due to a lack of sufficient information in the application?
   Background Information & Further Documentation (i.e. Invoices, municipal critical facilities submitted to utilities, etc.)

5. Did you solicit assistance from external sources (other than the DOER) to complete any part of the application?
   No

6. Did the DOER respond to all questions you had throughout the application process?
   Yes, my question was answered

7. Were the resources DOER provided on their website helpful (i.e. Question & Answer Forum, Financial Resources, Webinars, etc.)?
   I did not use those resources

Rate the ease of accessibility of the above DOER resources
   Accessibility of DOER Resources 5

8. Rate the difficulty of meeting the deadlines of the application process
   Meeting the deadline 3

9. How much additional time would you have preferred to have to complete the application?
   I did not need additional time

Technical Assistance: Respondent Summary #8

Government Type: TA, Selectmen, OTM

Survey Response

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1. How did you find out about this initiative?
DOER Website

2. Rate the distribution of this program to eligible applicants on a scale of 1 - 5
Program Distribution 3

3. Which method of communication would you have preferred to become aware of this initiative?
DOER Website

4. Which part(s) of the application were difficult to answer due to a lack of sufficient information in the application?
Background Information & Further Documentation (i.e. Invoices, municipal critical facilities submitted to utilities, etc.)
Critical Facility(ies) Data
Critical Facility(ies) Energy Information

5. Did you solicit assistance from external sources (other than the DOER) to complete any part of the application?
No

6. Did the DOER respond to all questions you had throughout the application process?
Yes, my question was answered

7. Were the resources DOER provided on their website helpful (i.e. Question & Answer Forum, Financial Resources, Webinars, etc.)?
Yes

Rate the ease of accessibility of the above DOER resources
Accessibility of DOER Resources 3

8. Rate the difficulty of meeting the deadlines of the application process
Meeting the deadline 3

9. How much additional time would you have preferred to have to complete the application?
Less than a month

Interview Response
Interview Date: September 25th, 2014
Interview Conducted By: Thomas Buonomano (Lead) & Kayla McAvoy (Minutes)

General Openers

1. When did you become aware of the initiative?
    a. The respondent became aware in early June via an email from a co-worker.
    b. *"Probably early June."*
    c. *"It was actually a coworker who brought it to my attention."*
    d. *"I received an email about it."*

2. Describe your role in the application process?
    a. The respondent was the lead person working on the application. They were assisted by the town manager and facilities director.
    b. *"I was the lead person for the town."*

3. What benefit does this project have on your community?
    a. The project will provide resilient energy to the specified critical facilities.
    b. *"Obviously the electrical stability for the critical facilities."*
    c. *"It also helps fulfill our goals for clean energy."*

Successes

4. What about the application process did you find to be effective or helpful? (If they can't think of anything, you can prompt with: For example, webinars, online resources, application information document, DOER staff, etc)
    a. The respondent found the excel spreadsheet and website to be helpful.
    b. *"It was very helpful to have the population, the excel spreadsheet that was available."*
    c. *"The website was useful, the resources were easily accessible."*

Application Clarity

5. Why did you choose Municipality Information, General Project Information and Qualifying Projects as the most difficult part of the application process?
    a. The respondent was not experienced in this area. It was difficult for them to track down the right people.
    b. *"Well just because it's not my area of expertise, it was difficult to track down the right people in the town and getting them to respond, so it wasn't really the application so much that was difficult it was just getting all the pieces together and getting the right people on the phone."*

6. Were you able to understand the requirements of the application through its wording? Did you seek out DOER resources to clarify any aspects?

a. The respondent contacted Amy with a question and said she was very helpful.
b. *"I spoke with Amy McGuire a few times."*
c. *"She was really helpful."*

Assistance

7. *Conditional* Describe any external or internal help you received on any parts of the application? What caused you to seek them out?
    a. What qualifications/experience did your help have?
        i. The respondent sought help from the town engineering department.
    b. Were you satisfied with the assistance?
    c. If you did not seek help, why?

Site Selection

8. Did you submit an application that contained multiple sites?
    a. How many sites did you include in your application?
        i. The respondent's application included two sites.
    b. Did this make the application more difficult?
        i. This made the process more difficult because the respondent had to track down two sets of people.
    c. How did you choose these sites?
        i. The respondent sat down with the town emergency director and town manager to discuss it.
    d. *"I spoke with our town emergency management director and the assistant town manager and we discussed where it's needed most."*
    e. If not, was it difficult to select one site? How did you select this one site?

9. Are you planning on applying for the Round Two Project Implementation grant funding?
    a. The respondent plans on applying for Round 2 PI.

Time-Frame

10. Why would _____ be a sufficient amount of extra time? -AND/OR- If you had additional time, is there an aspect of the application you would have improved upon?
    a. The respondent said that they chose additional time because it would have given them more time to track down the right people.
    b. *"It was just a matter of everyone's busy."*.
    c. *"Just a little more time to assemble the information would have been nice."*

Distribution

11. What could be done to further market DOER initiatives to applicants such as yourself?
    a. The respondent suggested distribution the initiative on social media.
    b. *"Maybe more social media, I don't know if that would even be helpful but again we hear about it through the email."*

Open Response

12. What would you improve about the application process? And how?

Appendix J: Individual Respondent Summaries

    a. The respondent did not have any suggestions.

13. Is there anything else you'd like to share about your experience with the Community Clean Energy Resiliency Technical Assistance application process?
    a. The respondent reiterated the good experience they had with the application process.
    b. *"I think overall it was a good experience."*

Comments on the Municipality Government Trend:

- *"My thought is that maybe it was difficult to get the attention of town managers. I think, and this is speculation, I think they were worried that I would create more work for them and it was just another thing on their to-do list."*

Technical Assistance: Respondent Summary #9

Government Type: Mayor, - , Council

Survey Response

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1. How did you find out about this initiative?
Email

2. Rate the distribution of this program to eligible applicants on a scale of 1 - 5
Program Distribution 3

3. Which method of communication would you have preferred to become aware of this initiative?
Email

4. Which part(s) of the application were difficult to answer due to a lack of sufficient information in the application?
Critical Facility(ies) Data
Critical Facility(ies) Energy Information

5. Did you solicit assistance from external sources (other than the DOER) to complete any part of the application?
Yes

Which part of the application required additional assistance??
Critical Facility(ies) Data
Critical Facility(ies) Energy Information

What type of assistance was solicited?
Engineering

6. Did the DOER respond to all questions you had throughout the application process?
Yes, my question was answered

7. Were the resources DOER provided on their website helpful (i.e. Question & Answer Forum, Financial Resources, Webinars, etc.)?
I did not use those resources

Rate the ease of accessibility of the above DOER resources

Accessibility of DOER Resources 4

8. Rate the difficulty of meeting the deadlines of the application process
Meeting the deadline 3

9. How much additional time would you have preferred to have to complete the application?
I did not need additional time

Appendix J: Individual Respondent Summaries

Technical Assistance: Respondent Summary #10

Government Type: TM, Selectmen, RTM

Survey Response

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1. How did you find out about this initiative?

Email

2. Rate the distribution of this program to eligible applicants on a scale of 1 - 5

Program Distribution 5

3. Which method of communication would you have preferred to become aware of this initiative?

Email

4. Which part(s) of the application were difficult to answer due to a lack of sufficient information in the application?

General Project Information

5. Did you solicit assistance from external sources (other than the DOER) to complete any part of the application?

No

6. Did the DOER respond to all questions you had throughout the application process?

I did not have any questions

7. Were the resources DOER provided on their website helpful (i.e. Question & Answer Forum, Financial Resources, Webinars, etc.)?

Yes

Rate the ease of accessibility of the above DOER resources

Accessibility of DOER Resources 5

8. Rate the difficulty of meeting the deadlines of the application process

Meeting the deadline 4

9. How much additional time would you have preferred to have to complete the application?

I did not need additional time

Interview Response
Interview Date: September 25th, 2014
Interview Conducted By: Thomas Buonomano (Lead) & John Scarborough (Minutes)

General Openers

1. When did you become aware of the initiative?
    a. Became aware through email through state DOER email.
    b. *"I received an email from the state."*

2. Describe your role in the application process?
    a. They were responsible for submitting the application.
    b. *"I was responsible for submitting the application."*

3. What benefit does this project have on your community?
    a. They only applied for TA.

Successes

4. What about the application process did you find to be effective or helpful? (If they can't think of anything, you can prompt with: For example, webinars, online resources, application information document, DOER staff, etc)
    a. The respondent thought the application was fairly concise. They utilized the webinar documentation but did not attend.
    b. *"I found that it was a fairly concise application."*
    c. *"I didn't attend, we had a hard copy or actually we had a digital copy of the presentation that we printed out."*

Application Clarity

5. Why did you choose Municipality Information, General Project Information and Qualifying Projects as the most difficult part of the application process?
    a. They didn't know much about the application, so they sought help with an internal partner.

6. Were you able to understand the requirements of the application through its wording? Did you seek out DOER resources to clarify any aspects?
    a. The respondent did not have any issues with the application's clarity. Therefore, they did not seek out the DOER to clarify any aspects.
    b. *"It was fairly straightforward."*

Assistance

7. *Conditional* Describe any external or internal help you received on any parts of the application? What caused you to seek them out?
        i. They sought internal help and did not receive any external help.
    a. What qualifications/experience did your help have?

        i. The internal help provided the technical data.
        j. *"They had an internal team that answered some of the more technical information."*
    b. Were you satisfied with the assistance?
    c. If you did not seek help, why?

Site Selection

8. Did you submit an application that contained multiple sites?
    a. How many sites did you include in your application?
        i. Multiple Sites were included in the respondent's application.
    b. Did this make the application more difficult?
        i. The respondent did not fill out the application by themselves. They would have had to ask their internal partner.
    c. How did you choose these sites?
        i. The sites were chosen by the respondent's internal partner. They helped make the decision based on technical advice.
        j. *"The sites chosen were really identified by the [critical sites officials]."*
    d. If not, was it difficult to select one site? How did you select this one site?

9. Are you planning on applying for the Round Two Project Implementation grant funding?
    a. They hope to apply for Round 2 Project Implementation.

Time-Frame

10. Why would _____ be a sufficient amount of extra time? -AND/OR- If you had additional time, is there an aspect of the application you would have improved upon?
    a. The respondent did not need additional time.

Distribution

11. What could be done to further market DOER initiatives to applicants such as yourself?
    a. To further market the DOER initiatives to applicants, the respondent suggested stressing the support of the DOER and their consultants.
    b. *"If I had to, given some of the technical information that was requested, could have been fairly daunting for a community so I think stressing the additional support of the team that sent the application and the resources at hand I think might encourage more people."*

Open Response

12. What would you improve about the application process? And how?
    a. The respondent commented on the immense amount of detail that the application required.

   b. *"When you start asking for plans and really detailed information and original plans of sites, I think that can sometimes be challenging to find, identify and locate those things."*

13. Is there anything else you'd like to share about your experience with the Community Clean Energy Resiliency Technical Assistance application process?
    a. The respondent reiterated how concise they found the application. They also added that although they did not run into issues with terminology, other applicants may have had that issue.
    b. *"Overall I think it was a very straightforward application."*
    c. *"Some of the requirements of the documentation and the technical information may be a bit challenging for some."*

Technical Assistance: Respondent Summary #11

Government Type: TM, Selectmen, OTM

Survey Response

1. How did you find out about this initiative?
   Email

2. Rate the distribution of this program to eligible applicants on a scale of 1 - 5
   Program Distribution 4

3. Which method of communication would you have preferred to become aware of this initiative?
   Email

4. Which part(s) of the application were difficult to answer due to a lack of sufficient information in the application?
   Identification of Prioritized Critical Facilities

5. Did you solicit assistance from external sources (other than the DOER) to complete any part of the application?
   No

6. Did the DOER respond to all questions you had throughout the application process?
   Yes, my question was answered

7. Were the resources DOER provided on their website helpful (i.e. Question & Answer Forum, Financial Resources, Webinars, etc.)?
   Yes

Rate the ease of accessibility of the above DOER resources
   Accessibility of DOER Resources 4

8. Rate the difficulty of meeting the deadlines of the application process
   Meeting the deadline 4

9. How much additional time would you have preferred to have to complete the application?
   I did not need additional time

Technical Assistance: Respondent Summary #12

Government Type: TM, Selectmen, OTM

Survey Response

1. How did you find out about this initiative?
DOER Green Communities representative or newsletter

2. Rate the distribution of this program to eligible applicants on a scale of 1 - 5
Program Distribution 2

3. Which method of communication would you have preferred to become aware of this initiative?
Other (please specify) -- paper mailing

4. Which part(s) of the application were difficult to answer due to a lack of sufficient information in the application?
Critical Facility(ies) Data
Critical Facility(ies) Energy Information

5. Did you solicit assistance from external sources (other than the DOER) to complete any part of the application?
Yes

Which part of the application required additional assistance??
Critical Facility(ies) Data
Critical Facility(ies) Energy Information

What type of assistance was solicited?
Other (please specify) -- solar consultant and facilities

6. Did the DOER respond to all questions you had throughout the application process?
Yes, my question was answered

7. Were the resources DOER provided on their website helpful (i.e. Question & Answer Forum, Financial Resources, Webinars, etc.)?
Yes

Rate the ease of accessibility of the above DOER resources
Accessibility of DOER Resources 4

8. Rate the difficulty of meeting the deadlines of the application process
Meeting the deadline 4

9. How much additional time would you have preferred to have to complete the application?
I did not need additional time

Interview Response

Interview Date: September 26th, 2014

Interview Conducted By: Thomas Buonomano (Lead), Ronelle LeBlanc (Minutes)

General Openers

1. When did you become aware of the initiative?
    a. The respondent became aware through a mixture of email and word of mouth.

2. Describe your role in the application process?
    a. The respondent filled it out themselves.

3. What benefit does this project have on your community?

Successes

4. What about the application process did you find to be effective or helpful? (If they can't think of anything, you can prompt with: For example, webinars, online resources, application information document, DOER staff, etc)
    a. The respondent found the application overall easy to work with.
    b. *"Fairly easy to work with, jump a page, you would lose info, worked well in word."*

Application Clarity

5. Why did you choose _____ as the most difficult part of the application process?
    a. They had to consult other departments internally.

6. Were you able to understand the requirements of the application through its wording? Did you seek out DOER resources to clarify any aspects?
    a. They didn't do the webinar because they found out about them after they were over. They printed out some of the information anddidn't understand some of the terms that were used (islanding), so they called Amy directly with questions.
    b. *"There were some questions that didn't get answered, I ended up calling Amy McGuire directly and she was very helpful."*
    c. *"Islanding, I've never heard the phrase islanding before, so I was trying to figure out what in the world it meant."*

Assistance

7. *Conditional* Describe any external or internal help you received on any parts of the application? What caused you to seek them out?

a. The respondent reached out to other departments to clarify terminology

Site Selection

8. Did you submit an application that contained multiple sites?
    a. How many sites did you include in your application?
        i. The respondent's application included two sites.
    b. Did this make the application more difficult?
        i. The respondent didn't find the process that difficult.
    c. How did you choose these sites?
    d. If not, was it difficult to select one site? How did you select this one site?

Are you planning on applying for the Round Two Project Implementation grant funding?

a. The respondent doesn't plan on applying for Round Two.
b. *"No, I want to see what Round 2 produces."*

Time-Frame

9. Why would _____ be a sufficient amount of extra time? -AND/OR- If you had additional time, is there an aspect of the application you would have improved upon?
    a. The respondent did not need additional time.

Distribution

10. What could be done to further market DOER initiatives to applicants such as yourself?
    a. The respondent said that the DOER should mail the information instead of just emailing it out
    b. "Emails are just so much easier to ignore."

Open Response

11. What would you improve about the application process? And how?
    a. The respondent suggested using different wording in the headline of the email so it is more understandable.
    b. *"It wasn't an email that I would have clicked to open because I didn't understand it."*

12. Is there anything else you'd like to share about your experience with the Community Clean Energy Resiliency Technical Assistance application process?
    a. The respondent complimented the DOER.
    b. "The DOER is great to work with all around."

Technical Assistance: Respondent Summary #13

Government Type: TA, Selectmen, OTM

Survey Response

1. How did you find out about this initiative?
DOER Green Communities representative or newsletter

2. Rate the distribution of this program to eligible applicants on a scale of 1 - 5
Program Distribution 4

3. Which method of communication would you have preferred to become aware of this initiative?
DOER Green Communities representative or newsletter

4. Which part(s) of the application were difficult to answer due to a lack of sufficient information in the application?
Critical Facility(ies) Energy Information
Other (please specify) -- hourly utility data; generator invoices

5. Did you solicit assistance from external sources (other than the DOER) to complete any part of the application?
No

6. Did the DOER respond to all questions you had throughout the application process?
Yes, my question was answered

7. Were the resources DOER provided on their website helpful (i.e. Question & Answer Forum, Financial Resources, Webinars, etc.)?
Yes

Rate the ease of accessibility of the above DOER resources
Accessibility of DOER Resources 5

8. Rate the difficulty of meeting the deadlines of the application process
Meeting the deadline 5

9. How much additional time would you have preferred to have to complete the application?
I did not need additional time

Interview Response
Interview Date: September 25th, 2014

Interview Conducted By: John Scarborough (Lead) & Kayla McAvoy (Minutes)

General Openers

1. When did you become aware of the initiative?
    a. The respondent found out from an email/newsletter from the DOER in June.

2. Describe your role in the application process?
    a. The respondent filled out the application independently.

3. What benefit does this project have on your community?
    a. The respondent said it will make some of their emergency systems allow critical facilities to operate indefinitely or at least for 3 days without power from the grid. It would help to increase the battery storage.

Successes

4. What about the application process did you find to be effective or helpful? (If they can't think of anything, you can prompt with: For example, webinars, online resources, application information document, DOER staff, etc)
    a. The respondent said the DOER did a good job on telling applicants exactly what they needed.
    b. "*I thought it was helpful that the DOER laid out line by line what they needed from you and they wanted to know specifically what your current backup was and if they had solar of not."*
    c. "*It was also helpful that they had the technology assistance and then the project implementation."*

Application Clarity

5. Why did you choose Municipality Information, General Project Information and Qualifying Projects as the most difficult part of the application process?

6. Were you able to understand the requirements of the application through its wording? Did you seek out DOER resources to clarify any aspects?
    a. The respondent only had to clarify one or two things, but did so by calling Amy.
    b. "*I was able to get the information I needed from the DOER website Q&A document, I was able to find the answer to my question."*

Assistance

7. *Conditional* Describe any external or internal help you received on any parts of the application? What caused you to seek them out?

a. The respondent used the Q&A Document on the DOER website but no external assistance was needed.
b. *"Internally with our department, but no one outside of that."*

Site Selection

8. Did you submit an application that contained multiple sites?
    a. How many sites did you include in your application?
        i. The respondent's application contained three sites.
    b. Did this make the application more difficult?
        i. This did not make the process more difficult.
    c. How did you choose these sites?
        i. They were voted on by town managers
        j. They felt that they were the most critical facilities per vote by town managers
        k. "*We prioritized them as 1, 2, and 3."*
    d. If not, was it difficult to select one site? How did you select this one site?

9. Are you planning on applying for the Round Two Project Implementation grant funding?
    a. The respondent plans on applying for Round 2.

Time-Frame

10. Why would _____ be a sufficient amount of extra time? -AND/OR- If you had additional time, is there an aspect of the application you would have improved upon?
    a. The respondent did not need additional time.

Distribution

11. What could be done to further market DOER initiatives to applicants such as yourself?
    a. The respondent had no suggestions.

Open Response

12. Is there anything else you'd like to share about your experience with the Community Clean Energy Resiliency Technical Assistance application process?
    a. They are eager to read what CADMUS is going to come up with. There was a delay in report distribution. The respondent said they would have been able to comment more if they had the report but they think it has gone well so far.

Technical Assistance: Respondent Summary #14

Government Type: Mayor, - , Aldermen

Survey Response

1. How did you find out about this initiative?
   DOER Website

2. Rate the distribution of this program to eligible applicants on a scale of 1 - 5
   Program Distribution 3

3. Which method of communication would you have preferred to become aware of this initiative?
   Other web resources

4. Which part(s) of the application were difficult to answer due to a lack of sufficient information in the application?
   General Project Information
   Background Information & Further Documentation (i.e. Invoices, municipal critical facilities submitted to utilities, etc.)

5. Did you solicit assistance from external sources (other than the DOER) to complete any part of the application?
   No

6. Did the DOER respond to all questions you had throughout the application process?
   Yes, my question was answered

7. Were the resources DOER provided on their website helpful (i.e. Question & Answer Forum, Financial Resources, Webinars, etc.)?
   Yes

Rate the ease of accessibility of the above DOER resources
   Accessibility of DOER Resources 4

8. Rate the difficulty of meeting the deadlines of the application process
   Meeting the deadline 3

9. How much additional time would you have preferred to have to complete the application?
   Less than a month

Appendix K: DOER Webinar and Q&A Categorization

--- Question & Answer Document ---

Category	Question
Eligible Applicants	Are there any circumstances under which Hanscom Air Force Base, a federal installation, would be eligible to apply for assistance from the Community Clean Energy Resiliency Initiative?
Eligible Applicants	CVEC, an energy cooperative here on the Cape serving the Cape & Martha's Vineyard, would very much like to participate in the Resiliency Initiative. We are a non-profit governmental entity contracts with our member municipalities through intergovernmental agreements. Would CVEC be able to participate in the Resiliency Initiative on behalf of our member municipalities?
Eligible Applicants	Would it be better for the COA, representing a department of the Town of Sterling to apply for a grant or should the Friends (501c3 entity) apply?
Eligible Applicants	I don't believe that National Grid regularly provides 15 minute electrical use data, while NSTAR does. If that is correct, does that make cities in National Grid electric communities a lower priority?
Eligible Applicants	Which municipalities (if any) did you model some/all of this after, and were any in California?
Eligible Applicants	If MAPC, acting as a regional planning association, applies on behalf of a municipality, does this exclude the municipality from applying for funding on a separate project? For example, if Boston were to be included in our infrastructure plan, would Boston still be able to apply for their own, unaffiliated projects?
Eligible Applicants	Can a municipal public school system be recognized as a regional school system and therefore stand outside of the municipal funding cap?
Eligible Applicants	Can 2 or more RPAs apply for either the TA or PI grant, or both, together? If so, how does this joint application affect the funding that can be received in total by that partnership? Does it affect the number of applications that each RPA separately can submit? Does it affect the type of project or project scope that can be applied for, i.e. could the consulting team as part of the TA grant look at more than 2 buildings for a large and/or multi-regional project?
Eligible Applicants	The Initiative describes that multiple municipalities or an RPA can submit an application for 2 or more municipalities "intending to share an energy resilient critical facility project." You also note that a project can include one or more buildings. For a multi-municipality project, multiple buildings or pieces of infrastructure in two or more municipalities could then qualify as well?
Eligible Applicants	Regional School Districts being eligible applicants for DOER's Community Clean Energy Resiliency Initiative, please confirm that a High School facility would be considered a critical facility under the "Community Resources" category and therefore qualify for funding under that program, even if the High School facility is not used as a shelter during emergencies.

Category	Question
Eligible Applicants	We've assembled a list of facilities that we believe would make great candidates for Technical Assistance – regional shelters, police departments, DPW building with fuel depot, etc. We're struggling to figure out if it makes most sense for the Cape Light Compact or CVEC to apply on the behalf of all of these facilities, or if it makes more sense for the individual municipalities to apply themselves. What would you be looking for to demonstrate that some of the facilities would be shared? While the regional shelter is certainly a facility that will be shared, it's a little less obvious how some of the other facilities, like town police buildings, would be shared w/ other municipalities. Also, while the application allows for multiple buildings to be listed, because of the diversity of the sites that we're considering, we're not sure if they'd be appropriately captured in one application or not.
Finances	Will support for technical assistance reduce the amount of funds available for project implementation? If so, please describe how?
Finances	The sample state median per capita income provided on page 5 of the project implementation application information is $29,927, however, the state median per capita income provided on the website link is $35,206. Please advise which value should we use?
Finances	As stated in the PI application information, the DOER maintains the right to consider projects that go beyond the maximum grant amount as determined by the per capita income and population formula in cases where there are coordinated applications across more than one municipality. What about cases where PI funds would be supporting a regional emergency facility (e.g., a regional shelter) that serves multiple communities?
Finances	In the program implementation PON you state that "...funding will NOT cover ... the portion of the cost of clean energy equipment that is already financially incentivized by other state, federal, utility, non-profit or private programs..." Since municipalities cannot access the incentives provided through federal and state tax credits - which typically reduces the cost of a PV system by about 30% - can they apply for funds to cover this portion of the cost (the value of the unavailable tax incentives) of a renewable or alternative energy system even though the system may qualify for SRECs, net metering, AECs or utility rebates? I suspect that municipalities will be unable to afford municipally- owned PV systems without such support and will have to attempt to contract for 3rd-party owned systems through a PPA, which could be problematic given the unique needs of an islandable PV system and relatively small system sizes.
Finances	There appears to be $40 million to divide between the two PI PONs. DOER is also anticipating providing technical assistance at no charge to between 40 and 80 TA applicants. What is the budget for the TA offering, and is there a per-project cap? Am I right in thinking the TA budget is in addition to the $40 million PI budget, or am I reading this incorrectly?

Appendix K: DOER Webinar and Q&A Categorization

Category	Question
Finances	For Funding Guidelines portion, you have some constant values for Base, adder, and etc. a. Is the base always $ 125K for any project or what are the set of criteria to determine the base? (Is this value equal to Median per capita income + population) b. Is the population referring to the population of the Municipality? For a Nursing Home or Adult Care Facility, would this be the population of the site? c. Is 10% a constant value that does not change?
Finances	Cogeneration projects are qualified to receive funding under Mass Save Incentive Program through the Utility company (National Grid). Our standard product which we will use for the purpose of Resiliency Program is 100 kW with an average installed cost of $ 4,200/kW. As instance, for 3 units, that would be equivalent to $ 1.26MM and we are able to receive $ 750 or $ 950/kW through the Utility Company which brings the average project cost down to 1.035MM to 975K range. Are we still able to receive extra funding through DOER Resiliency Program and what would be the typical cap for the funding we can receive?
Finances	If a regional utility was interested in applying, would they have to designate a municipality as the lead and then have that community apply on their behalf? So how would the max funding work? Would the regional utility only be eligible for the maximum amount of whatever the municipality applying on their behalf is eligible for?
Finances	If a project needs approximately $12,000 to begin interconnection applications and lacks the funding – can the DOER assist?
Finances	Assuming the School District serves several municipalities, please confirm the following summation for maximum funding of such an initiative: if the region includes Municipalities A, B, C and D is it eligible to apply for a - $125,000 per municipality served PLUS each municipality's adjustment for per-capita income, for a total of $500,000 plus adjustment number b - $125,000 basis for the whole region PLUS adjustment number based on averaging per-capita income for the region
Site Selection	So, from DOER's point of view, Hanscom AFB could partner with Bedford (for example), and Bedford would apply for the grant. The resiliency project would take place on property owned by Hanscom AFB. Who would actually receive the grant money? The only way Hanscom could receive it if the $ were funneled through a utility (probably Nstar). What is your take on this? Does DOER have any initial objections/creative solutions?
Technical Assistance	Are PV panel costs allowable/reimbursable, minus the portion of the cost of clean energy equipment that is already financially incentivized by other programs?
Technical Assistance	Can an applicant invoice for a project that is already underway at the time of an application or if an applicant is already signing and/or executing an ESCO agreement, for example?

Appendix K: DOER Webinar and Q&A Categorization

Category	Question
Technical Assistance	On the TA application, when you ask for "Documentation of any participation in state energy, sustainability or emergency planning programs. This includes but is not limited to Green Communities, MEMA emergency planning, EOPS planning, MassSave and Solarize Mass," does this pertain to the particular facility/ies (when applicable) or to the entire municipality? For instance, would you need to list any town participation in MassSave or just if that building had taken advantage of MassSave?
Technology	Are combined heat and power systems run on natural gas considered eligible? Or do CHP systems need to be powered by a renewable energy source?
Technology	If we are pursuing solar photovoltaic panels as part of a project, first, what portion of the cost would be covered through the Community Clean Energy Resiliency Initiative, and second, can we size the array beyond the capacity of the emergency shelter, so that it will serve other buildings on our campus?
Technology	Many of our municipal buildings have PV through a PPA, so City does not own the electrical generation capacity. If we are proposing energy storage and islanding technology, does that make these buildings ineligible or lower priority? Would TA help us think through these legal ownership issues?
Technology	If CHP projects are proposed, do you take into account age of existing heating system?
Technology	I am working on a committee to build a new senior center in Sterling and we would like to be able to use the facility as a shelter. In order to do that, a gas-fired generator would make us independent of the town electric system in major emergencies. Would a generator for such purposes be eligible for consideration under the Energy Resiliency Initiative?
Technology	Solid oxide fuel cells (SOFCs) are not CHP capable. However, they are less complex and less costly than CHP units. Would high efficiency SOFCs be eligible for funding?
Technology	Are CNG, propane or LNG generators and / or CHPs covered by the PI grant? I assume they are considered "clean technology".
Technology	Would a project to implement a geothermal ground source heat pumps system to provide heating and cooling to the school qualify for funding? Or would that system need to be coupled with some sort of energy storage or backup generator to allow for black start in order to qualify? If it is necessary to couple the technology with additional energy storage / backup generator technology, what precisely would the DOER consider funding - the whole project (geothermal + additional black start technology) or just the energy storage component?
Verbiage	Since project implementation funds can be used for system design and engineering costs, what level of engineering will the technical analysis provide? In other words, how 'shovel ready' do you need to be to apply for project implementation funds? Please clarify.

Appendix K: DOER Webinar and Q&A Categorization

Category	Question
Verbiage	Under the requirement that all applicants must demonstrate that they have fully utilized and accounted for available federal, state and utility incentives, does this include other state funding for technical assistance? We have a situation where we can use other state funds for a technical analysis to determine the viability of installing an islandable PV system on an emergency facility. Do we have to use this opportunity and if we do, how can we get in line to apply for project implementation funds during the second phase of funding seeing as we would not be using the resiliency-funded technical assistance? The results of the technical analysis that we could receive via other state funds will not be available in time to apply for the first round of the resiliency project implementation funds.
Verbiage	As stated in the two PONs, this "opportunity allows eligible applicants to pursue either technical assistance OR project implementation." Should this be interpreted as AND/OR given that communities that apply for technical assistance will obviously be able to apply for both technical assistance and project implementation (albeit not until phase II). In other words, can communities apply for both project implementation in phase I and technical assistance so that they can be eligible to apply for project implementation funds in phase II? For instance, if a community was ready to start on a project for which they did not need technical assistance but knew they would need some technical assistance for a second project do they have to choose one or the other or can they apply for technical assistance AND phase I project implementation funds during this round of applications?
Verbiage	At what point does a microgrid project become 'complex'? This is in reference to projects that will be considered for receiving more than the maximum grant amount as determined by the per capita income and population formula. For example, does 'complex' refer to the number of facilities involved? The number and variety of backup systems involved? Whether the microgrid provides backup services for only municipal facilities or municipal and private facilities? Other criteria?
Verbiage	Page 6 of the "Project Implementation Application Information" document refers to a "cost share requirement". I do not see anywhere in this document or the Application Forms a clear definition of what the cost share requirement is. Can you clarify?
Verbiage	We have discussed about the program with John Ballam and also have touch based with Travis Sheehan from Boston Redevelopment Authority regarding projects in Boston area but would like to know your thoughts and find out the most feasible and reasonable way to ask for additional funds that are available for customer's projects.
Verbiage	We have a number of projects in mind and will be submitting at least 2 or 3 of them. Can we submit more than one project as long projects total is under $5 million? Is there any limit to how many projects we can submit? And I assume each project should fill out a separate application form?
Verbiage	In Round 2, DOER will make awards for project implementations. Will those Round 2 awards be only for municipalities that were awarded Round 1 Technical Assessment awards?

Appendix K: DOER Webinar and Q&A Categorization

Category	Question
Verbiage	I may be wrong, but since microgrids aren't cheap, and DOER has developed the formula for maximum grant amounts for each city, there are only 10 cities that, by the formula, could get grants large enough for a microgrid implementation?
Verbiage	I wanted to let you know that Tony Braz from Baystate submitted his CHP Interconnection Pre Application on line today. We are planning on submitting a "Project Implementation Application" by July 15th to Amy McGuire of DOER for funding to offset some of the cost of the Black Start Generator, Load Management System, and Islanding system that will be part of the gas turbine CHP system. If I interpreted the DOER Application properly, Baystate/City of Springfield will need to include in their application a correspondence back from Northeast Utilities identifying that you have reviewed the application and a statement that it is in order. Could you confirm what you will need from NU to be included in the Baystate application?
Verbiage	Could you please clarify what is meant by "anticipated event duration?"
Verbiage	Can municipalities apply for more than one project (assuming both will be under the cap amount) and if so, can it be on the same application or is a separate application required?
Verbiage	My thought is to see if grant funding from this initiative can be used for advanced battery systems (i.e. Stem batteries?) at some of our larger facilities, that can not only be used for emergency power (resiliency), but for load shaving during peak summer hours. It might be a stretch, but one purpose of the grant is to: "protect communities from interruptions in energy services due to severe climate events made worse by the effects of climate change."
Verbiage	For the technical assistance application, is it a separate application for each project idea?
Verbiage	Who should sign the application as an Authorized Representative?

Appendix K: DOER Webinar and Q&A Categorization

--- Webinar 1 Categorization ---

Category	Question
Assistance	Where can the requirements and applications forms be found?
Assistance	Are these slides available for a download, copy, etc?
Assistance	Can attendees get an E-mail copy of this presentation?
Assistance	Is it possible to get a DOER site visit/evaluation before we formulate our application?
Eligible Applicant	Does this program apply to state or federally owned facilities in Massachusetts?
Eligible Applicant	Are vendors allowed to submit as lead in partnership with public and private entities?
Eligible Applicants	Can a regional school district and a municipality both apply, as long as they are managing separate properties?
Eligible Applicants	Can Gas station apply so they can provide gas to customer during and outage? Like Fuel NY program
Eligible Applicants	Are municipal projects in partnership with privately owned hospitals eligible?
Eligible Applicants	Are MA "county government" organizations such as county court systems eligible for funding?
Eligible Applicants	Are municipal utilities eligible for grant funding?
Eligible Applicants	For public-private grant applications, can the private entity be the "lead applicant" (or) does the municipality need to be the lead applicant?
Eligible Applicants	Can multi-family apartment buildings, elderly care facilities, and residential homes be eligible for a public-private partnership as defined by the MA DOER resiliency program's public-private definitions / guidelines?
Eligible Applicants	Are school districts (and not the city / town) eligible for grant funding? For example: Springfield MA public school district?
Eligible Applicants	Are Sewerage Districts eligible for this funding?
Eligible Applicants	May non profits through the community apply?
Eligible Applicants	Are public colleges and universities eligible?
Eligible Applicants/Technology	We have a CHP unit already funded and designed. It will be built this summer. It currently does not include island mode. Can we apply to get funding to design and build island mode. Which application should we use?
Finances	Can some of the cost share be in in-kind services?
Finances	What is the matching minimum for PI projects - is that 10% also?
Finances	If funding is provide under this program, will it affect eligibility for other DOER projects like SSO funding.
Finances	Do the projects need to have an economic return?
Finances	Do the projects get to keep environmental attributes generated (SRECs)?
Finances	If you are a non-profit who is submitting with the city you are operating in do you need to follow that cities procurement policies or the ones that the nonprofit usually operate with?
Finances/Technology	As a cogeneration equipment manufacturer, should we file an application for the $ value difference between a unit that provides a back-up power and the one that does not or for the entire project minus Utility Incentive?

Appendix K: DOER Webinar and Q&A Categorization

Category	Question
Distribution	How does this program compare with similar efforts in Connecticut and New Jersey?
Distribution	Does the MA DPU support / acknowledge the solar islanding and other DG islanding policy position adopted by MA DOER?
Technical Assistance	Does DOER have the support of the three primary MA local distribution companies (LDCs) for these 3 utilities to support solar islanding?
Technical Assistance	Does the MA DOER have the support of municipal utilities for solar islanding?
Technical Assistance	How far does a project have to be developed to be considered for implementation? And can the Cadmus TA be detailed enough to take a project from concept to meet requirements for the second round of implementation grants?
Technical Assistance/ Verbiage	Can a municipality hire their own consultant through a PI application? Or, does it have to be the already contracted Cadmus Group?
Technology	So this initiative applies to clean energy technology. So does this mean that this program is only open to renewable energy resources, or would it apply to a broader array of resources?
Technology	The examples you provided for good role models included solar PV arrays, but you later noted that solar PV arrays are not eligible. Can you clarify what clean energy systems are eligible?
Technology	Since there are incentives available for cogeneration, would DOER only support supplemental components for islanding?
Technology	Can you provide any details on the types of energy storage technologies that will be supported?
Timeline	Will MA utilities expedite their interconnection review processes and timeline in order to provide an estimate of interconnection costs for MA DOER resiliency program funding eligible technologies (CHP, batteries, solar islanding, etc)?
Timeline	Will MA municipalities be able to "expedite" their procurement regulations with support from MA state law in order to speed up the decision making process for resiliency grants?
Timeline	The timeline seems very tight for typical municipal procurement schedules and requirements, plus engineering design time. Can you describe why projects have to be planned and designed in a matter of a few months?
Verbiage	What is black start capable?
Verbiage	Is there a specific cap on the amount that would be awarded to a single project?
Verbiage	You mention "high scoring" applications. What criteria are used to "score" the applications?
Verbiage	Is there any relationship between this initiative and the Massachusetts D.P.U.'s Grid Modernization efforts?
Verbiage	Is competitive bidding required for PI projects?
Verbiage	Does a municipal / government organization have to retain DOER's consultant (Cadmus) for tech assistance in order to apply for a Project Implementation grant in Round 1 or in Round 2?
Verbiage	What portion of utility interconnection costs will be covered by the funding program (all, some and if some, what portion)?

Appendix K: DOER Webinar and Q&A Categorization

Category	Question
Verbiage	Can you explain why Ms. McGuire referred "black start" capabilities (and ISO NE program and term)? Is participating in this ISO NE blackstart program encouraged or required by the DOER resiliency program?
Verbiage	Can technical assistance funds be used to contract with DCAMM-approved consultants other than the Cadmus, etc. team?
Verbiage	Can Tech Assistance be performed by any well qualified contractor?
Verbiage	For implementation projects, can any portion of the project budget be used for municipal costs for grant administration?
Verbiage	What technical consulting teams and developers can be used?
Verbiage	Is there a limit on the amount of funding per project in the PI Application pool?
Verbiage	For the PI project, when does the project need to start and when does it need to be put into service?
Verbiage	Would adding new solar facilities to a site without solar facilities be eligible? Or can we only enhance something that is already there?
Verbiage	Will incomplete applications be disqualified?
Verbiage	Are the caps applied to the projects or to the applicant? In other words, if a city applies for more than one project and gets more than one grant are the caps absolute or additive?
Verbiage	Can a city apply for both tech assistance and implementation for different sites? Can we apply for more than one tech assistance grant?
Verbiage	Can the PI grant pay for the cost of solar panels so they can be owned by the muni instead of doing a PPA?
Verbiage	Is there a cap on the amount available for PI projects?
Verbiage	Is there an MOU requirement for say for a hospital CHP unit and the town?
Verbiage	Can you enter only one application or could a town offer several projects for different options?
Verbiage	How will the cost share be determined?
Verbiage	Would insulation costs be appropriate for a grant?
Verbiage	Would a senior center building project for emergency generation for sheltering be best combined with a larger storage project being considered by the local municipal electric company?
Verbiage	Are funds disbursed during project construction or as lump sum at project completion?
Verbiage	So Grant cap is per town not per project?
Verbiage/Finances	Does the cost share apply to the TA application as well?
Verbiage/Site Selection	For the PI project proposals, will region be a strong factor for the allocation of these awards?
Verbiage/Technology	Will the DOER support funding for actual PV systems so that the municipality or other government agency can "own" the system outright?
Verbiage/Technology	Will all approved TA applications be conducted at no cost to the applicant, i.e., will Cadmus & team provide technical assistance to all eligible applicants, and what extent of assistance will that include - design, economic analysis, etc?
Verbiage/Technology	I think the speaker keeps saying "black star capable" - I don’t' know what that means, or if I'm mis- hearing it.

Appendix K: DOER Webinar and Q&A Categorization

Category	Question
Verbiage/Timeline	Project implementation is required within the fiscal year 2015 (completion by June 30, 2015) or can it extend into FY2016.

Appendix K: DOER Webinar and Q&A Categorization

--- Webinar 2 Categorization ---

Category	Question
Assistance	How can we get a copy of today's presentation?
Assistance	You should provide links to the utility waiver forms for each utility, to instructions on how to request 15-minute electrical data, and other things you'd like us to provide on the CCERI website. It's often difficult to find this info on their websites or from our representatives who change often.
Assistance	When will you have the webinars posted and what is the URL?
Assistance	Is the 15 minute electrical data obtainable through NGrid/ utility?
Assistance	Do you have a standard form for the utility waiver?
Eligible Applicants	Is this program only available for municipal projects, or could a state-owned facility, such as a state college, potentially receiving assistance through the program?
Eligible Applicants	Did the speaker go over specific types of projects that are eligible? I came in five minutes late.
Finances/Verbiage	How do bidding laws affect project implementation, does this work qualify for 25A, or would it need to be competitively bid once implementation is awarded?
OUTLIER	Is there an opportunity for technology vendors and municipalities to identify potential partners to propose joint projects? Can vendors find a way to identify themselves to municipal planners for projects?
Distribution	Can applicants for implementation get assistance with vendor identification (battery providers, for example)?
Distribution	Could you not have a spot on your web site for vendors to sign up to list what they do for informational purposes only?
Site Selection	Who in the municipality do you think would typically be involved in determining and identifying "critical facilities"?
Technical Assistance	You mentioned something about the facility and utility in the application. Can you repeat what the relationship that you are looking for between the utility and the facility?
Technical Assistance	What if a municipality decides to work directly with a developer rather than go through the TA application. Would you advise against this?
Technical Assistance	Will the study provide enough information to prepare incentive applications for the utility?
Technical Assistance	If don't have 15 minute electrical data, what data is required.
Technical Assistance	Can you help us determine if CHP is appropriate for a facility? Do you care about age of existing heating system?
Technical Assistance	Will the technical assistance include help with interconnection issues?
Technical Assistance	Is it advisable to perform the technical review prior to an implementation request?
Technical Assistance	What level of detail is required for the application? i.e. Does the municipality need to identify facilities that it would want to integrate, etc.

Category	Question
Technology	Existing PV is installed with PPA -- City does not own panels. Does this disqualify us? How will this work?
Verbiage	If a municipality goes directly to the PI application is there any funding available to offset the design and development costs that would have been funded should they have used the TA application?
Verbiage	What is the award rate for the second round if a city or town receives a TA grant?
Verbiage	Will the TA grant provide cities and towns with complete design plans for projects?
Verbiage	I don't believe that National Grid typically provides 15 minute electrical data, while NSTAR does. If this is correct, will projects in NSTAR electric communities receive priority?
Verbiage	Are you allocating the money based on region in any way? or is it a need-based system? Is there a cap for specific regions?
Verbiage	In this webinar and the first one, you use a lot of terms that need defining such as islanding, flywheels, black start, etc.
Verbiage	What portion of the fund will be allocated in Technical Assistance and Project Implementation?
Verbiage	Are Technical Assistance awarded municipalities guaranteed future Project Implementation funding?
Verbiage	How much of a priority is the frequency of utility outages? We don't have frequent outages but would be thinking of long term resiliency - i.e. the 100 year storm type of event.
Verbiage	What would you expect the average Technical Assistance grant to be?
Verbiage	Are multiple TA submittals allowed--especially where critical facilities are clustered in various areas?
Verbiage	When you discuss critical facilities, you differentiate three types. Is the enumeration also a ranking of the types of critical facilities that will be considered in the evaluation?
Verbiage/Finances	What % of the project is the maximum you are planning to fund?
Verbiage/Technical Assistance	Can the customer go into Project Implementation without a need for Technical Assistance for a Cogeneration project and what are the criteria?

Appendix K: DOER Webinar and Q&A Categorization

--- Webinar 3 Categorization ---

Category	Question
Assistance	Will the slides from today and yesterday go up on your web site and if so by when?
Assistance	Can you set up a place on the web for informational purposes so that people can find out about suppliers and what they do?
Assistance	Do you have a link for: Massachusetts Department of Energy Resources (DOER)?
Assistance	Will all webinar questions and answers be posted on the DOER website?
Assistance	Will yesterdays and today's presentations and slides be posted online somewhere?
Finances	Can we use costs of PV panels as part of our share?
Finances/Verbiage	If a municipality and a hospital partner on a project, can either party pay the 10%?
Legal	Is the town required to go through Chapter 30B procurement to select a consultant to assist on our PI application, or can we work directly with a firm that has resiliency experience?
Distribution	Have the power utilities shown interest on this initiative?
Distribution	What suggestions do you have for service provider groups that can provide installation services for projects?
Site Selection	Would the DOER consider a development that has not yet broke ground? Eg. a sports complex that partnered with the community to provide emergency shelter.
Technical Assistance	If I read this answer correctly, Cadmus will lead the project, but may subcontract in to additional consultants with expertise in different areas?
Technical Assistance	How do we respond to the requested "letter from the relevant utility stating that the application for generation interconnection was received reviewed and deemed complete" when the PV system will be installed by a third party via a PPA?
Technology/Verbiage	Does clean energy generation include PV solar. Does the grant cover PV systems?
Time-Frame	Why are the time lines so short? With utility interconnection and municipal bidding requirements there is not enough time.
Timeline/Verbiage	When would project funding be available and what is the timeframe for implementation/end date?
Verbiage	Is the cost of photovoltaic panels an eligible expense under this initiative? (I believe you stated funding for PV panels would have to be applied for from another DOER initiative.)
Verbiage	Is there a requirement that funded clean energy generation run a minimum number of hours per year? Can the generation be installed solely for standby power?
Verbiage	What is the maximum amount of funding that DOER will commit (as % of project cost)
Verbiage	Would you mind specifying the life safety resources and lifeline critical facilities once more?
Verbiage	Will 100% of the technical assistance initiatives executed through this initiative be executed by the energy consultant team procured by the DOER?

Category	Question
Verbiage	Is the DOR Income per Capita where the "state median per capita income" always the $29,927 stated in the application documents? Also is the "municipality per capita income" pulled from the DOR income per Capita?
Verbiage	Can we find out how much we are eligible for before applying?
Verbiage	I assume that the requested "Description of use during an emergency" under section 5. Design Study and Financial Analysis, is for the islandable system itself and not the entire facility. Please confirm.
Verbiage	How long are we given to implement/finish projects once awarded?
Verbiage/Finances	Question with regard to the total program funding. When reviewing the documentation it appeared as if there was $40 Million for the Project Implementation. However every other description describes the program as $40 Million total. Can you clarify the funding resources for project implementation and technical assistance? Do they both fall under the $40 Million funding?
Verbiage/Finances	Question with regard to the total program funding. When reviewing the documentation it appeared as if there was $40 Million for the Project Implementation and $40 Million for the Technical Assistance portion of the program. However every other description describes the program as $40 Million total. Can you clarify the funding resources for project implementation and technical assistance?
Verbiage/Finances	On your funding calculation, where is $ 10 coming from?
Verbiage/Timeline	The prime candidate for this project in our town is our high school which is undergoing a major renovation and won't be complete until fall 2015 - can this be eligible for PI and/or TA?

Appendix K: DOER Webinar and Q&A Categorization