

## Spotlight Appendix:

### InnovateMass Gridtech Spotlight Utility Partnership Opportunities

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## Instructions

The Massachusetts Clean Energy Center's March 2026 round of [InnovateMass](#) includes a "Gridtech Spotlight". This Appendix provides a series of memos from Massachusetts electric utility entities that are interested in soliciting pilot partnerships with InnovateMass applicants.

Review the attached memos to see if any of the areas align with your company's capabilities. If you are interested in pursuing a partnership, develop a short (up to 1 page) concept memo using the template below. The memo should include an explanation of the type of pilot you envision with the utility partner, and the proposed or expected role and responsibilities of the utility partner. Consider including with your memo a 3-5 slide deck to introduce your company.

Submit your concept memo and (optional) deck to [grid@masscec.com](mailto:grid@masscec.com). **Please submit concept memos as early as you are able**, to allow for ample time to co-develop a project ahead of the application deadline. The last possible day for submitting a concept memo is **Monday, January 12, 5pm**.

Utilities will review concept papers and reach out directly to applicants they are interested in partnering with. **Partnership decisions are due from utilities on Monday, February 16.**

**Full applications are due on Monday, March 9.** If you are not chosen for a partnership with the utilities, you can still apply to InnovateMass with another demonstration partner of your choosing.

Please submit general questions to [grid@masscec.com](mailto:grid@masscec.com) and/or [innovate@masscec.com](mailto:innovate@masscec.com). Please submit any questions for utility partners to [grid@masscec.com](mailto:grid@masscec.com) following concept paper submission.

## Gridtech Spotlight Concept Memo Template

*[Instructions: Limit concept papers to max 1 page. Please delete all guiding prompts and instructions before submission (any italicized text)]*

**To:** *[Insert name of desired utility partner]*

**From:** *[Insert company name]*

**Date:**

**Subject:** Proposal for *[insert brief name of proposal topic]*

### Introduction and About *[insert name of gridtech company]*

*[Insert a brief intro describing your company and your proposed demonstration project.]*

### Technology Overview

*[Provide a detailed description of your technology and how it aligns with the problem identified in the utility's memo.]*

### Proposed Pilot and Partnership with *[Insert name of desired utility partner]*

*[Describe your proposed project in more detail and the expected role and responsibilities for the utility.]*

### Expected Outcomes

*[Give a brief overview of the expected effects the project and technology will have on the grid, utility operations, surrounding community, etc.]*

Utility Partners	Gridtech Topics (detailed in following memos)
<b>Eversource</b>	<ul style="list-style-type: none"> <li>Technologies that help with improved resiliency, including vegetation management and AI outage forecasts</li> </ul>
<b>Energy New England (ENE)</b>	<ul style="list-style-type: none"> <li>Technologies targeting DER integration challenges and opportunities</li> <li>Technologies to bridge the gap in EV charging in multi-Unit Dwellings</li> </ul>
<b>MA Municipal Wholesale Electric Company (MMWEC)</b>	<ul style="list-style-type: none"> <li>Electrification of historic homes</li> <li>Non-lithium microgrid technologies</li> <li>Advanced metering and communications technologies</li> </ul>
<b>Wakefield Municipal Gas &amp; Light Department (WMGLD)</b>	<ul style="list-style-type: none"> <li>Advanced heat pump technologies for apartment buildings</li> <li>Residential battery storage with VPP capabilities</li> <li>Energy Park additions: small scale wind turbines, hydrogen, carbon capture fuel cell technology, or other DERs</li> </ul>
<b>National Grid</b>	<ul style="list-style-type: none"> <li>Several interconnection-related analytics use cases, including scenario planning and queue management</li> <li>Evaluation and assessment of grid efficiency</li> <li>Grid hardening technologies</li> <li>Technologies supporting affordability</li> <li>Non-lithium-ion battery storage</li> </ul>

## Eversource Spotlight

Eversource is New England's largest energy provider, proudly serving more than 3.6 million electric and natural gas customers in CT, MA and NH. Eversource is deeply engaged with many aspects of grid

modernization in Massachusetts. In MA the stated objectives for grid modernization are to achieve functionality falling into three broad areas: (1) optimize system performance (by attaining optimal levels of grid visibility, command and control, and self-healing); (2) optimize system demand (by facilitating consumer price-responsiveness); and (3) interconnect and integrate distributed energy resources into the distribution system.

For this round of InnovateMass, Eversource is interested in receiving outreach regarding potential projects in the following topic areas: technologies that target optimization of the distribution grid focused on analytics, and technologies that help with improved resiliency including vegetation management and outage restoration.

Please include a brief 250-word description of the proposed technology demonstration project, including a clear specification of Eversource's role in the proposed project in concept papers.

**Specific examples of targeted technologies that interest Eversource.**

Resilience

With increasing reliance on electricity as the Commonwealth electrifies various end uses of energy and climate change impacting extreme weather events, the Company intends to develop, using the newest large AI models, a predictive short-term (<7 days) outage forecast at a granular level to better position its resources and respond to customer needs.

The Company is aiming to develop a large AI model that will consider various weather impacts on outages, such as long-lasting draughts which weaken trees, to predict, using its own weather forecast service providers, trouble spots at a station level. In addition, by combining historical traffic data during weather events, our crew information and weather forecasts, the Company intends to develop a model which will support pre-deployment and positioning of resources to avoid traffic, iced roads, or snow delays. Using large AI models for such an application is the most viable option to continuously model and update the projections based on real-time data and forecast updates.

Vegetation Management

Many utilities across the US have explored the use of remote sensing technologies to inform their data driven vegetation management planning. Utilities also face unique challenges in implementing those technologies, mostly defined by geography and customer density. In addition to exploring the unique challenges related to dense forest canopy with this proof of concept, Eversource wants to take a step further and develop vegetation management trim cycle optimization model (TCOM). The model goal is to optimize the annual cycle trim schedule based on individual spans (pole to pole) SAIFI impact.

## MMWEC Spotlight

The Massachusetts Municipal Wholesale Electric Company (MMWEC) is a not-for-profit, public corporation and political subdivision of the Commonwealth of Massachusetts and is the Commonwealth's designated joint action agency for municipal utilities (MLPs). MMWEC provides expertise and strategic vision to help municipal utilities optimize their energy resources, decarbonize, and find value in the shifting structure of New England's wholesale power markets.

### Historic Homes

Coastal MLP territories are characterized by a significant stock of historically designated housing, which inherently requires more complex and costly upgrades (e.g., service panel modernization) for full electrification. While upper-income residents within these territories are already successfully pursuing these paths, the critical, underserved segment remains of low- and moderate-income residents who lack the financial means to initiate these necessary deep-energy retrofits.

This disparity is compounded by systemic barriers of current energy audits, standard electrification products, and existing contractor networks that are not adequately equipped to address the unique technical and logistical demands of historic homes. This gap in expertise prevents LMI residents from accessing critical energy efficiency and decarbonization benefits.

MMWEC, on behalf of its municipal electric utilities, is therefore seeking climatetech partners that can help address the unique challenges of retrofitting historic homes.

### Microgrids

Rapid load growth from expansive commercial developments and large condo/hotel complexes is placing a severe and inequitable burden on the electric grid. The resulting need for costly transmission and distribution upgrades is ultimately passed on to existing ratepayers, unfairly forcing LMI residents already facing high housing costs to subsidize infrastructure supporting high-load development. To address this crisis of equity and resilience simultaneously, MMWEC, on behalf of its municipal electric utilities, is seeking specialized climatetech partners to provide innovative, non-lithium microgrid technology that can be deployed as a localized, non-wires alternative to ensure resilient, affordable, and equitable power delivery to all residential customers.

### AMI

MLPs face increasing challenges in maintaining efficient, reliable, and customer-responsive electric service under growing technological and environmental demands, while still keeping costs as low as possible for customers. Many need their existing metering infrastructure to improve upon advanced data granularity, communication capabilities and integration to effectively manage emerging distributed energy resources, electric vehicle charging networks, and battery storage systems. Without modernized metering and communications technology, the utility's ability to perform real-time grid monitoring, optimize load management, and deliver proactive customer engagement could be limited. This could hinder efforts to enhance operational efficiency, improve outage response, and expand customer-facing tools. Additionally, the existing customer application offers limited functionality and accessibility, preventing many customers, particularly non-English speakers, from fully benefiting from real-time energy usage insights, alerts, and engagement opportunities.

To address these challenges, MLPs seek to implement an advanced metering and communications solution that supports next-generation grid management, strengthens operational resilience, and empowers customers with real-time, multilingual, and data-driven tools for energy awareness and participation. MLPs are seeing next-generation meters that combine high-resolution waveform data acquisition with edge computing capabilities, enabling precise monitoring and management of distributed energy resources, electric vehicle charging infrastructure, and battery energy storage systems.

## WWMGLD Spotlight

### Wakefield Municipal Gas & Light Department

Wakefield Municipal Gas & Light Department (WMGLD) is a public power utility serving the town of Wakefield Massachusetts. WMGLD and its employees provide their customers with safe, reliable, competitively priced, and environmentally responsible energy resources and services that enhance quality of life, while adjusting to the ever-changing energy marketplace. WMGLD is committed to being a trusted partner for their customers and the greater community in promoting the use of electric power and other energy resources to achieve an affordable, cleaner, and more sustainable energy future.

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### Wakefield Spotlight 1: Apartment Building Opportunity

In an effort to reduce gas usage and pursue new electrification technologies, WMGLD is actively working on a partnership with a 40-unit apartment complex.

**Scenario One:** In the apartment complex scenario where the tenant is responsible for their electric bill, residing within an MLP territory already provides benefits, as MLPs typically have lower electric rates than investor-owned utilities. However, these units still often have gas heating and window AC units, or resistive heat exposing the tenant to harmful impacts of gas heating, inefficiencies of window ac units, and inability to take advantage of new technology. WMGLD is seeking gridtech companies with advanced heat pump technologies that can bring the benefits of heat pumps to a rental unit while testing the capabilities of said technology-for example, cold climate heat pump capabilities or demand response capabilities.

**Scenario Two:** WMGLD is seeking residential battery technology with Virtual Power Plant capabilities. Once an aggregated demand response program is scaled enough for a utility, the ability to shed energy and share energy during peaks will allow a DER program to act as the virtual power plant term details; a power plant, or behind the meter asset scale source of energy, without the utility investment of building a power plant. Strategically incentivizing adoption of this technology on parts of the system infrastructure that need support allows for long term system planning with an additional resource. The addition of residential battery adoption will coincide with research into innovative rate structuring that accounts for the cost of energy when it is consumed while incentivizing electrification technologies.

### Wakefield Spotlight 2: WMGLD Energy Park

Wakefield Municipal Gas & Light Department (WMGLD) is a public power utility serving the town of Wakefield Massachusetts. WMGLD and its employees provide their customers with safe, reliable, competitively priced, and environmentally responsible energy resources and services that enhance quality of life, while adjusting to the ever-changing energy marketplace. WMGLD is committed to being a



trusted partner for their customers and the greater community in promoting the use of electric power and other energy resources to achieve an affordable, cleaner, and more sustainable energy future. WMGLD is seeking an innovative addition to the Energy Park Project: small scale wind turbines, hydrogen, carbon capture fuel cell technology, or other innovative distributed energy resources.

The Wakefield Municipal Gas and Light Department's innovative microgrid project (a/k/a Energy Park) on Hemlock Road in Wakefield will be interconnected to the WMGLD's electric system, the new Northeast Metropolitan Regional Vocation School (Northeast Metro Tech), and the new Wakefield Memorial High School, all of which are currently under construction. As such, the Energy Park will benefit Wakefield residents, WMGLD rate payers, the environment, and the future needs of a technology and utility-based workforce.

Upon completion, the WMGLD will manage, own, and operate the Energy Park. Each school will have 300 kilowatts solar panels on each school that will supply the school's heating and cooling needs, and any excess solar energy not used by the schools will be stored in the Energy Park's 5-Megawatt hour battery storage (BESS) unit. In an effort to utilize the full potential of the schools' roof space, WMGLD is seeking small wind electrical system technology that could generate additional kilowatts of energy for the schools needs and excess supply for battery storage.

The Energy Park will also include a clean burning natural gas generator that will serve as the emergency power source for both schools during a rare extended power outage, alongside the battery storage system. WMGLD is seeking carbon capture fuel cell technology to integrate with the energy park generators in order to harness emissions into electricity. Both the battery and generator will also provide load management resources to help manage the increasing cost of energy to the ratepayers. The Energy Park will not only maintain low electric rates to WMGLD ratepayers, but it will also promote electrification, reduce carbon emissions, help the utility maintain its forward momentum toward meeting the state's net-zero 2050 goal, and reduce the construction costs by upwards of \$1.2 million for Northeast Metro Tech and Wakefield Memorial High School by eliminating two diesel generators.

Of utmost importance is the role each of the Energy Park's phases will play in the introduction and understanding of career opportunities within the electric utility industry. Through its partnership with the schools, WMGLD will enhance both the STEM curriculum and the vocational/technical areas. Such opportunities will help foster an understanding of these areas, potentially leading to, and bolstering, interest in careers that students will have an opportunity to observe and identify with as a result of the Energy Park.

## National Grid Spotlight

The Commonwealth has been extremely successful in supporting and enabling clean energy solutions over the past few decades. As a result, this has pushed Massachusetts to the #2 position in the nation for solar PV installations per square mile, which is a huge success in driving toward the state's aggressive decarbonization goals. However, the saturation combined with the increase of large-scale energy storage requests has led to challenges in the continued pace of growth and enablement of DER interconnections. To that end National Grid has identified several challenges below which may benefit from a partnership with third party resources to develop meaningful solutions to benefit our customers through this MassCEC grant program.

The grid of yesterday needed only address one way power flow to supply energy to end use load customers. The current grid has complex two-way power flow with dynamic DER resources spread across the distribution system. This makes the fluctuations in electrical characteristics on the grid more drastic, increasing the complexity for accurate system analysis.

### Challenges

- How to study and assess the grid efficiently, understanding the multi variable, continuously changing nature of the system. Needing to evaluate:
  - For planning purposes, to identify required system modification to accommodate capacity or power quality shortfalls
  - For customers, to accurately provide existing and projected electrical grid data to inform their energy choices and DER location selection
- How to manage the extensive volume of requested customer connections in a fair and efficient manner.
  - As each customer is evaluated it is necessarily considered against the existing grid characteristics including the impact of other projects prior to them in queue. Therefore, any one customer design change, withdrawal, or progression has a direct effect on others in queue. Changes to the queue can cause churn in the form of elongated study times and/or cost allocation shifts for necessary system modifications. This churn creates uncertainty for customers, which can lead to difficulty in progressing a project, which can create more churn. As queue volume increases the impact of this challenge is exacerbated. How to work through this multi-variable challenge.
- Is it possible to work toward a scenario planning construct for utilities and customers to better assess and quantify impacts to the customer site and the utility grid for a given interconnection?
  - Consider an iterative system analysis that could be run efficiently to avoid extensive study durations. An iterative analysis could potentially include millions of runs for varied permutations of grid and customer site conditions, however, could provide a much more sophisticated level of insight to quantify different scenarios with various levels of impact.
    - Outputs for the customer could show a range of scenarios with probability of occurrence and potential probability of "success" given specific predefined criteria such as economic feasibility, total energy production, carbon footprint offset, etc.
    - Similarly, scenario output could be provided for the utility to assess the level

and probability of risk to the grid to inform what upgrades would be necessary to accommodate the connection. Ultimately the utility needs to maintain safety and reliability as the highest priority.

- Identifying the most impactful variables within the analysis
  - Within a given project's engineering assessment, the most impactful component of the analysis will be heavily site specific and grid location dependent. A solution that would identify the most impactful element of the equation for that specific site under study would allow for increased understanding of challenges and potentially lead to increased opportunity for design adjustments to enable more viable connection options.
  - Data "Unmasking" technology to better understand and disaggregate power flows from DERs coming from a meter. This is to understand how to better map and understand output and load patterns for planning on the distribution system.
- Considering electric grid constraints as a parallel to other industries to leverage out of the box thinking to solve grid challenges
  - Considering challenges overcome within other industries that may have parallels to the electric grid constraint issue. For example, looking to water/sewer utilities, traffic management approaches, crowd control solutions, or advanced data analytics (sports, casino betting, etc.) as some examples.
- How can we actively manage multiple sources of supply and demand on a distributed grid above and beyond current DERMS systems?
  - We are interested in software to proactively balance the distribution grid both physically (keep each feeder in spec) and financially (with thousands to millions of micro dispatches occurring).
- The need for better solutions than lithium-ion storage on the grid that meets cost, sustainability, safety and affordability metrics.
  - Non-lithium options are emerging but testing and validation of emerging solutions is needed.
- Grid hardening solutions to support climate resilience.
  - National Grid is looking to execute on grid hardening initiatives in better and least expensive ways from undergrounding to more effective monitoring and storm response.
- We are looking for ways to support affordability.
  - As our energy system shifts toward electricity, it drives infrastructure costs. Are there ways to support electrification and associated benefits without overly burdening customers?

## Energy New England Spotlight

Energy New England, LLC (ENE), is a municipal cooperative serving approximately 40 Municipal Light Plants and Rural Electric Cooperatives across Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont. ENE provides a comprehensive suite of services, including wholesale power supply and hedging strategies, distributed energy resource bidding and scheduling, legislative and regulatory advocacy, transportation electrification initiatives, and energy efficiency and conservation programs for both residential and commercial sectors. Our mission is to support municipal utilities and their communities in delivering reliable, cost-effective, and sustainable energy solutions.

### **DER Integration Challenges and Opportunities**

With increasing adoption of solar PV, battery storage, electric vehicles, and other DERs, MLPs must adapt their distribution systems to manage two-way power flows, maintain grid reliability, and optimize system performance. ENE seeks innovative solutions and partnerships to address the following focus areas:

- **DER Forecasting and Planning:** Develop tools and analytics to forecast DER adoption and identify optimal locations for new DER installations, considering land availability, interconnection feasibility, and grid constraints.
- **Real-Time DER Monitoring and Control:** Implement technologies that provide granular visibility into DER output and load patterns, enabling accurate modeling of time-varying loads and supporting demand response and peak mitigation strategies.
- **Virtual Power Plant Capabilities:** Explore aggregation of residential and commercial DERs (batteries, EVs, smart appliances) to create virtual power plants that can participate in demand response, share stored energy during peak events, and enhance grid resilience.

### **Bridging the EV Charging Gap in Multi-Unit Dwellings**

The transition to Electric Vehicles (EVs) is a critical component of the Commonwealth's decarbonization goals. While the adoption rate for EVs continues to accelerate, a significant equity and infrastructure challenge remains in providing reliable, accessible, and affordable charging access for residents of Multi-Unit Dwellings (MUDs). Approximately one-third of Americans live in MUDs, and this population often lacks the ability to install personal charging equipment, which is a key barrier to equitable EV adoption.

For ENE and its members, integrating this rapidly increasing load presents a unique operational challenge, as MUDs are often older buildings with limited existing electrical capacity, making significant service upgrades prohibitively expensive and time-consuming for property owners. We are seeking innovative, scalable, and cost-effective solutions that address the technical, financial, and logistical barriers to deploying Level 2 and Level 1 EV charging infrastructure in both existing and new MUD properties, with a focus on maximizing capacity utilization and minimizing grid impacts.

ENE is interested in receiving outreach regarding potential projects that address the following challenges in MUD EV charging:

- **Optimization of Existing Electrical Infrastructure:** Solutions that enable the efficient deployment of EV charging without requiring expensive upgrades to the building's service or the utility's distribution infrastructure.
- **Financial and Logistical Barrier Reduction:** Solutions that lower the total cost of ownership and simplify the process of installing and managing EV charging equipment for MUD owners, HOAs, and residents.
- **Equitable and Accessible Charging Solutions:** Solutions that focus on overcoming non-technical barriers to ensure EV charging access for all MUD residents, particularly those in environmental justice and affordable housing communities