



# Scale Microgrid Solutions RFI Response for Cuyahoga County Utility & Microgrids

June, 2022

**SCALE**  
MICROGRID SOLUTIONS

# Scale Microgrid Solutions

## I. Entity & Summary of Services

Scale Microgrid Solutions was founded in Ridgewood NJ in 2016 with a core focus of designing, building, financing, and operating cutting-edge distributed energy assets that offer **cheaper, cleaner, and more resilient power**. A team of energy and financing experts, Scale enables customers to take charge of their energy infrastructure and future-proof their businesses and communities.

Scale specializes in turnkey microgrid projects utilizing the ‘Design, Build, Own, Operate, and Maintain’ model. We’ve developed an innovative approach to our microgrids, reducing time and cost inefficiencies in project delivery and creating savings that are passed through to our customers.

Our unique method relies on product standardization and process improvements that result in quicker deployment and improved project economics. We work closely with our technology partners to design modular components that are manufactured completely off-site and installed with minimal interruptions to your operations. Each component has been pre-engineered to integrate seamlessly with each other and optimize system performance.

Scale Microgrid Solutions expertise across engineering, developing, general contracting, financing, operating, and maintaining distributed energy assets enables us to be the efficient and smart microgrid partner for our customers.

A comprehensive brochure on Scale’s products and services can be found in Appendix C.



## Cuyahoga County Role for Scale

As laid out by the roles in the RFI, Scale Microgrid Solutions is interested in being a Developer Partner for Distributed Generation, a Developer Partner for Microgrids, and a part of the Design and Construction team for Distributed Generation and Microgrids.

A sample of projects we have worked on can be found in Appendix A and case studies can be found in Appendix B.

## Recommendations for Microgrid Development

Establishing a utility is no minor feat and we applaud the gusto of Cuyahoga County for the progress and planning it has taken to get you to this point. We are particularly excited about the forward-looking vision of the county to specifically utilize microgrids to service customers.

To get infrastructure contracted by the end of 2022, it is Scale's recommendation that this work be separated into two tracks, distributed generation infrastructure and utility establishment.

One of the biggest barriers we foresee in establishing the utility is unravelling infrastructure and costs from First Energy. [From municipalization attempts like in the City of Boulder](#), the negotiation not just of infrastructure costs to purchase but costs of expected revenues projecting out 30-50 years in the future is a litigious process that can slow full-operation of the Cuyahoga County Utility.

Even if the County decides to lay all of its own distribution infrastructure, litigation is required to determine First Energy's investment in those customers that they expected to be servicing and earning revenue from well into the future. Historically, incumbent utilities have had to be made 'whole' for these investments. [This negotiations have, at times, made it all the way to FERC, as it had in CO.](#)

However, distributed energy projects can be installed now, behind customer meters, to provide them with immediate sustainability, resilience, and cost-savings benefits while preparing assets that can be utilized for the County's Utility once standing.

Distributed energy assets can provide, if appropriate structures exist, critical demand response, frequency regulation, and load management services to the Cuyahoga County Utility. Most importantly, these assets will be paid for with private sector capital, which reduces costs for the Utility your customers.

Scale would recommend starting with the 10 MW of industrial customers in Cuyahoga County that have provided Letters of Intent to join a utility that services them through microgrids. These customers have larger loads where we can site larger assets behind their meter under current regulatory requirements. Scale's Rapid Response Modular Microgrid (R2M2) can be commissioned in 9 months from initial contact with a customer. More information about this product can be found in Appendix D.

We would love talk more about the value of distributed energy assets to your constituents now and into the future and the pathway for developing these assets efficiently and in ways that will ensure utility value once established. Please feel free to reach out to Samantha Reifer, Director of Special projects at [REDACTED]

# Appendix A

## Sample Project Experience

# Select Distributed Energy Experience

Our expertise, comprehensive capabilities, and capital make it possible for you to extract more value and better position your business to succeed.



## Bowery Farming

Location: Kearny, NJ

Facility Type: Food Processing

- 150 kW Solar PV
- 815 kW Standby
- 200 kW Battery Storage

## Fifth Season Indoor Farm

Location: Pittsburg, PA

Facility Type: Food Processing

- 160 kW Solar PV
- 1,200 kW Prime Power Genset
- 200 kW Battery Storage

## Acme Smoked Fish

Location: Brooklyn, NY

Facility Type: Food Processing

- 1,195 kW CHP
- 900 kW Standby
- Completely Off-Grid

## Gallaudet University

Location: Washington D.C.

Facility Type: University

- 2,400 kW Community Solar
- 3 MW CHP
- 500 kW Battery Storage

## Harborside

Location: Salinas, CA

Facility Type: Cannabis Grow Operation

- 4 MW Solar PV
- 6 MWh Battery Storage

## Petaluma City School District

Location: Petaluma, CA

Facility Type: Public School District

- 831 kW Solar PV
- 4.21 MW Battery Storage

## Trinity Fruit Company

Location: Fresno, CA

Facility Type: Food Processing

- 1,800 kW Solar PV
- 2,145 kWh Battery Storage
- 1,200 kW Standby

## California American Water

Location: Multiple Locations Across California

Facility Type: Water Utility

- 1,000 kWh Battery Storage Across Multiple Sites

# PROJECT EXPERIENCE

## Related Management

Location: New York, NY

Facility Type: Multi-Family Residential, Commercial

- 2 x 265 kW CHP
- 1 x 160 kW CHP
- 2 x 2000 kW Standby

## Verizon 911 Emergency Call Center

Location: Pearl River, NY

Facility Type: Data Center

- 6x 1,600 kW Standby
- 2x 2,000 kW Standby

## Valley Transportation Authority

Location: Santa Clara Valley, California

Facility Type: Electric Bus Transit Fleet

- 1.56 MW Solar
- 1 MW Battery

## Masonic Charity Foundation

Location: Burlington, NJ

Facility Type: Senior Living

- 1,160 kW Solar PV
- 265 kW CHP
- 1,500 kW Standby

## JP Morgan Chase

Location: New York, NY

Facility Type: Commercial Office & Data Center

- 7x 1,500 kW Standby

## Overlook Medical Center

Location: Summit, NJ

Facility Type: Hospital

- 2 x 1000 kW CHP
- 3800 MBH Heat Recovery Steam Generator
- 1 x 2000 kW, 3 x 1600 kW, 1x 600 kW Standby

## Morgan Stanley

Location: New York, NY

Facility Type: Data Center

- 4x 1,600 kW Standby
- 2,000 kW Standby

## Barclays Center

Location: Brooklyn, NY

Facility Type: Arena

- 1,500 kW Standby

## Saint Peter's University

Location: Jersey City, NJ

Facility Type: University

- 200 kW Solar PV
- 3 x 160 kW CHP
- 150 RT Absorption Chilling

## Westin Hotel

Location: New York, NY

Facility Type: Hotel

- 1 x 750 kW Standby

Scale Microgrid Solutions is a vertically integrated distributed energy platform, with a core focus of designing, building, financing, and operating cutting-edge distributed energy assets that offer cheaper, cleaner, and more resilient power. A team of energy and financing experts, Scale enables customers to take charge of their energy infrastructure and future-proof their businesses.

# Appendix B

## Case Studies



## Gallaudet University Clean Energy Microgrid

Gallaudet University, located in Washington D.C., is the premier institution of learning, teaching and research for deaf and hard-of-hearing students.

In keeping with Gallaudet's ongoing commitment to sustainability, the University has partnered with Scale Microgrid Solutions to build a world class clean energy microgrid that will use locally generated electricity and thermal to power campus facilities.

The microgrid will deliver clean, reliable energy for the campus and significantly reduce the university's utility costs. The Gallaudet University microgrid project sets a new standard for clean, resilient energy in the heart of the Nation's Capital.

The microgrid project is the culmination of several years of careful planning to deliver significant economic, resiliency, and environmental benefits.

## PROJECT GOALS:

- REDUCE GHG EMISSIONS
- MAXIMIZE FINANCIAL BENEFIT TO THE UNIVERSITY
- IMPROVE FACILITY OPERATIONS AND MAINTENANCE
- PROVIDE RESILIENCY AND COMMUNITY SUPPORT
- PROVIDE REAL-WORLD LEARNING OPPORTUNITIES

## PARTNERS:

- GALLAUDET UNIVERSITY
- URBAN INGENUITY
- POTOMAC ELECTRIC POWER COMPANY (PEPCO)

## BIG PICTURE IMPACT AT GALLAUDET

The core of the microgrid consists of 2.5MW solar PV panels spread across numerous campus rooftops and parking garages, a 1.2MW/2.5MWh lithium-ion battery energy storage system, and a 4.5MW combined cooling, heat, and power (CCHP) system. These components will operate in parallel to meet most of the University's electricity demand.

Additionally, Gallaudet plans to make it's additional solar capacity available to DC residents through the Community Renewable Energy Facility (CREF) Program. This additional solar capacity will generate enough renewable electricity to meet the demands of 1500 households or small businesses in DC.

### GALLAUDET'S MICROGRID CAPACITY



**2.5 MW**  
Solar



**4.5 MW**  
CHP



**1.2MW/2.5MWh**  
Battery Storage



## VTA Fleet Microgrid

VTA will transition their fleet to 100% battery electric by 2030. In order to meet the aggressive deployment deadline in the most economical and efficient manner, several innovative technologies have been designed to resolve some of the common hurdles of transit electrification.

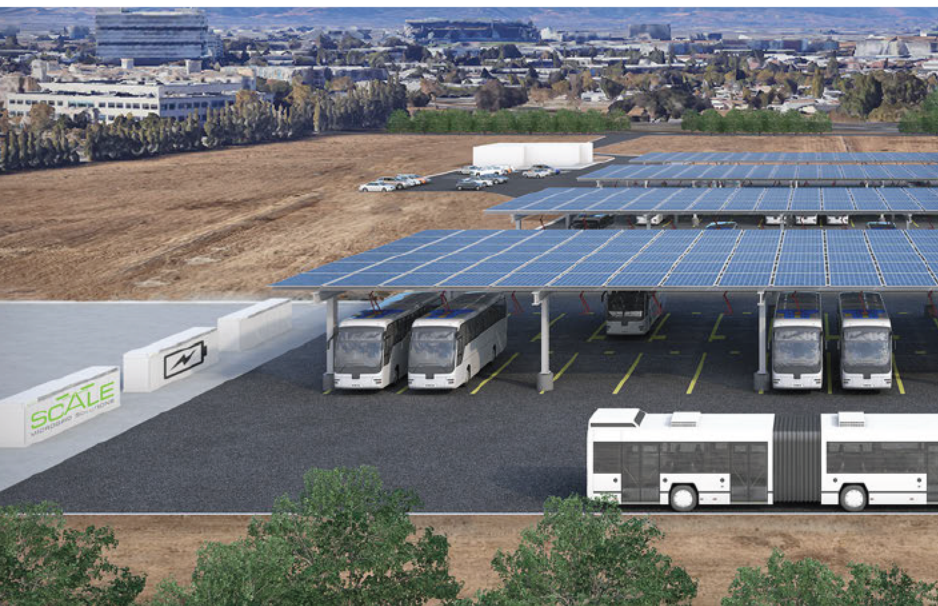
Scale has designed a first of its kind clean energy microgrid to support the transition of the fleet to 100% battery electric buses. The microgrid is based on Scale's modular microgrid framework that allows the system to grow in a cost-effective manner in the future. The switchgear and controls are sized to accommodate load growth and the distributed energy resources are right-sized for the first deployment with planned additional capacity in the future. The distributed energy resources combine to provide a drastic reduction in the cost of electricity delivered as well as a 61% reduction in greenhouse gas emissions. The microgrid will also provide up to 24 hours of resilience to the VTA during emergency operations. Scale's microgrid provides a more resilient, lower cost, and more sustainable platform for transportation electrification.

**34**  
BATTERY ELECTRIC BUSES

**24** HOURS  
OF ZERO CARBON RESILIENCE

**61%**  
REDUCTION IN GREENHOUSE  
GAS EMISSIONS

**100%**  
ELECTRIFICATION OF FLEET  
BY 2030



## MICROGRID CAPACITY



**1.56 MW**  
SOLAR PV



**1 MW/4 MWh**  
BATTERY ENERGY  
STORAGE

# Appendix C

## Scale's Brochure



**SCALE**  
MICROGRID SOLUTIONS

**TAKE  
CHARGE  
OF YOUR  
ENERGY.**

Tap into the most  
stable, sustainable,  
and cost-efficient  
power available.





## Now, it's easier than ever to future-proof your business.

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Your business depends on reliable power, but the power grid is aging, and catastrophic weather events are increasing. It's time to take charge. Distributed energy gives you independence from traditional infrastructure. Alternative energy sources have been out of reach. Too expensive. Too time-consuming. Too difficult. We get it. And we fixed it.

Our team of energy experts delivers everything you need to take charge and achieve complete energy resilience. With financing and leading on-site solutions, Scale Microgrid Solutions is paving the way to the infrastructure revolution. We're breaking down the barriers to deliver a more reliable, sustainable, and cost-effective future that's accessible to all.

# Cheaper, cleaner, more reliable. Distributed energy puts the power on your side.

We deliver innovative, tangible solutions, that help move businesses forward with measurable impact.



## Capital Solutions



- Scale is investing billions of dollars into distributed energy assets, backing strong energy companies and developers.

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- We eliminate the usual complexities of financing distributed energy projects using our balance sheet as a one-stop-shop for developers.

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- Our technical expertise allows us to pull projects over the line, at any stage of development.

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- We leverage institutional capital, yet remain flexible and agile enough to respond to individual needs.

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- Scale is backed by Warburg Pincus, a global Private Equity firm, with \$62B under management.

## Microgrid Solutions



- Scale's microgrids simultaneously deliver cost savings, resiliency, and sustainability.

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- Our microgrid platform integrates several distributed energy technologies into a single controllable solution.

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- Our Microgrid Service Agreements deliver customer benefits without requiring any up front customer capital.

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- We incorporate standardized, pre-configured modular microgrid technology to streamline the development process.

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- Scale's platform drives efficient project development, minimizes soft costs, and maximizes dependability.

# We don't stop at generating power. We generate change.

We are undisputed energy experts across all disciplines and we are advocates for the power and potential of distributed energy to make life better. Through decades of expertise, our comprehensive capabilities, and capital, we make it possible for you to extract more value and better position your business to succeed.



Our services are as flexible as they are robust. We offer a vertically integrated solution with the power to take your project end-to-end. Or we can partner with you at any point in your process to match our services to your project-specific needs.



FEASIBILITY ANALYSIS



CONCEPTING



ENGINEERING AND DESIGN



CONSTRUCTION



ASSETS MANAGEMENT



OPERATIONS AND MAINTENANCE



PERMITTING AND INTERCONNECTION



FINANCING

**TAKE CHARGE  
OF YOUR POWER.**

**TAKE CHARGE  
OF YOUR BUSINESS.**

**TAKE CHARGE  
OF YOUR ENERGY.**

**TAKE CHARGE  
OF YOUR INDUSTRY.**

**TAKE CHARGE  
OF YOUR OPERATIONS.**

**TAKE CHARGE  
OF YOUR FUTURE.**



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**Regional Offices**

Boston, MA

Denver, CO

Los Angeles, CA

New York, NY

San Francisco, CA

# Appendix D

## Scale's Rapid Response Modular Microgrid

# TAKE CHARGE OF YOUR BUSINESS.

Your business depends on reliable power, but the power grid is aging, and catastrophic weather events are increasing.

Scale's Rapid Response Modular Microgrid (R2M2) provides your business with the independence, resilience and sustainability you need without having to wait years to commission.



## FASTER

The typical development cycle for a microgrid is 18–36 months. The R2M2 process enables system commissioning in under one year.

## LOWER COST

Using high-quality, standardized technology enables you to benefit from economies of scale and eliminate bespoke costs associated with traditional microgrid installations.

## \$0 DOWN

Our microgrid Service Agreements eliminates up-front capital requirements via a fully-funded, pay for performance structure complete with risk mitigating guarantees.

## RAPID RESPONSE MODULAR MICROGRIDS

Commercial and  
Industrial Power Solutions



RESILIENT



TIMELY



SUSTAINABLE



COST EFFICIENT

## CASE STUDY CALIFORNIA

### WILDFIRE MITIGATION FACTS

- In October 2019 alone, there were **3,683 power outages** representing an **80% increase** from the year prior
- Several counties saw **5 or more outages** in a single month with an average duration of **46 hours**
- Over **7 million customers** and **250,000 businesses** were impacted with an estimated cost to California's economy of \$2.5 billion
- Utility executives estimate this practice could continue for **a decade**

### IS YOUR BUSINESS PREPARED TO ENDURE OUTAGES?

Utility public safety power shutoffs  
will impact all Californians.

- Electrical infrastructure has contributed to igniting California's recent devastating wildfires.
- As a precautionary measures, utilities and state regulators have drastically increased the Public Safety Power Shutoff (PSPS) Program
- PSPS allows utilities to pre-emptively turn off power during times of peak fire threat.
- Utilities and regulators expect 10+ outages per year in High Fire Threat Districts
- Outages are expected to last 2-5 days
- Once fire threats have ceased, utilities are required to inspect all lines to ensure safe re-energizing

### About Scale

Scale Microgrid Solutions is a vertically integrated distributed energy platform, with a core focus of designing, building, financing, and operating cutting-edge distributed energy assets that offer cheaper, cleaner, and more resilient power. A team of energy and financing experts, Scale enables customers to take charge of their energy infrastructure and future-proof their businesses.



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# RAPID RESPONSE MODULAR MICROGRIDS

Commercial and  
Industrial Power Solutions



RESILIENT



TIMELY



SUSTAINABLE



COST EFFICIENT

## R2M2: SUSTAINABLE ON-SITE POWER GENERATION TECHNOLOGY FOR PUBLIC SAFETY POWER SHUTOFFS

 <p><b>REMOTE MONITORING &amp; MICROGRID CONTROLS</b> Scale's platform automatically optimizes the operation of distributed energy resources (DER).</p>	<p><b>1 COMMON PLATFORM</b></p> <p><b>MANUFACTURER(S):</b> Scale Microgrid Solutions</p>	<ul style="list-style-type: none"> <li>■ Communication Protocol</li> <li>■ Native Open ADR 2.0</li> <li>■ Cyber Security Testing</li> <li>■ NIKTO, DIRBUSTER, SQLMAP</li> </ul>								
 <p><b>SWITCHGEAR</b> Integrates DER into an intelligent, pre-engineered, and configurable power control center to easily optimize resources and maximize facility performance.</p>	<p><b>3 CONFIGURABLE MODULES</b></p> <p><b>MANUFACTURER:</b> Schneider Electric</p>	<ul style="list-style-type: none"> <li>■ <b>800/1200:</b> Typically used with 25–250 kW DER's</li> <li>■ <b>1600/2500:</b> Typically used with 100–750 kW DER's</li> <li>■ <b>Engineered to Order:</b> Used with any size and type of DER's</li> </ul>								
 <p><b>BATTERY ENERGY SYSTEM</b> Modular, scalable architecture with best-in-class power conversion and battery technologies.</p>	<p><b>4 STANDARD MODULES</b></p> <p><b>MANUFACTURERS:</b> Various</p> <p><b>CHEMISTRY:</b> Li Ion - NMC</p>	<ul style="list-style-type: none"> <li>■ 125 kW/500 kWh</li> <li>■ 250 kW/1000 kWh</li> <li>■ 500 kW/2000 kWh</li> <li>■ 1000 kW/4000 kWh</li> </ul>								
 <p><b>DISPATCHABLE GENERATOR</b> Provides on-site power that can be adjusted to the output needed.</p>	<p><b>7 STANDARD MODULES</b></p> <p><b>MANUFACTURER:</b> Mitsubishi Scale Microgrid Solutions</p> <p><b>FUEL OPTIONS:</b> NG, RNG, Propane</p>	<table border="0"> <tr> <td>■ 285 kW</td> <td>■ 1000 kW</td> </tr> <tr> <td>■ 380 kW</td> <td>■ 1200 kW</td> </tr> <tr> <td>■ 610 kW</td> <td>■ 1500 kW</td> </tr> <tr> <td>■ 815 kW</td> <td></td> </tr> </table>	■ 285 kW	■ 1000 kW	■ 380 kW	■ 1200 kW	■ 610 kW	■ 1500 kW	■ 815 kW	
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**SOLAR PV**  
We work with the best local solar installation professionals to design, engineer, and construct custom rooftop, carport, and ground-mount solar arrays to meet the needs of your facility.



Find out how the R2M2 solution can benefit your business.  
Call us at **719.213.3494** or visit [scalemicrogridsolutions.com](http://scalemicrogridsolutions.com)