



Microgrid Customer Successes

November 2020

GreenStruxure™

Life Is On

Schneider
Electric

Marine Corps Air Station Miramar, California

Innovative Resiliency Solution



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Customer Challenge

- Ensure resilient power at the base to support over 100 mission critical buildings and the flight line

The Solution

- Construct a system to power mission-critical and support facilities throughout Marine Corps Air Station Miramar in the event of an outage.
- Manage electricity use at the base during peak times when the system is connected to a utility grid thru use of diverse energy sources including 3.2MW landfill gas, 1.6 MW solar photovoltaic, and energy storage systems

Customer Benefits

- Provide support services to the central grid
- Manage overall energy load
- Enhance renewable energy deployment
- Bolster cybersecurity practices base-wide
- Help the installation reduce its utility demand charges
- Facilitate demand response programs
- Can run in island mode for two weeks

www.schneider-electric.us/microgrid

New system to **power mission-critical facilities** in the event of outage

During August 2020, new system **eliminated six megawatts** of usage from San Diego's grid, saving about **2,000 homes** from going dark due to rolling blackouts. .

"I think this is only the beginning and we can greatly improve our abilities in the coming years."

- Mick Wasco,
Installation Energy
Manager,
MCAS Miramar

Montgomery County, Maryland

Innovative Resiliency solution for
Public Facilities



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Customer Challenge

Aging infrastructure, aggressive resiliency and sustainability goals.

The Solution

Energy as a Service project to improve reliable power supply for Montgomery County Public Safety HQ & Correction Facility.

Customer Benefits

- Secure resiliency of public services
- Infrastructure upgrade – reduced capex
- Protect critical operations during power outage
- Mitigate risk of escalating energy prices
- Reduce greenhouse gas and other emissions

The Results:

No-money down microgrid providing greater operational reliability and ensure resiliency during severe weather and other incidents.

[Download Link](#)
[Video Link](#)
[Stakeholder Video Link](#)
www.schneider-electric.us/microgrid

One of the first “no money down” microgrids helping protect Washington D.C. area citizens

First US GCI PEER Certified Campus microgrid

“We’re making significant strides in our key priorities—sustainability, safety and security. Upgrades to critical facilities improve the County’s resiliency, so we can keep residents safe and provide needed services even in the event of prolonged power outages.”

- Isiah Leggett, MD County Executive, Montgomery County

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Port of Long Beach California

Zero Emissions Future

Customer Challenge

- Port-wide electrical load is expected to quadruple.
- Increased reliance on electricity adds risk to marine terminal operations in that a single point of failure—the utility grid—could result in millions of dollars per day of damage to the economy in lost work hours and perished cargoes.

The Solution

- Design, engineer and build a new microgrid enabling critical energy resilience
- Robust microgrid to add zero emission DERs with grid services capabilities to the JCCC.
- Microgrid's DERs include new solar photovoltaic (PV), stationary battery storage, mobile battery storage, and peak shaving and demand response.
- Use of mobile battery storage will allow for the JCCC to extend the “range” of the renewable microgrid to a variety of distributed assets that would otherwise be cost-prohibitive to hardwire into a microgrid.

Customer Benefits

- Greater reliability and business continuity
- Increase safety
- Environmental benefits
- Energy security
- 100% resilient energy for critical infrastructure

Microgrid at **Critical Response** Command and Control Center

“Ensuring a stable supply of energy is crucial to the zero-emissions future the Harbor Commission envisions for the Port of Long Beach. We welcome this microgrid technology demonstration in Long Beach.”

- Tracy Egoscue, Long Beach Board of Harbor Commissioners President

Andover, Mass. R&D Center



Customer Challenge

Schneider Electric's new headquarters experienced utility-related outages.

The Solution

Pre-configured microgrid solutions with site optimization platform owned and operated by third-party capital partners.

Customer Benefits

Greater electrical reliability, resiliency, demand-side efficiency, and sustainability at no upfront cost.

The Results:

When we collaborate with partners to develop real-world solutions that enhance the electric reliability, boost use of clean energy, and manage energy economically—all while sparing customers from paying any upfront capital costs.

In **partnership** with Duke Energy Renewables and REC Solar, Schneider Electric built a **microgrid to power critical operations.**

“The sustainability aspects of the microgrid create savings, and equipment upgrades can be funded by those savings.”

- Mark Feasel, Vice President Smart Grid, Schneider Electric



Foxboro, Mass. Headquarters

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Customer Challenge

- Multiple utility outages caused loss of productivity at site
- Traditional back up system was designed for minimum back up needs
- Onsite power generation to help meet company's sustainability goals

The Solution

- A modular, scalable microgrid using commercial Schneider Electric microgrid products, including Energy Control Center
- Multiple generation sources parallel to provide full facility productivity during grid outage
 - Existing backup diesel generator 500kW
 - CHP 250 kW, parallel with backup generator and solar array
 - Rooftop solar 275 kW
 - CHP driven absorption chiller 80 RT

Customer Benefits

- Long terms energy cost assurance
- Secured MASSAVE grant to support CHP installation
- CHP generates alternative energy credits
- Solar PV provides long term electricity cost assurance

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New system provides **full facility productivity** during outages and **long-term energy cost assurance**.

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Middle Tennessee Electric Membership Corporation Headquarters & Network Operations Center

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Customer Challenge

- MTEMC wanted to use renewable energy to run its critical utility operations at their office in Tennessee
- Ensure that solar would be available in the event of a grid outage
- Reduce the use of diesel at the facility

The Solution

Schneider Electric delivered an Energy Control Center (ECC) based microgrid solution with a 250 kW / 1 hour Battery Energy Storage System.

- The system can isolate from the grid during an outage scenario, protecting their vital Network Operation Center (NOC) from which they control their larger grid operations.
- Ability to use renewable technology in islanded mode when power outages occur.
- Utilization of EcoStruxure Microgrid Advisor, a cloud-based optimization platform, so the site can utilize the solar and battery for the greatest economic return.

Customer Benefits

- Resilient operations for utility dispatch center
- Minimize reliance on genset during an extended outage
- Optimize solar and battery during grid-connected mode

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New system using
**sustainable, renewable
energy to protect
operations** during outages.

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Dependable Hawaiian Express

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Customer Challenge

- Build an environmentally friendly logistics facility.
- When the word "Dependable" is in your name, your power system better be.
- Ensure business continuity even during a power outage, via an emissions-free solution.

The Solution

- The installation of 360 solar panels providing 133 kW of PV
- 222kWhr battery energy storage system
- An Energy Control Center (ECC) that provides the microgrid controller and the power distribution in a factory tested solution.

Customer Benefits

- Greater reliability and business continuity
- Elimination of 152 metric tons of CO2 emissions annually.
- Remote manufacturer commissioning of the microgrid that allowed the project to proceed through COVID-19

www.schneider-electric.us/microgrid

A Microgrid that makes **Solar Smarter** in Hawaii with emission free reliability.

"My commitment to going green isn't just about reliable energy and saving money. I have a granddaughter who is 7, and it's as much about saving the planet for her future."

- Brad Dechter,
President of DHX

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Bubolz Nature Preserve

Customer Challenge

Integrate and easily manage multiple onsite distributed energy resources (DER) at the Bubolz Nature Preserve

The Solution

The configurable equipment combined with the autonomous and dynamic platform provides real-time tariff management, demand response requests, peak shaving, CO2 tracking and storm hardening across numerous generation assets.

Customer Benefits

With microgrid solutions from Schneider Electric and installation support from Faith Technologies, the Bubolz Nature Center will easily optimize resources and maximize facility performance.

The Results:

- First DER Project of the Year
- 100% savings in the Utility energy cost
- Reduced storm related outages by 100% (six / year)
- Microgrid generating net positive clean energy to the site

[Download Link](#)

[Video Link](#)

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100% savings in cost and **100% reduction** in outages

First DER Project of the Year
from POWER Magazine

“This project represents a forward-looking use case of energy systems that aim to establish a more resilient, efficient, economic and cleaner grid. The advanced control features integrated with Bubolz Nature Preserve’s microgrid will benefit the facility and local community, supporting the development of a more intelligent and sustainable energy system.”

- Mike Jansen, CEO of
Faith Technologies



Lidl Logistics Center, Finland

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Customer Challenge

- To build a flexible, future-proof, environmentally friendly and energy-efficient new logistics center in Finland
- Ability to optimize heating and cooling and to participate in demand response markets for energy with a microgrid solution for solar energy
- BREEAM excellence award for the building

Solutions

- EcoStruxure Microgrid Advisor and PPC
- EcoStruxure Building Operation
- Cloud services for remote monitoring

Customer Benefits

- 100% renewable energy sources. CO2 emissions cut by 40%, the logistics center uses 50% less energy than current two operational centers
- A lifecycle optimized solution for future expansion

Lidl is one of the **biggest grocery store chains in Europe**

40% CO2 emissions reduction

"We value the fact that Schneider Electric can offer an energy efficient and flexible solution that integrates our many facilities into one integrated system that serves us throughout the lifecycle of the buildings."

- Simo Siitonen,
Lidl Energy Sourcing