

# On the Path of Resiliency and Net Zero: PowerSecure's Solutions-Driven Approach to Supporting Federal Partners

## The New Era of “Green Enablement”

Amid the face of shifting environmental trends and growing climate concerns, an emphasis on new green enablement strategies and critical infrastructure resiliency is at the forefront. The White House recently set a new target for the United States to achieve a 50 to 52 percent reduction in economy-wide greenhouse gas emissions from 2005 levels by 2030 and set a course to reach a net-zero emissions economy by no later than 2050.

The prioritization of climate resilience comes in the wake of several unprecedented years of severe weather events. In 2020, the Atlantic Basin experienced a record 30 named storms, some of which are included among the year's 22 severe weather events that each caused more than a billion dollars in damages in the United States. Programs such as Building Resilient Infrastructure and Communities and Grid Modernization Initiative center federal attention on proactive investment in community resilience to better prepare communities for these events and avoid some or much of the costly damage. Additionally, military and governance bodies play critical roles in emergency conditions, where reliable energy is mission critical.

Microgrids and other distributed infrastructure solutions are at the intersection of sustainability and resilience, and will play key roles in achieving those goals. PowerSecure, a leading provider of turnkey microgrids and distributed generation solutions, is a proven partner of choice for federal agencies.

## Our Focus: Sustainable and Resilient Solutions: Single Source of Accountability

In alignment with the current White House administration's priorities, PowerSecure is a market leader in supporting customers' sustainability and resilience targets through our extensive distributed infrastructure and microgrid capabilities. The intersectionality of a microgrid offers the dual benefit of providing reliable power when a utility outage occurs, while also increasing operational efficiency, leading to reduced emissions. With our end-to-end expertise, we provide customers planning, installation and maintenance services, within a single source of accountability.



## Federal Solutions in Action: Case Snapshots

PowerSecure's collaboration with Mississippi Power Company (MPC) and a large-scale U.S. naval base is a key example of such a project. As part of an ongoing collaboration between the federal facility and the utility, PowerSecure was contracted by MPC to execute the second phase of a distributed energy project for the naval base. Expanding on the base's existing solar facility, PowerSecure was tasked with the integration of a supplementary microgrid – a project that fits into a Navy initiative that seeks to adopt cost-effective, alternative energy sources and fuel diversity while increasing resiliency and security.

PowerSecure designed, built and installed a microgrid composed of a 3,125 kW Tier 4 Final Generator System, which includes a fuel system for 72 hours of continuous operation. The integrated battery storage for solar farming and microgrid operations consists of 500 kVA, 1 MWh nominal, microgrid controller plus integration with the existing SCADA system and a step-up, pad-mounted transformer to interconnect with the base's existing distribution system. This microgrid solution provides emergency power to the most mission-critical 35% of electrical loads across the base's facilities. The microgrid also enabled the customer to remove 11 dedicated facility generators, resulting in fewer emissions being generated by the facility and an alignment with net-zero policies.

## Providing Unmatched Economic Customer Benefits

PowerSecure's distributed energy systems create multiple value streams through demand forecasting, system optimization and resource management utilizing our proprietary 24/7/365 monitoring framework. The high return on investment of our distributed energy solutions creates opportunities for investment into innovative and proactive energy projects.

A U.S. Army fort in Georgia took a step forward in building a smarter and more resilient infrastructure network for the future by implementing a first-of-its-kind microgrid program to support critical substations within the fort's facility. When PowerSecure was commissioned to engineer and construct a PowerBlock®G natural gas-fired generation system, we were able to ensure that the site operates within the Georgia Power Real Time Pricing (RTP) program, providing economic benefit to the base while reducing strain on the transmission system during peak periods. Furthermore, the PowerSecure microgrid is designed for automatic throw-over of transmission sources within the substation for added resiliency and efficiency.



Alongside the cost savings generated by the new microgrid system, creating a long-term partnership with PowerSecure provides our customers with peace of mind with equipment performance assurance at an economically sound set rate. We provide coverage for the PowerBlock®G natural gas-fired generation system through a 10-year maintenance service and warranty protection, in addition to continuous remote monitoring and dispatch for the customer and local utility.

## Our Partnership Expertise: Managing for Project Complexity in the Federal Channel

PowerSecure's integrated delivery model allows for our innovative energy solutions to be deployed efficiently, and through our customized approach to project management, we are able to accommodate the unique needs and workflows required by federal agencies and ESCOs. We have long-standing partnerships with several federal agencies and an ongoing history of involvement in multiple public-private partnership (PPP) projects. One such project is the California Independent System Operator (CAISO) and an Arizona-based Marine Corps air station where PowerSecure successfully designed, engineered, manufactured and installed a state-of-the-art 25 MW microgrid solution after renewable resource ramping on the grid was causing increased instability of electrical frequency.

Due to the sensitive nature of the project, the installation had strict contractor background-check requirements and multiple clearance levels. To maintain ongoing compliance with base personnel standards, PowerSecure worked with the installation to ensure personnel were cleared as required and developed a strict audit process.



Moreover, PowerSecure worked with the installation to determine a timely, cost-effective construction schedule, despite the project taking place during the summer months. To avoid exposing employees to the mid-day Arizona heat, PowerSecure performed much of the construction from 11 p.m. to 9 a.m.

In the end, PowerSecure installed an innovative microgrid with a Tier 4 Final diesel generation system to provide 25 MW of scalable power, autonomous frequency control, and peak load management functionality. In order to meet CAISO's requirement to have active control measures that can respond within 20 seconds of a frequency signal event, PowerSecure continues to provide monitoring and maintenance services for the system 24/7/365 with control and dispatch to optimize the microgrid's performance. From spending time on the ground to evaluate the state of current assets, to devising cost-reduction plans, to developing approaches to renewable energy, PowerSecure is able to provide solutions and services with immediate benefits while also adopting the long-term view necessary to ensure the efficiency and quality of power for years to come.

## Delivering Energy Management Systems That Meet Multiple Goals

PowerSecure delivers energy efficiency services to optimize the energy load of customers' facilities while maximizing benefits and managing long-term costs and a reduced carbon footprint. That in turn generates a return on investment that is economically optimized and maximizes utilization for our customers. On-site renewable energy generation can be a cost-effective way to improve energy security and reliability. An energy management system can help ensure safe and stable delivery of that renewable energy.

One example is work performed for a federal laboratory specializing in renewable energy and a Navy command overseeing facility engineering and acquisition that together sought an energy management system for a testing and training missile range facility in Hawaii that would improve utilization of existing photovoltaic (PV) systems. The overall project focused on technologies that could help meet the Navy's ambitious energy goals of producing at least 50% of shore-based energy from alternative sources and ensuring that 50% of Navy and Marine Corps installations will be net-zero energy.



During a demonstration at the missile range facility, an energy management system was installed alongside an existing PV system to facilitate the successful interconnection and operation of additional PV capacity that exceeds the site's minimum load. Doing so enables the site to decrease the amount of energy purchased from the utility, resulting in lower energy costs. The energy management system enabled the successful interconnection of the facility's PV system, resulting in an energy savings of 320 megawatt-hours during the six-month demonstration period and yielding long-term energy cost savings. The system paid for itself in the fifth year. In addition, the energy management system successfully demonstrated several objectives of the project: preventing power export to the utility, supporting power quality and maximizing PV generation.

## Green Enablement Solutions: A Path Forward in Building the Future of Energy

PowerSecure, a U.S.-based company with manufacturing in the U.S., stands as a trusted partner to federal agencies for providing innovative, customized and scalable energy solutions that align with administration policies and priorities for achieving sustainability and resilience on a national scale. From spending time on the ground to evaluate the state of current assets, to devising cost-reduction plans, to developing approaches to renewable energy, PowerSecure is able to provide immediate solutions and services while also adopting the long-term view necessary to ensure the efficiency and quality of power for years to come.

As our nation evolves to meet shifting priorities in energy and environmental resiliency, PowerSecure will continue to support our partners' achievement of their sustainability, resilience and economic development goals. For more information, visit [powersecure.com](http://powersecure.com).

