

sparkfund

CASE STUDY

Fixed Backup Power Program & Virtual Power Plant Project:

Partnering with utilities to mitigate the impacts of public safety power shutoffs

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Sparkfund has supported two distinct program scopes for a leading utility focused on wildfire risk mitigation: one focused on deploying backup generation assets to customers at risk of power disruptions due to wildfires and a second to pilot Virtual Power Plant feasibility in similar conditions.



Program Description and Elements

Sparkfund has supported this program for over four years, providing solutions for both residential and commercial customers.

Residential

The program's residential side focuses on providing backup generators to customers in underserved regions, which are vulnerable to power outages caused by power shutoff events.

Sparkfund has acted as program administrator for the program since its inception, coordinating and managing a roster of installers across the utility's footprint. Sparkfund is responsible for:

- Ensuring that program targets are achieved
- Regularly reporting on performance to the utility's management team
- Troubleshooting programmatic issues
- Liaising with the county permitting office to ensure timely turnaround
- Monitoring and managing the performance of contractors.

Residential customers deemed eligible for the program receive installation of a generator (service and hardware) at no cost. The utility subsidizes 100% of the costs associated with these projects and in certain cases, even allows for the installation of an additional, portable generator to service detached well pumps.

Since its inception, Sparkfund has managed successful installations for over 1,000 residential customers.

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Commercial

The commercial program provides backup power and/or small microgrid solutions to commercial customers in areas susceptible to outages. These projects are split into:

- Mobile home parks
- Community resource centers
- Commercial buildings

These projects typically include a combination of backup generation, solar, and battery storage. In addition to all of the responsibilities aforementioned in the residential category, Sparkfund is also responsible for project design. Similar to the residential program, eligible commercial customers receive the hardware and installation of these backup power systems at no cost.



Virtual Power Plant Pilot

Sparkfund has separately provided administration for a Virtual Power Plant (VPP) pilot program meant to assess how assets designed for resiliency can also support the grid during periods of peak demand.

Participants in the pilot include single-family homes with existing rooftop solar and a community center that serves as a resource center for the community during emergencies. The center received free installation of two batteries onsite. When VPP participants receive a message about the potential for their devices to be turned off or discharge electricity to support the grid, they can opt-out for certain devices (except battery storage). So far, the opt-out rate has been very low. Within a year after the start of the pilot, the VPP had been successfully tested through seventeen simulated demand response events.

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Lessons Learned

For the residential program, none of the assets are grid-connected and thus not eligible to help support grid stability during peak events. We recommend an interconnection and contractual approach that allows these devices to help support the grid.

While 100% subsidization offers a tremendous benefit to customers and ensures high program adoption, the model is sub-optimal in several facets. Similar to the residential program, eligible commercial customers receive the hardware and installation of these backup power systems at no cost.

- Because customers have no cost, they often do not prioritize installation and it can be challenging for installers to get commitments on scheduling visits.
- Customers who already have backup power in the form of a battery are not barred from participation, and programming a generator to work in tandem with solar and battery systems can be quite complicated and adds additional liability for installers.
- To conserve the budget, the program offers a standard generator size for every residential customer. In the long run, many customers would be better served by using the subsidy to offset the cost of a battery and solar and by right-sizing the system to match their load.

Individual assets provided to residential and commercial customers for personal use in outages are an incomplete solution for a larger issue. In the long run, utilities would be better positioned by focusing on the development of community virtual power plants, which would provide these remote communities with backup power, reduce the need for costly and dangerous wires and poles infrastructure and ultimately potentially allow these communities to operate self-sufficiently.

Contact us today to learn how we can help you lead the energy transition.

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