

Case Study:

Sunrun & PG&E Targeted Distributed Power Plant (DPP) Deployment

Demonstration DPP project with goals of reducing utility transmission & distribution (T&D) upgrade costs with locationally-optimized residential solar & storage

"Working with partners like Sunrun is a win for our customers, our electric grid and California as a whole. This program shows how customers can help improve local grid reliability as we support the state's growing need for energy,"

-Patti Poppe, CEO of PG&E Corporation.

At a glance:



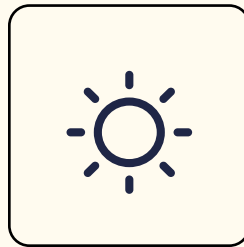
Location

California - PG&E



Scale

More than 1,000 Sunrun customers' storage-plus-solar systems



Impact

Sunrun's hyper-targeted DPP delivers grid relief where it's needed most

Overview

In collaboration with **Pacific Gas and Electric (PG&E)**, Sunrun aggregates and dispatches solar and battery systems in targeted areas to **relieve stress on overloaded substations and distribution lines**. By turning homes into dispatchable grid assets, the program provides **ultra-local peak load reduction**.

During the most recent operating season, Sunrun successfully **dispatched stored energy during peak grid stress events**, demonstrating that residential batteries can reliably deliver capacity at the exact locations and times utilities need it most.

The goal of this pilot is to demonstrate DPPs as an effective tool to help utilities defer or avoid costly T&D infrastructure upgrades, while enhancing grid reliability and providing cost savings to all ratepayers.

Grid Challenge

Many utilities such as PG&E are facing growing electricity demand due to whole home electrification, EV adoption, AI data centers, and other new electrical loads. This trend creates **congestion at specific grid points, decreasing available capacity at certain feeders, distribution lines, and substations**.

Building traditional infrastructure upgrades can be time consuming and costly. Sunrun's distributed DPP model offers a faster, lower-cost alternative.

Sunrun's Solution

Through data-sharing and locational targeting, Sunrun taps into **solar & storage** on homes served by specific substations or distribution feeders where PG&E sees congestion or infrastructure capacity constraints.

- Real-time DPP dispatch to reduce substation loading
- Strategic siting of assets based on PG&E distribution planning data
- Co-optimization of grid needs and customer backup power
- Avoided or deferred capital upgrades on T&D system

SUNRUN

Program Benefits

Stakeholder

Value Delivered

PG&E

Lowered T&D upgrade investment, improved local reliability

Customers

Compensation for grid support while maintaining a backup reserve

Communities

Reduced risk of outages, cleaner peak-hour supply

Ratepayers

Shared cost savings through avoided infrastructure spending

T&D Value Creation

Benefit

Description

Load Relief at Constrained Nodes

Batteries aggregated at different locations and substations follow varying load shaping commands (i.e. dispatching at different hours and power targets)

Infrastructure Upgrades Deferral

Avoids need for substation expansion or reconductoring

Faster Deployment

6 months to deploy

Customer - Sited

No land acquisition, siting delays, or major construction

Dual Value Stack

T&D upgrade savings + backup + emissions reductions

Conclusion

Sunrun's DPP deployment with PG&E represents a **new model for locational grid planning**, where clean, distributed energy does the job of wires. By targeting residential solar and storage at key substations and feeders, Sunrun has the capabilities to help PG&E reduce T&D upgrade costs, strengthen the grid reliability, create net savings to all utility customers, and build toward a cleaner, more resilient California energy system.