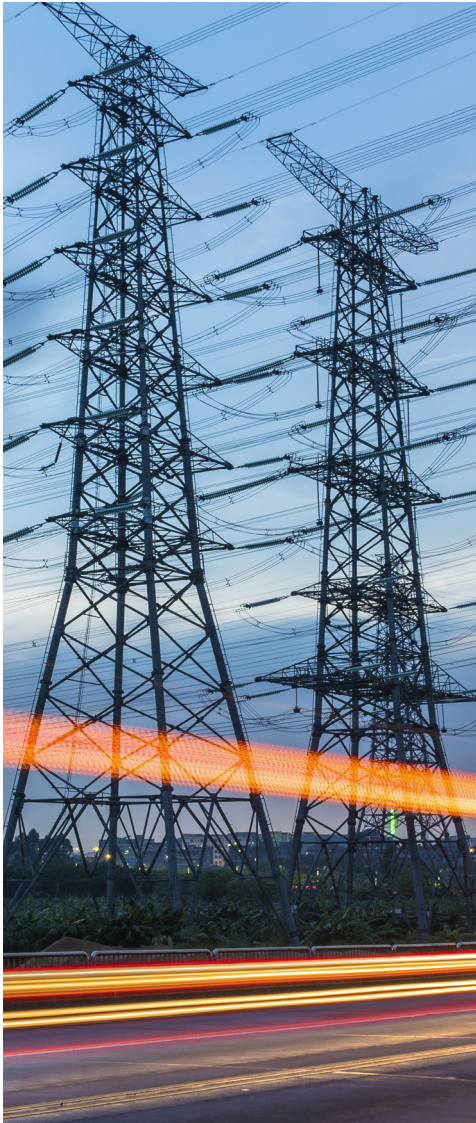


# OpenADR: Utility Deployment



OpenADR began in a collaboration of LBNL, PG&E, and Akaucum in response to a California Energy Commission grant proposal after the 2001 California energy crisis. Both PG&E and SCE continue to leverage OpenADR, but the deployments have quickly moved beyond California across the U.S. Internationally, Japan's utilities were early adopters to meet reliability concerns in the wake of the Fukushima disaster. More recently, OpenADR has been trialed across Europe, with specific interest in Germany and the United Kingdom in part driven by regulatory requirements.

A selection of confirmed utility adopters appears below – these are deployments where either the utility or their systems partners have shared that information, and where the implemented products have been certified through the OpenADR Alliance. There are likely significant numbers of deployments that have not been reported publicly.



*The evolution has moved from Demand Response in large commercial and industrial buildings toward more distributed energy resources*



## OVERVIEW OF UTILITY USE CASES

Following is an overview and examples of the primary categories of deployment. The general evolution of use cases has moved from Demand Response in large commercial and industrial buildings toward more distributed energy resources such as residential smart thermostats and appliances, and most recently to clean energy resources such as renewable generation, electric vehicle managed charging networks, and battery storage.

### Demand Response

The Salt River Project in Arizona employed OpenADR signaling to help scale the onboarding of a number of smart building integration points into a utility-wide demand response program.

### Hybrid Renewables/Storage

Swell Energy is working to augment Hawaiian Electric's energy supply by absorbing excess wind energy when needed, and providing 24/7 fast frequency response to balance the grids. Once complete, the project will supply 25 megawatts of solar power and 80 megawatts of battery capacity Hawaii Electric's needs.

### Electric Vehicle Charging

Chargepoint, the EV managed charging company, is partnering with German utilities including Vattenfall and Stromnetz Hamburg to deploy a network of EV charging locations that allow customers to participate in demand response programs. OpenADR protocol services employed in this process include Registration - EiRegisterParty is used to identify entities such as Charging Point Operators and other parties; this is necessary before an actor can interact with other parties – and Event - EiEvent are central event functions and information models that are used to reduce load. This service is used to activate a demand response.

### Battery Storage

Consolidated Edison acted to make dispatch OpenADR-ready and OpenADR-friendly. In order to better integrate energy storage resources, Con Ed was looking in particular to leverage the OADR Report Service for purposes of battery telemetry.

*More Detailed Case Studies May Be Found at [www.openadr.org/case-studies](http://www.openadr.org/case-studies)*



## Join the **OpenADR** Alliance

Industry stakeholders worldwide are working together to foster the development, adoption and compliance of the OpenADR standard through collaboration, education, training, testing and certification.

The OpenADR Alliance brings system operators, utilities, aggregators, controls vendors and solution providers — to facilitate and accelerate the use and adoption of this international standard.

Policies will not be undermined by incompatibilities or other end-to-end impediments in the marketplace.

**More information on the OpenADR Alliance is available at [www.openadr.org](http://www.openadr.org)**

**OpenADR Alliance**  
111 Deerwood Rd., Ste 200  
San Ramon, CA 94583  
[info@openadr.org](mailto:info@openadr.org)