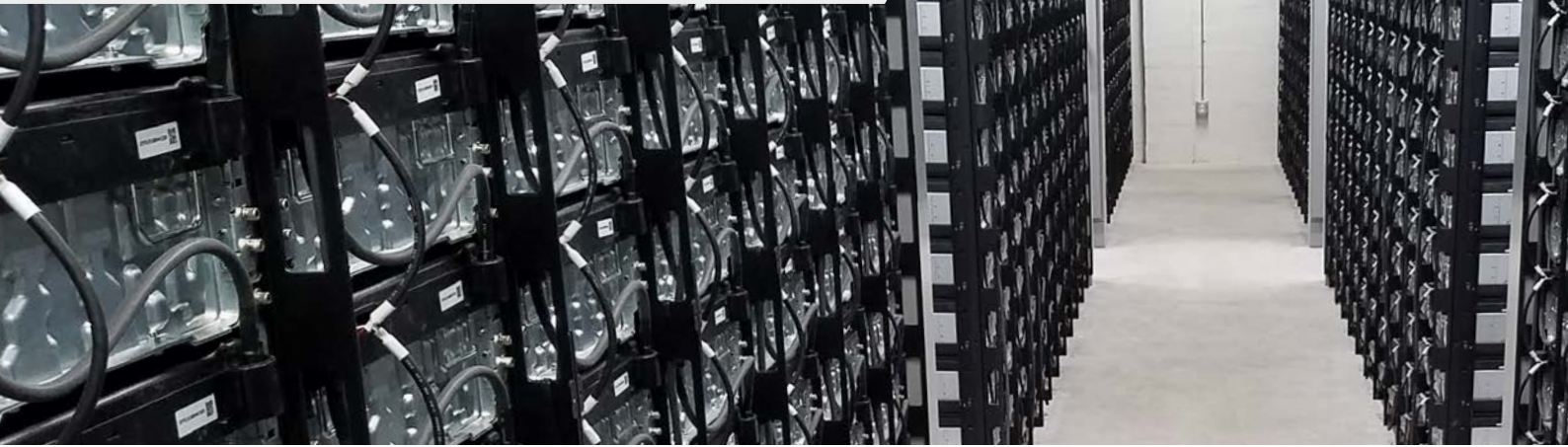


AltaGas Pomona Energy Facility

CASE STUDY



Software platform offers flexibility

When AltaGas looked to replace the lost peaker plant capacity with energy storage, Greensmith's flexible GEMS software platform was able to meet the need. The software can be configured so the energy storage meets the customer's primary needs—in this case peak supply—as well as provides additional services such as frequency regulation, voltage control, demand response, and emergency backup to maximize the economic contribution of the asset. As the Rocky Mountain Institute noted in its report *The Economics Of Battery Energy Storage*: "Energy storage can generate much more value when multiple, stacked services are provided by the same device or fleet of devices." Greensmith met the challenge, and beat the clock, by deploying the first 20 MW / 80 MWh energy storage system at the AltaGas Pomona Energy Facility in Pomona, California. The project highlighted how Greensmith's supply chain expertise accelerates time-to-market for grid-scale energy storage systems. Aliso Canyon demonstrated our ability to leverage major OEM

relationships to deliver North America's largest and most complex energy storage system safely, quickly and reliably. The project had a very tight construction and delivery time frame and Greensmith worked seamlessly with our Tier 1 supply chain and established ecosystem—including leading OEMs and partners such as Samsung, Parker Hannifin, and ABB—to deliver this benchmark project ahead of schedule. Greensmith's system-wide expertise and deep integration experience was paramount to the successful delivery of this installation.

"This project had a very tight construction and delivery time frame given the sheer size of the project. We worked seamlessly with our Tier 1 supply chain and established ecosystem to deliver this benchmark project on time. Our system-wide expertise and deep integration experience was paramount to the successful delivery of this installation."

Jim Murphy, CFO and COO of Greensmith

Solution: energy storage offering peak power generation services

The AltaGas Pomona project needed a system primarily designed to act as a peaker plant, delivering 80 MWh of electricity during peak periods of energy demand to power around 15,000 homes for four hours each day. The 20 MW system is part of North America's largest battery storage facility, and is comprised of 12,240 lithium-ion batteries in 1,020 racks and ten inverters. It took 55,000

man hours to complete and occupies 10,800 square feet.

Results: record-setting deployment

Working in close partnership with AltaGas, Greensmith set an industry record, designing, integrating, installing and commissioning the state-of-the-art energy storage system in less than four months. And feedback on results to date indicates that the system is faster responding than other utility-scale energy storage assets in the region.

KEY DATA

CUSTOMER

AltaGas

SITE SIZE:

20 MW | 80 MWh

SITE LOCATION:

Pomona, California, U.S.

APPLICATION:

Resource adequacy
Peaker plant replacement

In October 2015, crews discovered a leak at California's largest natural gas storage facility, Aliso Canyon. When the region's gas-powered generation facilities faced a sudden shortage in supply, Greensmith Energy showed that largescale storage could be rapidly deployed to fill the gap.

Technology-neutral

GEMS has been integrated with 16 different batteries and 10 power conversion systems.

Maximize system ROI

Advanced algorithms maximize battery performance and longevity.

Increased value

Enables additional value streams such as frequency regulation, spinning reserve or VAR support.

Efficient O&M

GEMS provides a comprehensive view of expected performance over the system's lifetime.

As one of the largest providers of energy storage software and integration services, Greensmith's mission is to make energy storage a fundamental part of a cleaner, more intelligent and more distributed energy infrastructure. Now in its fifth generation, Greensmith's GEMS software platform optimizes the performance of energy storage by lowering costs and maximizing the system's return on investment throughout its life.

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