

## European Solar Energy Storage

# Photos of the energy storage power station fire



## Overview

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How many energy storage battery fires are there?

Unfortunately, there have been a large number of energy storage battery fires in the past few years. For example, in South Korea, which has by far the largest number of energy storage battery installations, there were 23 reported fires between August 2017 and December 2018 according to the Korea Joongang Daily (2019).

What causes large-scale lithium-ion energy storage battery fires?

Conclusions Several large-scale lithium-ion energy storage battery fire incidents have involved explosions. The large explosion incidents, in which battery system enclosures are damaged, are due to the deflagration of accumulated flammable gases generated during cell thermal runaways within one or more modules.

Is battery storage a fire hazard?

As battery storage becomes more common with the rise of intermittent energy generation from solar and wind power, fire protection likely will become a prominent public concern. On May 15, a fire broke out at a 250-MW battery energy storage facility in East Otay Mesa, a San Diego suburb near the Mexican border.

How do battery energy storage units interact with power supply and discharge systems?

Interactions with power supply and discharge systems occur via an external Power Conversion System and Energy Management System as shown in Fig. 1. Battery Energy Storage Units have doors for operating and maintenance personnel and for installation and replacement of equipment.

What is a battery energy storage unit?

Battery Energy Storage Units have doors for operating and maintenance

personnel and for installation and replacement of equipment. A variety of Energy Storage Unit (ESU) sizes have been used to accommodate the varying electrical energy and power capacities required for different applications.

What happened at McMicken energy storage unit?

This incident occurred at the Arizona Public Service (APS, 2019) McMicken Energy Storage Unit facility in Surprise, Arizona, 28 miles northwest of Phoenix. As shown in Fig. 3, the facility is adjacent to an APS substation. It is a 2 MW, 2 MWh facility with 27 racks, each containing 392 Li-ion Nickel-Manganese-Cobalt pouch cells (DNV GL, 2020).

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### The fire incident at the world's largest lithium-ion energy storage

On May 15, a fire broke out at the Gate way Energy Storage Station (lithium battery) in Otay Mesa, San Diego, California, USA.

### Massive fire at world's largest battery storage plant forces ...

Hundreds of people were evacuated as a massive fire broke out at one of the world's largest battery storage plants in Moss Landing, California.



### Together again! A fire broke out at a lithium battery storage power

More than 50 firefighters, county and city hazardous materials teams, and sheriff's bomb disposal teams gathered at the scene, and after more than a day of fighting, the fire was extinguished. The cause of the fire is still unclear.

### Site safety measures help limit spread of fire at 600 ...

A fire at an under-construction, utility-scale battery energy storage system (BESS) close to London in Thurrock, Essex, was safely brought under control on February 20.



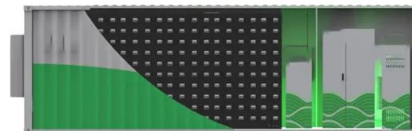
## Lithium-ion energy storage battery explosion incidents

Utility-scale lithium-ion energy storage batteries are being installed at an accelerating rate in many parts of the world. Some of these batteries have experienced troubling fires and explosions.



## California's Moss Landing Power Plant Fire Consumes 75% of Its Energy

Moss Landing Power Plant, shown in this photo by David Monniaux in 2007, housed the largest collection of lithium-ion batteries in the world, according to current plant owner, Vistra. Cautious optimism and citizens returned when the evacuation order was lifted by the Monterey County Sheriff's office on the evening of January 19th.



## Big Calif. battery storage facility fire burns for 11 days

The fire burned through the roof of the building housing the lithium-ion batteries at LS Power's Gateway project, prompting local fire officials to issue evacuation orders and road closures in the



area surrounding the storage plant.

## Fire at battery plant in Moss Landing, California, ...

A fire at the world's largest battery storage plant in Northern California is smoldering after sending plumes of toxic smoke into the atmosphere.



## Fire burns for five days at huge lithium-ion energy storage facility

A fire at a California lithium-ion battery energy storage facility once described as the world's largest has burned for five days, prompting evacuation orders.

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## Moss Landing, the world's biggest grid battery, caught fire again

Vistra's flagship energy-storage project in California turned into a towering inferno, forcing evacuations and raising fresh concerns about large battery installations.



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