

# Battery Energy Storage Systems (BESS)

## What is BESS?

Similar to the batteries that power your phone, computer, and other electronics, large-scale energy storage systems are used to provide back-up power to homes and businesses, limit power outages, make our electrical grid more reliable, and enable our communities to run on clean, affordable energy

## How do BESS Work?

Energy storage systems efficiently capture electricity so it can be used when and where it is most needed

Consists of:

- Batteries
- Racks for Batteries
- Communications equipment that allows control and monitoring of the batteries
- Inverters that convert DC energy to AC energy
- Equipment that ensures the batteries operate safely

## What does BESS look like and where?

Housed in specially engineered shipping containers, outdoor-rated cabinets, or purpose-built buildings

- Grid-scale facilities vary in size

Currently hundreds of large-scale energy storage projects are operating and in construction in the US

- Located in dense, urban areas and/or rural, remote areas
- Provide valuable services to the electrical grid in the communities they are located in



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## Benefits of BESS

Energy storage systems enable a more efficient and resilient electrical grid, creating many benefits for consumers, businesses, and communities

### Reduces Outages and Enhances Resilience

- During extreme weather events, BESS serves as back-up batteries and generators and can support entire buildings or the larger electrical grid to keep the lights on

### Reduces Cost and Saves Money

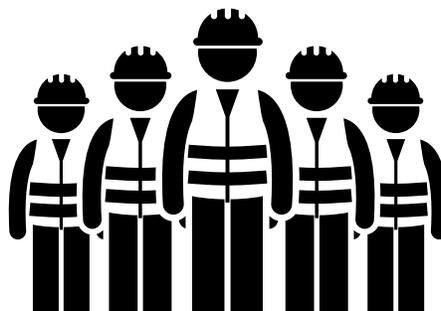
- By storing energy when the price of electricity is low, and discharging that energy later during periods of high demand, energy storage systems reduce costs for utilities and save families and businesses money
- Enhancing grid resilience can prevent costly damages from power outages

### Bolster a Sustainable Electrical Grid

- Enables electricity to be saved and used when and where it is needed most
  - Provides more flexibility to the grid
- Helps integrate more clean, renewable energy sources, like wind and solar
  - Reduces local air pollution and greenhouse gas emissions from our grid

### Supports Local Economies

- Boosts local economies and broaden tax bases, reducing tax burden on locals, without adding pressure on other governmental services
- The US energy storage industry supports over 60,000 jobs



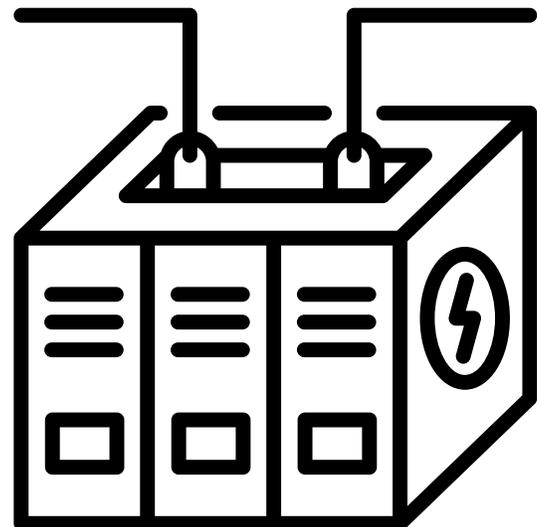
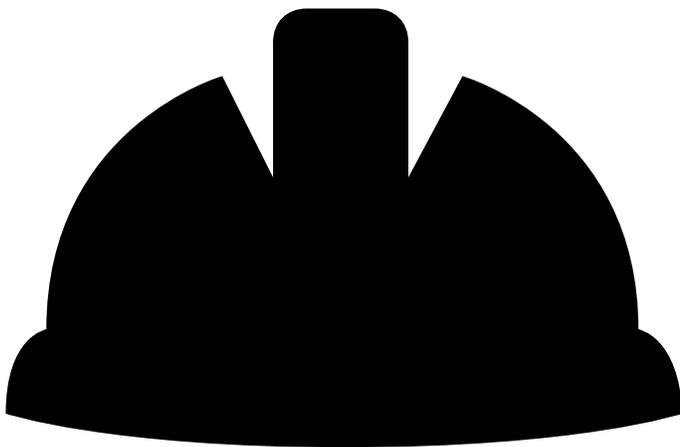
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## Safety of BESS

Safety is a fundamental part of all electrical systems, including energy storage systems. With the use of best practices and proper design and operations, BESS can mitigate risks and maintain safety while supporting reliable, clean electric service

## BESS are Regulated & Held to National Safety Standards

- We rely on batteries in so many ways, the technologies have some of the most well-established safety features and must meet rigorous codes and standards to be permitted to operate
- Must comply with National Fire Protection Standards- frequently updated
- State and Local governments ensure compliance with current standards



### Sources:

1. American Clean Power Association. <https://cleanpower.org/facts/clean-energy-storage/>

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