

ABOUT BATTERY ENERGY STORAGE SYSTEMS



Delivering Energy When It's Needed the Most

Battery Energy Storage Systems (BESS) are a critical component in today's energy landscape. These systems enable us to store low-cost energy for later use, resulting in increased energy reliability and more affordable energy when it's needed most. Energy storage optimizes the use of the energy we are already generating—delivering these benefits without increasing stress on our existing power lines and reducing the need for costly power line improvements.



How do BESS Work?

Battery Energy Storage Systems utilize a series of individual battery cells to store and discharge energy to the grid on an as-needed basis.

- A steel battery container houses all equipment in a controlled environment
- Transformers convert the voltage to connect to the substation
- The project substation transmits high-voltage energy to the grid

What do BESS Look Like?

BESS have an appearance and size similar to that of a shipping container. Their low profile makes them easy to blend into their surroundings through natural screening.

- Ten to twenty acres of land is typically required for utility-scale BESS projects
- BESS typically stand 8 feet tall and range from 8 to 53 feet in length
- Visual or vegetative screening is commonly used for aesthetics

Are BESS safe?

BESS projects are safe and do not have harmful environmental effects. Safety incidents are extremely rare, and every project is subject to significant oversight and safety regulations.

- Adoption of robust national codes and advancements in design
- Pre-Installation Standards and Testing implemented
- Advanced emergency mitigation and suppression systems are used
- 24/7 site monitoring is provided by trained personnel
- Upfront and ongoing coordination with local emergency responders

How do BESS Benefit Communities?

Battery Energy Storage Systems provide communities with reliable, affordable energy by providing a new source of stable electricity that can be distributed immediately, as needed.

- Prevents power shortages during emergencies and extreme weather events
- Lowers costs by storing low-cost energy and distributing it during peak demand
- Optimizes the use of large existing power plants within a very small footprint

Do BESS pose any risk to the soil or water?

BESS facilities are fully contained and do not release pollutants to the soil or groundwater. To pose any risk, the steel external enclosures, the steel barriers and racking, and the protective measures around the battery cells would have to be significantly damaged. To protect against and ensure safety in the occurrence of these rare events, multiple measures are put into place.

- Multi-layered protection systems are used to identify potential issues before they become a problem
- BESS sites are designed according to strict compliance with water retention standards
- Partnering with fire officials to develop robust emergency response plans including soil, water, and air quality testing

Can the Batteries Be Recycled?

BESS batteries are recyclable and can be repurposed for various applications. Current recycling methods recapture over 95% of the materials in lithium-ion batteries. As BESS technology advances, opportunities for recycling and reuse will continue to expand.

- BESS batteries may be “downcycled,” allowing smaller-scale reuse
- Projects follow regulations regarding the safe removal of batteries
- Inverters and transformers may also be refurbished and reused



What happens to the site upon project completion?

Every BESS project is accompanied by a decommissioning plan, which ensures the removal of equipment and restoration of the land upon project completion. This also ensures that no cost burden falls on the community.

- All equipment, above and below ground, is removed from the site
- Land is restored through topsoil replacement and reseeded
- Responsible recycling and reuse efforts are incorporated