



BERKSHIRE ENVIRONMENTAL ACTION TEAM

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Protecting the environment for wildlife in support of the natural world that sustains us all.

Battery Energy Storage Systems

What are Battery Energy Storage Systems?

Battery energy storage systems store electricity for later use. They help balance supply and demand on the electric grid by storing excess electricity and releasing it when it is needed.

Because solar and wind generate electricity only when the sun is shining or the wind is blowing, battery storage helps save excess electricity until it is needed. This makes renewable energy more reliable.



Environmental Benefits:

Battery storage helps electric utilities use more renewable energy and rely less on fossil fuel power plants during periods of high demand. This can reduce greenhouse gas emissions and other pollution associated with burning fossil fuels.

Benefits can include:

- Supporting use of solar and wind energy
- Reducing reliance on fossil fuel "peaker" power plants
- Improving air quality by reducing air pollution
- Increasing grid reliability during periods of high demand

Did you know?

Battery storage does **not** generate electricity. Like a rechargeable battery in your phone, it stores electricity until it is needed.

What About Safety?

Like any energy infrastructure, battery energy storage systems carry risks and must be designed, operated, and maintained safely.

Failures at grid-scale battery energy storage facilities have remained infrequent despite rapid growth in deployments worldwide, with approximately 0.2 failure events per gigawatt of battery storage deployed in 2023 (Electric Power Research Institute). Modern projects incorporate safety measures such as continuous monitoring, fire detection and suppression systems, emergency response plans, and setbacks to help reduce risk.

Battery storage also improves grid reliability by storing electricity for periods of high demand or outages. Depending on the system, it can provide backup power for homes, businesses, and critical facilities, helping reduce disruptions to emergency services, healthcare, and telecommunications.

Additional Benefits

Battery storage can:

- Improve grid reliability
- Help reduce power outages
- Provide backup power for critical facilities
- Support emergency response during severe weather
- Reduce the need to build additional electric transmission infrastructure by storing electricity closer to where it will be used.