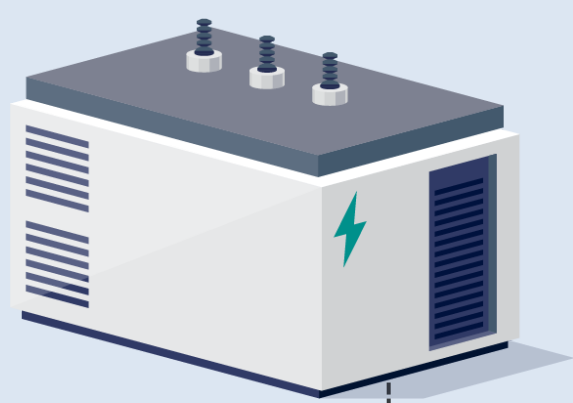


BATTERY STORAGE 101

Battery energy storage systems (BESS) provide safe, simple, reliable electricity for the grid. Batteries help keep the lights on, make existing energy generators work better, and enable more renewable energy.



Connection

Renewable energy and traditional power generation sources provide the primary grid power, while battery energy storage systems balance the demand and supply of power on the interconnected power grid.



Charging & Discharging

Batteries are charged by the grid, they store the power, and they discharge electricity back to the grid instantly when needed (during emergencies, natural disasters, times of peak power demand). Batteries are also cycled (charged and discharged) daily to maintain the integrity of the systems.

Basic Components

Storage is composed of the AC block and DC block, including battery cells, inverters, transformers, battery management systems (BMS), HVAC systems, fire suppression systems, energy management systems (EMS) and digital controls.



Batteries

Batteries power everything from computers to cars and now the electric power grid. Lithium-Ion is the most common battery type across consumer electronics and large-scale energy storage projects.



Software and Digital Controls

Batteries are simple devices that rely on intelligent energy management systems (EMS) which consist of digital controls and software. These elements enable supply-demand balancing for the power grid.

FlexGen HybridOS

FlexGen's EMS (HybridOS), is installed at each battery storage site to enable the batteries, inverters, and the grid to communicate and operate remotely.



Grid Reliability and Resiliency

The HybridOS has a reliable and effective track record. In fact, the HybridOS responds 25,000 times faster than industry standards require. The system enables coordination of large fleets of energy storage plants and deep analytics of operating results to optimize future performance.

