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Sandia's Grid Energy Storage Program Overview

Supporting Grid Modernization, Renewable Integration Social Equity, and
Electrification



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ENERGY STORAGE R&D AT SANDIA



BATTERY MATERIALS

Large portfolio of R&D projects related to advanced materials, new battery chemistries, electrolyte materials, and membranes.



CELL & MODULE LEVEL SAFETY

Evaluate safety and performance of electrical energy storage systems down to the module and cell level.



POWER CONVERSION SYSTEMS

Research and development regarding reliability and performance of power electronics and power conversion systems.



SYSTEMS ANALYSIS

Test laboratories evaluate and optimize performance of megawatt-hour class energy storage systems in grid-tied applications.



DEMONSTRATION PROJECTS

Work with industry to develop, install, commission, and operate electrical energy storage systems.



STRATEGIC OUTREACH

Maintain the ESS website and DOE Global Energy Storage Database, organize the annual Peer Review meeting, and host webinars and conferences.



GRID ANALYTICS

Analytical tools model electric grids and microgrids, perform system optimization, plan efficient utilization and optimization of DER on the grid, and understand ROI of energy storage.

Wide ranging R&D covering energy storage technologies with applications in the grid, transportation, and stationary storage

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