Pacific Northwest
NATIONAL LABORATORY

Grid Storage Launchpad at PNNL:

Advancing the Next Generation of Grid Energy Storage Technologies

The Need:

The U.S. Department of Energy's Office of Electricity (OE) has identified the accelerated development of grid energy storage technology as a national priority. Grid energy storage is a key towards modernizing the power grid and unlocking a broad array of economic and societal benefits. OE has selected Pacific Northwest National Laboratory in Richland, Washington, as the site for a new, national grid energy storage research and development facility that includes investments from the State of Washington, Battelle, and PNNL.

The Value:

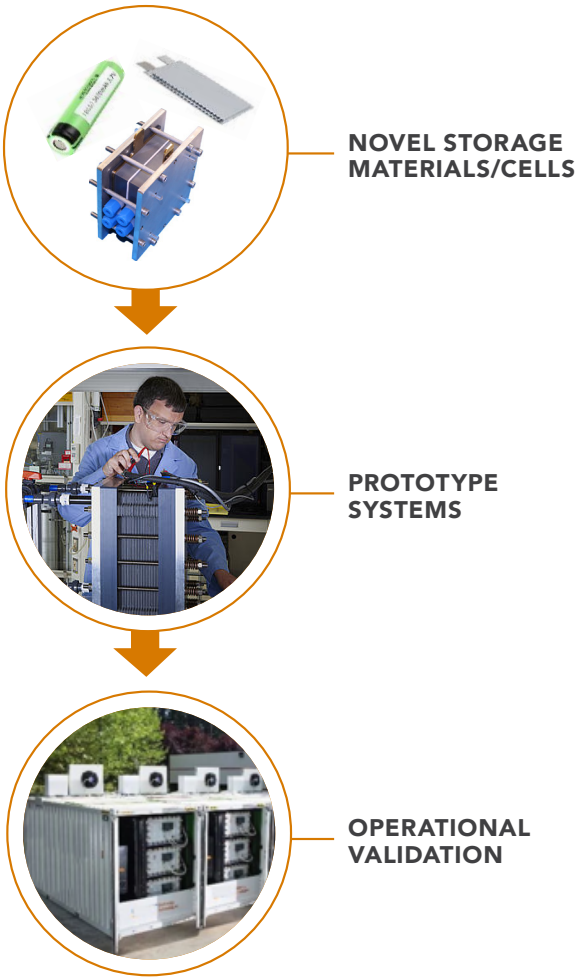
Grid energy storage technology is a critical technology component for realizing a modernized, resilient power grid capable of achieving many broadly shared energy objectives. Accelerating development of grid energy storage technologies will:

- *Make our nation's power grid more resilient, reliable, secure and flexible*
- *Enable the full value of diverse energy resources to be realized*
- *Sustain US global leadership in the development of energy storage technologies*
- *Develop domestic manufacturing supply chain and skilled workforce for energy storage technologies*

Core Mission:

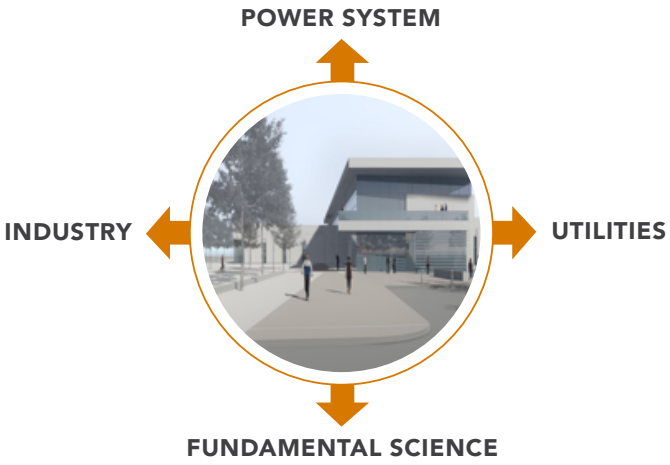
Through independent testing and validation of grid energy storage technologies, the grid energy storage facility at PNNL will develop and promulgate rigorous grid performance standards and requirements that span the entire energy storage R&D development cycle — from basic materials synthesis to advanced prototyping. This mission focuses on three outcomes that address critical challenges in grid energy storage development:

- ***Collaborate:*** *By bringing together the DOE, multidisciplinary researchers, and industry, it will lower the barriers to innovation and deployment of grid-scale energy storage technologies.*
- ***Validate:*** *The facility will enable independent testing of next generation grid energy storage materials and systems under realistic grid operating conditions.*
- ***Accelerate:*** *From bench top to systems, the facility will de-risk and speed the development of new technologies by propagating rigorous performance requirements to all stages of grid storage development.*



Fundamental Capabilities:

- *Materials Synthesis and Processing*
- *In-operando Characterization*
- *Small-Scale Cell Fabrication*
- *KW-Scale Testing and Validation*
- *Advanced Prototyping*
- *Analytics and Visualization*
- *Standards Development*



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