



# PARTNER WITH PNNL FOR ENERGY STORAGE

Pacific Northwest National Laboratory (PNNL) is shaping the future of energy storage by delivering innovative advancements in materials, components, and software. From advancing the next generation of grid and transportation energy storage technologies to derisking large-scale systems, our research drives real-world impact.

## OUR FOCUS AREAS

- ▶ **Electrochemical Energy Storage Technologies:** redox flow, lithium-ion, sodium-ion, Zn-based, Pb-acid, lithium-metal, and more
- ▶ **Breakthrough Materials and System Solutions:** Overcoming performance barriers and enabling cost-effective, scalable systems for grid and transportation needs, from material development to full-system testing
- ▶ **Applications:**
  - Testing and validation of materials, cells, modules, and pre-commercial systems
  - Flexible loads and generation
  - Grid Integration, controls, and architecture
  - Regulation, policy, and valuation

## VALUE FOR INDUSTRY PARTNERS

- ▶ Objective technical expertise and non-competitive guidance to support informed decision-making and risk reduction
- ▶ Patented innovations and advanced tools to boost U.S. industry competitiveness
- ▶ Grid Storage Launchpad: 100 full-time researchers, 34 labs, end-to-end battery research and prototyping



## EASY ACCESS TO RESOURCES

- ▶ Explore and license [PNNL-developed technologies](#), patented innovations, and [software tools](#)
- ▶ Utilize the [Grid Storage Launchpad](#) for research, prototyping, and [independent testing](#)

## WHY PARTNER WITH US

- ▶ Streamlined collaboration for industry, startups, universities, and nonprofits
- ▶ Flexible pathways: license, codevelop, launch ventures, joint research, training
- ▶ Easy onboarding for first-time partners

## FACILITIES AND CAPABILITIES

- ▶ Advanced characterization laboratories
  - Scanning transmission electron microscopes
  - X-ray photoelectron spectrometers combined with Raman spectroscopy
  - Micro-computed tomography
- ▶ Pilot-scale prototyping for pouch cells or prismatic cells
- ▶ 10 kW Reliability Test Laboratory
- ▶ 100 kW/400kWh test chambers for pre-commercial systems
- ▶ Real-time modeling and simulation to optimize design and performance
- ▶ Educational labs for training the energy storage workforce of the future



Get in touch:  
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