



COMMITTEE ON
SCIENCE, SPACE, & TECHNOLOGY
Lamar Smith, Chairman

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Statement by Chairman Lamar Smith (R-Texas)

The Electric Grid of the Future

Chairman Smith: Today, the Subcommittee on Energy will examine the Department of Energy's (DOE) effort to modernize the electrical grid.

DOE, our national laboratories and universities across the country are working to develop next generation technologies that will make up our future electric grid. This critical research and development will help address vulnerabilities that range from cyberattacks to natural disasters.

Another challenge is developing grid-scale battery storage and incorporating it into our electric grid.

Renewable energy and distributed energy resources are changing the way electricity is produced and delivered throughout the nation. These energy sources are intermittent and depend on the sun to shine and the wind to blow.

Without the capacity to efficiently store the energy produced from renewable energy, these resources can only make a minimal contribution to America's electricity needs. Energy storage is the key to modernizing the grid without sacrificing reliability.

My home state of Texas offers a ready example of the impact battery storage could have on harnessing renewable power.

Texas is the top wind producing state in the country. So it's no surprise that Sandia National Laboratory chose to partner with Texas Tech University on a wind-energy field testing site in Lubbock, Texas.

The Scaled Wind Farm Technology Facility, or SWiFT, brings together academia, industry and the expertise found only at the national laboratories to test and develop wind energy technology.

While SWiFT's primary objectives are to improve wind turbine performance and the efficiency of wind energy production, SWiFT also provides a testbed for supporting wind power with battery technology.

Researchers at SWiFT are testing different battery chemistries and designs to harness the power of wind energy on demand.

Breakthroughs in grid-scale battery storage technology will help incorporate renewable energy resources into the nation's energy mix. But scaling up batteries will necessitate addressing cost, efficiency and size limitation problems.

DOE research and development can provide these solutions, and build the foundation for the next fundamental breakthrough in modern grid technology. And DOE continues to prioritize the Grid Modernization Initiative, a crosscutting research program that harnesses the skillsets of individual labs to develop new grid technologies.

At Los Alamos National Laboratory, home to one of today's witnesses, researchers are developing new power system designs that will improve the reliability and resiliency of the grid. With the technical expertise developed through its nuclear weapons program, Los Alamos uses applied mathematics and advanced modeling capabilities to research multiple energy resource delivery systems.

The national laboratories are also home to the Joint Center for Energy Storage Research (J-CESR) Energy Innovation Hub.

This DOE hub brings scientists, engineers and manufacturers together in order to develop transformative energy storage technologies. H.R. 589, the DOE Research and Innovation Act, has passed the House and authorizes the DOE Energy Innovation Hub program to continue this important collaborative research effort.

By developing a better battery, national labs and universities can help the private sector lead the way and bring battery storage technology to the energy marketplace.

This early-stage research will help create a modern, reliable and resilient grid.

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