



# Summary of the Energy Bureau's Demonstration Energy Storage Work

What is science and Technology Innovation (Energy Storage)?

On November 10, 2020, the National Energy Administration published a list of its first batch of science and technology innovation (energy storage) pilot demonstration projects. The list of projects includes generation-side, behind-the-meter, and grid-side applications, as well as thermal-generation-bundled energy storage for frequency regulation.

What is long-duration energy storage (LDEs)?

This long-duration energy storage (LDES) project aims to be a key demonstration of critical power backup of an acute care hospital in the U.S. and provide resiliency in a region that is increasingly at-risk for significant power outages due to fires, storm surges, floods, extreme heat, and earthquakes.

Will a battery energy storage system help Valley Children's Hospital?

This project plans to install a 3.3 MW behind-the-meter, non-lithium-ion battery energy storage system that would provide power for at least 10 hours to Valley Children's Hospital, a pediatric hospital that serves Justice 40 communities around Madera, California.

How much does a Phase 1 energy storage project cost?

Fact sheets currently describe Phase 1. Federal Cost Share: Up to \$6.5 million Recipient: Urban Electric Power, Inc. Locations: Oneonta, NY and Valhalla, NY Project Summary: Energy storage is critical to New York's clean energy future.

Could a successful demonstration enable market adoption of urban electric power's LDEs system?

A successful demonstration could enable market adoption of Urban Electric Power's LDES system by proving decreased technology risk, reducing demand on grid infrastructure through reduced peak demand load, and reducing total costs of installation and operation as compared to a Lithium-Ion system.

In the Energy Act, Congress directed DOE to establish a focused energy storage research, development, and demonstration (RD& D) program, including the large-scale demonstration of technologies capable of storing energy for a wide range of durations.

Electricity storage covers a range of technologies that can deploy at different scales and provide output for different durations. This includes lithium-ion battery storage and...

The Long-Duration Energy Storage (LDES) Demonstrations Program, managed by the U.S. Department of Energy's (DOE) Office of Clean Energy Demonstrations (OCED), aims to validate new energy storage technologies and enhance the capabilities



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In December 2021, the Department of Energy established the new Office of Clean Energy Demonstrations (OCED) to oversee the \$21.5 billion in IIJA funding for clean energy demonstration projects for innovative technologies like clean hydrogen, carbon capture, grid ...

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Advance a diverse set of non-lithium energy storage technologies towards commercial viability and utility-scale deployment. Generate high-quality operational datasets ...

The primary purpose of electricity storage consists of ensuring power quality and reliability of supply, whether it is to provide operating reserves, uninterrupted power-supply solutions to ...

Project Summary: The GRid and Integration Demonstration of FLEXible Energy Resources (GRID-FLEXER) project--led by Virginia Electric and Power Company (dba Dominion Energy Virginia)--plans to demonstrate a distributed energy resource management system (DERMS) in Virginia's southeastern region. This project aims to coordinate the area's current distributed ...

The energy storage community is rapidly growing and evolving. There are many solutions under investigation within the research and development (R& D) community across electrochemical, mechanical, and thermal approaches. However, many of these energy storage solutions have not yet been demonstrated in operational environments and at pilot scale ...

Executive summary . 7. Table of contents. Foreword and acknowledgments. Executive summary. Chapter 1 - Focus and motivation. Chapter 2 - Electrochemical energy storage . Chapter 3 - Mechanical energy storage.



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Chapter 4 - Thermal energy storage. Chapter 5 - Chemical energy storage. Chapter 6 - Modeling storage in high VRE systems. Chapter 7 - ...

The scope of 2022 Energy Storage demonstration Project Collection will be expanded, extended and expanded on the basis of 2021, covering lithium battery, compressed air, liquid flow ...

Community Benefits Commitments Summary This Community Benefits Commitments fact sheet describes how the Long-Duration Energy Storage (LDES) Demonstrations Program's Stored Rechargeable Energy Demonstration (STORED) project award recipient, Urban Electric Power, Inc. (UEP), will engage community and labor stakeholders during Phase 1 and collaboratively ...

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