

**U.S. DEPARTMENT OF ENERGY**

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Office of Electricity

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# Energy Storage Update

NASEO  
JUNE 25, 2020



U.S. DEPARTMENT OF  
**ENERGY**

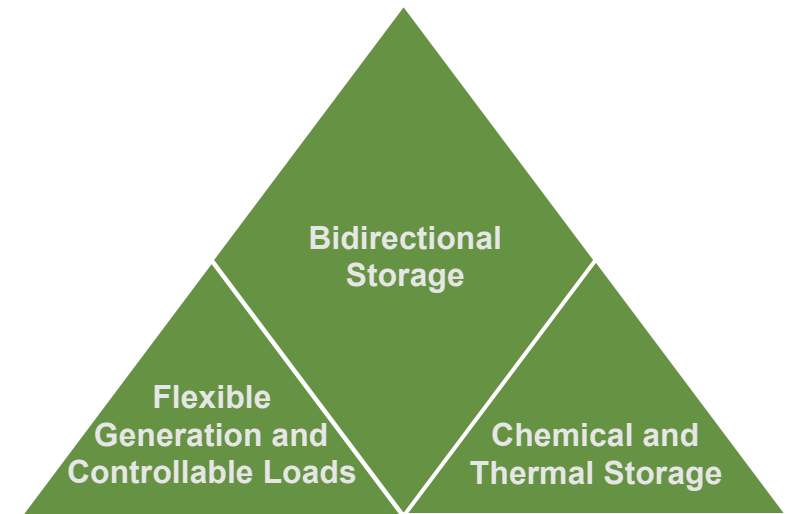
# DOE Energy Storage Grand Challenge

## Vision

By 2030, the U.S. will be the world leader in energy storage utilization and exports, with a secure domestic manufacturing supply chain independent of foreign sources of critical materials

## Mission

The ESGC will focus resources from across the DOE to create a comprehensive program to accelerate the development and commercialization of next-generation energy storage technologies and sustain U.S. global leadership in energy storage, through the following objectives:



# ESGC in Summary

Innovate  
Here

Make  
Here

Deploy  
Everywhere

# ESGC Focus Areas

## How to achieve “Innovate Here, Make Here, Deploy Here”

### Technology Development

- Establish ambitious, achievable performance goals, and a comprehensive R&D portfolio to achieve them.

### Technology Transition

- Accelerate the technology pipeline from research to system design to private sector adoption through rigorous system evaluation, performance validation, siting tools, and targeted collaborations.

### Policy and Valuation

- Develop best-in-class models, data, and analysis to inform the most effective value proposition and use cases for storage technologies.

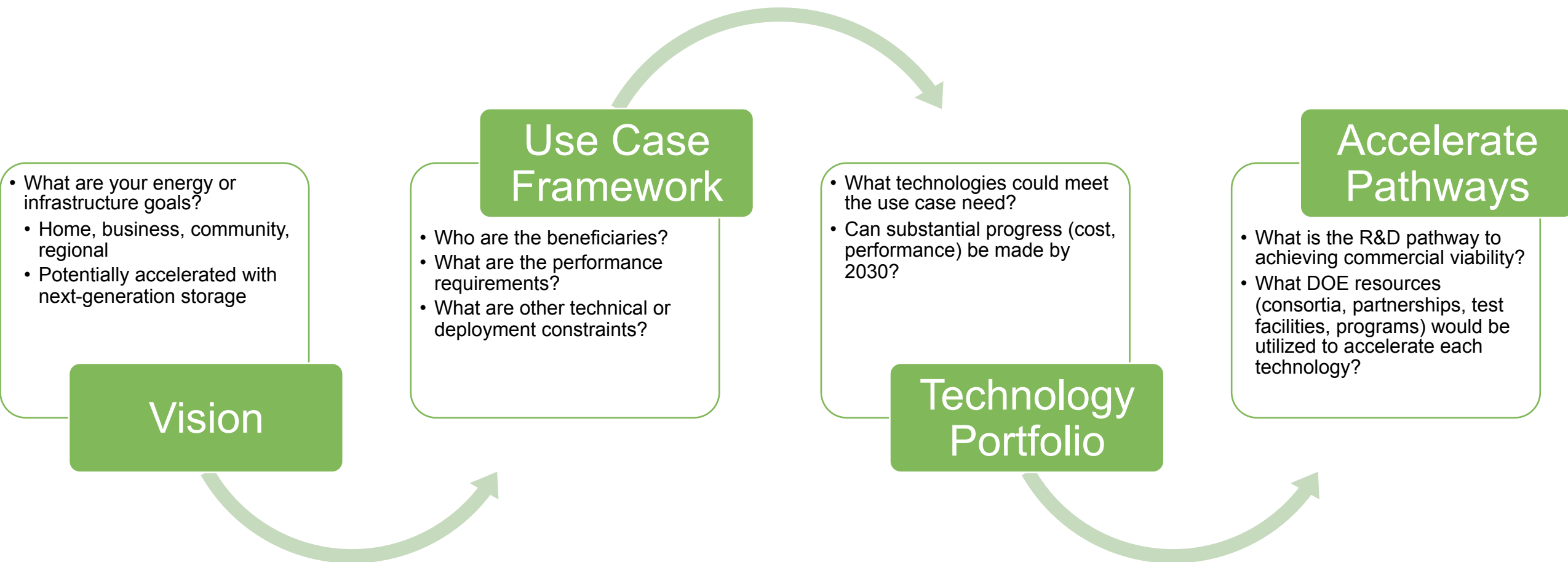
### Domestic Manufacturing and Supply Chain

- Design new technologies to strengthen U.S. manufacturing, recyclability, and reduce dependence on foreign sources of critical minerals.

### Workforce Development

- Train the next generation of American workers to meet the needs of the 21st century grid and energy storage value chain.

# Use Case-Informed R&D Framework



# Resilience-Centric Use Case Examples

Use Case	• Serving Remote Communities
Scope	• Island, coastal, and remote communities
Major Drivers	<ul style="list-style-type: none"> <li>• Electricity premium due to fuel logistics and maintenance</li> <li>• Fuel supply disruptions</li> </ul>
Success Statement	• Clean, resilient, and cost-effective storage and flexibility solutions to provide electricity for critical and beneficial public services.
Examples	• “Oregon's Office of Emergency Management encourages people to be prepared to be on their own for a minimum of two weeks.”

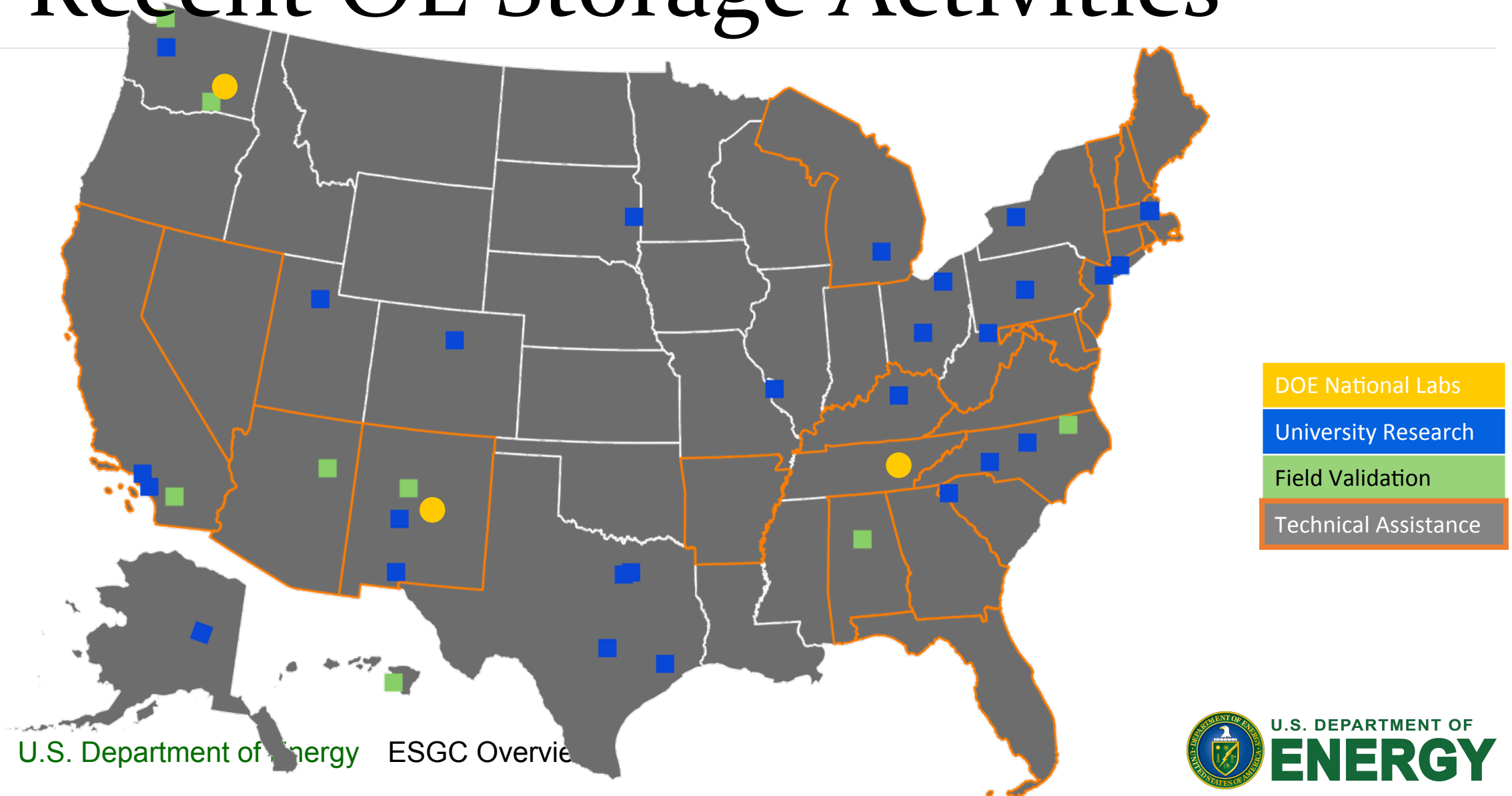
Use Case	• Critical Services Resilience
Scope	<ul style="list-style-type: none"> <li>• Critical sectors, including: <ul style="list-style-type: none"> <li>• Defense</li> <li>• Emergency Services</li> <li>• Healthcare</li> </ul> </li> <li>• Organizations that need to maintain operations</li> </ul>
Major Drivers	• Disaster-related and other power outages
Success Statement	• Cost-effective storage solutions that maintain critical services for a sufficient duration following extended power outages.
Examples	• “At a minimum MDLARA will require that sufficient on-site fuel storage be available to provide... demand for at least 24 hours.” - Michigan Department of Licensing & Regulatory Affairs

For more details:

<https://www.energy.gov/energy-storage-grand-challenge/energy-storage-grand-challenge-public-workshops>



# Recent OE Storage Activities



# Previous DOE Work on Access

“We are pleased to present a special issue that addresses the challenge of electricity access, at a time that the topic of accessibility not just to electricity but to housing, to healthcare and even perhaps to a basic guaranteed income have been part of the national discussion.”

– Richard Cohen and Gerry Khermouch

June 2018



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