

# Energy Storage Grand Challenge Summit

## *EERE Storage Overview*

August 2024



# EERE's Energy Storage Activities

**Research, Development,  
Demonstration, and Deployment  
(RDD&D)**

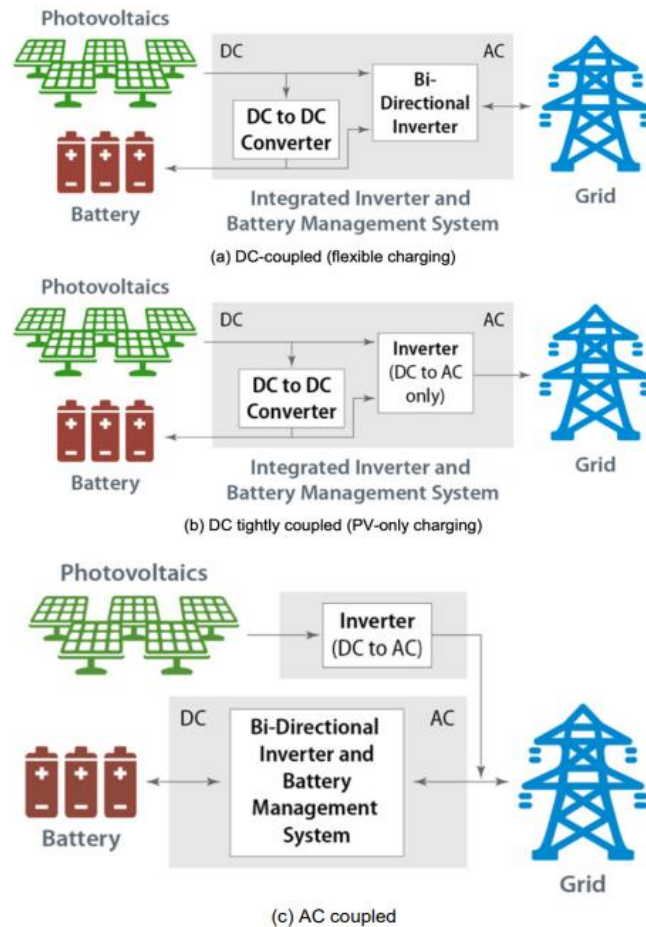
**Technical Assistance**

**Data, Tools, and  
Analysis**



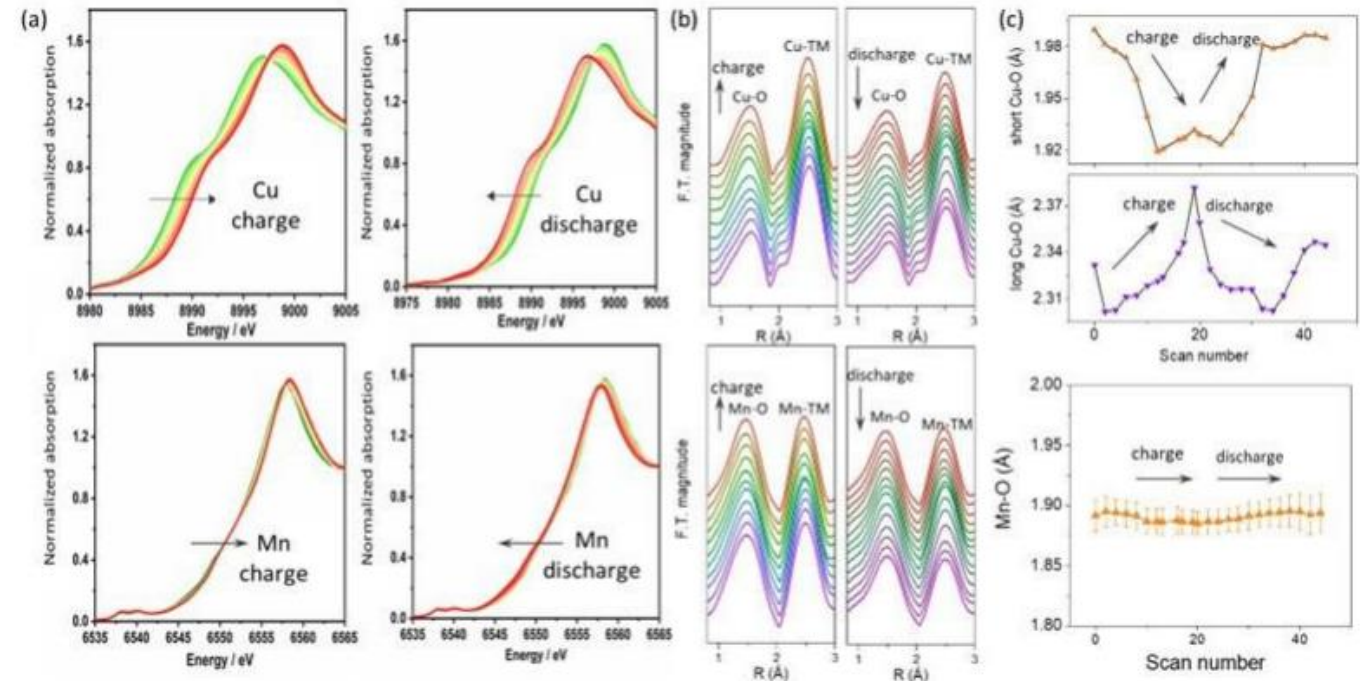
# Battery Energy Storage

## Solar Energy Technologies Office



### PV + Battery Hybrids

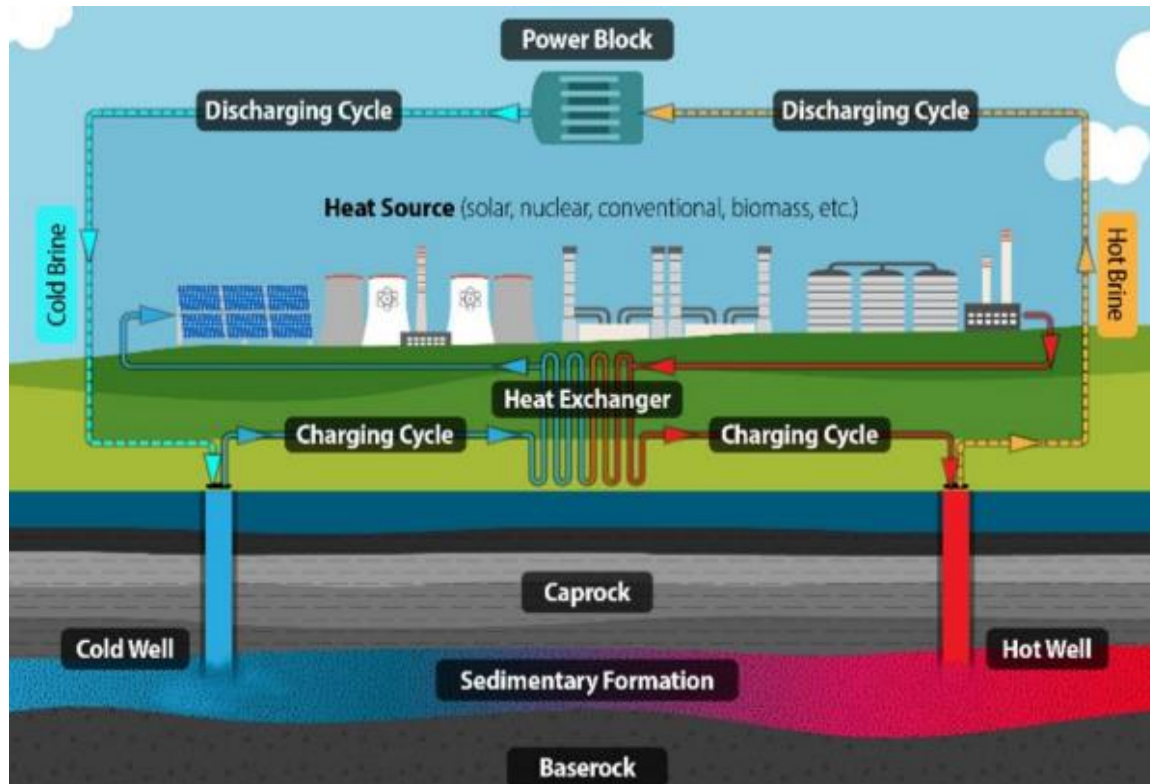
## Vehicle Technologies Office



**Next-generation phosphate-based cathodes &  
Advancing the state of the art for sodium-ion batteries**

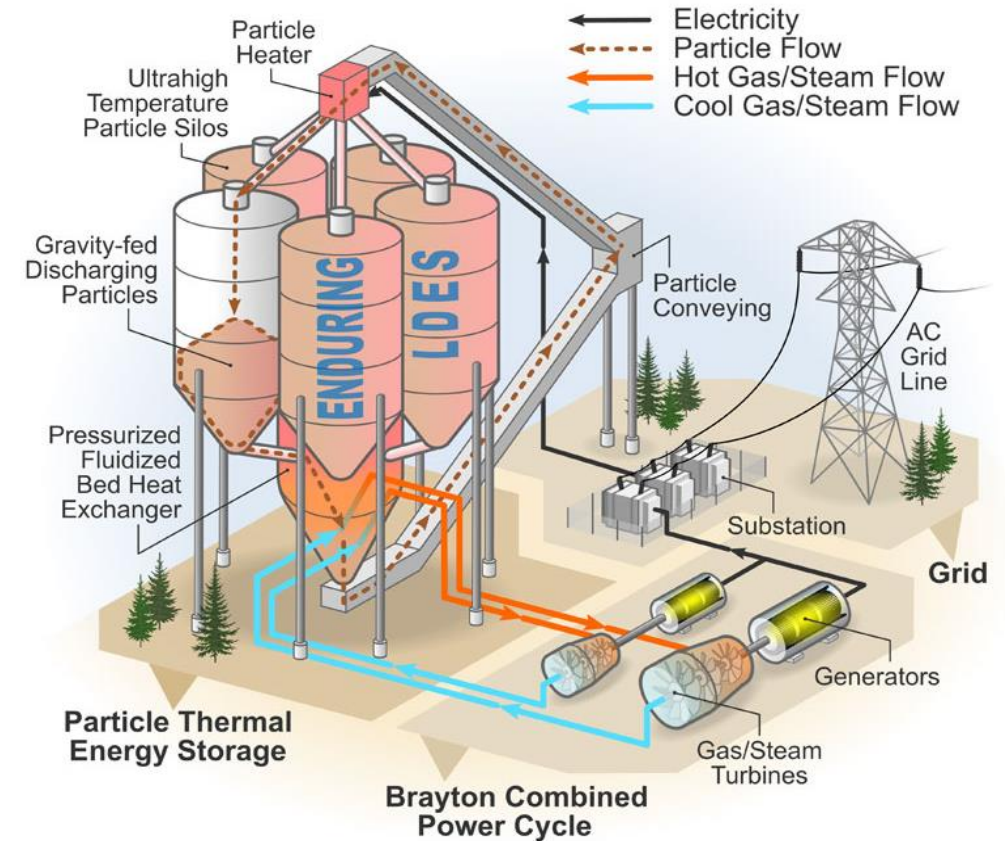
# Thermal Energy Storage

## Geothermal Technologies Office



Reservoir Thermal Energy Storage

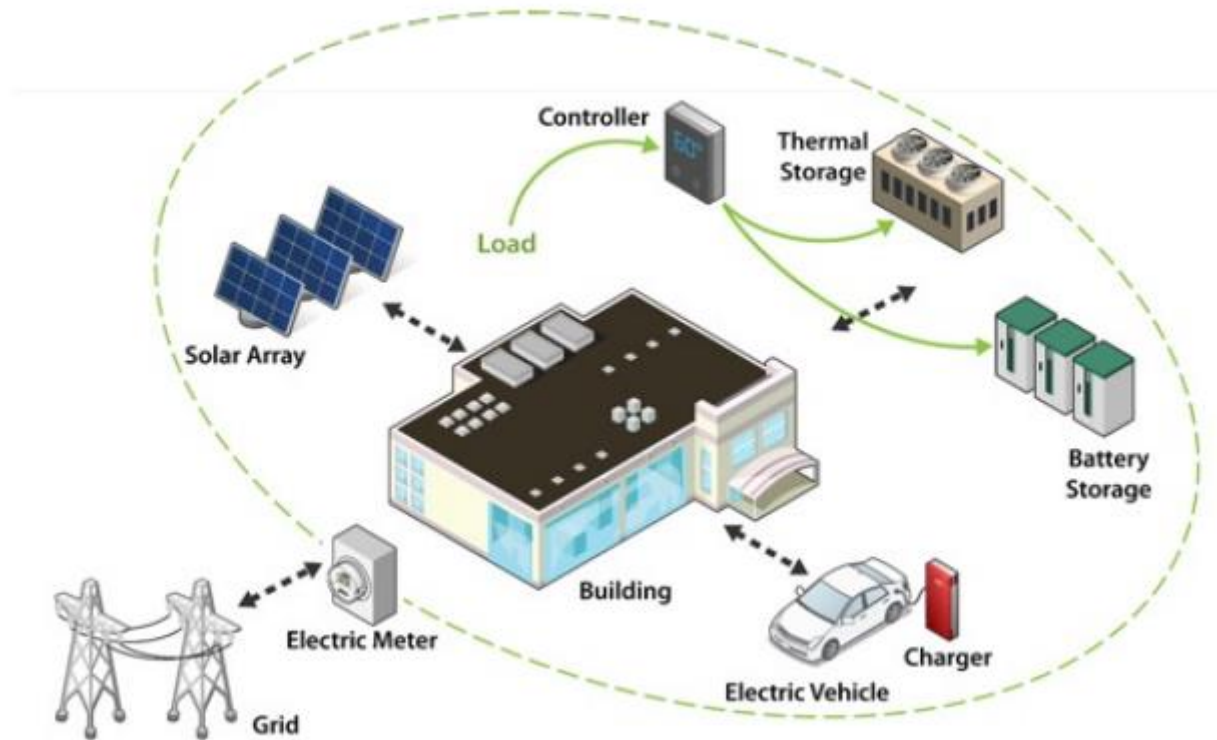
## Solar Energy Technologies Office



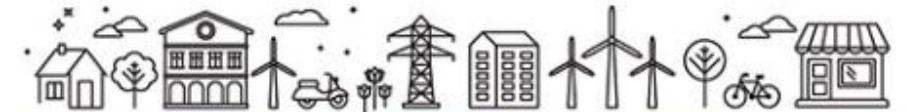
Particle Thermal Energy Storage

# Thermal Energy Storage

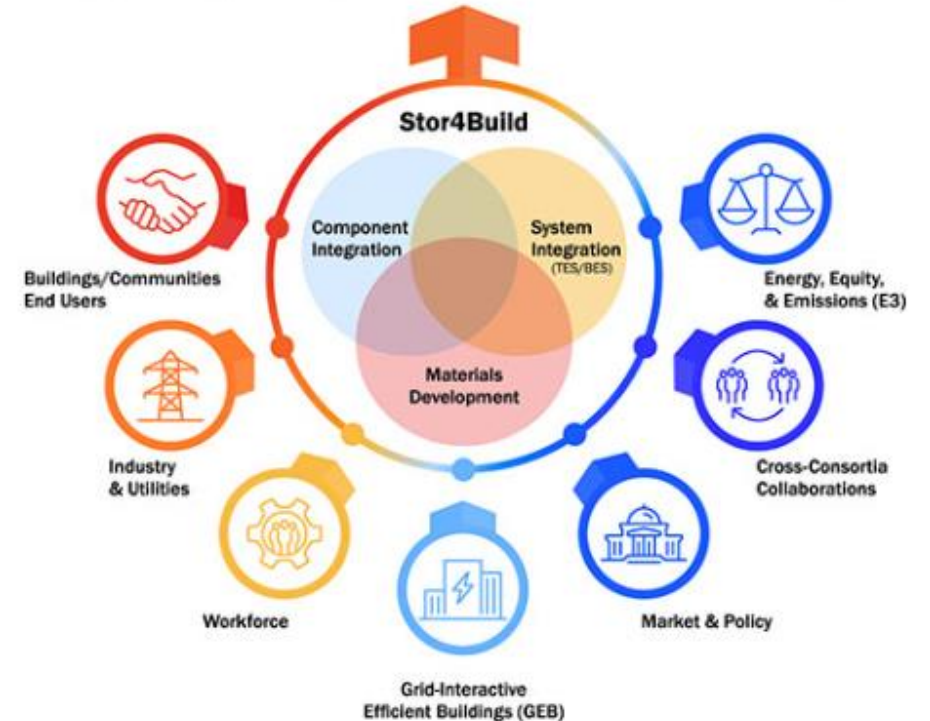
## Buildings Technologies Office



Behind-the-Meter Thermal Storage

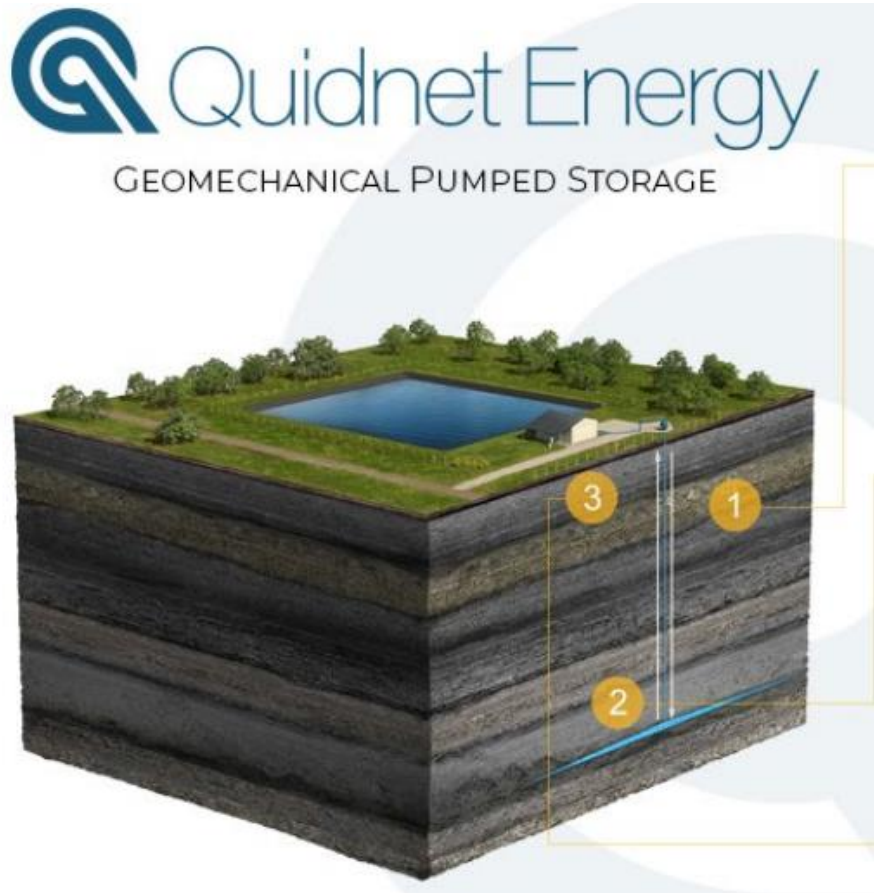


Scaled Adoption for All Communities & Market Transformation



# Pumped Storage Hydro

## Water Power Technologies Office



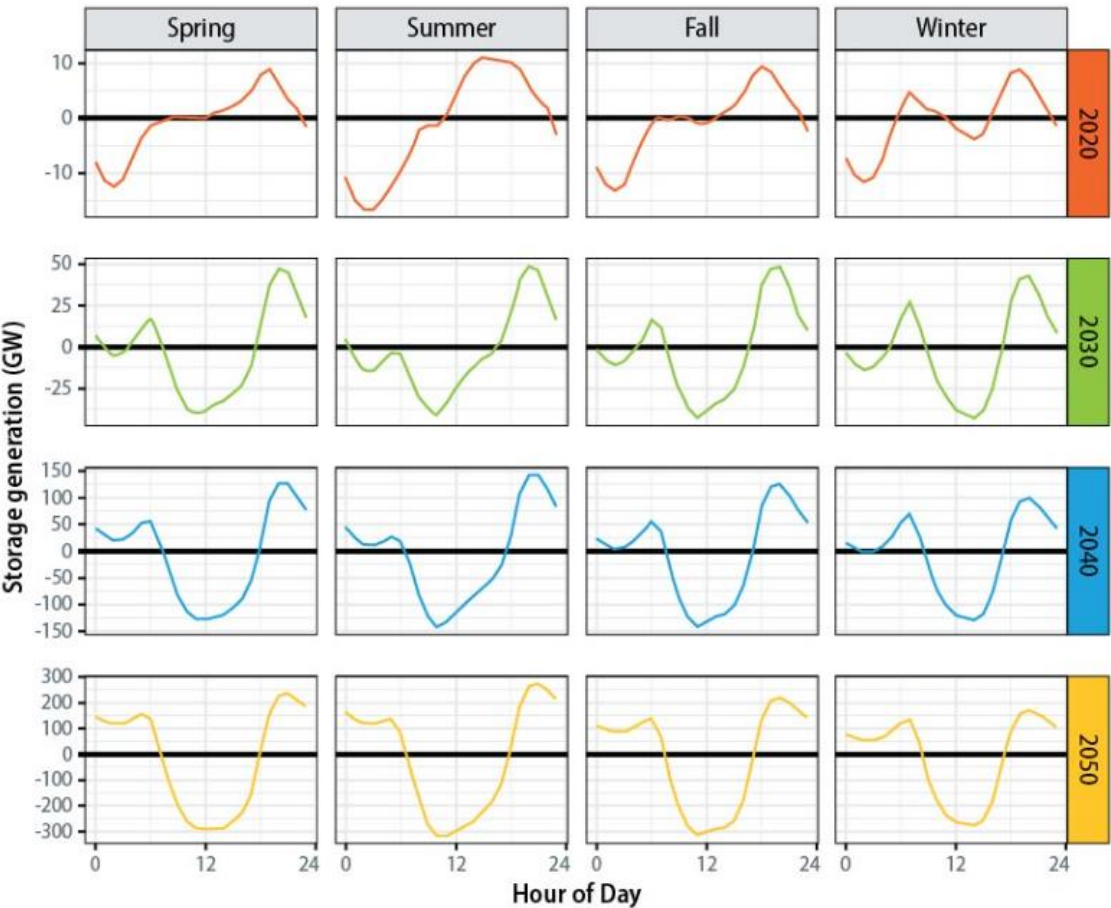
# Data, Tools, & Analysis

## ESGC Cost & Performance Report

2023 LCOS (\$/kWh) Comparison

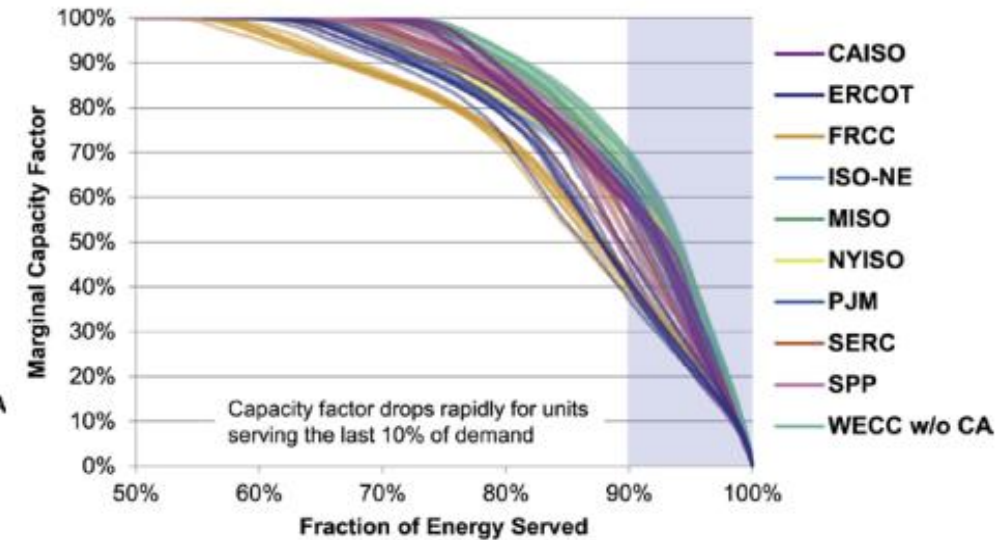
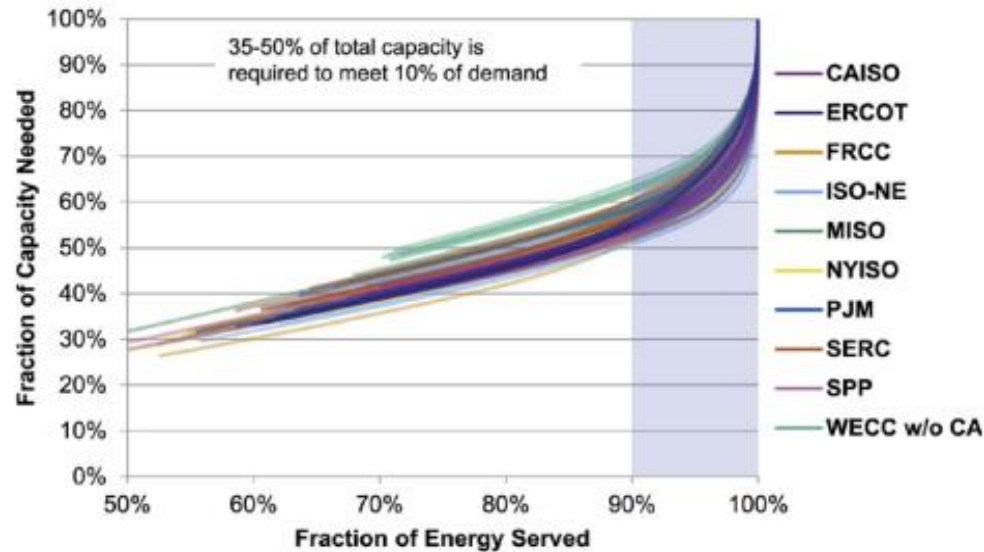


## Storage Futures Study

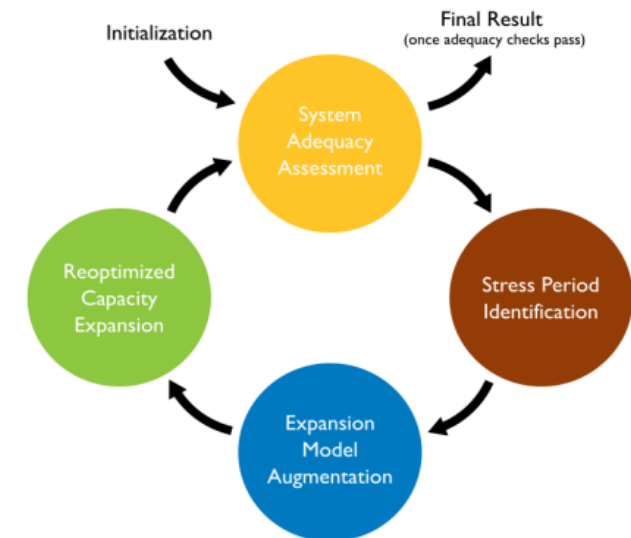
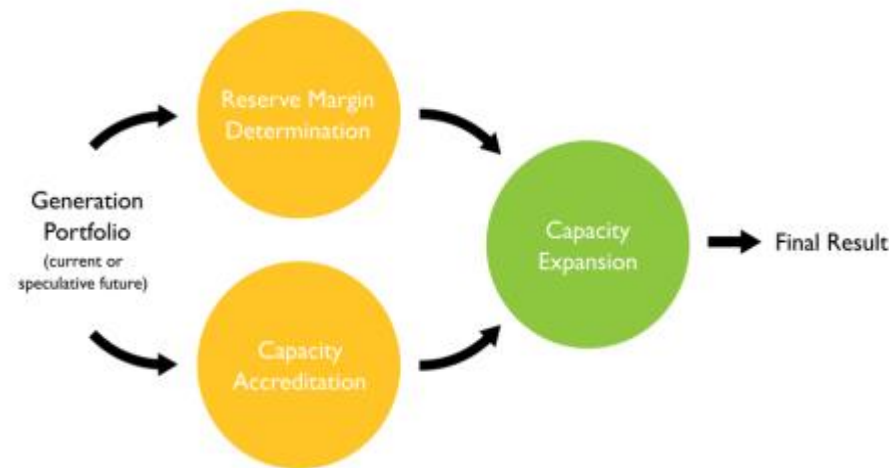


# Data, Tools, & Analysis

## Getting to 100%: Six Strategies for the Challenging Last 10%



## Beyond Capacity Credits: Adaptive Stress Period Planning for Evolving Power Systems



# Technical Assistance

## State Technical Assistance Program

*Working with the Public Service Commission to develop an evidence-based understanding of whether establishing energy storage procurement targets, deadlines, and incentives would benefit the Jurisdiction*



**State Technical Assistance Program**

Providing resources and assistance for state energy offices and regulators

[stateTAprogram.lbl.gov](http://stateTAprogram.lbl.gov)

Help Desk  
Expert Match  
Deep Dive

U.S. DEPARTMENT OF ENERGY  
BERKELEY LAB  
NREL  
Pacific Northwest

## Utility & Grid Operator Assistance Program

*Will be able to assess technology integration, system planning, system operations, and reliability/resilience challenges and solutions.*



## Clean Energy to Communities

*Worked with Fairbanks Alaska and Golden Valley Electric Cooperative to analyze how to maintain reliability when shutting down a 50-MW coal plant and replacing it with three sources: new wind generation, new energy storage, and imports of additional power from Southcentral Alaska.*

