

# Achieving the DOE Long Duration StorageShot

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Energy Storage  
For A Better World

CONFIDENTIAL



# Rising to the challenge of climate change with a team that will deliver



## OUR INVESTORS: LONG-TERM AND IMPACT-FOCUSED

**\$820M+** in venture capital from top investors including:

Breakthrough Energy Ventures (BEV), TPG's Climate Rise Fund, Coatue Management, GIC, NGP Energy Technology Partners III, ArcelorMittal, Temasek, Energy Impact Partners, Prelude Ventures, MIT's The Engine, Capricorn Investment Group, Eni Next, Macquarie Capital, Canada Pension Plan Investment Board, and other long-term, impact oriented investors

LED BY ENERGY STORAGE VETERANS

Decades of cumulative experience in energy storage

■ 100's of MW of storage deployed



# The Challenge

*The electrical grid needs to fundamentally transform to meet today's challenges*



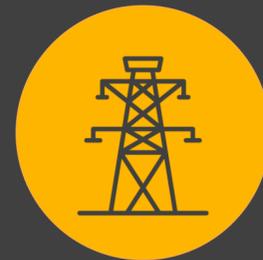
Extreme weather events have become more frequent and disruptive



Power supply is becoming tighter



Intermittent resources need firming up



Transmission congestion and interconnection queues are increasing

# DOE's Long Duration Storage Shot is a Dedicated Effort to Drive Down Cost of LDES, in partnership with industry

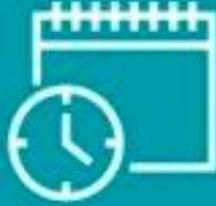
Long Duration Storage Shot



Reduce storage costs by **90%\***...



...in storage systems that deliver **10+** hours of duration



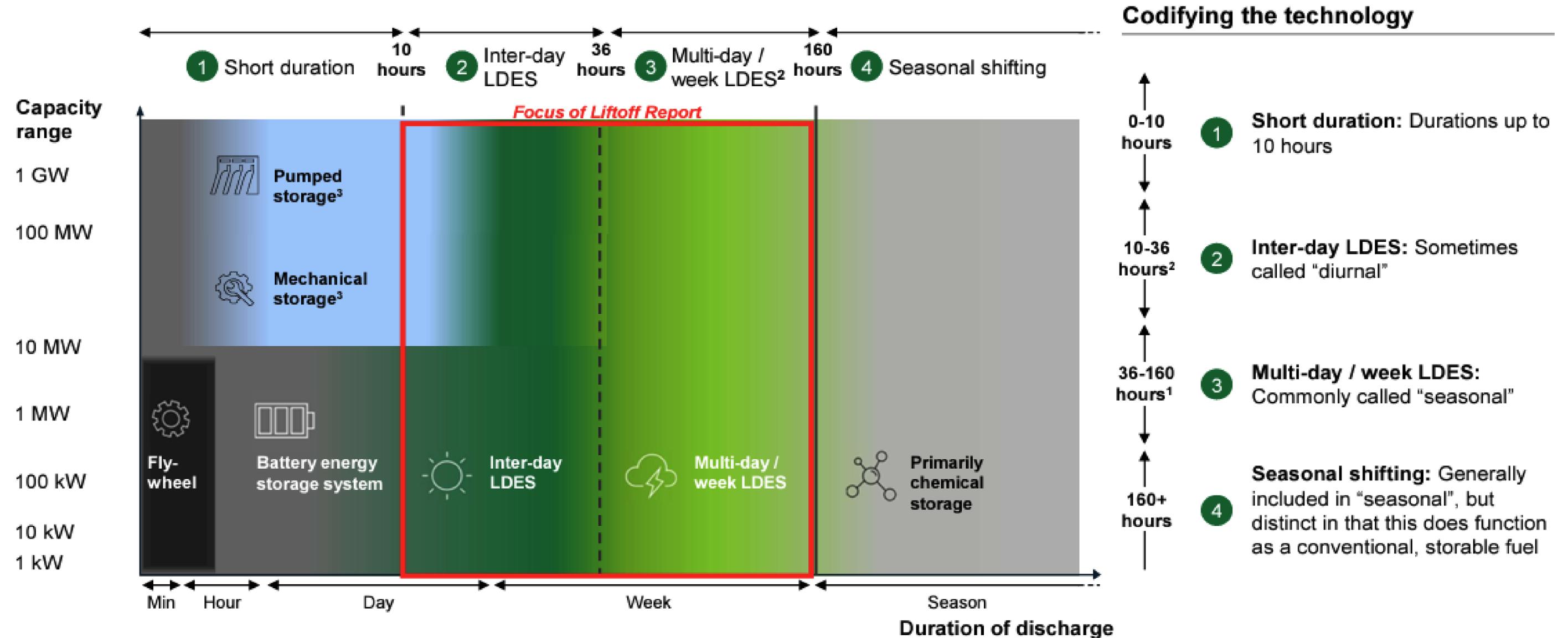
...in **1** decade

\*from a 2020 LI-ion baseline

Clean power anytime, anywhere.

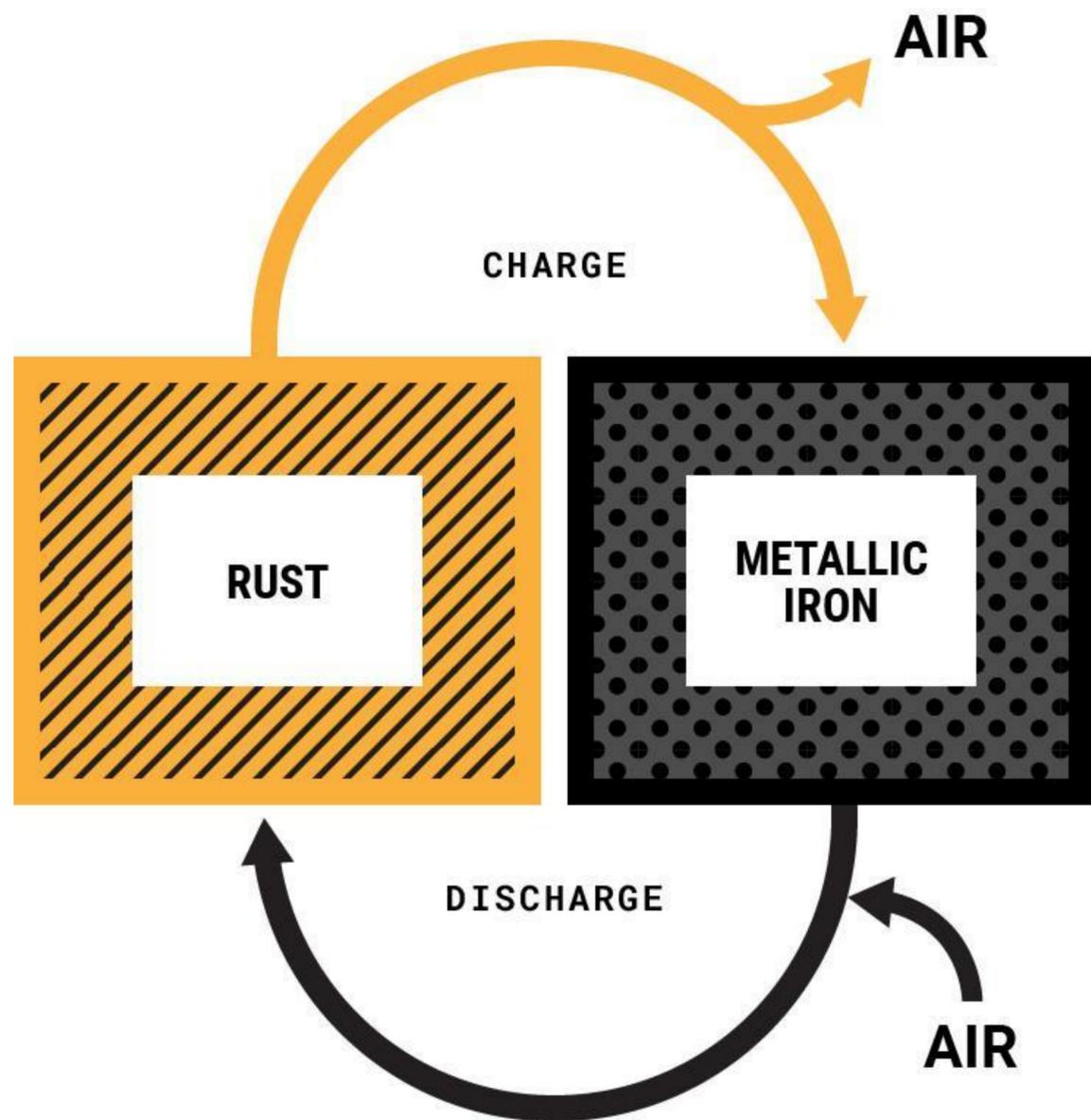
# Long Duration Energy Storage is the Key

LDES moves beyond today's li-ion technology to inter-day and multi-day storage



# Rechargeable iron-air is the best technology for multi-day storage

## Form's 100-Hour Reversible Rust Battery



### COST

Lowest cost rechargeable battery chemistry.  
Less than 1/10th the cost of lithium-ion batteries



### SAFETY

Non-flammable aqueous electrolyte. No risk of thermal runaway.



### SCALE

Uses materials available at the global scale needed for a zero carbon economy. High recyclability.



### DURABILITY

Iron electrode durability proven through decades of life and 1000's of cycles

# What makes up a Form Energy system

Modular design enables easy scaling to GWh systems

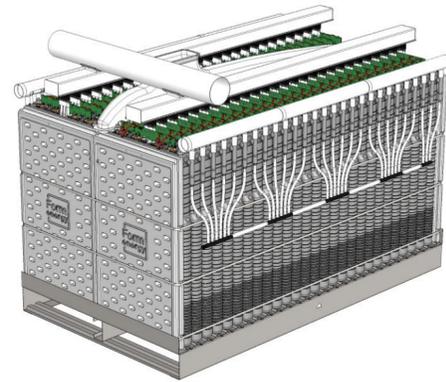
## Cell



Electrodes + Electrolyte

Smallest **Electrochemical** Functional Unit

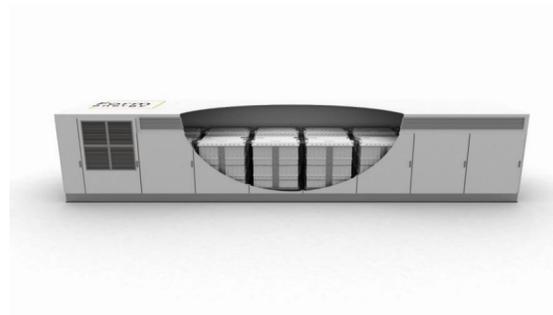
## Battery Module



~50 **Cells**

Smallest Building Block of **DC** Power

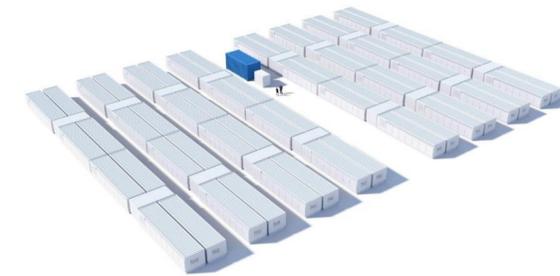
## Enclosure



~5 **Modules**

Product Building Block with **integrated module auxiliary systems**

## Power Block



~**3.5 MW / 350 MWh**

<2 acres

~50 - 100 **Enclosures**

Smallest independent system and **AC Power** building block

## System



**10 MW / 1000 MWh**

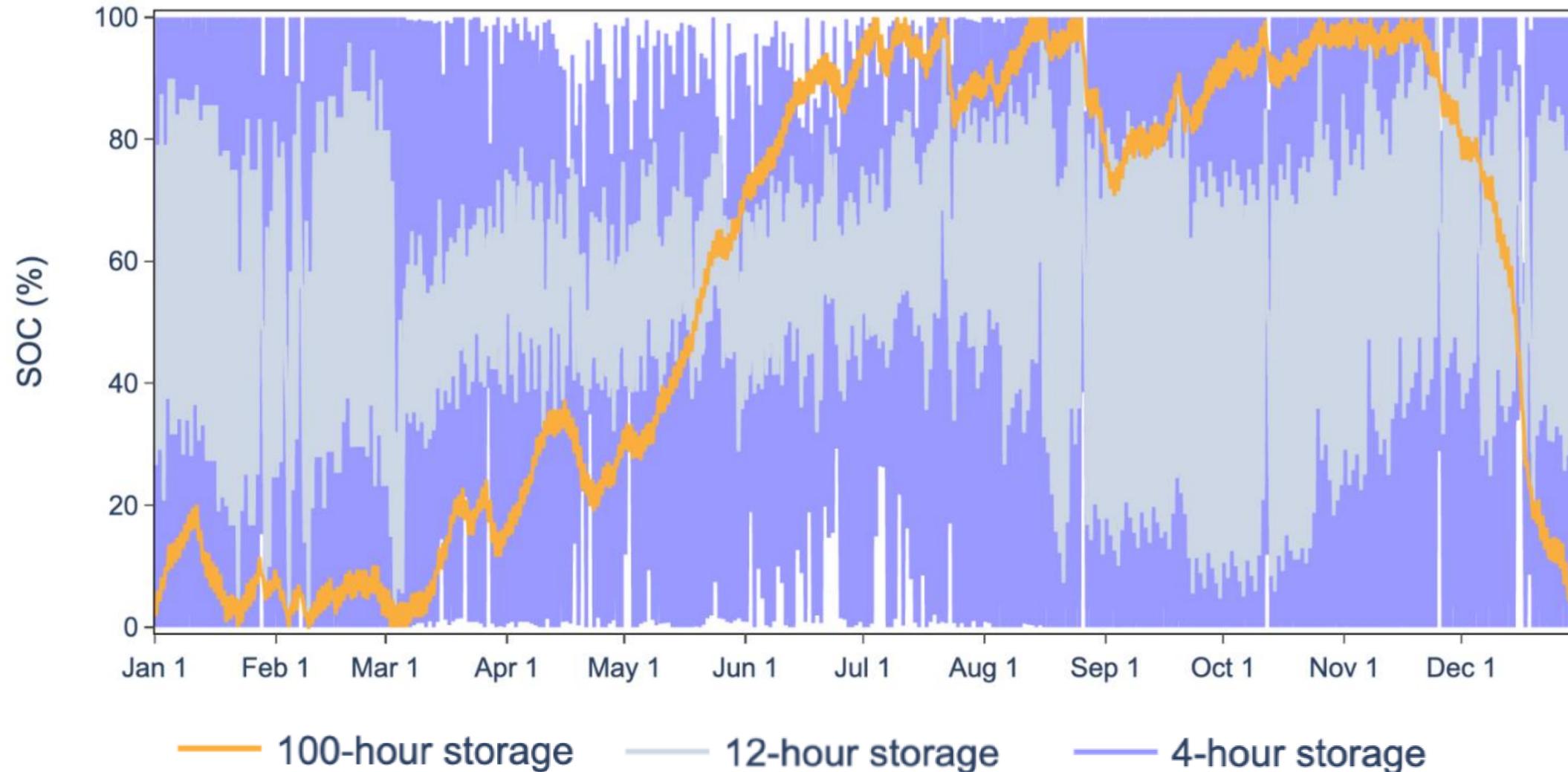
5+ acres

10s - 100s of **Power Blocks**

Commercial Intent System

# Multi-day storage, mid-duration storage, and lithium ion batteries provide different grid functions

Battery cycling in California's SB100-compliant grid

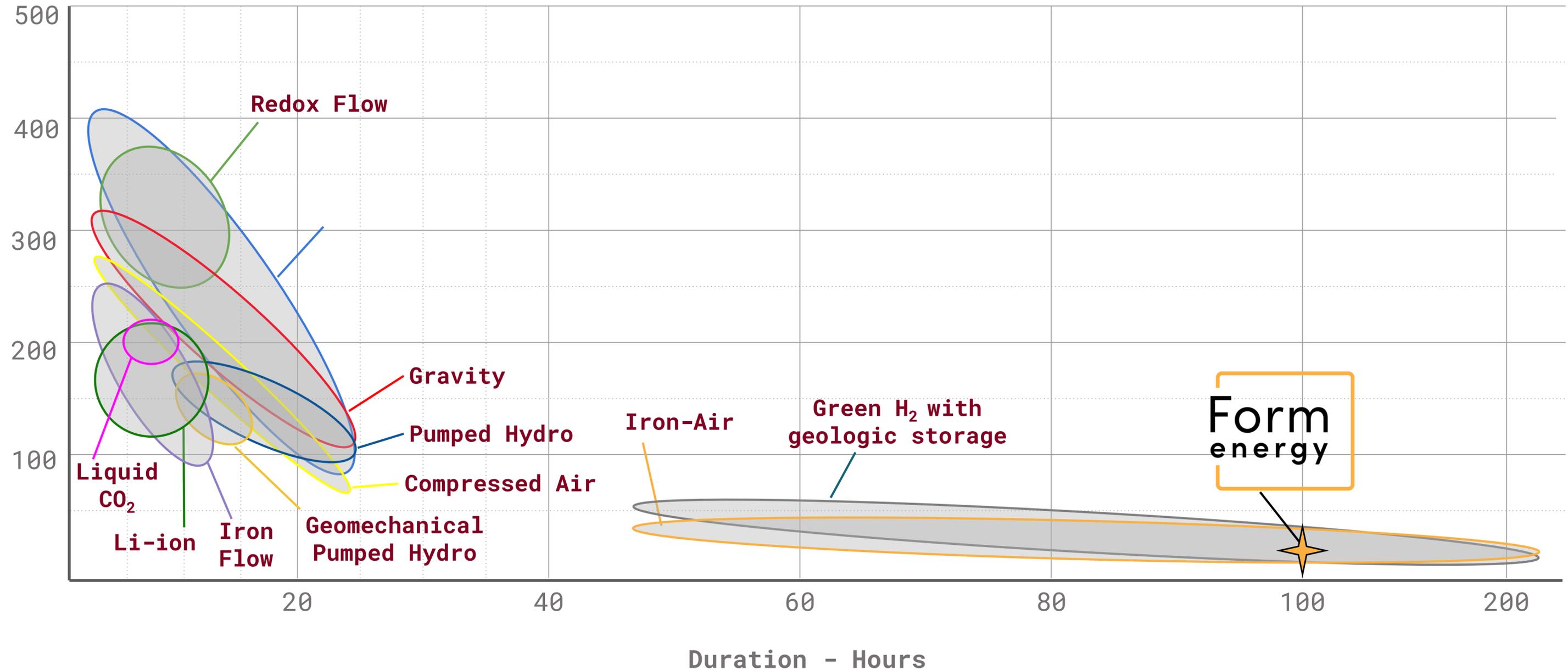


Short- and medium-duration storage provide daily balancing for meeting ramps and hitting peaks.

Multi-day storage provides intra-day, multi-day, and seasonal energy balancing, supplying reliability needs unmet by short- and medium-duration storage.

# Form's iron-air battery is the only technology targeting multi-day duration without geographic constraints

2030 Installed Cost - \$/kWh



# Form Factory 1: Commercial-Scale Manufacturing

Transforming Weirton Steel Land for Battery Manufacturing in West Virginia



- **Total Local Investment:** \$760 million
- **Construction Start:** Early 2023
- **Production Start:** Late 2024
- **Jobs:** Minimum of 750 full-time jobs

## Location Benefits

- Close to our existing pilot manufacturing facility in PA
- Strong natural infrastructure
- Local manufacturing know-how

## Factory Function

- Semi-to-fully automated cell, module, & enclosure assembly
- Ability to scale production in modular blocks

# Over 5 GWh of Commercial Engagements



First-of-its-kind **1.5 MW / 150 MWh** MDS project in Cambridge, Minnesota to come online in 2024



**Two 10 MW / 1,000 MWh** MDS systems; one in Becker, MN and one in Pueblo, CO. Both expected to come online as early as 2025



**5 MW / 500 MWh** MDS system in collaboration with the California Energy Commission in Mendocino County; online by 2025



**10 MW / 1000 MWh** MDS system in New York to come online as early as 2025



**15 MW / 1500 MWh** MDS system in Georgia to come online as early as 2026



**5 MW / 500 MWh** MDS system in Virginia to come online as early as 2026