Achieving the DOE Long Duration Storage Shot

Nidhi Thakar, VP of Policy and Regulatory
Rising to the challenge of climate change with a team that will deliver

LED BY ENERGY STORAGE VETERANS

Decades of cumulative experience in energy storage

- 100’s of MW of storage deployed

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

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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 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

<table>
<thead>
<tr>
<th>Cell</th>
<th>Battery Module</th>
<th>Enclosure</th>
<th>Power Block</th>
<th>System</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrodes + Electrolyte</td>
<td>~50 Cells</td>
<td>~5 Modules</td>
<td>~3.5 MW / 350 MWh</td>
<td>10 MW / 1000 MWh</td>
</tr>
<tr>
<td>Smallest Electrochemical Functional Unit</td>
<td>Smallest Building Block of DC Power</td>
<td>Product Building Block with integrated module auxiliary systems</td>
<td>&lt;2 acres</td>
<td>5+ acres</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>~50 - 100 Enclosures</td>
<td>10s - 100s of Power Blocks</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Smallest independent system and AC Power building block</td>
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</tbody>
</table>
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.
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