



Long Duration Energy Storage Systems for a Cleaner Future

November 2023



Disclaimers

This presentation includes forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended (the "Securities Act") and Section 21E of the Securities Exchange Act of 1934, as amended (the "Exchange Act"). These forward-looking statements can be identified by the use of forward looking terminology, including the words "believes," "estimates," "anticipates," "expects," "intends," "plans," "possible," "may," "might," "will," "potential," "projects," "predicts," "continue," "could," "would" or "should," or, in each case, their negative or other variations or comparable terminology. These words and similar expressions may identify forward-looking statements, but the absence of these words does not mean that a statement is not forward-looking. These forward-looking statements, which are subject to risks, uncertainties and assumptions about us, may include projections of our future financial performance, our anticipated growth strategies and anticipated trends in our business. These statements are based on management's current expectations, but actual results may differ materially due to various factors, risks, and uncertainties, including, but not limited to: our financial and business performance, including financial projections and business metrics; changes in our strategy, future operations, financial position, estimated revenues and losses, projected costs, prospects and plans; the implementation, market acceptance and success of our technology implementation and business model; our ability to scale in a cost-effective manner; developments and projections relating to our competitors and industry; our expectations regarding our ability to obtain and maintain intellectual property protection and not infringe on the rights of others; our future capital requirements and sources and uses of cash; our ability to obtain funding for our operations; our business, expansion plans and opportunities; our relationships with third-parties, including our suppliers, customers, and partners; issues related to the shipment and installation of our products; issues related to customer acceptance of our products; the outcome of any known and unknown litigation and regulatory proceedings; and other risks and uncertainties discussed elsewhere in our public filings. The forward-looking statements contained in this report are based on our current expectations and beliefs concerning future developments and their potential effects on us. There can be no assurance that future developments affecting us will be those that we have anticipated. These forward-looking statements involve a number of risks, uncertainties (some of which are beyond our control) and other assumptions that may cause actual results or performance to be materially different from those expressed or implied by these forward-looking statements. Should one or more of these risks or uncertainties materialize, or should any of our assumptions prove incorrect, actual results may vary in material respects from those projected in these forward-looking statements. We undertake no obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise, except as may be required under applicable securities laws. These risks may not be exhaustive. By their nature, forward-looking statements involve risks and uncertainties because they relate to events and depend on circumstances that may or may not occur in the future. We caution you that forward-looking statements are not guarantees of future performance and that our actual results of operations, financial condition and liquidity, and developments in the industry in which we operate may differ materially from those made in or suggested by the forward-looking statements contained in this report. In addition, even if our results or operations, financial condition and liquidity, and developments in the industry in which we operate are consistent with the forward-looking statements contained in this report, those results or developments may not be indicative of results or developments in subsequent periods.

All rights to the trademarks, copyrights, logos and other intellectual property listed herein belong to their respective owners and ESS's use thereof does not imply an affiliation with, or endorsement by the owners of such trademarks, copyrights, logos and other intellectual property. Solely for convenience, trademarks and trade names referred to in this Presentation may appear with the ® or ™ symbols, but such references are not intended to indicate, in any way, that such names and logos are trademarks or registered trademarks of ESS.

Any financial and operating forecasts and projections contained herein represent certain estimates of ESS as of the date thereof. ESS's independent public accountants have not examined, reviewed or compiled the forecasts or projections and, accordingly, neither expresses an opinion or other form of assurance with respect thereto. ESS and its management team cannot give any assurance that the forecasts or projections contained herein accurately represent ESS's future operations or financial conditions. Such information is subject to a wide variety of significant business, economic and competitive risks and uncertainties, including but not limited to those set forth above that could cause actual results to differ materially from those contained in the prospective financial information. Accordingly, there can be no assurance that the prospective results are indicative of the future performance of ESS or that actual results will not differ materially from those presented in the prospective financial information. Some of the assumptions upon which the projections are based inevitably will not materialize and unanticipated events may occur that could affect results. Therefore, actual results achieved during the periods covered by the projections may vary and may vary materially from the projected results. Inclusion of the prospective financial information in this presentation should not be regarded as a representation by any person that the results contained in the prospective financial information are indicative of future results or will be achieved.

This Presentation contains statistical data, estimates and forecasts that are based on independent industry publications or other publicly available information. This information involves many assumptions and limitations and you are cautioned not to give undue weight to these estimates. We have not independently verified the accuracy or completeness of the data that has been contained in these industry publications and other publicly available information. Accordingly, neither ESS nor its respective affiliates and advisors makes any representations as to the accuracy or completeness of these data. This Presentation contains references to ESS's achievements compared to other companies. All of such references are based on the belief of ESS's management based on publicly available information known to ESS's management.

The financial information and data contained in this Presentation is unaudited and does not conform to Regulation S-X promulgated under the Securities Act of 1933, as amended. This Presentation also includes non-GAAP financial measures, including gross margin, non-GAAP operating expenses and Adjusted EBITDA. ESS believes that these non-GAAP measures of financial results provide useful information to management and investors regarding certain financial and business trends relating to ESS's financial condition and results of operations. ESS's management uses certain of these non-GAAP measures to compare ESS's performance to that of prior periods for trend analyses and for budgeting and planning purposes. Not all of the information necessary for a quantitative reconciliation of these forward-looking non-GAAP financial measures to the most directly comparable GAAP financial measures is available without unreasonable efforts at this time. Specifically, ESS does not provide such quantitative reconciliation due to the inherent difficulty in forecasting and quantifying amounts necessary for such reconciliations.



ESS Technology is Commercially Available Today



Large and
fast-growing TAM



Simple, yet
revolutionary technology



Compelling
value proposition



Low risk
expansion plan



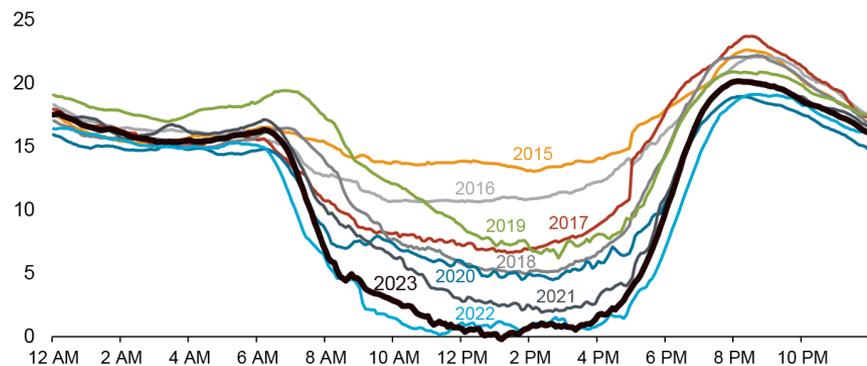
Considerable pipeline
of opportunities



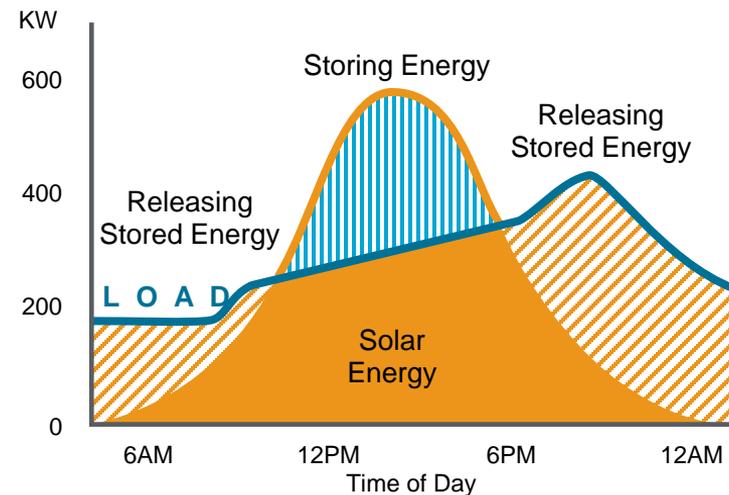
Renewable Penetration Drives Further Storage Needs

Duck Curve Evolution Shows Sharp Ramp Needs and Overgeneration Risk

CAISO lowest net load day each spring (March – May, 2015 - 2023), gigawatts



Energy Shift to Evenings Using Long Duration Storage



Lack of storage caused more than 2 TWh to be wasted in 2022 in California alone



140 TWh of Long Duration Energy Storage Needed

COP 26: Major global report by McKinsey declared that LDES is key to energy transition

- LDES sits between lithium batteries and hydrogen
- LDES defined as two categories: 8-24h and >24h storage
- Lithium will continue to play a role for <6h but not appropriate for longer durations

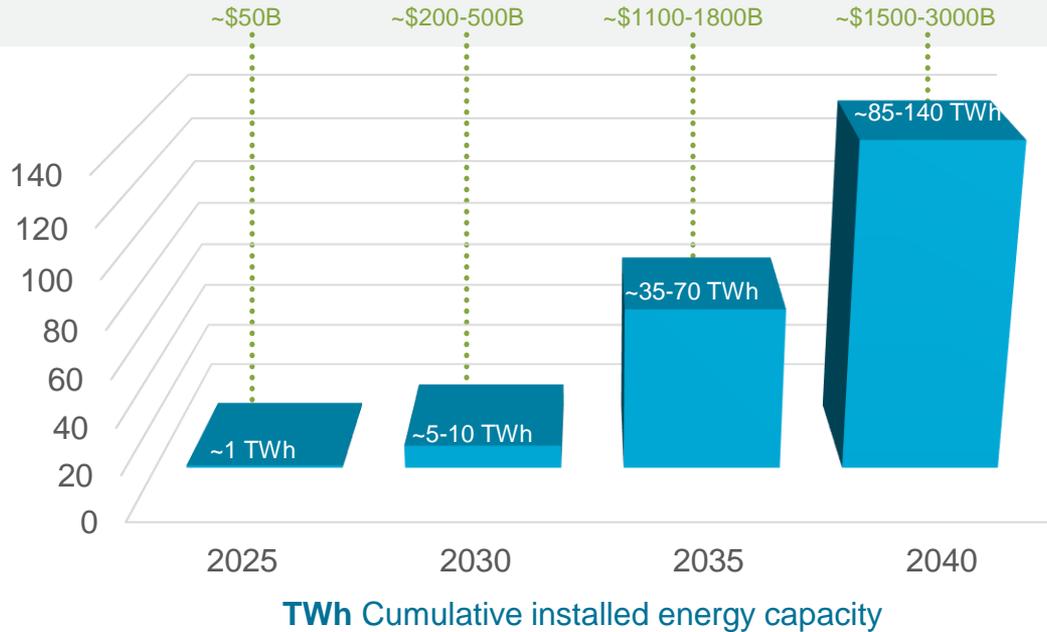


Catalyzing a Clean Future. Every Day.



More information www.ldescouncil.com

LDES to Receive Up To \$3T in Cumulative Investment by 2040



1 TWh = 1 million MWhs

USD bn Cumulative capex investment

**\$3 Trillion investment
in energy storage
required by 2040**

With LDES, total energy
system costs can go down

Renewable power with
LDES can be cost effective



Significant Market Tailwinds Building Momentum

EnergyPortal.eu

The Inflation Reduction Act Boosts Clean Energy Manufacturing in the U.S.



Flow battery player ESS Inc:
'Bringing home the idea of green baseload'



Battery storage sector prepares for first wave of large-scale project augmentations

BloombergNEF

Global Energy Storage Market to Grow 15-Fold by 2030

S&P Global

Market Intelligence

Battery innovators play long game to break lithium's lock on energy transition



Europe smashes new record for battery storage capacity

UTILITY DIVE

New York's plan to expand storage capacity to 6 GW by 2030 includes centralized procurement method



Australia's Victoria to invest \$100 million in energy storage in push to cut emissions



US utility-scale battery storage industry deployed 4GW/12GWh in record-breaking 2022

U.S. Annual and Cumulative Utility-Scale Clean Power Capacity Growth



ESS a Leader in Long-Duration Storage

S&P Global

Market Intelligence

Battery innovators play long game to break lithium's lock on energy transition

BARRON'S

Honeywell Invests in Battery Storage
This Start-Up's Stock Is Soaring.



ESS Recognized as Leading American Clean Technology Exporter by U.S. Department of Commerce

Solar Power World

New battery tax credits create opportunities for U.S. manufacturers and installers



Flow battery player ESS Inc. 'Bringing home the idea of green'



US industrial giant backs iron flow batteries in long duration storage push



ESS Commissions First Iron Flow Battery Deployment for Sacramento Municipal Utility District



Honeywell invests \$27.5M to advance iron-flow battery storage



Countdown to clean: Dwindling fossil fuels in a greener European future

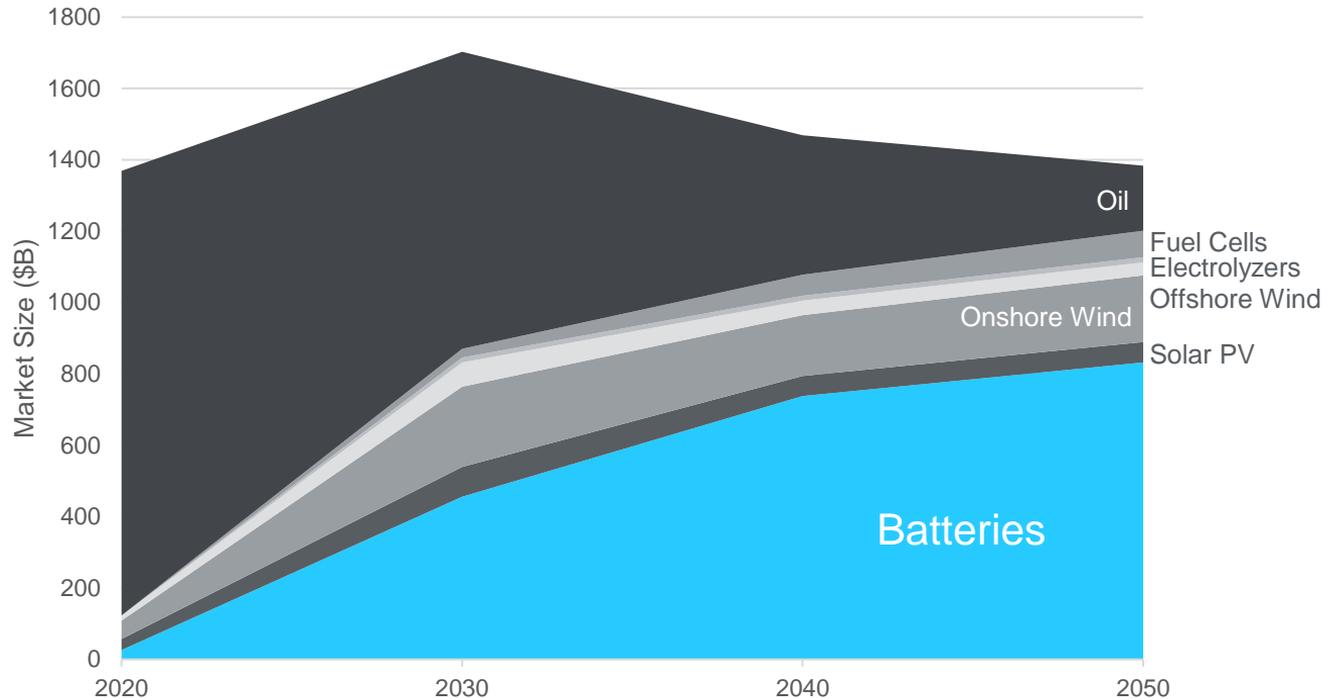
New Partnership Between ESS Inc. and Honeywell Fuels Growth in Energy Storage Industry



Catalyzing a Clean Future. Every Day.

Batteries are a BIG Part of the Solution

Projected market size of energy technologies to reach zero emissions



Challenges Face the Grid Storage Incumbent: Li-ion

THE WALL STREET JOURNAL.

Rising Battery Prices Add Uncertainty to Electric-Vehicle Costs

Demand for lithium outstrips supply, ending yearlong price declines

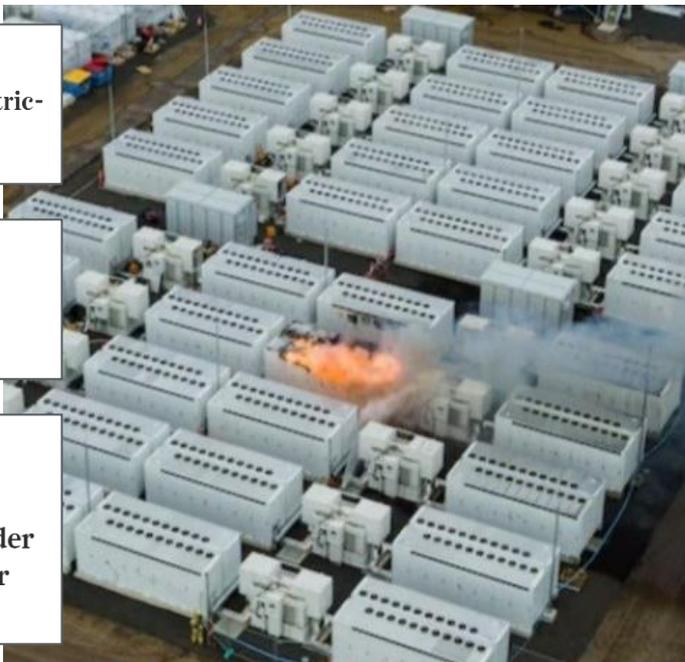
Bloomberg

California's Largest Battery Storage Shut Down by Smoke, Again

- Vistra closes 100-megawatt facility after system malfunction
- Incident comes less than six months after previous shutdown

silive.com

As 2 lithium-ion battery site fires smolder in Warwick, more questions raised over Staten Island facilities



ESS has received increased inbound opportunities due to Li-ion uncertainty



Global Deployment of ESS Projects



More On Stanwell [Here](#)



Catalyzing a Clean Future. Every Day.

ESS & **Honeywell**: A Category-Defining Relationship

Broad ranging strategic relationship to redefine the Long-Duration Energy Storage (LDES) category

Accelerates technology innovation and value creation through the energy transition

Validates ESS's proprietary iron flow technology as market-leading LDES technology



Investment and Global Collaboration to Drive Growth

Investment

Strategic Investment

Honeywell has invested \$27.5M into ESS common stock at premium to current price

Market and Product Collaboration

Go-To-Market

Honeywell purchase target of up to \$300M of ESS products, \$15M prepaid

Combined Intellectual Property

ESS receives exclusive license of Honeywell IP related to flow batteries

Joint Innovation

ESS and Honeywell will collaborate on further technology advancement



Commercial Traction: Large, Signed Supply Agreements



Customer	Background	Deal Details	Status
Sacramento Municipal Utility District	<p>Large, CA-based utility serving 1.5 million electricity customers</p> <p>Aggressive decarbonization targets</p>	<p>Shipped first phase</p> <p>Developing LDES Center of Excellence</p> <p>Enabling 2030 Zero Carbon Plan – 2GWh of storage by 2028</p>	<p>Six EWs onsite</p> <p>Commissioning in process</p>
Energy Storage International – Asia Pacific	<p>ESI is our distribution and manufacturing partner in AU/NZ/Oceania</p>	<p>Expected to deliver 1GWh of iron flow batteries over the next 7 years</p>	<p>Initial delivery complete to Stanwell</p> <p>Recently announced project with Energy Queensland</p>
LEAG	<p>Currently operating large-scale lignite mining and coal-fired generation</p> <p>Transforming the coal-dependent region into Germany’s green powerhouse</p>	<p>Initial 50MW / 500MWh iron flow battery system</p> <p>Expected to provide building block for LEAG’s planned 2-3GWh of LDES</p>	<p>Finalizing first phase of contract</p> <p>Deployments beginning in 2027</p>



Commercial Traction: Deals with Large Upside



Customer

Background and Deal Details

Broader Opportunity

Turlock

Pairing storage with solar that will cover CA aqueducts, providing multiple benefits

Demonstration of new solar storage for grid firming and evening arbitrage

20-50MW by 2030

Excess solar to capitalize in ISO for peak shifting

Part of Project Nexus designed to prove use case of storing excess solar over state and utility aqueducts

Schiphol

Large European airport; leading the way to decarbonize ground operations as part of the TULIPS consortium

Targeting emission-free and zero-waste at the EU's 300+ airports by 2030 and climate-neutral aviation by 2050

Consumers Energy

Microgrid powering the White Pigeon Gas Compression Facility

Potential for 7MW of IFB deployments across all seven gas compression plants

Burbank Power & Light

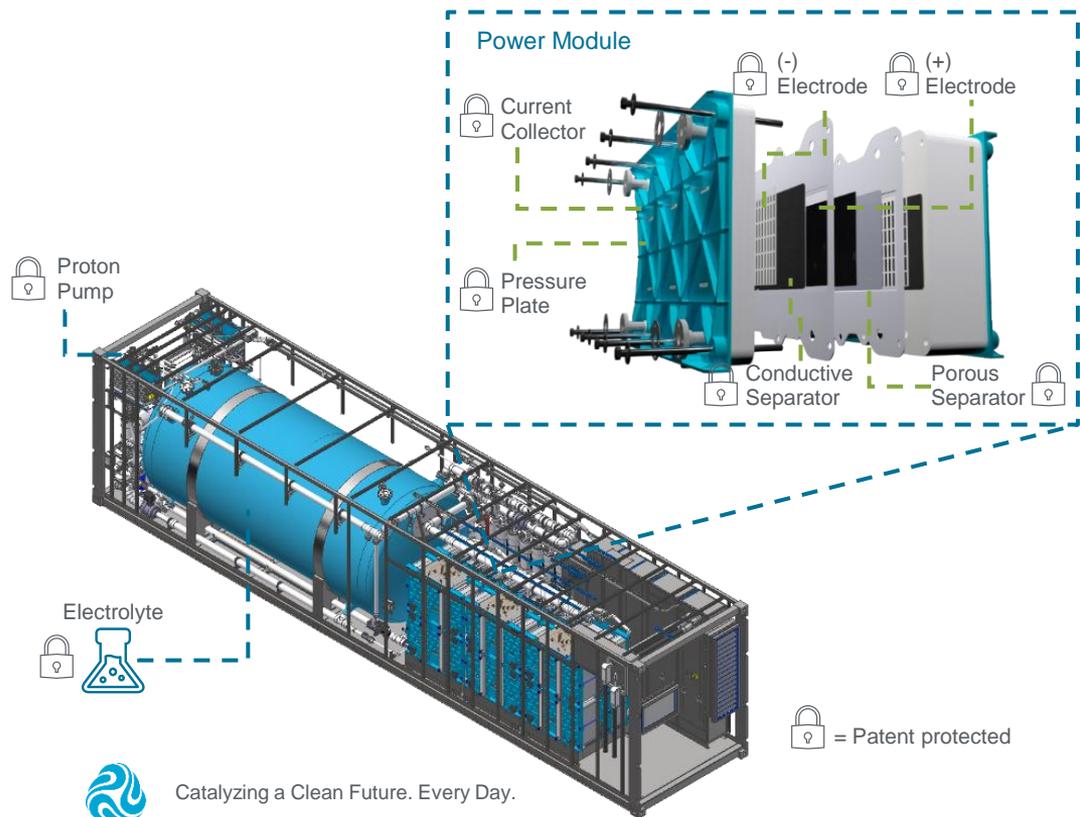
Renewable energy integration

5MW by 2028 as part of decarbonization efforts

Model for public power market



Differentiated Iron Flow Design and IP Protected



ESS IP portfolio

- 235 patents granted and in pipeline pending applications
- Undisclosed number of trade secrets and identified patents
- World-leading iron flow expertise and roadmap to additional breakthroughs and advantages
- ~44% employees have an engineering background

Scalable by simply adding more electrolyte

- Same system + more electrolyte = longer duration



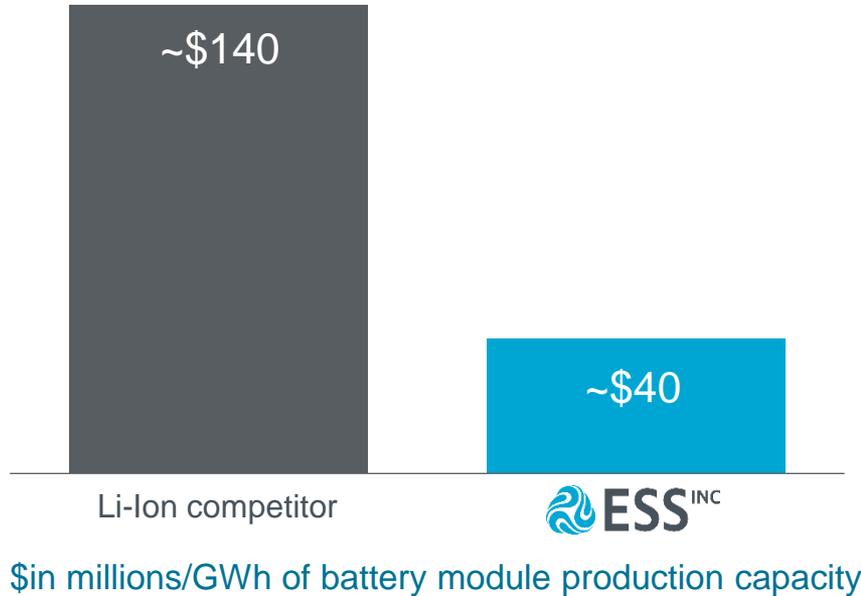
ESS Benefits

What Customers Demand		How ESS Transforms the Grid
 <p>Longer duration</p>	<ul style="list-style-type: none"> • Up to 12 hours • No capacity fade • No power fade 	 <ul style="list-style-type: none"> • Can replace coal and gas with solar and wind • Designed for utility-scale applications
 <p>Low cost</p>	<ul style="list-style-type: none"> • Lower LCOS than other technologies • No augmentation required 	 <ul style="list-style-type: none"> • The first truly low-cost flow battery • In commercial production today
 <p>Power on demand</p>	<ul style="list-style-type: none"> • 25-year lifetime with no daily cycling limit • No degradation • Flexibility allows multiple revenue streams 	 <ul style="list-style-type: none"> • Improved grid resiliency and flexibility • Enables multiple use cases
 <p>Safety, reliability, and bankability</p>	<ul style="list-style-type: none"> • Conforms to UL 1973, UL 9540, UL9540A, NFPA 855 (Energy Warehouse) • Wide operating temperature range • Munich RE insures technology risk 	 <ul style="list-style-type: none"> • Can deploy in a wide range of geographies • No HVAC needed – cuts CAPEX and OPEX
 <p>Sustainability</p>	<ul style="list-style-type: none"> • Safe and sustainable • Easily sourced materials; recyclable components • “Plug and play” with 25-year design life 	 <ul style="list-style-type: none"> • Environmentally sustainable • Accelerates clean energy transition



70%+ Less Capital Required – Ready to Scale Globally

Simple, low-cost production in the USA



VS



Energy Warehouse™ Overview



- First commercial deployment in 2015
- Generation II launched in 2020
- Containerized, fully-integrated design
- Fast to deploy and commission

Specifications

Nominal Power	75 kWdc
Max Discharge Energy Capacity	500 kWhdc at electrolyte temperature of 50°C
Rated Discharge Energy Capacity	400 kWhdc at electrolyte temperature of 50°C
Ambient Temperature	0°C to +40°C rated power; derated power +40°C to +50°C
Expected Life	25-year design life with no degradation
Warranty	1-year comprehensive defect warranty Optional 10-year extended warranty on core components
Certifications	Conforms to UL 1973, UL 9540, UL9540A, NFPA 855



Energy Center Overview

Power Container



Tank Container

- Front-of-the-meter solution
- Production begins Q4 2023
- Modular design for utility-scale applications



Specifications

Configurable Range	Customizable up to GW scale; 145 kWdc increments
Rated Capacity	8 MWhdc per MW installed
Total Capacity	9.6 MWhdc per MW installed
Ambient Temperature	-5°C to +40°C rated power; derated power +40°C to +45°C
Expected Life	25-year design life
Secondary Containment	Integrated into tank container to volume of largest tank
Warranty	1-year comprehensive defect warranty 10-year extended warranty on core components
Certifications	Conforms to UL 1973, UL 9540 (pending), UL9540A (pending)



Our 2023 Operational Focus

01

Scaling manufacturing capacity, including automation and injection molding processes



02

Improving supply chain quality and outsourcing non-core components



03

Optimizing product designs through simplification of electrical and plumbing installations

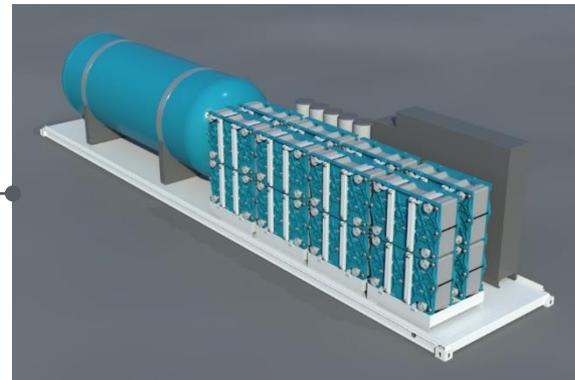


04

Reducing time to commission solutions at client sites



Four Major Technologies of the EW



**Battery Modules
(Stacks)**
Intellectual property that
differentiates ESS
Generates the electricity
More complex build processes

Proton Pumps
Intellectual property that
differentiates ESS
Keeps the iron flow battery
electrically balanced
Moderate build complexity

Electrolyte
High-grade iron,
salt, and water
Mixture simple
to combine

Balance of System (BoS)
Necessary componentry to make the
other three work together
Low build complexity, many parts –
like a giant washing machine
Great benefits in streamlining assembly

Orchestrating these four technologies into a single system



Energy Warehouse Product Improvements

Simplifying Plumbing Design Dramatically Lowers Cost and Assembly Time



Piping / fitting /
union / flange reduction



Electrical wiring and
component reduction

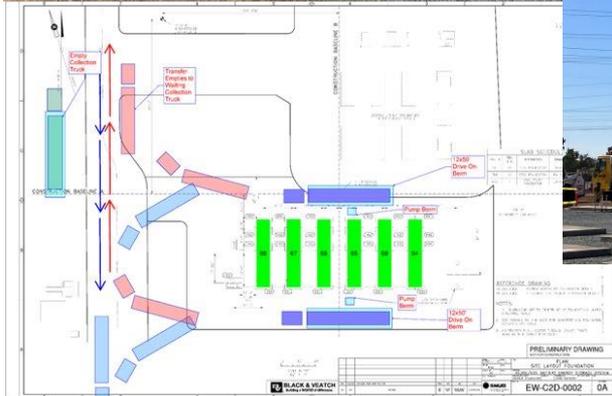


Q3 Design Update – Lowers Labor By 38% and Material Cost By 21%

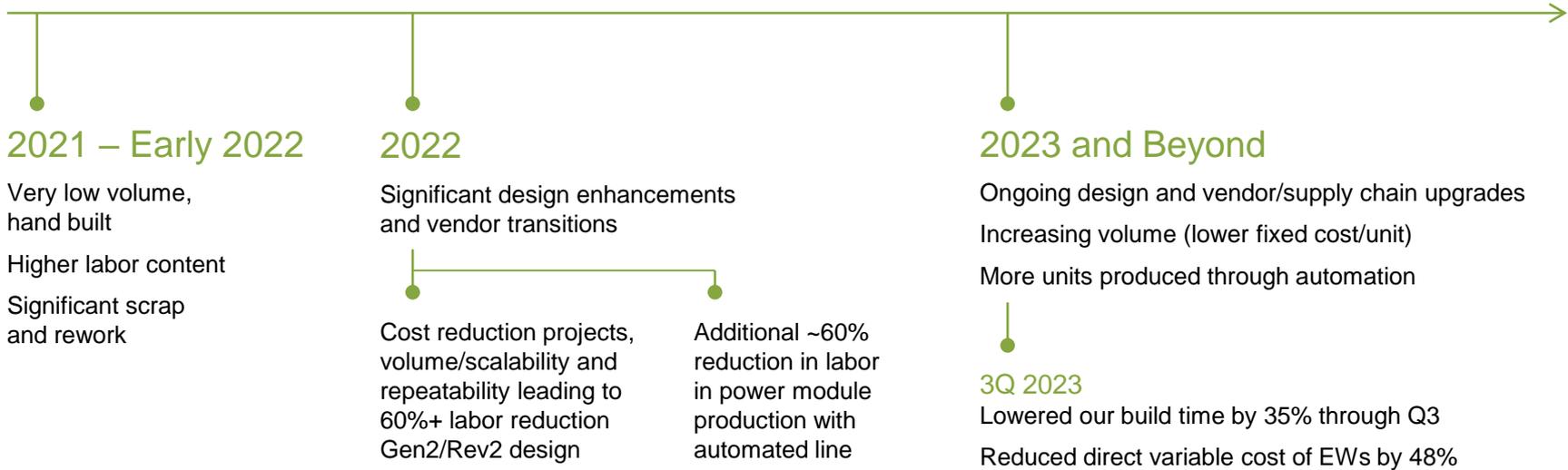


SMUD Startup – Six EWs Commissioned in <6 weeks

- Well-Defined Mobilization Plan
- Partnered with EPC and Customer on Division of Responsibility
- Site Lead drove consistent process and daily progress reviews.
- Large deployments staffed by ESS Team Leads with EPC trained techs to scale



Path to Profitability



Target: Non-GAAP gross margin profitable by H2'24 for EWs



Q3 Results

Revenue

\$1.5 million

Non-GAAP Operating Expenses

\$7.5 million

Adjusted EBITDA

Loss of \$14.2 million, improvement
of \$6.3 million sequentially

Cash and short-term investments

\$124.5 million,
improvement of \$25 million
sequentially





Thank You



Appendix

LCNRV – Impact on Cost per Unit Over Time

LCNRV is a standard accounting term that is applicable to all companies. It is more predominant in the results of early stage companies that are ramping their manufacturing operations. Its calculation involves adjusting the value of inventory on hand to the value the products can be sold for, with the adjustment expensed to Cost of Revenue.

Our manufacturing capacity can support far more throughput than we are currently utilizing. This results in much higher overhead per unit and LCNRV adjustment

