

Energy Base



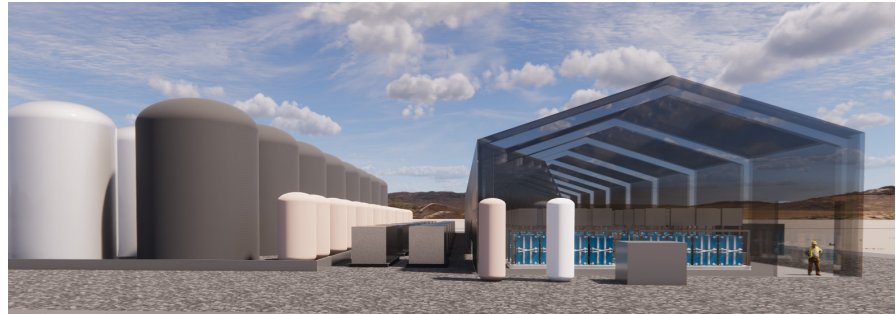
Gigawatt-scale, long-duration energy storage is ready for your next project.

Features

- Long-duration iron flow technology
- Gigawatt-hour storage capacity
- 8+ hours of discharge at rated power
- Scalable solution for grid-scale applications
- Flexible and addresses multiple operating use cases
- Fully configurable layout that seamlessly integrates with any site location

Benefits

- 25-year design life
- No thermal runaway = minimal fire risk in comparison to other technologies
- Safe and sustainable materials that are predominately reusable or recyclable
- No power or energy degradation regardless of duty cycle
- Low Total Cost of Ownership (TCO) as compared to other LDES technologies



Introducing the Energy Base

ESS' latest long-duration energy storage (LDES) solution is redefining energy storage, with industry-leading design and operational flexibility to cost-effectively meet customer needs. Each Energy Base project leverages ESS' proven core technologies to deliver the power, energy and layout customers need. Its modular architecture and the inherent safety of ESS iron flow technology enable compliance with safety regulations and community guidelines, providing peace of mind for all stakeholders involved.

Powered by the Iron Core

At the heart of this innovative system lies a modular building block known as the Iron Core. Each Iron Core incorporates ESS' proven battery modules and core technology. ESS partners with customers and contractors to cost-competitively deploy pre-established, standardized configurations to meet a customer's needs. The Iron Core was engineered to deliver the gigawatt-scale storage capacity that the grid needs.



Energy Base

Customizable, scaleable and upgradable

ESS has worked closely with leading engineering firms to develop standard, cost-effective design parameters that enable deployment of gigawatt-scale storage. Energy Base projects can be customized to minimize visual impact and deliver at least 100 MWh/acre energy density. The Energy Base platform is designed to deliver gigawatts of long-duration energy storage in harmony with the new energy landscape.

Unparalleled flexibility

The Energy Base allows the power (the rate of electricity flow) to be decoupled from the capacity (the total amount of energy held). This, combined with unlimited cycling and rapid response time, means that the performance of each Energy Base can be tailored to meet individual customer needs. As a result, users have the flexibility to use the battery for various use cases simultaneously on a project.

Specifications

Features

Configurable Range	Customizable up to GW scale
Nominal Discharge Power	400 kW per core
Nominal Energy Capacity	8 / 10 / 12+ Hours
Response Time	< 1 second, depending on operation mode
Expected Life	25-year design life
Module Cycle Life	>20,000 cycles
Secondary Containment	Integrated into site design
Communication	24/7 remote monitoring (MODBUS TCP/Ethernet interface to EMS/SCADA)
Certification	Conforms to UL 1973, UL 9540 (pending), UL9540A (pending)

Environmental

Battery	Reusable or recyclable components
Electrolyte	FeCl ₂ , KCl, H ₂ O; re-usable, recyclable
Ambient Temperature	-40°C to +50°C (-40 °F to +122°F) operating range dependent upon site-specific design.
Warranty	1-year comprehensive defect warranty; Extended warranty available

Economics

- Low Total Cost of Ownership
- Bankable Warranty

Durability

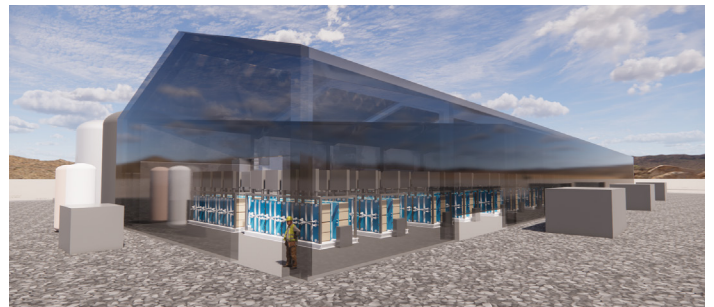
- No Capacity Fade
- No Cycling Limit

Performance

- Wide Operating Temperature Range
- Water-based, NFPA 855 Compliant

Safety

- Safe And Sustainable
- No Thermal Runaway



Warranty partner



ESS Tech, Inc. has partnered with Munich RE to launch industry first insurance coverage for its flow batteries. The innovative policy means our long-duration storage solutions are now available for backing by a full 10-year performance guarantee, regardless of project size or location.

For more information, contact



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