

Advantages of Iron Flow Technology for the Public Power Market



ESS long-duration energy storage solutions are:



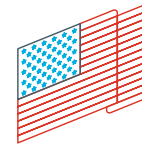
Safe and sustainable



Flexible and scalable



Easy to site and permit



Made in America



Up to 12 hours of long-duration energy storage

Jobs and economic benefits to local and disadvantaged communities

Safe

ESS storage solutions are safe, so they can be deployed anywhere they're needed, from densely populated neighborhoods to regions prone to wildfires and earthquakes.

- Non-flammable electrolyte without the same toxicity risks as other technologies
- No risk of thermal runaway
- Easily neutralized, sustainable materials
- Simplified hazmat compliance
- Core technologies have UL 1973 and UL 9540A safety certifications
- The Energy Center (EC)[™] has IEEE 693 seismic certification

Burbank Water & Power

Burbank, California

75kW / 500kWh ESS Energy Warehouse (EW)[®] connected to a 265kW solar array on the BWP EcoCampus.

Once fully operational, it will provide power equivalent to the consumption of ~300 homes and will demonstrate the critical role of iron flow technology in a renewable, resilient energy system.

LDES will play a critical role in achieving California's ambitious decarbonization goal: 100% zero-emission electricity by 2045. The California Energy Storage Alliance estimates that the state will need 13,571 MW of LDES by 2028 to integrate intermittent renewable energy and optimize assets for a cleaner, more affordable and reliable grid.

Long-duration energy storage and grid decarbonization

"This project represents a major step toward achieving our goal of 100% carbon free power by 2040. The Energy Warehouse[™] battery will enable our team to gain experience with iron flow long-duration energy storage technology which will be a linchpin of the renewable grid of the future."

Mandip Samra
General Manager, BWP



Flexible

ESS storage solutions provide flexibility to maximize their value in various applications.

- Long duration – up to 12 hours of energy storage
- Maximize value with revenue stacking
- Unlimited cycling without degradation or capacity fade
- Enables transmission and distribution deferrals
- Simple siting and fast permitting
- Operates at a wide range of temperatures
- Scalable for a wide range of energy needs

Sustainable

ESS storage solutions are sustainable to source, build, and operate, minimizing supply chain risk and climate impact.

- Made with easy-to-source iron, salt, and water
- Lowest lifecycle carbon footprint among competing storage technologies
- Secure supply chain of domestically available materials
- Substantially recyclable or reusable at end-of-life



Schiphol Airport

Amsterdam, Netherlands

Clear the air at one of the busiest airports in Europe

Electrify airside ground operations and recharge E-GPUs to replace diesel gensets.

Improves air quality and iron-flow battery technology is safe for use near passenger airplanes.

SMUD

Sacramento, California

Enabling 2030 Zero Carbon Plan – 2 GWh by 2028

Standalone LDES storage for large-scale renewable integration.

DER for community resiliency and environmental justice.

Safe and sustainable technology can be sited near communities most in need of reliable energy.

Unlimited cycling and long-duration enables elimination of fossil fuel generation.



Cost-Effective

ESS storage solutions are cost-effective, accelerating their adoption in the market

- Competitive total cost of ownership over 25-year design life
- ESS is driving down cost curve with the EC, with line of sight to achieve the DOE's LDES cost target of \$0.05 / kWh by 2030
- Fully automated production line improves manufacturing efficiency and consistency, moving ESS toward economies of scale in production



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