

The Rise of Chlorine Flow Batteries: A Game-Changer for Stationary Grid-Scale Energy Storage

The Rise of Chlorine Flow Batteries: Stationary Grid-Scale Energy Storage Based on Membrane Free Saltwater

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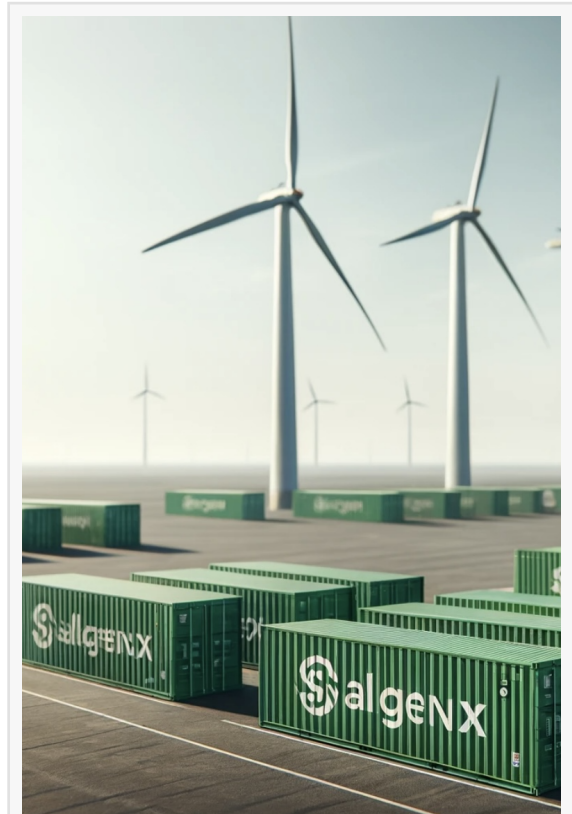
/EINPresswire.com/ -- In a significant advancement for the energy sector, [Salgenx](#) unveils its latest innovation in energy storage technology – the chlorine flow battery system utilizing sodium chloride (NaCl) as an electrolyte. This pioneering technology is setting a new standard for cost-effective and efficient energy storage solutions, ideal for supporting the increasing shift towards renewable energy sources.

Chlorine flow batteries introduce a membrane-free design, simplifying construction and significantly reducing costs while achieving an impressive energy efficiency of over 91% at a current density of 10 mA/cm². With an energy density of 125.7 Wh/L, these batteries are particularly suited for stationary energy storage applications where space and weight constraints are minimal.

The cost of the active materials in chlorine flow batteries is approximately \$5 per kWh, substantially lower than those used in lithium-ion batteries. This cost efficiency, combined with the highly reversible Cl₂/Cl⁻ redox reaction, positions chlorine flow batteries as a sustainable alternative for large-scale energy storage needs.

"While lithium-ion batteries have dominated the market with their high energy density, chlorine flow batteries come with unique advantages that make them more suitable for stationary storage," explains Greg Giese, CEO, at Salgenx. "This technology is not only economically viable but also robust and reliable for long-term applications."

The Salgenx saltwater flow battery, housed within standard shipping containers, boasts a



Salgenx Wind Power Grid-Scale Energy Storage

modular design that facilitates easy transport across the globe, or manufactured locally where shipping containers are available. With a capacity starting at 3000 kWh or 3 MWh, this cutting-edge battery rivals mega packs in energy storage capabilities. However, what sets it apart is its multi-functionality, which includes desalination and [thermal storage](#) features.

The integration of desalination capabilities allows the Salgenx saltwater battery to convert seawater into potable water while simultaneously charging. This feature addresses the pressing need for clean water in coastal regions, offering a sustainable solution that leverages renewable energy sources, such as offshore wind energy or when the grid can't accept more power from wind or solar PV.

Furthermore, the thermal storage capabilities of the battery enhance its versatility, enabling it to store heat or cold using heat pumps with grid-based rate arbitrage for later use during on-peak demand. It can also store wind energy excess (heat dumping) or solar thermal energy.

As the global community continues to embrace renewable energy, the demand for innovative and sustainable energy storage solutions grows. Chlorine flow batteries are expected to play a vital role in this transition, providing a stable and reliable energy supply to manage the intermittency of renewable sources such as solar and wind.



Salgenx EV Power Station



Salgenx Power and Desalination Barge

About Salgenx (a division of [Infinity Turbine](#) LLC)

Salgenx, in strategic collaboration with Infinity Turbine LLC, stands at the cutting edge of transformative solutions, showcasing a commitment to excellence and innovation through grid-scale saltwater battery energy storage, destined to set unparalleled standards in manufacturing and battery technology.

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