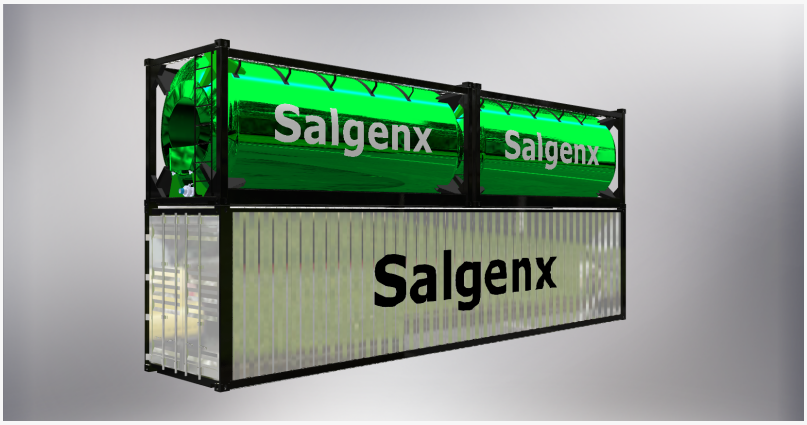
Salgenx Introduces Hybrid Flow Energy Platform Using Graphene-Based Ultracapacitor Technology and Thermal Energy Storage

Salgenx Introduces Hybrid Flow Energy Platform Integrating Electrical and Thermal Energy Storage with Graphene-Based Ultracapacitor Technology



MADISON, WI, UNITED STATES, April 2, 2025 /EINPresswire.com/ -- Salgenx, a pioneer in advanced energy storage solutions, today unveiled a comprehensive hybrid energy platform that combines its proprietary saltwater redox flow battery with a graphene-based flowable ultracapacitor and integrated thermal energy management capabilities. This breakthrough system delivers a flexible, dual-purpose energy storage solution for applications demanding both rapid power response and long-duration energy capacity, while also addressing thermal energy recovery and reuse.

Building on its saltwater-based redox flow battery architecture, Salgenx has introduced a flowable electrode component containing suspended graphene particles. This enhancement functions as a semi-liquid ultracapacitor, significantly increasing the available surface area for electrostatic charge storage and enabling high-speed charge and discharge cycles.

Simultaneously, the system's use of brine-based fluid opens the door to thermal energy storage, enabling the absorption and release of heat for use in district heating, waste heat recovery, cooling systems, and low-temperature power generation through Organic Rankine Cycle (ORC) turbines.

Key Capabilities of the Salgenx Hybrid Flow Energy Platform:
• Graphene-based flowable ultracapacitor: Enables ultra-fast energy uptake and release for instantaneous power needs
• Saltwater redox battery: Offers scalable, long-duration electrical energy storage with non-toxic,

non-flammable chemistry
• Thermal energy storage: Brine fluid doubles as a heat transfer medium for heating, cooling, and ORC-based power generation
• Modular flow-based design: Facilitates independent scaling of power, energy, and thermal storage for diverse applications
• Sustainable materials: Eliminates reliance on critical or hazardous materials found in traditional lithium-based systems

The combined system is designed to meet the needs of sectors requiring hybrid energy performance, including data centers seeking zero-water cooling solutions, industrial facilities recovering waste heat, microgrids and remote communities managing multi-source energy flows, and commercial buildings participating in demand response programs.

About Salgenx

Salgenx is engineering next-generation energy storage solutions, pioneering safe, scalable, and sustainable alternatives to legacy technology. By integrating non-toxic materials, thermal storage, and self-healing electrodes, Salgenx is redefining the future of grid-scale energy storage.

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