

Salgenx Identifies Top 20 Applications for Grid-scale Flow Batteries

Grid-scale flow batteries have a large number of applications which help the storage, access, and deployment of reliable energy.

MADISON, WI, USA, January 17, 2023 /EINPresswire.com/ -- The top 20 applications for the Salgenx [flow battery](#) system:



Salgenx S3000 Salt Water Battery Energy System

1. Electric vehicles: Flow batteries can be used to charge electric vehicles at charge stations, such as electric cars, Tesla semi, watercraft, and aircraft, providing a reliable and long-duration energy source.
2. Industrial applications: Flow batteries can be used to provide power for industrial applications, such as manufacturing and mining, where a reliable and long-duration energy source is needed. Combining [thermal](#) storage adds to cost savings for both heating and cooling.
3. Air pollution abatement (APA): Flow batteries can be used to power electric vehicles, such as buses, trucks, and trains, helping to reduce dependence on fossil fuels and improve air quality in urban areas.
4. Agriculture and irrigation: Flow batteries can be used to provide power for irrigation systems, farms, and helping to improve crop yields and reduce dependence on fossil fuels. Added thermal storage is perfect for dairy operations and crop drying.
5. Telecommunications: Flow batteries can be used to power base stations and cell towers, providing a reliable and long-duration energy source in remote locations while interconnecting with solar and wind power generation.
6. Increased integration of renewable energy sources: Distributed energy systems using flow batteries can make it easier to integrate renewable energy sources into the power system, as they can provide energy storage and balancing of the grid during periods of low renewable

energy generation.

7. Grid-scale energy storage: Flow batteries can be used to provide energy storage where there are centralized powerplants and distribution. This is especially important in war-ravaged areas like Ukraine, helping to balance the grid and improve the reliability of the power supply. Also for storing excess energy generated from renewable sources such as wind and solar.

8. Increased reliability: Distributed energy systems using flow batteries can provide a more reliable power supply, as they are less likely to be affected by a single point of failure.

9. Improved resiliency: Distributed energy systems using flow batteries can continue to function during power outages or other disruptions, improving the overall resiliency of the power system.

10. Reduced transmission losses: Distributed energy systems using flow batteries can generate and store energy closer to the point of use, reducing the need for long-distance transmission and reducing transmission losses. This is especially critical in communities who are considering adding large power distribution towers and powerlines.

11. Microgrids: Flow batteries can be used to provide power in remote and rural areas, where access to the grid is limited. They help to reduce or eliminate large power line towers which import energy from long distances and in many cases are cost prohibitive.

12. Reduced environmental impact: Distributed energy systems using flow batteries can reduce the environmental impact of the power system, as they can reduce the need for long-distance transmission and reduce the need for large, centralized power plants.

13. Increased energy security: Distributed energy systems using flow batteries can increase energy security, as they can reduce dependence on a centralized power system, making the power system more resistant to disruptions.

14. Energy management: Flow batteries can be used to store energy during off-peak hours, and to release it during peak hours, reducing the burden on the grid and helping to improve energy efficiency.

15. Military applications: Flow batteries can be used for military applications, such as powering communication systems, unmanned systems, vehicles and backup power for critical systems.

16. Backup power: Flow batteries can provide silent backup power for critical systems, such as command and control systems, and critical infrastructure, such as hospitals and emergency services, in case of power outages or other disruptions.

17. Portable power: Flow batteries can be used to provide silent portable power for military

equipment, such as communication systems, navigation systems, and sensor systems, in remote locations where access to traditional power sources is limited.

18. Unmanned systems: Flow batteries can be used to charge unmanned systems such as drones and robots, providing them with a long-duration energy source for extended missions.

19. Field hospitals and medical equipment: Flow batteries can be used to power medical equipment in field hospitals, providing a reliable and long-duration energy source for critical care.

20. Base power: Flow batteries can be used to provide silent power for military bases, particularly in remote locations or in situations where the grid is unreliable for remote sensing equipment, such as cameras and radar systems, radios, and satellite systems.

The Salgenx salt water redox flow battery uses two separate intermediate bulk liquid container tanks of electrolytes, and when combined over electrodes, can store or discharge energy. The simplicity of the concept is the separation of the liquid electrolytes, one of which is salt water. Perfect for remote energy or storage for wind and solar power, just like the Tesla [Megapack](#) or BASF battery pack. In many areas, the wait time for the Megapack is up to two years, uses expensive and flammable Lithium.

Not only is the Salgenx flow battery scalable, but it's also inexpensive. The cost of the electrolytes is less than five dollars per kilowatt. Vanadium and Bromine flow systems require an expensive membrane while the Salgenx salt water system does not. Alternatively, most of the salt water flow battery and liquid electrolyte can be sourced and assembled on-site using locally sourced containers, which empowers local communities to build their own storage systems.

Salt water doesn't have the same flammability issues as Lithium. It's non-toxic, and available everywhere. You can find it in salt lakes, brine pools, oil and gas well producer water, mining operations, cooling ponds for power plants, and as a waste effluent from desalination facilities.

As the demand for energy storage increases, the salt water flow battery is an inexpensive alternative which can meet the requirements of large scale grid power storage.

Infinity Turbine LLC offers a visionary future for clean and renewable fuels by providing complimentary technologies which leverage greater efficiency.

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