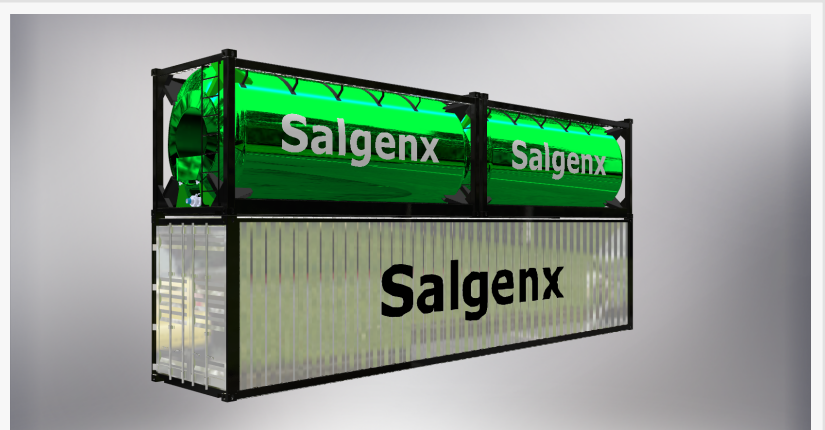


Breakthrough Saltwater Flow Battery Enables Desalination and Green Hydrogen Production through Tunable Charging

Novel saltwater flow battery stores renewable energy and purifies water, harnessing excess hydrogen for green energy or desalination.

MADISON, WISCONSIN, USA,
September 22, 2023 /

[EINPresswire.com/](https://www.einpresswire.com/) -- In an era demanding innovative, sustainable solutions, a novel approach to leveraging saltwater electrolysis presents a dual-function saltwater flow battery that not only stores renewable energy efficiently but also addresses water purification challenges. Achieved during a short 4-6 hour flow battery charging process, the system uses energy from grid sources, or renewables like wind and solar PV.



Salgenx S3000 innovative saltwater flow battery technology. Unlock the power of storage, thermal storage, and graphene production with this membrane-free Redox flow battery. Explore the limitless potential of our aqueous saltwater flow battery solution.

This new system can either produce green hydrogen or function as an efficient desalination mechanism, addressing two pressing global challenges simultaneously.

The process capitalizes on excess hydrogen produced during the battery's charging cycle. This excess hydrogen can be harnessed as green hydrogen—a clean energy source that leaves no carbon footprint—or can be burned to produce thermal energy. This thermal energy is then effectively used to desalinate the very saltwater that powers the battery.

Typically, the production of excess hydrogen during such processes is seen as undesirable. However, this cutting-edge battery design allows the charging cycle to be tunable. By adjusting the charge cycle, the amount of hydrogen produced can be strategically increased or decreased. This flexibility proves invaluable when desalination is the targeted byproduct.

“When you hear 'excess', it often implies wastage. Our technology takes what could be a drawback and turns it into an advantage. By tuning the charge cycle, we can dictate the amount of hydrogen produced, seamlessly transitioning between green hydrogen production and desalination,” explained Greg Giese, lead developer of the project.

During charging, the surplus hydrogen can be harnessed as green hydrogen, an eco-friendly and effective energy solution, or burned to generate thermal energy that is later utilized to complete the saltwater desalination. Standard saltwater electrolysis can eliminate between 70 to 90 percent of the salt, and this method finalizes that removal.



Wind turbines generate power converted into electricity, which is then stored in saltwater flow batteries. These batteries efficiently store and release energy, providing a reliable renewable energy solution that's both eco-friendly and sustainable.

Flow batteries, known for storing energy in external tanks, are rapidly becoming vital players in sustainable energy storage due to their scalability and longer cycle life. This latest innovation, with its tunable saltwater flow battery, is poised to redefine practices in both the energy and water sectors.

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*Greg Giese lead developer of
Salgenx*

As global demand for sustainable energy solutions and potable water continues to rise, this pioneering technology promises a significant step towards a greener, more hydrated future. By tapping into the immense power of our oceans and utilizing naturally occurring processes, the saltwater battery exemplifies the potential of innovative thinking in the face of global challenges.

Keen to integrate this technology on a broader scale, the team is actively exploring collaborations with renewable energy providers, grid operators, and water utilities.

[Salgenx](#) (a division of [Infinity Turbine](#) LLC) is a trailblazing leader in energy storage and sustainable technology solutions. With a commitment to innovation and environmental responsibility, the company strives to redefine the boundaries of energy storage capabilities to

pave the way for a brighter and greener future.

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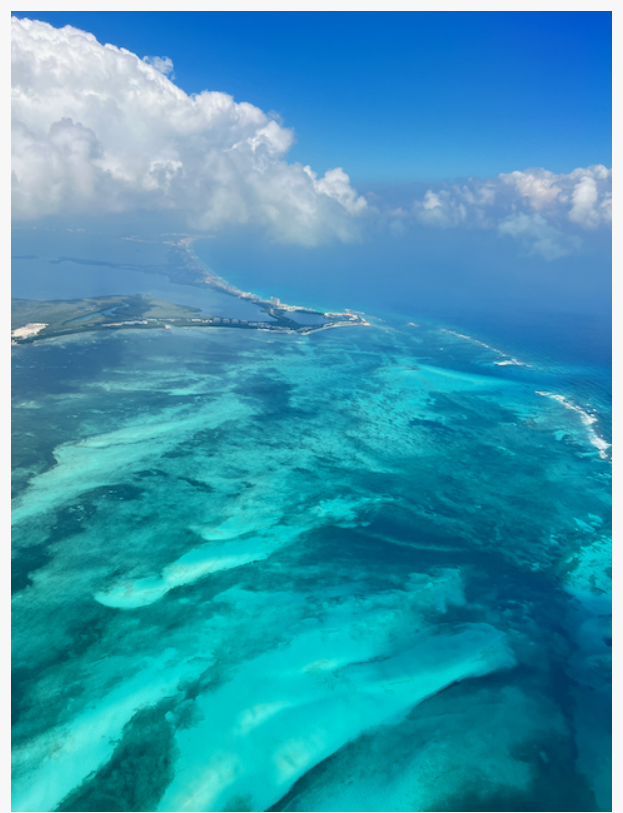
Saltwater Battery Website: <https://salgenx.com>

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A groundbreaking desalination breakthrough has been unveiled: a novel system utilizing a saltwater flow battery cycle to convert seawater into clean drinking water while charging.

This press release can be viewed online at: <https://www.einpresswire.com/article/657174849>

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