

4/21/2024



Salgenx

salgenx-saltwater-flow-battery-grid-scale-energy-powership

Powership Utilizing Grid Scale Battery Storage and Desalination

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This webpage QR code

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Powership Utilizing Grid Scale Battery Storage and Desalination

PDF Version of the webpage (first pages)

<https://salgenx.com/salgenx-saltwater-flow-battery-grid-scale-energy-powership.html>

Solar PV Powered Ocean Powership to Provide Desalination and Energy

Ocean Powership. This innovative vessel, commonly known as a power barge, is designed to offer grid-scale energy solutions and desalination capabilities, particularly benefiting remote islands and burgeoning ocean cities.

The Salgenx Powership is a floating power plant equipped with a unique saltwater battery, offering rapid, plug-and-play utility services where traditional land-based power plants are impractical. This technology is not only fast to deploy but also environmentally friendly, minimizing the ecological footprint of energy generation.

One of the standout features of the Salgenx Powership is its integration with solar photovoltaic (PV) and wind energy systems. This combination addresses a significant challenge in offshore wind energy: the mismatch between power supply and demand. For instance, in the UK, Sky News reported that the National Grid spent 215 million pounds to curtail wind turbine operations, reducing electricity generation by 6 percent, and an additional 717 million pounds to activate conventional gas turbines to meet demand. This inefficiency in energy management leads to increased costs for consumers.

Similarly, in Germany, the clustering of renewable power generation and inadequate transmission capacity resulted in 16% of offshore wind production being unused. The Salgenx Powership's ability to store and discharge energy efficiently presents a solution to these challenges.

For Pacific island communities and others relying on diesel electric power, the Salgenx Powership offers a sustainable alternative. The vessel's ability to harness abundant solar PV or wind energy, combined with its energy storage capabilities, makes it ideal for these locations.

Additionally, the Salgenx Powership is a dual-purpose Energy Storage System (ESS) capable of performing desalination without traditional membranes, thereby providing clean water alongside renewable energy. This dual functionality is particularly advantageous for facilities near brine pools or the ocean.

Other notable benefits of the Salgenx Powership include:

- Marine Transport: Vessels can now store power for later use, enhancing energy efficiency in marine transportation.
- Desalination: The Powership's capability to desalinate water while generating power serves dual needs in coastal and island regions.
- Utility Islanding: Moored offshore, the Powership can function as a temporary or permanent source of power and freshwater, with minimal environmental impact.
- Reduced CO₂ in Seawater: The Powership also acts as a flow battery that can filter and harvest CO₂, aiding in the balance of reef ecosystems in regions where CO₂ concentrations are rising. This harvested CO₂ has potential commercial applications, such as in the food and beverage industry.
