

SolarInnovate Energy Solutions

Nordic Vanadium Flow Battery



Overview

What is the first vanadium redox flow battery (VRFB) installation in Norway?

Image: Eva-Lotte Johansen. The first vanadium redox flow battery (VRFB) installation in Norway, a 5kW/25kWh system, was unveiled this week. Local firm Bryte Batteries installed the 5kW/25kWh system at the Sluppen commercial district, in Trondheim, owned by property development company R. Kjeldsberg, the customer of the project.

Are vanadium redox flow batteries a viable energy storage solution?

Vanadium redox flow batteries (VRFBs) hold great promise as a scalable and efficient energy storage solutions for renewable energy systems as compared to its several counterparts.

What is the best flow battery chemistry?

The most developed flow battery chemistry is the vanadium redox flow battery (VRFB). VRFB has a TRL rating of 9 which means the technology has been fully tested and demonstrated at system level. From a CRI perspective, the VRFB technology has a rating of 4 which indicates multiple commercial deployments.

Are all-vanadium RFB batteries safe?

As an important branch of RFBs, all-vanadium RFBs (VRFBs) have become the most commercialized and technologically mature batteries among current RFBs due to their intrinsic safety, no pollution, high energy efficiency, excellent charge and discharge performance, long cycle life, and excellent capacity-power decoupling .

What is the flow batteries tour?

Discover the Flow Batteries Tour to learn about different flow battery projects being undertaken from Flow Batteries Europe members in Europe and beyond. The examples showcase how flow batteries are becoming readily available on

the market and can really contribute to the energy transition.

What happens when a vanadium ion is discharged?

During discharge, vanadium ions at the electrodes undergo electrochemical reactions, where the carbon felt or graphite electrodes facilitate electron transfer to the external circuit, and protons move across a cation-exchange membrane (e.g., Nafion) to balance charge in the system.

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✓ LIQUID/AIR COOLING

✓ ON GRID/HYBRID

✓ PROTECTION IP54/IP55

✓ BATTERY /6000 CYCLES

Vanadium in Energy Storage Batteries: Powering the Future with a Nordic

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...

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