

Ilaria Pucher^{*,a}

*^aGreen Energy Storage Srl, Via Sommarive 18, Trento, Italy
e-mail: ilaria.pucher@greenenergystorage.eu*

As the world is moving towards a crucial energy transition to meet global decarbonization targets, a massive shift to renewable energy is a must. However, intermittency of renewable sources implies a critical need for storage systems which allows for energy usage at a time different from that of production. Redox flow batteries (RFBs), thanks to their peculiar independent scalability of energy and power, their flexible and modular design, and their long cycle life, are particularly suited for medium- to large-scale energy storage applications. Vanadium-based RFBs are the oldest and most common type of flow batteries, but in the last few years substantial research efforts have been focused on developing higher energy density, more efficient and less expensive RFB systems. This presentation will provide an overview of the latest developments on redox active materials and cell elements for redox flow batteries.