

## SolarTech Power Solutions

# Eritrea Flow Battery Commercialization



## Overview

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Are flow batteries a good alternative to LFP?

For long-duration applications, an attractive alternative option to LFP is the flow battery. Flow batteries are not new; the first flow battery was patented in 1880 (see the figure below), a zinc-bromine variant which had multiple refillable cells.

Why do flow battery developers need a longer duration system?

Flow battery developers must balance meeting current market needs while trying to develop longer duration systems because most of their income will come from the shorter discharge durations. Currently, adding additional energy capacity just adds to the cost of the system.

Who are flow battery subject matter experts?

The Framework Team interviewed 26 flow battery subject matter experts (SMEs) who represented 20 organizations, ranging from industry groups (e.g., ESS, Inc., Lockheed Martin Corporation) to vendors (e.g., Primus Power, Largo Inc.) and National Laboratories (e.g., SLAC National Accelerator Laboratory).

How does a hybrid flow battery system work?

The active species undergo redox reactions during charging and discharging. A hybrid flow battery system employs a solid anolyte active species in addition to a dissolved catholyte active species, providing extra capacity and higher energy density.

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