

# **Organic flow batteries for Bulgarian power grid**





## Overview

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Is flow battery a good energy storage technology?

Compared to other electrochemical energy storage (EES) technologies, flow battery (FB) is promising as a large-scale energy storage thanks to its decoupled output power and capacity (which can be designed independently), longer lifetime, higher security, and efficiency .

Are organic batteries suitable for small volume applications?

Organic batteries might be unsuitable for small volume applications or the requirements of high specific energy based on battery mass. However, organic batteries might work well as a complement to inorganic batteries, and thus, it is important to determine their most suitable applications. Fig. 4: Potential applications of organic batteries.

What are aqueous flow batteries?

As a necessary supplement to clean renewable energy, aqueous flow batteries have become one of the most promising next-generation energy storage and conversion devices because of their excellent safety, high efficiency, flexibility, low cost, and particular capability of being scaled severally in light of energy and power density.

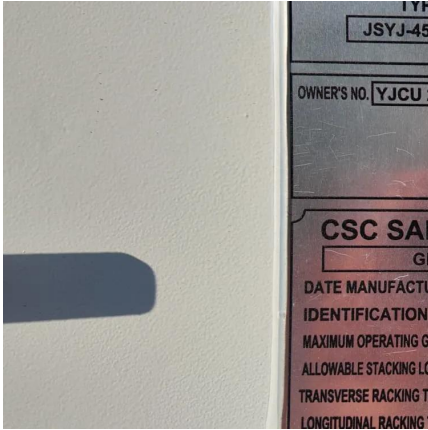
What makes a good organic battery system?

If combined with solid-state electrolytes, particularly solid polymer electrolytes, organic batteries can be tuned to achieve desired shapes and applications 241. A practical battery and battery system need to be scalable, cost-effective, safe and recyclable. It also needs to be easy to assemble and disassemble, mass produce and regenerate 67, 242.



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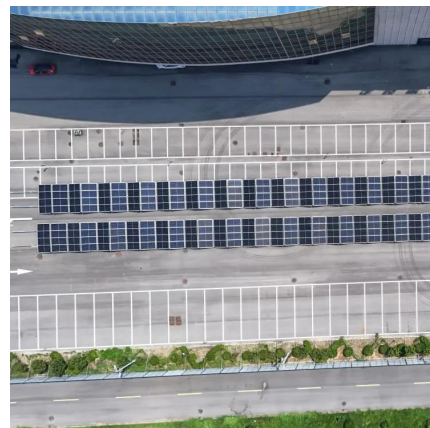


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