

Accelerating Europe's Green Transition: The Crucial Role of Flow Batteries

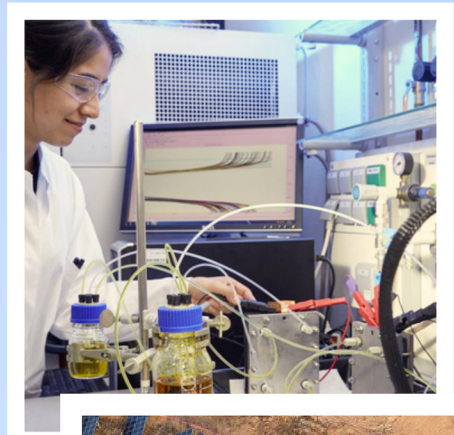
Dear EU Policymakers,

In this Manifesto, we highlight 4 key EU policy goals and present opportunities for a seamless transition to climate neutrality. Our objective is to demonstrate how flow battery technology can bolster the achievement of the EU's environmental objectives while safeguarding Europe's competitiveness and security.

We propose solutions and outline 10 pivotal steps to facilitate the green transition. FBE stands prepared to support your efforts and facilitate collaboration between industry stakeholders and policymakers.

We are eager to hear your perspective!

Flow Batteries Europe



There are four pillars of strategic importance for the EU:

1 EU DECARBONISATION TARGETS

To meet the ambitious climate targets, Europe must significantly reduce greenhouse gas emissions and increase renewable energy sources (RES). Energy storage is crucial for maintaining a stable energy supply, particularly with the rising share of RES. Flow batteries, with their long operational life and capability of storing energy for both short and long durations, are a vital solution to support decarbonisation efforts.

2 ENERGY SECURITY AND GRID STABILITY

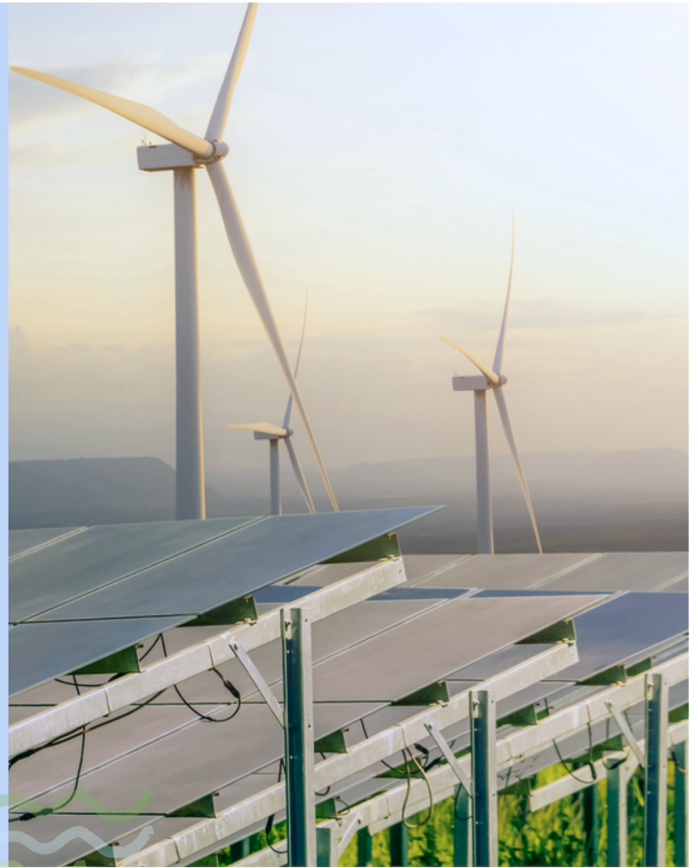
Recent geopolitical events highlight the importance of energy security. The EU's response includes plans to accelerate the energy transition, diversify energy sources, and expand energy storage capacities. Flow batteries, with their ability to store energy for extended periods and respond rapidly to demand fluctuations, offer solutions to grid stability challenges. Integrating flow batteries into the grid enhances energy security and resilience.



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JOIN US IN SHAPING THE FUTURE OF SUSTAINABLE ENERGY.

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3 ENERGY AFFORDABILITY AND CONSUMER PROTECTION

The global energy crisis has led to increased prices, impacting consumers the most, especially vulnerable communities. Flow batteries contribute to energy affordability and stable prices by providing reliable, clean energy. Supporting flow battery deployment aligns with EU efforts to integrate renewables and protect consumers from price fluctuations.

4 DIVERSIFICATION AND SAFETY OF ENERGY STORAGE

Diversifying the energy storage supply chain mitigates risks and enhances material availability for the automotive sector. Flow batteries, including metal-based and organic options, offer advantages in material availability and safety. Promoting flow battery manufacturing and research supports the EU's competitiveness in the stationary battery market.

We call on EU leaders to:

01 SUPPORT THE LOCAL MANUFACTURING OF FLOW BATTERIES AND THE FORMATION OF THE SUPPLY CHAIN

Encouraging local flow battery manufacturing enhances energy security and economic prosperity. To meet growing demands for critical raw materials (CRMs), the EU needs to strategically develop its supply chain to mitigate risks regarding supply chain disruptions.

02 INCREASE FINANCIAL SUPPORT FOR THE R&D OF FLOW BATTERIES

R&D efforts are the driver behind the improvement of performance, efficiency, and cost-effectiveness. Increasing the funding for flow battery R&D will unlock its full potential and drive innovation.



03 INCREASE THE BANKABILITY OF THE LDES TECHNOLOGIES, INCLUDING FLOW BATTERIES

While LDES investments often become profitable within a decade, it's crucial to begin capacity building now. Implementing long-term compensation mechanisms would incentivise flow battery investments and ensure profitability.

05 ENABLE THE DEPLOYMENT OF FLOW BATTERIES AND ESTABLISH FAIR ENERGY MARKET RULES

Flow battery deployment projects validate its technology, attract investment, and provide data and insights into its performance. Fair energy market rules further support flow battery deployment as they prioritise renewable energy technologies.

07 ENHANCE REGULATORY COHERENCE FOR CRITICAL RAW MATERIALS USED IN FLOW BATTERY TECHNOLOGY

Eliminating contradictions and unnecessary complexity in existing EU legislation enhances consistency in regulations governing CRMs and supports material supply and industry competitiveness.

09 FOSTER SKILLS DEVELOPMENT ALONG THE FLOW BATTERY VALUE CHAIN

Due to the rapid growth of the EU's battery sector, re- and upskilling efforts must be taken. Flow battery production and industrialisation require specific skill sets and should be taught with tailored training and courses to address skills shortages and support flow battery deployment

04 RECOGNISE THE NEED FOR ENERGY STORAGE AND ENDORSE FLOW BATTERY DEPLOYMENT TARGETS

Setting deployment targets for flow batteries signals their market importance and guides long-term investment decisions.

06 INCENTIVISE THE EFFICIENT CONNECTION OF RENEWABLES AND ENERGY STORAGE TO THE GRID

Removing barriers and encouraging investments in grid infrastructure can incentivise the integration of renewables and LDES, such as flow batteries. This co-deployment enhances grid stability and reliability, fostering the transition to a sustainable energy system.

08 INCENTIVISE THE DEVELOPMENT OF LDES SYSTEMS THAT CONTAIN ZERO CRITICAL RAW MATERIALS AND ARE PFAS-FREE

Incentivising innovation and investment in alternative and sustainable LDES technologies would boost the EU's independence from third countries regarding materials selection and brings us closer to being the first climate-neutral continent.

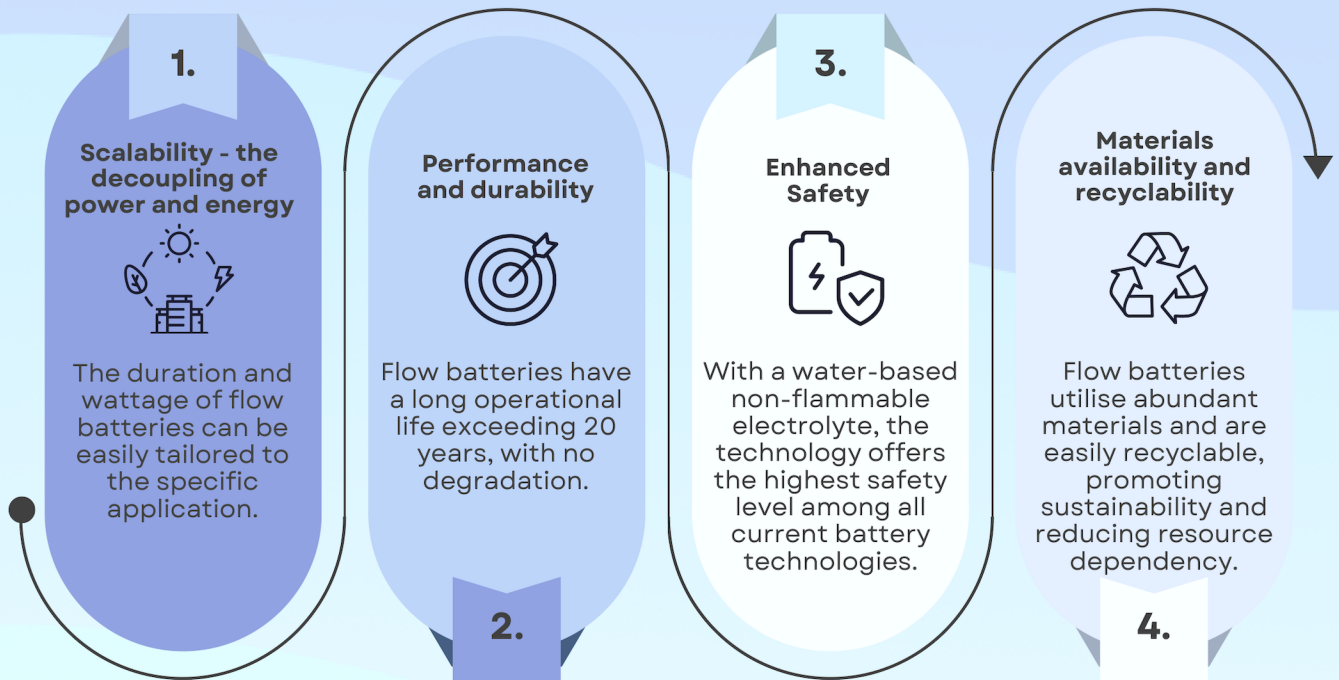
10 BOOST INFORMATION DISSEMINATION ABOUT FLOW BATTERIES AND THEIR MARKET READINESS

By effectively communicating the advantages, capabilities, and market readiness of flow batteries, a swift adoption and implementation across various sectors can be catalysed.

Executive Summary

The EU faces significant hurdles in achieving its decarbonisation targets outlined in the European Green Deal. Reliable energy storage, particularly LDES, is crucial for maintaining a stable energy supply and enhancing grid stability in the light of the increasing share of renewables. Flow batteries emerge as a crucial solution due to its sustainability, long operational life, and capability to store energy for both short and long durations. By addressing obstacles related to energy security, grid stability, energy affordability, and supply chain diversification, flow batteries offer numerous benefits in facilitating the EU's transition to a sustainable energy system while ensuring coherence with its decarbonisation targets.

Advantages of Flow Batteries



About Flow Batteries Europe

Flow Batteries Europe (FBE) represents flow battery stakeholders with a united voice to develop a long-term strategy for the energy storage sector. Our mission is clear: to accelerate decarbonisation in Europe and globally, fostering the widespread adoption of energy storage and flexibility solutions powered by flow batteries. At FBE, we bring together leading industry experts to advance research, commercialisation and deployment of flow batteries. Together, we're paving the way towards a greener, more resilient energy landscape.

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Manifesto:**

