

Partners



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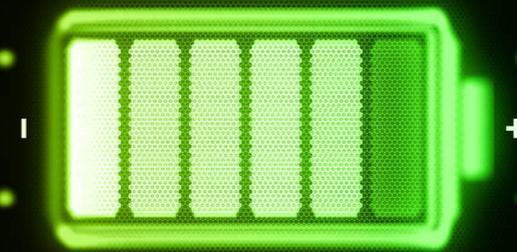
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MeBattery has received funding from the European Innovation Council (EIC) under grant agreement No 101046742. The EIC receives support from the European Union's Horizon Europe research and innovation programme.



Towards a Breakthrough Battery Technology
to Power the Future



MeBattery Aims

Scientific Approach

Impact

Current battery technologies suffer from major drawbacks in sustainability, recyclability and energy efficiency that fail to meet increasing energy demands and ambitious climate goals.

MeBattery will develop a prototype based on a radically new **flow battery technology**, which will improve:



Energy density



Cycle life



Energy efficiency



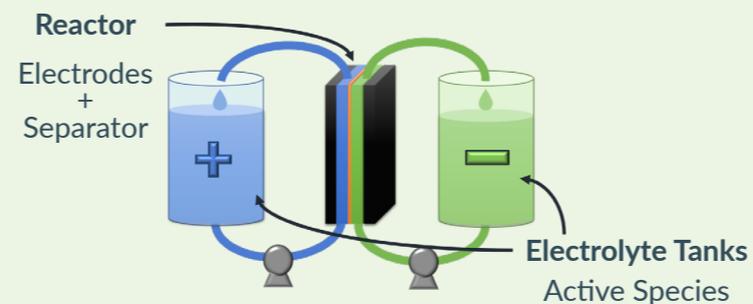
Environmental sustainability

Redox Flow battery technologies store electrical energy as chemical energy in two scalable external reservoirs. These tanks contain electroactive species (for positive and negative species, respectively) dissolved in liquid electrolyte solutions that are run through an electrochemical reactor where energy conversion takes place.

Maintaining highly concentrated dissolved species confined in the positive and negative compartments by using expensive ion-selective membranes to avoid mixing is a tremendous challenge as it goes against thermodynamics.

In contrast to previous battery technologies fighting against thermodynamic effects, MeBattery explores an approach never considered in current battery technology roadmaps:

- ✓ Allying with thermodynamics
- ✓ Mastering the kinetics interface
- ✓ Using sustainable, environmentally friendly elements and more abundant and accessible raw materials



Facilitating the transition to **sustainable energy solutions** and **reducing CO₂ emissions** from fossil fuels



Boosting the centralized and distributed **energy storage markets**



Lowering **electricity prices** for private households and companies by reducing oil and gas imports in most European countries



Generating a significant number of **specialized jobs in Europe** (in mechanical, chemical and electrical engineering, power electronics, chemical synthesis, mixing and separation processes, procurement and logistics)