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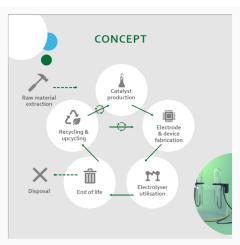




RECYCALYSE, a project to disrupt the energy market

A European consortium is working on the implementation of RECYCALYSE, a Horizon 2020 research and innovation project that will enhance the energy storage market through novel and recyclable catalytic materials made of abundant elements.

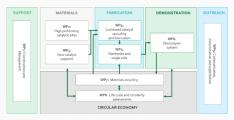
Eleven partners from seven European countries will work for 36 months to overcome the $\ \ \, \text{main barriers that remain for proton exchange membrane electrolysers (PEMEC), namely }$ high capital cost and use of critical raw materials, and to boost the economic competitiveness of the European Union (EU) energy storage production.



Objectives

- 1. Develop and manufacture highly active sustainable oxygen evolution catalysts that will reduce or eliminate the use of Critical Raw Materials.
- 2. Establish a recycling scheme for proton exchange membrane electrolyser catalysts, electrodes and overall systems. By implementing the recovered elements in the new developed catalysts, dependence on materials import in Europe is reduced or avoided, thus reaching a full circular economy.

Impacts



To achieve the objectives of RECYCALYSE, the project has been partitioned into four main technical topics supported by an outreach and business development topic. The four technical topics are materials, fabrication, demonstration, and circular economy. In the Materials topic, new electrocalaytic active sites will be designed and developed using abundant elements that are available in Europe, minimising or avoiding, if possible, the use of Circical Raw Materials. Furthermore, new support structures for the catalytic sites will be developed. The Fabrication topic will contain both combined catalyst production methods as well as electrode fabrication for membrane electrode assemblies and single-cell tests. For demonstration, a complete PEMC system capable of producing 1-2 May 12/2 will be contructed. The final topic is the Circular economy, in which both material recycling and sustainability will be addressed.

PARTNERS









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