View this email in your browser

Newsletter 3, September 2021

RECYCALYSE, to organise a joint online workshop on non-battery-based energy storage

The RECYCALYSE Project is organising an online joint workshop: **Non-battery-based energy storage**, to be held on **15 September, 2021**, in collaboration with three EU-funded projects working on sustainable solutions for energy storage. The session will count on the participation of four EU-funded initiatives working on non-battery-based energy storage: RECYCALYSE, AreNHa, NEXT AEC and, PROMETH2

During the session, the projects will present their work to boost new technologies or improved materials that can be used as **sustainable solutions for different energy storage needs.**

The aim of this event is to build a meeting point for stakeholders across Europe to discuss **how to improve and increase the performance of the materials as well as how to reduce total costs with respect to the current technologies**. The workshop will be divided into several blocks showcasing the objectives, scope, methodology, impacts, and preliminary results of each project

REGISTER FOR FREE NOW

Johanna Schröder wins the best poster prize at the 29th Topical Meeting of the International Society of Electrochemistry

Johanna Schröder, PhD student from the University of Bern has won the best poster prize about "**The gas diffusion electrode set up as a straightforward testing device for proton exchange membrane water electrolyzer catalysts**" at the 29th Topical Meeting of the International Society of Electrochemistry.

Energy Letters
energy&fuels
ISE International Society of Electrochemistry
ACS Publications
Most Trusted. Most Cited. Most Read.

SEE THE POSTER

“The main challenge of upscaling is to keep the same catalyst properties from the lab scale to the production scale”

Interview with Simon Pitscheider, Senior Materials Specialist at Danish Technological Institute

What does catalyst upscaling and fabrication consists of?

Within RECYCALYSE, we work with materials on different scales. Catalyst and support development are usually performed in small quantities (milligram scale) however, in this project, we also focus on electrode and stack development. Once suitable catalyst and support candidates are identified, the production needs to be scaled up to larger quantities (up to hundreds of grams) for the stack production.

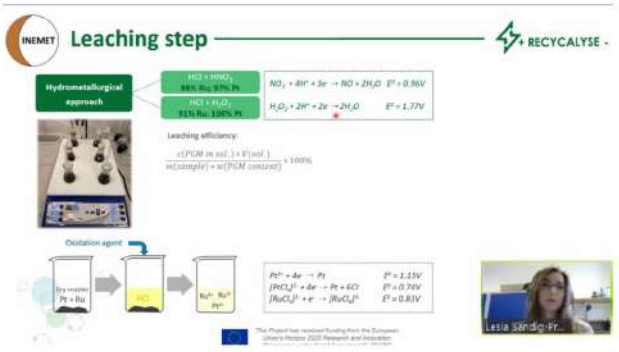
What are the main challenges?

The main challenges related with this upscaling strategy are to keep the same catalyst properties from the lab scale to the production scale. We aim to ensure that the catalyst nanoparticles are evenly and finely distributed on the support, as well as to be able to work with higher concentrations, in order to optimize the yield of the process and minimize the amount of waste.

RECYCALYSE focuses on the full life cycle of the electrolyser systems, from raw materials to the recycling of used electrolysers. Therefore, the developed synthesis procedures will be compatible with the recycled critical raw materials.

Here at Danish Technological Institute, we have experience with synthesizing supported precious metal nanoparticles in a one-step flow process, and we are

RECYCALYSE at the 72nd BHT – Freiberger Universitätsforum



Lesia Sandig-Predzymirska, from TU Bergakademie Freiberg, has presented RECYCALYSE in the framework of sustainability, recycling, and secondary metallurgical processes at the BHT – Freiberger Universitätsforum event, on June 10.

The event was held online and structured in different colloquiums under the topic ***Technologies for Climate Protection*** where insights into the latest findings from research and development were showcased. There, Lesia Sandig-Predzymirska led the colloquium about the **platinum group metals recycling** as an essential step for a **sustainable hydrogen-based economy where she presented the RECYCALYSE project.**

"We have defined a common testing protocol that guarantees that the measurements the different partners carry out are comparable."

Interview with Matthias Arenz, Professor of Physical Chemistry at the University of Bern

What are the main responsibilities of University of Bern (UB) within the project?

At UB we are responsible at synthesising novel high performing catalytic sites, i.e. the active phase of the water splitting catalysts, which in work package 4 are combined with the support materials to the final catalyst. The goal is thereby to minimize their content of critical raw materials while maintaining defined performance targets. For testing and confirming these targets, we have defined a common testing protocol that guarantees that the measurements the different partners carry out are comparable.

How is UB coordinating the High performing catalytic sites?

A: The coordination concerning the discovery and characterization of high

achievements of the last period and define the next steps. This guarantees a constant flow of knowledge and makes the coordination of the activities easy.

RECYCALYSE attends the European Metallurgical Conference EMC 2021

RECYCALYSE at the EMC 2021

On June 28, the European Metallurgical Conference counted on the presence of RECYCALYSE project.

There, Lesia Sandig-Predzymirska, from TU Bergakademie Freiberg, showcased RECYCALYSE, on behalf of the consortium, the project scope and approach under the topic of **Recycling Strategy for the Extraction of PGMs from Spent PEM Electrodes.**

From June 28 to June 30, the EMC event was dedicated to the search for an integral solution to process complex ores and residues and produce high-value multi-metal at the lowest CO_2 footprint particularly addressed to metal producers, plant manufacturers, equipment suppliers, and service providers as well as members of universities and consultants.

Have a look at the video produced in collaboration with Dr. Nedjeljko Seselj, Senior Scientist from Blue World Technologies which shows a little insight into the presentation:

EMC 2021 PRESENTATION

"Accurec will carry out a recycling process which will recover the main metal -Titanium- and the non-waste Platinum-Group-Metals"

Interview with Zhangqi Wang, Junior Assistant Research & Development at Accurec

What is the role of Acccurec (ACC) within RECYCALYSE? What are the main

ACC is responsible for investigating the recyclability of the proton exchange membrane electrolyser system within RECYCALYSE.

The main challenge for ACC is to carry out a recycling process which could recover the main metal -Titanium (Ti) and the non-waste Platinum-Group-Metals (PGMs) such as Platinum or Ruthenium.

To overcome this challenge, ACC is going to develop an automated separating process, which divides the Ti and the electrode parts. The bipolar parts will be recycled by focusing mainly on Ti recovery, while the electrodes will be further focused on PGMs recovery.

Blue World Technologies acquires the recognised manufacturer of fuel cell components Danish Power System.

The respective general assemblies at Blue World Technologies and Danish Power Systems approved a combination of the two companies, whereby Danish Power Systems is acquired by and subsequently merged into Blue World Technologies.

Danish Power System is one of the partners of the RECYCALYSE Project in charge of modifying the membranes and electrodes that are the key components of the membrane electrode assembly as well as performing the relevant testing and characterization of larger cells.

With the strong experience and competencies from both companies, Danish Power Systems and Blue World Technologies will be able to accelerate product development to optimise the technology platform bridging R&D activities and market needs.

READ MORE NEWS

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 861960.
Copyright © 2021 All rights reserved.

Want to change how you receive these emails?
You can update your preferences or unsubscribe from this list.

This email was sent to <<Email Address>>
why did I get this? unsubscribe from this list update subscription preferences


mailchimp