

LoCEL Horizons

In this third edition of our newsletter, we are thrilled to report that we have made significant progress in the last six months! We bring the highlights of the latest activities, field trips and publications that are moving us forward in the development of a new clean energy and cooking fuel solution for off-grid communities.

IN THE SPOTLIGHT

Progress with pilot site in Côte d'Ivoire

In December 2023, our energy access experts from RHYDE have secured a collaboration agreement with the non-profit [International Cocoa Initiative](#) (ICI) to install LoCEL-H2's renewable energy & clean cooking fuel solution in one energy-deprived village in southwestern Côte d'Ivoire.



With the support of ICI, we have started field work in Côte d'Ivoire. Our social science experts from University of Naples Federico II (UNINA) joined the RHYDE team on a visit to the selected village in February. They had the opportunity to discuss the project with the community and other local stakeholders.



This collaborative work is crucial to elaborate site-specific engagement processes and monitoring strategies for the successful deployment of the energy solution and its sustainability after implementation.

Awards to the green hydrogen team

Our green hydrogen experts from Loughborough University had their research efforts recognised by two prestigious awards in the first months of 2024. The team is developing the innovative lead battery-electrolyser technology that stores solar energy and transforms excess energy in green hydrogen.

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The Hydrogen Award of Academic Excellence and International Collaboration highlights outstanding research and innovation in hydrogen resulting in exciting new technology or breakthrough.



The Leicestershire Innovation Award of Innovation in STEM Industries recognises new products being brought to market that can significantly contribute to a sustainable future.



Our green hydrogen experts are encouraged by the recognition from their peers.

NEWS FROM THE CONSORTIUM



General Assembly

We were welcomed by our HOPPECKE colleagues in Brilon, Germany, for two days of exchanges. The meeting was an opportunity to reinforce connections, share progress on various crucial tasks and prioritise our next steps.

“HOPPECKE opened the doors of their factory to our consortium and it was interesting to learn how state-of-the-art lead batteries will be purposefully produced to harness power from small renewable power grids in two rural villages, in Côte d'Ivoire and Zambia, after being tested in another rural village in Pakistan.”

Prof Dario Minervini, UNINA



Sister projects

We are establishing collaborations with other Horizon Europe projects working on energy access and energy transition (ONEPlanET, PARNENIDES, PROMISE, EPIC AFRICA and others). [Register here](#) for our **first webinar** featuring ONEPlanET on 4 June 2024. Additional clustering activities will be held in 2024.

RESEARCH HIGHLIGHT

Our [new peer-reviewed publication](#) led by our project coordinator, Dr Angel Kirchev (CEA-Liten), presents further investigations of a recently observed effect of improvement of the electrochemical performance of titanium-supported positive lead battery electrodes when phosphoric acid is added to the electrolyte. The authors show that this effect can simultaneously increase the capacity and cycle life of lead batteries, which is worth exploring for lead-based energy storage systems such as the lead battery-electrolyser technology.

Journal of The Electrochemical Society

Phosphoric Acid Activation of Titanium-Supported Lead Dioxide Electrodes for Bipolar Battery Applications

A. Kirchev¹ , L. Serra¹ and B. Marie¹

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[Journal of The Electrochemical Society, Volume 171, Number 4](#)

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OUTREACH ACTIVITIES

Dr Hassan Khan (Lahore University of Management Sciences) at the Nexus Summit: Harmonizing Energy, Water, and Agriculture Systems for a Low Emissions Future in Lahore, Pakistan

Dr Khan discussed offgrid electrification in Pakistan and abroad, presenting their research on prosumer power sharing in solar home systems to over 50 participants including academics, researchers, and policymakers.



Prof Dani Strickland (Loughborough University) joined UK politicians' campus visit

Loughborough University welcomed Darren Jones MP, the Shadow Chief Secretary to the Treasury, and Jeevun Sandher, Labour's Parliamentary Candidate for Loughborough. Prof Strickland was selected as one of the university's senior leaders to showcase ongoing climate change and net zero research to the visitors and presented the prototype of the lead battery-electrolyser.

Nicolas Clement (Hollingsworth & Vose) at the 2024 Convention of Battery Council International in Fort Lauderdale, USA

- Mr Clement presented an overview of the project and the battery-electrolyser system, receiving great feedback from various attendees, including some from major US battery manufacturers. He enjoyed the fruitful networking opportunities the event provided.



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