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SOLID Project Stakeholder Workshop: Green Hydrogen and Reversible Solid Oxide Cell (rSOC) Energy Systems for Cyprus

Organized by: University of Cyprus

Project: SOLID – *A novel, dual-mode, energy system based on reversible SOLID oxide cell technology for interchangeable generation of green hydrogen and electricity*

Date: 10 June 2026 **Time:** 10:00 – 12:30 (EEST)

Format: Online (MS Teams)

Please register here to receive the connection details.

Workshop Overview

The SOLID project investigates the potential of integrated renewable energy systems based on rSOC technology for the interchangeable production of green hydrogen and electricity. The project focuses on the integration of solar photovoltaics, hydrogen storage technologies, and advanced energy system modelling and optimisation methodologies. This stakeholder workshop aims to present the main outcomes of the project and facilitate discussion between academia, industry, policymakers, and energy stakeholders regarding the future role of green hydrogen technologies in Cyprus and the wider region.

Workshop Objectives

The workshop aims to:

- Present the main findings of the SOLID project.
- Discuss the role of rSOC and hydrogen technologies in Cyprus.
- Gather stakeholder feedback regarding deployment barriers and opportunities.
- Strengthen collaboration between academia, industry, and policymakers.
- Support future Horizon Europe activities and consortium building.

About the SOLID Project

The SOLID project focuses on the development and assessment of novel integrated energy systems based on rSOC technology. rSOC systems can operate in two different modes: (a) electrolyser mode: production of green hydrogen using renewable electricity; (b) fuel cell mode: conversion of stored hydrogen back into electricity and useful heat.
The project investigates:

- integration with solar photovoltaic systems,
- hydrogen storage technologies,
- thermal management,
- techno-economic optimisation,
- dynamic operation,
- degradation effects,
- environmental and exergy analyses.

Consortium

- **University of Cyprus (UCY)**, Cyprus (Coordinator)
- **University of Groningen (UG)**, The Netherlands

Key Findings and Research Directions

The project has identified several important research directions and opportunities:

- rSOC systems can provide flexible conversion between electricity and hydrogen depending on energy demand.
- Integration of rSOC systems with solar PV technologies can improve renewable energy utilization and energy storage capability.
- Hydrogen storage technologies, including compressed hydrogen and metal hydrides, show strong potential for long-duration energy storage applications.
- Efficient thermal integration and heat recovery are essential for improving system performance and reducing energy losses.
- Dynamic operation, durability, and degradation remain important technical challenges requiring further research.
- Cyprus offers strong potential for green hydrogen deployment due to its high solar energy resources and growing renewable energy capacity.

Why Attend?

Participants will have the opportunity to:

- Learn about recent developments in green hydrogen and rSOC technologies.
- Understand the potential role of hydrogen systems in Cyprus.
- Discuss technical, economic, and policy challenges.
- Exchange views with researchers, industry representatives, and policymakers.
- Explore future collaboration opportunities in European research and innovation activities.

Target Audience

The workshop is addressed to:

- energy companies and utilities,
- renewable energy developers,
- policymakers and regulatory authorities,
- public organizations,
- research institutions,
- technology providers,
- industry representatives,
- students and researchers interested in hydrogen technologies.

Workshop Agenda

Time	Activity
10:00 – 10:20	**Welcome and SOLID Project Overview** *Dr Alexandros Arsalis, SOLID project coordinator, UCY*
10:20 – 10:40	**rSOC Technology and Integrated Energy Systems** *Mr Pavlos Papadopoulos, UCY*
10:40 – 11:00	**Hydrogen-Based Energy Storage with rSOC Technology** *Mr Fanourios Kourougianni, UCY*
11:00 – 11:20	**Techno-economic Assessment of rSOC Systems in PV-Based Energy Systems: Insights from a University Campus Case Study** *Dr Andreas Olympios, UCY*
11:20 – 11:40	**Future Outlook for rSOC Technology** *Prof. Aravind Purushothaman Vellayani, UG*
11:40 – 12:15	**Stakeholder Discussion** • What are the main barriers to hydrogen deployment in Cyprus? • Which sectors should be prioritized? • What infrastructure is currently missing? • How can academia, industry, and policymakers collaborate more effectively? • What opportunities exist for future European projects?
12:15 – 12:30	**Closing Remarks** *Dr Alexandros Arsalis, UCY*

Contact Details

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