



HIGREEW Workshop:
**Flow batteries, bringing the technology to
the market**

16 and 17 May 2023
Hosted by CIC energiGUNE in Vitoria-Gasteiz (Spain)

Want more information about this event?
Visit www.higreew-project.eu

Preliminary programme 16 May

Session: Market / Policy

08:30 Welcome session *CIC energiGUNE*

- * Energy storage and advanced grid functionalities: the missing piece of the 100% renewable puzzle
Managing director, Gamesa Electric - Juan Barandiaran
- * Why does the electricity grid need storage and what are the best options today and tomorrow
Senior scientist, EDF R&D division, batteries group - Philippe Stevens
- * Redox flow installations *TBD*
- * Redox flow technology within new battery regulation *TBD*
- * RFB Market *CEO Enerox GmbH / CellCube, Austria & CellCube - Allexander Schoenfeldt*
- * Redox flow battery R&D in Shell *Senior process development chemist, Shell Global Solutions International B.V. Domain lead redox flow battery technology - Peter Klusener*

Session: HIGREEW intro + Materials

10:35 - 11:05 *Coffee Break*

- * HIGREEW Project: a journey through new generation AORFB *HIGREEW project coordinator and redox flow research line manager, CIC energiGUNE - Eduardo Sánchez*
- * Alternative chemistries (to vanadium and organics) *TBD*
- * Proxyl derivatives: A new catholite solution for Neutral pH Aqueous Organic Redox Flow Batteries
PhD student, redox flow research line, CIC energiGUNE - Laura Pastor
- * Modified anion exchange membranes and other perspectives *PhD student, electrochemistry research group at Applied chemistry-physics faculty, University Autonomous of Madrid - Iván Salmerón Sánchez*
- * How active can be the graphite felt electrode in redox flow battery electrolyte? *Research director, CNRS - Mathieu Etienne*
- * Membranes for AORFB *Senior Lecturer, Imperial College - Qiley Song*

Session: Cell/stack design and modelling

13:05 - 14:15 *Lunch Break*

- * Electrolyte regeneration of vanadium flow batteries *PhD student, Electrochemical Energy Storage and Conversion Laboratory (EESCoLab), University Padova - Nicola Poli*
- * Printed seals in redox flow batteries *Principle engineer, C-Tech Technologies - John Collins*
- * Development of a multiphysics model for an aqueous organic redox flow battery *PhD student, redox flow research line, CIC energiGUNE - Aitor Beloki*
- * Modelling and Simulation for the Search for New Active Materials for Redox Flow Batteries - Results of the European project SONAR *Research associate, Institute of Mechanical Process Engineering and Mechanics. Karlsruhe Institute of Technology - Amadeus Wolf*
- * Characterization of AORFB *Researcher, Laboratory of Energy Storage, NTC UWB and UCT Prague - Jiří Charvát*
- * Scale-Up of AORFB *Co-Founder, PFES - Jaromír Pociedič*

16:10 Ending day 1 - *CIC energiGUNE*

Activities after
Workshop day 1 :

16:15

Visit to CIC energiGUNE's facilities: labs and open platforms
(upon registration)

08:45 Welcome session *CIC energiGUNE*

- * Hydrogen bromine, case studies to upscale the technology. MELODY project *Senior electrochemist, Elestor and scientific project manager, MELODY project - Kamuran Yasadi*
- * Design and manufacture of a 50 kW vanadium redox flow battery *TBD*
- * Hybrid redox flow batteries: technology upscaling, opportunities and challenges *Senior scientist & team leader, Green Energy Storage - Eneko Azaceta*
- * Modular balance of plant for mass-customized flow battery production *Redox Flow Battery, Applied Electrochemistry, Fraunhofer Institute for Chemical Technology ICT - Michael Schäffer*
- * The importance of flow batteries for hybrid generation systems *Head of section renewables & storage power plants integration testing, SGRE - Alberto Alonso Cantalapiedra*

Session: Non-conventional RFB & hybridization

10:20 - 10:55 *Coffee Break*

- * Recent Advances and Future Challenges of Membrane Free Redox Flow Batteries *Senior researcher, IMDEA Energy Institute - Rebeca Marcilla*
- * Redox-mediated flow batteries: first steps from fundamentals to application *Ramon y Cajal profesor at the University of Burgos - Edgar Ventosa*
- * Hybridization of RFB *Scientific director, Hochschule Landshut, University of Applied Sciences, HyFlow project coordinator - Karl-Heinz Pettinger*
- * HIGREEW prototype video – Closing remarks *CIC energiGUNE*

12:15

Lunch and ending of the second HIGREEW Workshop

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energi
GUNE**

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ICT

Partner acronyms

- **CIC energiGUNE** Centro de Investigación Cooperativa de Energías Alternativas Fundación, CIC energiGUNE Fundazioa
- **GAMESA** Gamesa Electric Sociedad Anonima
- **UAM** Universidad Autónoma de Madrid
- **CNRS** Centre National de la Recherche Scientifique
- **C-TECH** C-Tech Innovation Limited
- **UWB** University of West Bohemia New Technologies – Research Centre
- **PFES** Pinflow energy storage, s.r.o.
- **UNR** Uniresearch B.V.
- **SIEMENS GAMESA** Siemens Gamesa Renewable Energy Innovation & Technology S.L
- **FRAUNHOFER** Fraunhofer Institute for Chemical Technology



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