HIGREEW

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?
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Programme 16 May

Session: Market and Policy

08:30 Welcome session *CIC energiGUNE*

08:45 Energy storage and advanced grid functionalities: the missing piece of the 100% renewable puzzle *Managing director, Gamesa Electric - Juan Barandiaran*

09:05 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*

09:25 RFB Market *CEO Enerox GmbH / CellCube, Austria & CellCube - Allexander Schoenfeldt*

09:45 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*

10:05 Battery Sustainability Regulation in context of redox-flow technology *Scientific officer at Joint Research Centre of EC - Marek Bielewski*

10:25 - 11:00 *Coffee Break*

Session: Materials

11:00 HIGREEW Project: a journey through new generation AORFB *HIGREEW project coordinator and redox flow research line manager, CIC energiGUNE - Eduardo Sánchez*

11:20 Characterization of AORFB *Researcher, Laboratory of Energy Storage, NTC UWB and UCT Prague - Jiří Charvát*

11:40 Modified anion exchange membranes and other perspectives *PhD student, electrochemistry research group at Applied chemistry-physics faculty, University Autonomous of Madrid - Iván Salmerón Sánchez*

12:00 The importante of the electrolyte-membrane combination for long lifetime Viologen-TEMPO AORFB *PhD student, redox flow research line, CIC energiGUNE - Laura Pastor*

12:20 Membranes for AORFB *Senior Lecturer, Imperial College, Project coordinator of ERC Starting Grant NanoMMES - Qilei Song*

12:40 - 14:10 *Networking Lunch*

Session: Cell/stack design and modelling

14:10 Engineering Porous Electrodes for Redox Flow Batteries *Assistant Professor, Membrane Materials and Processes Group, department of Chemical Engineering and Chemistry at Eindhoven University of Technology - Antoni Forner-Cuenca*

14:30 How active can be the graphite felt electrode in redox flow battery electrolyte? *Research director, CNRS - Mathieu Etienne*

14:50 Development of a multiphysics model for an aqueous organic redox flow battery *PhD student, redox flow research line, CIC energiGUNE- Aitor Beloki*

15:10 Results of the European project SONAR with Deeper Insight into Microstructure Simulations of Flow Batteries *Research associate, Institute of Mechanical Process Engineering and Mechanics. Karlsruhe Institute of Technology - Amadeus Wolf*

15:30 Printed seals in redox flow batteries *Principle engineer, C-Tech Innovation Ltd - John Collins*

15:50 Ending day 1 *- CIC energiGUNE*

16:00 Visit to CIC energiGUNE's facilities: labs and open platforms (upon registration)

Programme 17 May

Session: Protypes and deployment

08:30 Welcome session *CIC energiGUNE*

08:40 Electrolyte regeneration of vanadium flow batteries *PhD student, Electrochemical Energy Storage and Conversion Laboratory (EESCoLab), University Padova - Nicola Poli*

09:00 Design and manufacture of a 50 kW vanadium redox flow battery *Composite Materials Group, Department of Materials Science at Spanish National Research Council - Ricardo Santamaría*

09:20 Scale-Up of AORFB *Co-Founder, PFES - Jaromír Pocedič*

09:40 Modular balance of plant for mass-customized flow battery production *Redox Flow Battery, Applied Electrochemistry, Fraunhofer Institute for Chemical Technology ICT - Michael Schäffer*

10:00 The installation of a commercial-scale flow battery in the Son Orlandis photovoltaic plant *Project manager R&D Unit- Endesa - Pablo Fontela Martínez*

10:20 The importance of flow batteries for hybrid generation systems *Head of section renewables & storage power plants integration testing, SGRE - Alberto Alonso Cantalapiedra*

10:40 - 11:00 *Coffee Break*

Session: Non-conventional RFB and hybridization

11:00 Hydrogen bromine, case studies to upscale the technology. MELODY project *Senior electrochemist, Elestor and scientific project manager, MELODY project - Kamuran Yasadi*

11:30 Recent Advances and Future Challenges of Membrane Free Redox Flow Batteries *Senior researcher, IMDEA Energy Institute - Rebeca Marcilla*

11:50 Hybrid redox flow batteries: technology upscaling, opportunities and challenges *Senior scientist & team leader, Green Energy Storage - Eneko Azaceta*

12:10 Hybridization of RFB *Scientific director, Hochschule Landshut, University of Applied Sciences, HyFlow project coodinator - Karl-Heinz Pettinger*

12:30 Redox-mediated flow batteries: first steps from fundaments to application *Ramon y Cajal professor at the University of Burgos - Edgar Ventosa*

12:50 Closing remarks. End of HIGREEW workshop

13:50 *Networking Lunch*

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

This project has received funding from the European Union's Horizon 2020 research and innovation programme under Grant Agreement no. 875613.