

List of all Conference Papers (IFBF 2010–2024)

IFBF 2024 List of Conference Papers

Print ISBN: 978-1-9162004-4-9

Iron salt battery: challenges and advances

Page 12

John P. Alper

VoltStorageGmbH, Germany

Organic SolidFlow Technology - combining flow and solid-state battery systems

Page 14

Norbert Bartetzko, Christoph Hengst

CMBlu Energy AG, Alzenau, Germany

Testing and evaluation of stack materials

Page 16

Martin Bayer, Thorsten Seipp, Philipp Schröder, Damian Pandel

Volterion GmbH & Co. KG, Dortmund, Germany

Ton-scale electrosynthesis of quinone negolytes and their cycling performance in commercial flow battery hardware

Page 20

Eugene Beh, Meisam Bahari, Advait Murali, Amir Sina Hamedi, Veenasri Vallem, Peter Symons

Quino Energy, Inc., San Leandro, CA, USA Electrosynthesis Company, Inc., Lancaster, NY, USA

Flow battery for refinery island, Singapore

Page 22

Arjun Bhattarai

VFlowTech Pte Ltd, Singapore

Techno-economic analysis of redox flow batteries: a methodological overview

Page 24

Aldo Bischi, Diana Cremoncini, Giuseppina Di Lorenzo, Guido Francesco Frate, Andrea Baccioli, Lorenzo Ferrari, Antonio Bertei

Department of Energy, Systems, Territory and Constructions Engineering, University of Pisa, Pisa, Italy Department of Civil and Industrial Engineering, University of Pisa, Pisa, Italy

Gaining scale, climbing the learning curve and lowering flow battery costs

Page 28

Uwe Bögershausen, Jan Grosse Austing

VANEVO GmbH, Germany

Flow battery activities at the University of Strathclyde

Page 30

Edward Brightman, Stuart Robertson, Stephen Lyth, Ryan Sims, Paul Tuohy, Leo Lue, Dowon

Bae, Leonard Berlouis

Chemical and Process Engineering, University of Strathclyde, Glasgow, United Kingdom

Pure and Applied Chemistry, University of Strathclyde, Glasgow, United Kingdom

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University of Strathclyde, Glasgow, United Kingdom

Wolfson School of Mechanical, Electrical and Manufacturing Engineering, Loughborough

University, Loughborough, United Kingdom

Long duration energy storage down under

Page 32

Jill Cainey

Erne Energy, Wynyard, Australia

Detail investigation of VFB stack with a focus on single cell

Page 34

Jiří Charvát, Jaromír Pociedič, Jiří Vrána

New Technologies – Research Centre, University of West Bohemia, Plzen, Czech Republic

Pinflow energy storage, s.r.o., Plzen, Czech Republic

Vanadium redox flow battery as an energy storage system for hybrid microgrid application

Page 36

Bin-Hao Chen, Namon Nanchaleay, Ching-Chen Wu

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Green Energy and Environment Research Laboratories, Industrial Technology Research Institute, Tainan City, Taiwan

System integration, use cases and operation of 8MWh DC coupled vanadium flow batteries with solar farms in Australia and Canada

Page 38

Jean-Louis Cols

Invinity Energy Systems, Bathgate, Scotland, UK

Multiphysics modeling of a novel non-aqueous redox flow battery (NAQRFB)

Page 40

Mirko D'Adamo, Nicolas Daub, Juan Manuel Paz, Lluís Trilla, Jose Saez

Smart Energy, N Vision Systems And Technologies, Barcelona, Spain

IREC - Fundació Institut de Recerca en Energia de Catalunya, Sant Adrià del Besòs, Spain

Molecular Materials and Nanosystems & Institute for Complex Molecular Systems, University of Technology, Eindhoven, The Netherlands

Department of Chemical Engineering, Universidad de Malaga, Malaga, Spain

Electrochemical flow modelling of a semi-solid flow battery

Page 42

Simone Dussi, Antoni Brentjes, Dimitris Ntagkras, Adriana Rioja Cabanillas, Riccardo Zaffaroni, Michele Tedesco

Heat Transfer and Fluid Dynamics, TNO, Delft, The Netherlands

Sustainable Processes and Energy Systems, TNO, Rijswijk, The Netherlands

Continuously produced bipolar plates via extrusion - challenges & opportunities in mass-production

Page 44

Maximilian Fischer, Torsten Derieth

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3cD – compounding, coaching, consulting – Derieth, Uedem, Germany

Pathways to high energy / power density redox flow battery

Page 46

Cristina Flox, Dino Tonti, Nieves Casañ-Pastor, Juan Manuel Pérez

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Institut de Ciència de Materials de Barcelona, CSIC, Campus UAB, Barcelona, Spain

The development and characterisation of a kW scale soluble lead flow battery

Page 48

Ewan Fraser, Richard Wills, Andrew Cruden

Faculty of Engineering and Physical Sciences, University of Southampton, Southampton, UK

Framework for evaluating electrochemical characteristic of vanadium redox flow batteries

Page 50

Peiyuan Gao, Emily G. Saldanha, Yangang Liang, Zhijie Xu, Amanda A. Howard, Wei Wang

Pacific Northwest National Laboratory, Richland, USA

Flow batteries with zinc electrode – deposition and battery operation at various pH

Page 52

David Gráf, Přemysl Ríchnr, Petr Šimek, Petr Mazúr, Jaromír Pociďč, Juraj Kosek

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Cost engineering for key stack components (bipolar plate, electrode) in the GW scaled LDES market

Page 54

Dr. Hartmut Gross, Dr. Hendrik Hemmelmann

Schunk Kohlenstofftechnik GmbH, New Business & Technology, Heuchelheim, Germany

A coupled hydraulic and electrochemical stack and system model for aqueous organic flow battery: the MV/TEMPTMA system

Page 56

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Techno-economic investigation on VFB future profitability

Page 58

Massimo Guarnieri, Nicola Poli, Cinzia Bonaldo, Michele Moretto
Department of Industrial Engineering, University of Padua, Padova, Italy
RSE SpA, Milan, Italy
Department of Economics and Management, University of Padua, Padova, Italy

Recent developments in vanadium flow battery systems at H2, Inc.

Page 60

Jeehyang Huh, Shin Han
H2, Inc., Daejeon, Republic of Korea

From Lab to Megawatts: The evolution of TEMPO-based organic flow batteries

Page 62

Tobias Janoschka, Yutong Zhu
Jena Flow Batteries GmbH, Jena, Germany

The advantages and challenges of the iron-lead single-flow battery for large-scale energy storage

Page 64

Fengjing Jiang, Yang Fan, Weilong Jiang, Jiakuan Zhang, Mingruo Hu
CIC energiGUNE, Vitoria-Gasteiz, Spain
Shanghai Jiao Tong University, Shanghai, China

Reliability testing of redox flow battery cell stacks

Page 66

Takashi Kanno, Katsuya Yamanishi, Takefumi Ito
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Empowering LDES: GES disruptive hydrogen flow battery

Page 68

Thomas Zakaria El Koura, Eneko Azàceta, Luca Barattini, Michele Tribbia, Pietro Iurilli, Francesca Niccolai, Ilaria Pucher
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Investigating the electrochemical behaviour of iron/hydrogen recombination cell in iron/iron redox flow batteries

Page 70

Challuri Sai Venkata Akhil Kumar, Jens Noack
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Investigating the effects of catholyte additives on the performance of lithium polysulfide flow batteries

Page 72

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Commercialization of a novel Fe-Cr complex long-duration flow battery

Page 74

Liyu Li and Qingtao Luo

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Accelerating the development of non-PFAS options for VFB membranes

Page 76

Elisha Martin

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Demonstration of an aqueous Zn/Mn redox flow battery

Page 78

Eleonora Natale, Federico Lissandrello, Eugenio Gibertini, Luca Magagnin

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Effects of aluminum, iron, and manganese sulfate impurities on the vanadium redox flow battery

Page 80

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Vanadium market supply and demand

Page 82

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Developing safe, stable and sustainable vanadium supply chain for flow battery industry in Europe

Page 86

Dr. Jana Plananska

Director EU & Government Affairs, Norge Mineraler AS, Egersund, Norway.

Capacity decay due to imperfect electrolyte mixing inside VFB tanks

Page 88

Pablo A. Prieto-Díaz, Ange A. Maurice, Andrea Tròvo, Massimo Guarnieri, Marcos Vera

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Optimised partial remixing procedure to mitigate capacity loss in imbalanced vanadium flow batteries

Page 90

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Membraneless micro redox flow battery operating with inorganic and organic redox species

Page 92

Alberto E. Quintero, Beatriz Oraá-Poblete, Daniel Perez-Antolin, Alberto Bernaldo de Quirós, Ange A. Maurice², María J. Torres

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Structure of Matter, Thermal Physics, and Electronics Department, University Complutense de Madrid, Madrid, Spain

Novel voltage control for C&I storage enabling seamless transition between grid-connected and island operation

Page 94

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The role of energy density for grid-scale batteries

Page 96

David Reber, Sam R. Jarvis, Michael Marshak

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Mapping the low-temperature stability of vanadium electrolyte

Page 98

Alasdair P. M. Robertson, Emma Wilson, Adam H. Whitehead

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Valuation methodology for the risk and performance analysis of non-hazardous flow battery chemistries

Page 100

Milan Selle, Jan Girschik, Jens Burfeind, Anna Grevé

Electrochemical Energy Storage, Fraunhofer UMSICHT, Oberhausen, Germany

The Kashiwazaki City, Japan, long duration flow battery energy storage project

Page 102

Toshikazu Shibata, Takuya Sano, Yosuke Sato, Shuji Hayashi, Kazuyuki Kamada

Sumitomo Electric Industries, Ltd.

Assessment of electrical safety risks associated with electrolyte leakage in VFBs

Page 104

Bing Shu, Lai Wei, Jie Bao, Ke Meng, Maria Skyllas-Kazacos
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School of Electrical Engineering & Telecommunications, University of New South Wales, Sydney, Australia

Characterisation of single cell performances within a ten-cell zinc/polyiodide flow battery stack

Page 106

Lukas Siefert, Kevin Brandt, Falko Mahlendorf, Harry Hoster
Department of Energy Technology, University Duisburg-Essen, Duisburg, Germany

Development of a membraneless redox flow battery

Page 27

Athanasios Stergiou, Andinet Ejigu, Lewis Le Fevre, Amr Elgendy, Robert Dryfe
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Chemistry, University of Manchester, Manchester, UK

Chronoamperometric state-of-charge measurements in redox flow battery electrolytes: Method overview and opportunities

Page 108

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Center for Energy and Environmental Chemistry Jena (CEEC Jena), Friedrich Schiller University Jena, Jena, Germany

Long term multi-observable data for a state of charge and crossover description of vanadium flow batteries

Page 110

Thorsten Struckmann*, Niklas Janshen
Hamburg University of Applied Sciences, Hamburg, Germany

Enhancing zinc-iodine flow battery performance: the role of ammonium acetate and bromide additives in cyclability and current density improvement

Page 112

Phonnapha Tangthum, Manasswee Suttipong, Suttipong Wannapaiboon, Pinit Kidkhunthod, Soorathep Kheawhom
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Analytical bipolar modelling for redox flow battery design

Page 114

Kunyapat Thumavichai, Prashant Agrawal, and Stephen Campbell

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The Dualflow hybrid flow battery system

Page 116

Kathryn Toghill, Luis Pinho, Mikhail Petrov, Anders Bienten, Filippo Fenini, Lars Pleth Nielsen, Kevin Lam, Micheal Scanlon, Eero Kontturi, Neptun Yousefi and Pekka Peljo

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Policy spotlight: navigating current regulations and proposals in the European Union

Page 118

Beata Viršumirska, Anthony Price

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Vanadium flow battery - A field performance study proving a success story and technological advances

Page 122

Adam H. Whitehead, Jie Sun, Martin Harrer, Fabio Denner

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Materials advancements in flow battery technology

Page 124

Vicki Wright, Ajith Soman, Ethan Bexley, Srijita Nundy

Technical Fibre Products Ltd, Burneside, Cumbria

Applications and markets of VFB in MENA

Page 126

Gary Yang

KyRo-Green LLC, WA, USA

Towards semi-solid organic redox flow batteries: material screening, electrochemical performance, and reactor design optimization

Page 128

Riccardo Zaffaroni, Adriana Rioja Cabanillas, Dimitris Ntagkras, Antoni Brentjes, Simone Dussi, Michele Tedesco

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An AI-enabled platform for energy storage value maximization

Page 130

Hamid Zareipour, Manizheh Alipour

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The future is now: Insights into China's flow battery and energy storage market

Page 132

Yutong Zhu, Tobias Janoschka

Jena Flow Batteries GmbH, Jena, Germany

IFBF 2023 List of Conference Papers

Print ISBN: 978-1-9162004-3-2

Low cost in situ electrosynthesis and cycling of quinone negolytes in a commercial flow battery stack

Page 12

Meisam Bahari, Eugene Beh, Advait Murali, Amir Sina Hamedi, Peter Symons, Lauren Rosch, Yan Jing, Roy Gordon, Michael Aziz

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Polyoxometalate-based redox flow batteries

Page 14

Ángela Barros, Unai Eletxigerra, Estibaliz Aranzabe, Beñat Artetxe, Juan Manuel Gutiérrez-Zorrilla

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Business opportunities for flow batteries in south and south east Asia

Page 104

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Parametrization and validation of a tool for the electrical design of tubular redox flow stacks

Page 16

Fabian Brandes, Antonio Chica Lara, Thorsten Struckmann

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Politécnica de València, Spain

Seasonal storage for excess solar energy on farms in Norway

Page 18

Ingrid Røstad Brøndbo, Steve Völler, Ellen Loxley-Slåttsveen

Department of Electric Energy, Norwegian University of Science and Technology, Trondheim, Norway

Bryte Batteries, Trondheim, Norway

A novel hydroxylated tetracationic viologen for aqueous flow batteries: [(DMAE-Pr)₂-Vi]

Page 20

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Thin film composite anion exchange membranes for vanadium redox flow batteries

Page 22

Chiari Van Cauter, Maarten Cools, Ivo Vankelecom

Department of Microbial and Molecular Systems, KU Leuven, Leuven, Belgium

Study of the properties of iron/iron redox flow batteries

Page 24

Sai Venkata Akhil Kumar Challuri, Jens Noack

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Energy (CENELEST), UNSW Sydney NSW 2052, Australia

Vanadium flow battery industrial applications: wastewater plant in Scotland

Page 26

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Vanadium flow battery performance in commercial operation

Page 28

Jean-Louis Cols

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Cost and performance targets for competitive aqueous organic redox flow battery systems

Page 30

Diana Cremoncini, Aldo Bischì, Andrea Baccioli, Lorenzo Ferrari

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Porous (S)PSf membranes for pH-neutral aqueous organic flow batteries

Page 32

Jannes Deprez, Guy Koeckelberghs, Ivo Vankelecom

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Integrating H₂-X flow batteries with H₂ pipeline infrastructure

Page 34

Willem-Jan van Dijk, Wiebrand Kout
Elestor B.V., Arnhem, The Netherlands

Accelerating the deployment of VRFBs for long-term storage solutions by electrolyte standardization

Page 36

Elena Fischer, David Kienbaum, Yifeng Li, Christina Schubert, Thomas Lüth
J.M. Voith SE & Co. KG, St. Pöltener Straße 43, 89522 Heidenheim, Germany

Techno-economic comparison of different organic flow batteries based on experimental data versus a vanadium flow battery

Page 38

Daniel Gerlach, Katharina Bischof, Chloé Le Boulch, Jens Noack, Nataliya Roznyatovskaya, Maria Skyllas-Kazacos, Karsten Pinkwart
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A three-dimensional hydraulic model for flow battery stack design optimisation

Page 42

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Framework for evaluating electrochemical characteristic of vanadium redox flow batteries

Page 44

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Development of Fe-V flow battery for applications in the Middle East

Page 41

Ahmad Hammad, Issam Thaher Amr, Shiyu Wang, Gary Yang
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RongKe Power Ltd. Inc. (RKP), Dalian, China.
KyRo-Green Energy LLC, Seattle, USA

Reduction of pumping losses of a vanadium flow battery by integrated flow channels

Page 46

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South Korean energy storage market opportunities

Page 49

Jeehyang Huh, Shin Han
H2, Inc., Daejeon, Republic of Korea

Manufacturing the next generation of redox flow battery electrodes via non-solvent induced phase separation

Page 61

Rémy Richard Jacquemond, Charles Tai-Chieh Wan, Yet-Ming Chiang, Zandrie Borneman, Fikile Richard Brushett, Kitty Nijmeijer, Antoni Forner-Cuenca
Technical University Eindhoven, Eindhoven, Netherlands Massachusetts Institute of Technology, Boston, USA

Long term multi-observable measurements for SOC/SOH analysis and crossover modelling

Page 50

Niklas Janshen, Antonio Chica Lara, Thorsten Struckmann
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Effect of temperature on battery performance of organic-zinc redox flow batteries

Page 52

Atsushi Kaiho, Tomoya Yamaji, Inaba Kenichi, Tomoya Nakajima, Keisuke Mitsui, Hideki Ichihara, Ryo Saka
Nippon Kayaku Co., Ltd, Tokyo, Japan

A kW-vanadium flow battery system integrated with solar power

Page 54

Chih-Hsing Leu, Chin-Hung Lin, Cyun-Jie Huang, Kuo-Chang, Li-Tao Teng
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Low-cost coating technology for flow battery bipolar plates and electrodes

Page 56

Changning Li, Srija Mulkhopadhyay, Conghua "CH" Wang
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Demonstration of near neutral Fe-Cr redox flow battery

Page 58

Liyu Li, Qingtao Luo, Xiangming Wang, Qinqing Shi
Cougar Creek Technologies, LLC. Kirkland, WA, USA

Comparison study of different commercial vanadium redox flow battery stacks

Page 62

Yifeng Li, David Kienbaum, Thomas Lüth
J.M. Voith SE & Co. KG, St. Pöltener Straße 43, 89522 Heidenheim, Germany

Understanding the Norwegian market for flow batteries

Page 73

Ellen Loxley-Slåttsveen

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Chromium chelate electrolyte: fundamentals to scale-up

Page 64

Michael Marshak

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Zinc-air flow battery: eco-friendly and stable energy storage

Page 66

Petr Mazúr, Přemysl Ríchnr, David Gráf, Jiří Charvát, Jaromír Pocič, Jaromír Hnát, Martin Paidar, Petr Hauschwitz

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An innovative membrane reducing vanadium species crossover: scale-up and preliminary data characterization

Page 102

Joseph Epoupa Mengou, Laura Meda, Alessandra Tacca, Chiara Gambaro, Caterina Rizzo, Riccardo Barbieri, Angelo Lombardi

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Current-potential performance of zinc thin film anode in zinc flow battery

Page 68

Masatsugu Morimitsu, Ryoma Yamada

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Life cycle assessment of a VFB powered by wind and PV – real-world use cases

Page 70

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Composite polymeric membranes for semi-organic redox flow batteries

Page 74

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Modified mono polar plates - an approach for metal free stack ends in vanadium flow batteries

Page 76

*Michael Radspieler, Matthias Haslbeck, Tanja Ness, Matthias Rzepka
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Evaluation of electrolytes for all-vanadium redox-flow battery electrolyte: thermal and chemical stability

Page 78

*Nataliya Roznyatovskaya, Matthias Fühl, Jens Noack, Peter Fischer
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Vanadium redox flow batteries – use case in microgrids and realized projects

Page 80

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Requirements for future redox flow battery stacks

Page 82

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Mechanical test methods for flow-battery stacks

Page 84

*Thorsten Seipp, Philipp Schröder, Martin Bayer, Damian Pandel
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Comparison of flow fields with CFD simulations and electrochemical experiments within a 250 cm² zinc/polyiodide RFB

Page 88

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Reducing vanadium flow battery stack manufacturing variability

Page 90

*Adam Tuck, Neil Andrews, Andy Klassen, Adam Whitehead
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Vanadium flow battery: growth of scale

Page 92

*Jiří Vrána, Jiří Charvát, František Moulis, Eva Boháčová, Jaromír Pociedič
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Low-cost, high-performing ion exchange membranes for aqueous organic/inorganic redox flow batteries

Page 94

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A promising imidazolium-based bromine-complexing agent for enhancing the overall performance of zinc-bromine flow batteries

Page 96

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A lab scale iron anthraquinone redox flow cell operated with mixed electrolyte

Page 98

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How big is the global market for long duration storage?

Page 100

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IFBF 2022 List of Conference Papers

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Effect of ammonium ions on a sulphonated anthraquinone-iron sulphate flow battery

Page 12

Luis F. Arenas, Thomas Turek

Institute of Chemical and Electrochemical Process Engineering, Clausthal University of Technology, Germany

Research Center for Energy Storage Technologies, Clausthal University of Technology, Germany

Application of polyurethane-, epoxy- and silicone-based sealants, coatings and adhesives in redox flow batteries

Page 14

Andreas Arlt, Theresa Haisch, Armin Laube
Business Development, WEVO-CHEMIE GmbH, Germany
DECHEMA-Forschungsinstitut, Germany
Hochschule für Angewandte Wissenschaften, Germany

POM based sustainable electrolytes

Page 16

Angela Barros, Unai Eletxigerra, Beñat Artetxe, Estibaliz Aranzabe, Juan Manuel Gutierrez-Zorrilla
Surface Chemistry and Nanotechnology Unit, Tekniker, Spain
Organic and Inorganic Chemistry Department, Universidad del Pais Vasco (UPV/EHU), Spain

HIGREEW: Steps towards prototype construction of an AORFB

Page 18

Aitor Beloki, Nerea Marquinez, Eduardo Sánchez-Díez, Michael Schäffer, Petr Mazur
CIC energiGUNE, Spain
Department of Applied Electrochemistry, Fraunhofer Institute for Chemical Technology, Germany
New Technologies – Research Centre, University of West Bohemia, Czech Republic

Environmental modelling of a MW-scale vanadium flow battery - scenarios up to 2050

Page 20

Nick Blume, Maik Becker, Thomas Turek, Christine Minke
Institute of Chemical and Electrochemical Process Engineering, Clausthal University of Technology, Germany
Research Center Energy Storage Technologies, Germany
Institute of Mineral and Waste Processing, Recycling and Circular Economy Systems, Clausthal University of Technology, Germany

A design tool for tubular redox flow stacks

Page 22

Fabian Brandes, Peter Kuhn, Simon Ressel, Thorsten Struckmann
Hamburg University of Applied Sciences, Germany

A new low-cost process to formulate mixed species Fe-Cr electrolytes directly from chromite for use in iron chromium flow batteries

Page 24

Peter Chennells
Research and Development Department, RedoxOne, Cyprus

Lessons from grid-scale VFB commercial deployments

Page 26

Jean-Louis Cols
Invinity Energy Systems, UK

Recent progress in organic-based aqueous flow batteries: synthetic and regeneration techniques

Page 28

Eric M. Fell, Yan Jing, Min Wu, Meisam Bahari, Evan Wenbo Zhao, Marc-Antoni Goulet, Shijian Jin, Ali Davoodi, Erlendur Jónsson, Clare P. Grey, Roy G. Gordon, Michael J. Aziz
Harvard School of Engineering and Applied Sciences, USA
Department of Chemistry and Chemical Biology, Harvard University, USA
Department of Chemistry, University of Cambridge, UK

From laboratory to field: transferring single cell performance to deployment-scale systems

Page 30

Filippo Fenini, Mohammed Rahimi, Sara Noriega Oreiro, Anders Bentien
Department of Biochemical and Chemical Engineering, Aarhus University, Denmark

Progress in the development of an electrically rechargeable zinc-air flow battery with a two-electrode setup

Page 32

Sascha Genthe, Ulrich Kunz, Thomas Turek
Institute of Chemical and Electrochemical Process Engineering, Clausthal University of Technology, Germany

Shapes, magnitudes and effects of differential pressure-induced membrane deformations in flow batteries

Page 34

Jan Girschik, Leonie Sara Plaga, Arkadi Hahn, Anna Grevé, Christian Doetsch
Electrochemical Energy Storage, Fraunhofer Institute for Environmental, Safety and Energy Technology UMSICHT, Germany

How do we achieve more scale in the flow battery industry?

Page 36

Alan Greenshields, Julian Tanner
ESS Inc., USA
Tuva Partners, UK

Energy in a bottle - flow battery hibernation

Page 38

Steven Hickey
Redflow, Australia

Identifying market opportunities and enablers for vanadium flow batteries

Page 40

John Hilbert III, Mikhail Nikomarov, Pritil Gunjan, Maria Chavez, Dan Power
Vanitec, UK
Bushveld Energy, South Africa
Guidehouse Insights, USA

Low-cost ion exchange membrane development

Page 43

Chiari Van Cauter, Yun Li, Ivo Vankelecom

Department of Microbial and Molecular Systems, KU Leuven, Belgium

Performance limitations of the Hydrogen-X flow batteries

Page 44

Johanes Antonius Hugo, Wiebrand Kout

Elestor B.V., The Netherlands

The demonstration and operation of a vanadium flow battery system for renewable energy integration

Page 46

Jeehyang Huh, Shin Han

H2, Inc., Republic of Korea

Correlating observables for state of charge and state of health monitoring and crossover modelling of vanadium redox flow batteries

Page 48

Niklas Janshen, Antonio Chica Lara, Thorsten Struckmann

Hamburg University of Applied Sciences, Germany

Instituto de Tecnología Química, Universitat Politècnica de València, Spain

Novel organic cathode materials for aqueous flow battery

Page 50

Atsushi Kaiho, Shinya Nagatsuka and Go Mizutani

Nippon Kayaku Co., Ltd, Japan

Detailed model of a vanadium flow battery with the focus on porous separators and crossover mechanisms

Page 52

Alexander Kubicka, Thomas Turek

Institute of Chemical and Electrochemical Process Engineering, Clausthal University of Technology, Germany

In situ and in operando detection of redox reactions during vanadium transport in ion exchange membranes

Page 54

Torben Lemmermann, Maik Becker, Thomas Turek, Ulrich Kunz

Institute of Chemical and Electrochemical Process Engineering, Clausthal University of Technology, Germany

Research Center Energy Storage Technologies (EST), Clausthal University of Technology, Germany

Demonstration of a near-neutral Fe-Cr flow battery: IMABATTERY®

Page 56

Liyu Li, Qingtao Luo, and Qinqing Shi

Cougar Creek Technologies, LLC., USA

Comparison study of vanadium flow battery systems from different manufacturers

Page 58

Yifeng Li, Thomas Lüth

J.M. Voith SE & Co. KG, Germany

Off-grid renewable energy storage in an iron chromium flow battery for the South African energy storage sector

Page 60

Nico Mans, Henning Krieg, Dolf Bruinsma and Derik van der Westhuizen

Hydrometallurgy Group, Chemical Resource Beneficiation, North-West University, South Africa

Bruinsma Solutions, South Africa

New fluorinated sealant for vanadium flow battery

Page 62

Joseph Epoupa Mengou, Stefano Cardamone, Alain Verschuere

Eni spa- Renewable, New Energies and Material Science Research Center, Italy
3M, Belgium

Vanadium market supply and demand

Page 64

Terry Perles

US Vanadium, USA

Electrochemical rebalancing process for vanadium flow batteries: sizing procedure and economic assessment

Page 68

Nicola Poli, Andrea Trovò, Massimo Guarnieri

Department of Industrial Engineering, University of Padua, Italy

Interdepartmental Centre Giorgio Levi Cases for Energy Economics and Technology, University of Padua, Italy

The role of flow batteries in the decarbonisation of shipping

Page 70

Christopher Price, James Hancock, Anthony Price

Swanbarton Limited, UK

Towards 100: A material-based cost minimization for different flow battery systems

Page 72

Athul Seshadri Ramanujam, Veselin Miroslavov Veselinov, José Angel Horcajada Sanchez de Pablo, Aitor Gijon Mora

Energy Storage Solutions S.L.U., Spain

Dimensioning, control and placement of storage devices in the grid – An integrated simulation approach for vanadium flow batteries

Page 74

Christina Schubert, Stephan Leyer, Jean-Regis Hadji-Minaglou, Karl-Heinz Pettinger
Technology Centre Energy, University of Applied Sciences Landshut, Germany
Faculty of Science, Technology and Communication, University of Luxembourg, Luxembourg

Two large scale flow battery systems towards net-zero carbon emissions future

Page 76

Toshikazu Shibata, Shuji Hayashi, Yoshiyuki Nagaoka, Takashi Yano
Sumitomo Electric Industries Ltd., Japan

Investigation of zinc deposition in a zinc / polyiodide redox flow battery

Page 78

Lukas Siefert, Falko Mahlendorf, Harry Hoster
Department of Energy Technology, University Duisburg-Essen, Germany

High-efficiency and large-scale VRB-ESS® support carbon neutrality goals

Page 80

Jim Stover, Bo Hu
VRB Energy Inc., China

StaTuR - Redox flow stacks with tubular cell design

Page 82

Thorsten Struckmann, Fabian Brandes, Peter Kuhn, Niklas Janshen, Armin Laube, Simon Ressel, Claudia Weidlich, Christian Modrzynski, Michael Jeske, Simon Fischer
Hamburg University of Applied Sciences, Germany
DFI - DECHEMA Research Institute, Germany
Fumatech BWT GmbH, Germany
Uniwell Rohrsysteme GmbH & Co. KG, Germany

Benchmarking flow cell performance

Page 84

Adam Whitehead
Invinity Energy Systems, UK

Pore-scale resolved 3D Simulations of aqueous organic flow batteries

Page 88

Amadeus Wolf, Hermann Nirschl
Institute of Mechanical Process Engineering and Mechanics, Karlsruhe Institute of Technology, Germany

A sub-millimetre, bundled co-axial microtubular flow battery cell with ultra-high volumetric power density

Page 90

Yutong Wu, Fengyi Zhang, Ting Wang, Xing Xie, Ryan P. Lively, Nian Liu
School of Chemical and Biomolecular Engineering, Georgia Institute of Technology, USA
School of Civil and Environmental Engineering, Georgia Institute of Technology, USA

IFBF 2021 List of Conference Papers

Print ISBN: 978-1-916-2004-0-1

Digital ISBN: 978-1-916-2003-0-2

Pulsed charging protocol for a high efficiency zinc-iron rechargeable flow battery

Page 16

Alessandra Accogli, Luca Bertoli, Matteo Salerno, Gabriele Panzeri, Luca Magagnin
*Surface and Electrochemical Engineering Laboratory, Dip. Chimica, Materiali e Ing. Chimica
G.Natta, Politecnico di Milano, Italy*

The impact of high-frequency ripple currents on a full-cell vanadium redox flow battery

Page 19

Md Parvez Akter, Jie Bao*, Maria Skyllas-Kazacos
School of Chemical Engineering, University of New South Wales, Australia

Characterisation of polyurethane, epoxy and silicone-based sealants and adhesives for their potential use in vanadium redox flow batteries

Page 22

Andreas, Arlt, Max, Poxleitner, Ralf, Weishaupt
Business Development, Wevo-Chemie GmbH, Germany

Electrolyte imbalance determination of a vanadium redox flow battery by potential-step analysis

Page 25

Jan grosse Austing^{1*}, Kirstin Beyer², Barbara Satola², Timo Di Nardo³

¹ VANEVO GmbH, Germany

² DLR Institute of Networked Energy Systems, Germany

³ EWE GASSPEICHER, Germany

Modelling of aqueous organic redox flow batteries: into the research of optimal electrolyte potential

Page 27

Quentin Cacciuttolo, Martin Petit, Dominique Audigier, David Pasquier
IFP Energies Nouvelles, France

Proof of concept of an innovative barrier layer in vanadium redox flow batteries

Page 29

Marco Cecchetti^{1*}, Thomas Allen Ebaugh², Haoran Yu², Leonard Bonville², Chiara Gambaro³,
Laura Meda³, Radenka Maric², Andrea Casalegno¹, Matteo Zago¹

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² Center for Clean Energy Engineering, University of Connecticut, USA

³ Eni DR&D Renewable Energy and Environmental R&D Center, Italy

Effect of operating conditions on performance and lifetime of vanadium-oxygen fuel cell

Page 31

Jiří Charvát^{1,2*}, Petr Mazúr¹, Martin Páidar³, Jindřich Mrlík¹, Jaromír Pociďič⁴, Jiří Vrána⁴, Juraj Kosek^{1,2}

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Composite anion exchange membrane proposed for RFBs

Page 33

Martyna Charyton^{1,2,3}, Mathieu Etienne², Gérard Henrion³, Mateusz L. Donten¹

¹ *Amer-sil, Luxembourg*

² *Laboratoire de Chimie Physique et Microbiologie pour les Matériaux et l'Environnement, Université de Lorraine CNRS, France*

³ *Institute Jean Lamour, Université de Lorraine CNRS, France*

Recent progress in organic-based aqueous flow batteries: stability and synthetic techniques

Page 35

Eric M. Fell¹, Min Wu¹, Yan Jing², Andrew A. Wong¹, Shijian Jin¹, Zhijiang Tang¹, Daniel A. Pollack³, Emily F. Kerr², Roy G. Gordon^{1,2}, Michael J. Aziz¹

¹ *Harvard School of Engineering and Applied Sciences, USA*

² *Department of Chemistry and Chemical Biology, Harvard University, USA*

³ *Department of Physics, Harvard University, USA*

Development of zinc-air-batteries based on ionic liquids for uninterruptible power supplies (USP)

Page 37

Manuel Forster, Christian Stromberg
Westphalian University of Applied Science, Germany

The demonstration and operation of a vanadium flow battery system for microgrid application

Page 39

Shohei Fukumoto^{1*}, Masao Moriguchi¹, Takuya Sano¹, Toshikazu Shibata¹, François Henry², Hamid Soleimani Bidgoli²

¹ *Energy Systems Division, Sumitomo Electric Industries, Ltd., Japan*

² *John Cockerill Energy, Belgium*

Recent progress of stack generations for a 40 kW all-vanadium flow battery as part of a multifunctional hybrid compensator

Page 41

Jan Girschik^{1*}, Rasit Oezgüec¹, Peter Schwerdt¹, Michael Joemann¹, Anna Grevé¹, Christian Doetsch¹

¹ *Fraunhofer Institute for Environmental, Safety and Energy Technology UMSICHT, Germany*

Composite membrane for the VRFB: Bilayer of a porous separator and a polybenzimidazole 'Skin'

Page 44

Lorenz Gubler¹, David Vonlanthen^{1,2}, Aaron Schneider¹, Fabio J. Oldenburg^{1,3}

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² *Swiss Battery, Switzerland*

³ *Gaia Membranes, Switzerland*

Improved performance of vanadium flow batteries by bonded graphite felt electrode-bipolar plate assemblies

Page 46

Gaurav Gupta¹, Nambi Krishnan Nagappan¹, Lisa M. Uhlig¹, Leif-Arvid Schillert¹, Wiebke Germer¹, Barbara Satola¹, Marco Zobel¹, Alexandra Ploner², Hermann Block³, Burak Caglar² and Alexander Dyck¹

¹ *DLR Institute of Networked Energy Systems, Germany*

² *SGL Carbon GmbH, Germany*

³ *Polyprocess GmbH, Germany*

MELODY project: new electrolyte compositions for membraneless H₂-Br₂ redox flow battery

Page 48

Matthäa Holland-Cunz¹, Wiebrand Kout², Matthew Suss³, Willem Haverkort¹, Peter Connor⁴, David A. Vermaas¹

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² *Elestor BV, The Netherlands*

³ *Technion, Israel*

⁴ *University of Exeter, UK*

Recent deployments of vanadium redox flow battery storage systems in South Korea

Page 50

Jeehyang Huh, Shin Han

H2, Inc., South Korea

Sealing technology is everything

Page 52

Detlef Jannes, Lothar Hörl, Frank Bauer

Institute of Machine Components, University of Stuttgart, Germany

Development of highly water soluble organic active materials for redox flow battery

Page 54

Atsushi Kaiho, Shinya Nagatsuka, Tomoya Nakajima, Takafumi Fujii

Nippon Kayaku Co., Ltd, Japan

Influence of the alkyl side chain length of pyridinium bromine complexing agents on the cell performance of a H₂/Br₂-flow battery

Page 56

Michael Küttinger, Théo Faverge¹, Nataliya V. Roznyatovskaya¹, Jens Tübke¹

Applied Electrochemistry, Fraunhofer Institute for Chemical Technology, Germany

A dopamine-based organic catholyte for aqueous redox flow battery

Page 58

Xiangrong Li, Quanbing Liu, Ao Tang and Chuanwei Yan

Institute of Metal Research, Chinese Academy of Sciences, China

HIGREEW aqueous organic redox flow battery: from materials development to final prototype integration

Page 60

Ana Catarina Lopes^{1,2}, Eduardo Sánchez-Díez¹, Maddalen Aguirre¹, Oihane Zugazua¹, Iván Salmeron-Sánchez³, Juan Asenjo-Pascual³, Juan Ramon Aviles-Moreno³, Pablo Mauleon⁴, Pilar Ocón³, Vicent Feynerol⁵, Mathieu Etienne⁵, Vanessa Fierro⁶, Raquel Ferret¹

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⁵ *LCPME, UMR7564 CNRS Université de Lorraine, France*

⁶ *Institut Jean Lamour, UMR 7198 CNRS Université de Lorraine, France*

Zinc-air flow battery development with an automated test bench integrated (POWER2FLOW)

Page 62

Elena Marchante, Juan Carratalá, Rubén Beneito

Energy Area, Technological Institute for children's product and leisure (AIJU), Spain

High voltage iron chrome flow battery enabled by chelation

Page 65

Michael P. Marshak^{1,2}

¹ *Department of Chemistry, University of Colorado Boulder, USA*

² *Renewable and Sustainable Energy Institute, USA*

Microfluidics applied to redox flow batteries: a membraneless breakthrough technology

Page 67

Beatriz Oraá-Poblete^{1,2}, Alberto Bernaldo de Quirós², Miguel de las Heras², Beatriz Ruiz², Jesús Palma¹, Alberto E. Quintero²

¹ *Electrochemical Processes Unit, IMDEA Energy Institute, Spain*

² *R&D Department, Micro Electrochemical Technologies S.L., Spain*

Composite membranes based on LATP and LAGTP ceramics for lithium hybrid-flow batteries: composition and outer factors' influence on the performance

Page 70

Nikolay Ovsyannikov¹, Irina Krasnikova¹, Mariam Pogosova¹, Nikita Akhmetov¹, Elena Romadina¹, Nataliya Gvozdik¹, Yasser Ashraf Gandomi², Fikile R. Brushett², Keith J. Stevenson¹

¹ *Center for Energy Science and Technology, Skolkovo Institute of Science and Technology, Russia*

² *Department of Chemical Engineering, Massachusetts Institute of Technology, USA*

Non-aqueous polyoxometalate flow batteries: best practice for laboratory-scale testing

Page 72

Catherine Peake, Graham Newton, Darren Walsh
School of Chemistry, University of Nottingham, UK

Circular economy applied to flow batteries in current commercial products and future developments

Page 74

Juan M. Pérez
Technical Department, Envirobat España, Spain

Invinity Energy Systems: Meeting increasing demand for heavy utilisation energy storage applications with vanadium flow batteries

Page 76

Ed Porter
Invinity Energy Systems, UK

Shore power infrastructure for decarbonisation of shipping (SPIDS)

Page 78

Christopher Price
Swanbarton Limited, UK

Optimal felt design in VFB for minimization of pressure drop

Page 82

Thomas J. Rabbow
AvCarb Material Solutions LLC, USA

Surface and activity enhancement of graphite felt electrodes

Page 84

Hannes Radinger, Jessica Pfisterer, Frieder Scheiba, Helmut Ehrenberg
Institute for Applied Materials, Karlsruhe Institute for Technology, Germany

Flow battery operating in hybrid energy storage system

Page 87

Krzysztof Rafal¹, Weronika Radziszewska¹, Jeehyang Huh², Pawel Grabowski³

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² *H2, Inc., Republic of Korea*

³ *STAY-ON Energy Management sp. z o.o., Poland*

Performance evaluation of single cell VFB at low temperatures

Page 89

Praphulla Rao, Ravendra Gundlapalli, Sreenivas Jayanti
Department of Chemical Engineering, Indian Institute of Technology Madras, India

Increasing the value of VRFBs behind the meter using dynamic efficiency optimisation

Page 91

Diarmid Roberts, Solomon F Brown
Department of Chemical & Biological Engineering, University of Sheffield, UK

Effect of electrolyte flow rate and different anode materials on the discharge performance of flow type zinc-air

Page 93

Ram kishore Sankaralingam, Satyanarayanan Seshadri

Department of Applied Mechanics, Indian Institute of Technology Madras, India

Overcoming the limitations of membranes: high performant anionic exchange membranes for aqueous organic redox flow batteries

Page 95

Caterina Sansone^{1*}, Xian Yang^{2,3,4*}, Tobias Janoschkab², Martin D. Hagerc^{3,4}, Ulrich S. Schubert^{3,4}, Cristina Iojoiu¹

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⁴ *Center for Energy and Environmental Chemistry Jena (CEEC Jena), Friedrich Schiller University Jena, Germany*

CUBER: Copper-based flow batteries for energy storage and renewables integration

Page 98

Laura Sanz¹; Corneliu Barbu²; Lasse Murto³; Wouter Badenhorst³; Catia Arbizzani⁴; Luigi Faggiano⁴; Giampaolo Lacarbonara⁴; Marta Boaventura⁵; Jorge Cruz⁵; Torsten Müller⁶; James Rohan⁷; Carlo Ricci⁸

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⁶ *Fraunhofer ICT, Germany*

⁷ *University College Cork - National University of Ireland, Ireland*

⁸ *Università di Cagliari, Italy*

Cost reduction – how to get the job done?

Page 101

Melanie Schroeder, Andreas Schiegl

J. Schmalz GmbH, Germany

Influence of different flow fields on a 100 cm² high energy density zinc/polyiodide RFB

Page 103

Lukas Siefert, Julian Kapp, Falko Mahlendorf, Angelika Heinzl

University Duisburg-Essen, Germany

The need for technical progress in flow battery development

Page 106

Lakshmi Srinivasan

Flow Battery Program, Lockheed Martin, USA

Dynamic response analysis on a 9-kW vanadium redox flow battery test facility

Page 108

Andrea Trovò^{1,2}, Nicola Poli^{1,2}, Vito Di Noto^{1,2}, Massimo Guarnieri^{1,2}

¹ *Department of Industrial Engineering, University of Padua - Padova, Italy*

² *Interdepartmental Centre Giorgio Levi Cases for Energy Economics and Technology, University of Padua - Padova, Italy*

SOC balancing in flow battery energy storage systems

Page 111

Adam Whitehead¹, Jean-Louis Cols¹, Andrew Klassen², Brian Adams², Nathan Barrett²

¹ *Invinity Energy Systems, UK*

² *Invinity Energy Systems, Canada*

Exploring the thermodynamics of the bromine electrode in concentrated solutions for improved parametrisation of hydrogen-bromine flow battery models

Page 113

Jakub K. Włodarczyk¹, Michael Küttinger², Andreas K. Friedrich³, Jürgen O. Schumacher¹

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IFBF 2019 List of Conference Papers

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Development of electrospun sulfonated poly(ether ether ketone)/poly(vinylidene fluoride) composite membrane for hydrogen-bromine flow battery

Page 14

Sanaz Abbasi, Wiebrand Kout, Antoni Forner-Cuenca, Zandrie Borneman, Kitty Nijmeijer
Elestor B.V., The Netherlands

*Membrane Materials and Processes, Department of Chemical Engineering and Chemistry,
Eindhoven University of Technology, The Netherlands*

Low cost zinc - iron rechargeable flow battery with high energy density

Page 16

Alessandra-Accogli, Gabriele-Panzeri, Eugenio-Gibertini, Matteo-Gianellini, Luca-Bertoli,
Luca-Magagnin

*Surface and Electrochemical Engineering Laboratory (SEELab), Dip. Chimica, Materiali e Ing.
Chimica G. Natta, Politecnico di Milano, Italy*

Evaluation of the mass transport phenomena in flow through electrodes with controlled geometries and arrangements

Page 18

Noemí Aguiló-Aguayo, Thomas Drozdik, Thomas Bechtold

Research Institute of Textile Chemistry and Textile Physics, University of Innsbruck, Austria

Fabrication and characterization of novel anion exchange blend membranes based on tetra aryl phosphonium ionomer for energy conversion and storage applications

Page 20

Muthumeenal Arunachalam, Belabbes Merzougui, Stephen E Creager, Rhett Smith, Rachid
Zaffou, Ahmed Sadiq, R. Amin, Fathima Fasmin, P. Ramesh Kumar Petla, Sabah Mariyam
Qatar Environment and Energy Research Institute, Qatar

Clemson University, USA

College of Science and Engineering, Hamad Bin Khalifa University, Qatar

Recent progress in aqueous organic flow batteries

Page 22

Michael J. Aziz

Harvard School of Engineering and Applied Sciences, USA

Characterisation of a 200 kW/400 kWh vanadium redox flow battery

Page 24

D. Bryans, V. Amstutz, H. Girault, L. Berlouis

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Ecole Polytechnique Fédérale de Lausanne, EPFL-SB-ISICLEPA, Switzerland*

Surface treatment of carbon felt electrodes and the associated impacts

Page 26

D. Bryans, M. Toda, B. McMillan, L. Berlouis

Mersen UK, Graphite Specialities Research & Development, UK

WestCHEM, Department of Pure & Applied Chemistry, University of Strathclyde, UK

Coordination chemistry flow battery

Page 28

Doreen Burchell

Lockheed Martin Energy, USA

Optimization of felt compression for high performance VRFB stack

Page 30

Jiří Charvát, Petr Mazúr, Jaromír Pociďič, Jan Dundálek, Jindřich Mrlík, Juraj Kosek

New Technologies – Research Centre, University of West Bohemia, Czech Republic

University of Chemistry and Technology, Czech Republic

Development of a flow field for a zinc air redox flow battery

Page 32

Nak Heon Choi, Diego del Olmo, Peter Fischer, Juraj Kosek, Karsten Pinkwart, Jens Tübke

Fraunhofer Institute for Chemical Technology, Germany

University of Chemistry and Technology Prague, Czech Republic

EnergyKeeper smart grid: an organic RFB in a practical application

Page 34

Olaf Conrad, Tobias Janoschka

JenaBatteries GmbH, Germany

Open source battery models for grid applications (open BEA)

Page 36

P. Dotzauer, D. Kucevic, B. Tepe, H. Hesse, J. Ing

Bavarian Center for Applied Energy Research e.V., Germany

Institute for Electrical Energy Storage Technology, Technical University of Munich, Germany

Field operating experiences of a vanadium redox flow battery in South Korea

Page 37

Jeehyang Huh, Shin Han

H2, Inc., South Korea

Stepwise potentiometric titration applied to bromine bromide electrolytes

Page 38

Mattia Duranti, Matteo Testi, Edoardo Gino Macchi, Luigi Crema

Center for Materials and Microsystems, Fondazione Bruno Kessler, Italy

Department of Industrial Engineering, University of Trento, Italy

Electrochemical studies and performance evaluation of 1- amino anthra quinone based slurry electrodes in flow cell batteries

Page 40

Fathima Fasmin, Farida H Aidoudi, Aziz Kheireddine, Muthumeenal Arunachalam, Ahmed Sodiq,

Rachid Zaffou, Belabbes A Merzougui

Qatar Environment and Energy Research Institute (QEERI), Hamad Bin Khalifa University, Qatar

College of Science and Engineering, Hamad Bin Khalifa University, Qatar

Investigation of electrolyte distribution in flow batteries by means of pH tracing

Page 42

Purna C. Ghimire, Arjun Bhattarai, Rüdiger Schweiss, Günther G. Scherer, Nyunt Wai, Qingyu Yan

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Energy Research Institute, Nanyang Technological University, Singapore

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Extruded bipolar plates for redox flow batteries

Page 44

Mario Gillmann, Thorsten Derieth, Matthias Schlesies, Thorsten Hickmann

Centroplast Engineering Plastics GmbH, Germany

Eisenhuth GmbH & Co. KG, Germany

Variance of electrochemically active surface area (ECSA)-scaling factors of flow battery cells with internal flow fields

Page 46

Jan Girschik, Nils Cryns, Jens Burfeind, Anna Grevé, Christian Doetsch

Fraunhofer Institute UMSICHT, Germany

A 40 kW vanadium flow battery as an electrical energy storage system of a multifunctional hybrid

compensator

Page 48

Jan Girschik, Michael Joemann, Peter Schwerdt, Anna Grevé, Christian Doetsch

Fraunhofer Institute UMSICHT, Germany

Zoltek carbon felt electrode materials - an overview

Page 50

Barbara Gönczi, Yasuaki Tanimura, Alan Handermann

Zoltek Zrt, Subsidiary of Toray, Hungary

Advanced Materials Research Laboratories, Toray Industries, Inc., Japan

Zoltek Corporation, Subsidiary of Toray, USA

Bonded graphitized felt electrode-bipolar plate assemblies for vanadium redox flow batteries

Page 52

Gaurav Gupta, Leif Schillert, Barbara Satola, Wiebke Germer, Hermann Block, Burak Caglar, Marco Zobel, Alexander Dyck

DLR Institute of Networked Energy Systems, Germany

Polyprocess GmbH, Germany

SGL Carbon GmbH, Germany

Performance enhancing stack geometry concepts

Page 54

Nicholas Gurieff, Chris Menictas, Victoria Timchenko, Maria Skyllas-Kazacos, Jens Noack

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CENELEST, German-Australian Alliance for Electrochemical Technologies for Storage of Renewable Energy, UNSW Sydney, Australia

Fraunhofer-Institute for Chemical Technology, Germany

100 MWh-scale vanadium flow battery projects in China and forthcoming utility-scale deployment

Page 56

Mianyan Huang, Jim Stover, Bo Hu

VRB Energy Inc., China

Failure analysis of the membrane electrode assembly in hydrogen-bromine flow batteries after accelerated cycling

Page 58

Yohanes Hugo, Wiebrand Kout, Zandrie Borneman, Kitty Nijmeijer

Elestor B.V., The Netherlands

Membrane Materials and Processes, Eindhoven University of Technology, Department of Chemical Engineering and Chemistry, The Netherlands

Design of flow fields for a large area cell of a VRFB

Page 60

Sreenivas Jayanti, Ravendra Gundlapalli

Department of Chemical Engineering, IIT Madras, India

State of charge monitoring in vanadium flow battery

Page 62

Hyunjoon Ji, Chujing Liu, Theresa Haisch, Claudia Weidlich

DEHEMA-Forschungsinstitut, Electrochemistry, Germany

Inverter based compensation of decreasing rotating mass in energy distribution systems

Page 64

Jens Kaufmann

TRUMPF Hüttinger, Germany

Activation of graphite felts using short-term ozone/heat treatment for vanadium redox flow batteries

Page 66

Hansung Kim, Donghyun Kil, Hojin Lee

Department of Chemical and Biomolecular Engineering, Yonsei University, Korea

A highly active carbon-based electrode by intercalating potassium for redox flow battery

Page 68

Youngkwon Kim, Je-Nam Lee, and Ji-Sang Yu

Korea Electronics Technology Institute, Korea

The current status of battery energy storage systems in Korea: policies, markets and standards

Page 70

Yu-Tack Kim, Sang A Lee, Min-Young Cho, Eohyun Yoo, Sooahn Jung, Dongmin Cha, Jaeseung Yoo

Battery R&D Association of Korea, South Korea

Commercial field experience with Avalon's modular VRFB

Page 74

Andy Klassen

Avalon Battery, Canada

Optimization study of embossed flow field structures on thin and flexible bipolar plates for an all vanadium flow battery

Page 76

Alexander Kubicka, Oliver Zielinski, Thorsten Hickmann, Ulrich Kunz, Michael Lanfranconi, Thorsten Seipp, Thomas Turek

Institute of Chemical and Electrochemical Process Engineering, Clausthal University of Technology, Germany

Eisenhuth GmbH & Co. KG, Germany

Improvement of BCA catholyte and cell performance in H₂/Br₂ flow batteries caused by conscious regulation of bromine sequestering reaction

Page 78

Michael Kuettinger, Raphael Riasse, Camilla Carraro, Peter Fischer, Jens Tuebke

Fraunhofer Institute for Chemical Technology, Germany

Stability of vanadium flow battery SoC monitoring using electrolyte potential and density

Page 80

Peter Kuhn, Simon Ressel, Thorsten Struckmann

Hamburg University of Applied Sciences, Heinrich Blasius Institute for Physical Technologies, Germany

The effects of ripple current on vanadium redox flow batteries

Page 82

Md Parvez Akter, Yifeng Li, Jie Bao, Maria Skyllas-Kazacos

School of Chemical Engineering, University of New South Wales, Australia

Online state of charge monitoring of vanadium flow battery using electrolyte viscosity

Page 84

Xiangrong Li, Ao Tang, Jianguo Liu and Chuanwei Yan

Institute of Metal Research, Chinese Academy of Sciences, China

Optimization of serpentine flow channels in the VRFB

Page 86

Ian Lin, Masahiro Katou, Takashi Kanno

Sumitomo Electric Industries, Ltd., Japan

Power density improvement of a flow battery for grid storage through carbon fibre catalyst modification

Page 88

Qinghua Liu, John P. Lemmon, Mingzhe Jiang, Sai Zhang, Xueqi Xing, Ping Miao

National Institute of Clean-and-Low-Carbon Energy, China

Optimized auxiliary supply increases the efficiency and flexibility without additional costs

Page 90

Thomas Lüth, David Kienbaum, Thomas Leibfried

Karlsruhe Institute of Technology (KIT), Germany

Quality control of flow battery stacks with a fully automated test stand

Page 92

Daniel Manschke, Thorsten Seipp, Tobias Kappels

Volterion GmbH, Germany

Copper slurry flow battery for heat-to-power conversion and energy storage

Page 94

Sunny Maye, Hubert Girault and Pekka Peljo

Laboratory of Physical and Analytical Electrochemistry, EPFL Valais-Wallis, Switzerland

Electrochemical stability of selected quinone and viologen derivatives for an organic electrolyte based redox flow battery

Page 96

Petr Mazur, Jindrich Mrlik, Jaroslav Kvicl, Zuzana Hlouskova, Milan Klikar, Filip Bures, Jiri Akrman, Lubos Kubac

University of Chemistry and Technology, Czech Republic

University of Pardubice, Faculty of Chemical Technology, Institute of Organic Chemistry and Technology, Czech Republic

Centre for Organic Chemistry, Czech Republic

Non-degrading energy storage infrastructure – the future of energy

Page 98

Scott McGregor

redT energy, UK

Sustainable energy storage market in Iran; current status and recent opportunities for RFB investment

Page 99

Seyyed Saeid Farhadi, Ali Davoodi, Ahad Zabett

Materials and Metallurgical Engineering Department, Faculty of Engineering, Ferdowsi University of Mashhad (FUM), Iran

Installation and interfacing of a commercial VRB system with PV

Page 100

Joseph Epoupa Mengou, Chiara Gambaro, Laura Meda

Eni SpA - Renewable Energy and Environmental R&D Center, Italy

A multicomponent diffusion model for organic redox flow battery membranes

Page 102

Gael Mourouga, Caterina Sansone, Fannie Alloin, Cristina Iojoiu, Jurgen O. Schumacher

Institute of Computational Physics (ICP), Zurich

University of Applied Sciences (ZHAW) Winterthur, Switzerland

Univ. Grenoble Alpes, Univ. Savoie Mont Blanc, CNRS, Grenoble INP, LEPMI, France

Factors leading to improved vanadium flow battery performance with thermally treated carbon paper electrodes

Page 104

Nataliya A. Gvozdik, Keith J. Stevenson

Skolkovo Institute of Science and Technology, Russia

Flow battery cost reductions enabled by membrane innovations

Page 106

Gregory Newbloom, Phil Pickett and Olivia Lenz

Membrion, Inc., USA

Raw material basis of V-electrolyte: Possibilities and limits of secondary raw materials

Page 108

Jochen Nühlen, Jens Burfeind, Alexander Matthies

Fraunhofer Institute for Environmental, Safety and Energy Technology UMSICHT, Germany

TU Bergakademie Freiberg, Institute for Nonferrous Metallurgy and Purest Materials, Germany

Advanced controls for flow batteries to enable remote areas deployments

Page 110

Brent O'Connor

Redflow, Australia

Assessing the membrane lifetime in vanadium redox flow batteries with an accelerated stress test

Page 112

Fabio J. Oldenburg, Ayoub Ourgaa, Thomas J. Schmidt, Lorenz Gubler

Electrochemistry Laboratory, Paul Scherrer Institut, Switzerland

Materials Science and Nano-Engineering Department, Mohammed VI Polytechnic University, Morocco

Laboratory of Physical Chemistry, ETH Zürich, Switzerland

Estimating the performance and stability of electrolytes for an aqueous organic redox flow battery: a combined experimental – 0D modelling approach

Page 114

David Pasquier, Quentin Cacciuttolo, Martin Petit

IFP Energies Nouvelles, France

Highly conductive graphite based felt electrodes for vanadium redox flow batteries

Page 116

Jessica Pfisterer, Elke Herrmann, Frieder Scheiba, Helmut Ehrenberg

Institute for Applied Materials, Karlsruhe Institute of Technology, Germany

Real-time reservoir balancing and leak-free nonaqueous cell design for flow batteries

Page 119

Kirk Smith

University of Oxford, UK

Statistical evaluation of measurement within the research of redox flow batteries at lab-scale

Page 120

Jaromír Pociedič, Jiří Vrána, Jan Dundálek, Petr Mazúr

Pinflow energy storage, Czech Republic

University of West Bohemia, New Technologies – Research Centre, Czech Republic

University of Chemistry and Technology, Czech Republic

Influence of electrolyte flow rate on the performance of a vanadium redox flow battery in discharge operation at dynamic loading conditions

Page 122

M. Pugach, S. Parsegov, A. Bischi

Skolkovo Institute of Science and Technology, Russia

Moscow Institute of Physics and Technology, Russia

Hydrogen formation in flow batteries – a parameter for optimization of system and components?

Page 124

Thomas J. Rabbow, David Chittenden, Reyhan Taspinar, Guenter Fafilek

AvCarb Materials Solution LLC, USA

TU Wien, Austria

Tubular cell designs for all vanadium and vanadium/air flow batteries

Page 126

Simon Ressel, Simon Fischer, Michael Jeske, Thorsten Struckmann

Hamburg University of Applied Sciences, Heinrich Blasius Institute for Physical Technologies, Germany

Uniwell Rohrsysteme GmbH & Co. KG, Germany

Fumatech BWT GmbH, Germany

Purification of copper-contaminated vanadium electrolytes using vanadium redox flow batteries selection

Page 128

Danick Reynard, Heron Vrabel, Christopher Dennison, Alberto Battistel, Hubert Girault

Ecole Polytechnique Fédérale de Lausanne, Switzerland

Microgrid system with all-vanadium redox flow battery and wind turbine generator

Page 130

Michael Schäffer, Peter Fischer, Christoph Winter, Jens Noack, Karsten Pinkwart, Jens Tübke

Fraunhofer Institute for Chemical Technology, Germany

Material, cell and stack characterization – a journey

Page 132

Melanie Schroeder, Udo Martin

J. Schmalz GmbH, Germany

Strategies to improve capacity and coulombic efficiency of a high energy density zinc/polyiodide RFB

Page 134

Lukas Siefert, Falko Mahlendorf, Angelika Heinzl

University Duisburg-Essen, Germany

Applications for flow batteries: high power, high cycle VRFB

Page 136

Thorsten Seipp, Sascha Berthold, Tobias Kappels, Kai Bothe, Daniel Manschke, Michael

Lanfranconi, Kees van de Kerk

Volterion GmbH, Germany

Performance evaluation of a 60MWh vanadium flow battery system over three years of operation

Page 138

Toshikazu Shibata, Shuji Hayashi, Keiji Yano, Takuya Sano, Kazuhiro Fujikawa, Katsuya

Yamanishi, Takatoshi Matsumoto, Kunihiko Tada, Akira Inoue, Eiichi Sasano

Sumitomo Electric Industries, Ltd., Japan

Hokkaido Electric Power Co., Inc., Japan

Comparing flow batteries with lithium-ion energy storage for the energy arbitrage application in the Mexican electricity market

Page 140

Javier de la Cruz Soto, Joep Pijpers

National Institute for Electricity and Clean Energy (INEEL), Mexico

A calibration-free, temperature-independent, amperometric state-of-charge monitoring method

Page 142

Christian Stolze, Jan Meurer, Martin Hager, Ulrich Schubert

Laboratory of Organic and Macromolecular Chemistry (IOMC), Friedrich Schiller University Jena, Germany

Center for Energy and Environmental Chemistry Jena (CEEC Jena), Friedrich Schiller University Jena, Germany

A high energy density solid-flow battery

Page 144

Simon Long Yin Tam, Zengyue Wang, Yi-Chun Lu

Electrochemical Energy and Interfaces Laboratory, Department of Mechanical and Automation Engineering, The Chinese University of Hong Kong, Hong Kong

Simulation analysis of mechanical behaviour and its impact on reliability and electrochemical performance of the vanadium flow battery stack

Page 146

Ao Tang, Jing Xiong, Xiangrong Li, Jianguo Liu, Chuanwei Yan

Institute of Metal Research, Chinese Academy of Sciences, China

Thermal modelling of industrialized VRFBs

Page 148

Andrea Trovò, Monica Giomo, Federico Moro, Piergiorgio Alotto, Massimo Guarnieri

Department of Industrial Engineering, University of Padua, Italy

The future of the Russian energy storage market - trends and opportunities and a forecast to 2025 - 2030

Page 150

Andrei Usenko, Yuri Dobrovolsky, Alexey Kashin

Institute of Problems of Chemical Physics RAS, Russia

Inenergy LLC, Russia

Hybrid hydrogen-vanadium fuel cell for electrical energy storage

Page 152

Trung Van Nguyen

The University of Kansas, USA

Stabilization of the positive electrolyte for a vanadium flow battery using $\text{Fe}_2(\text{SO}_4)_3$ additive at 50 °C

Page 154

Baoguo Wang, Zenghui Li, Yuqun Lin, Lei Wan

Dept of Chemical Engineering, Tsinghua University, China

A low-cost and scalable zinc iodine-bromide flow battery for bulk energy storage

Page 156

Zengyue Wang, Simon Long Yin Tam, and Yi-Chun Lu

Electrochemical Energy and Interfaces Laboratory, Department of Mechanical and Automation Engineering, The Chinese University of Hong Kong, Hong Kong

Open-circuit potential prediction and its applications in modeling and simulation of hydrogen-bromine redox flow batteries

Page 158

Jakub Wlodarczyk, Michael Küttinger, Peter Fischer, Jürgen O. Schumacher

Zurich University of Applied Sciences (ZHAW), Institute of Computational Physics (ICP), Switzerland

Fraunhofer Institute for Chemical Technology, Germany

Advancement of Nafion™ membrane for vanadium flow battery applications

Page 160

Ruidong Yang, Jan Lenders, Michael Raiford, Robert Moffett

Nafion™ Ion Exchange Materials, The Chemours Company, USA

Nafion™ Ion Exchange Materials, Chemours Belgium BVBA, Belgium

Field experience and advancement of the new generation VRFB

Page 162

Zhenguo “Gary” Yang, Chauncey Sun, David Ridley, Rick Winter

UniEnergy Technologies, USA

Enhanced aqueous organic redox flow battery by solid boosters

Page 164

Elena Zanzola, S. Gentil, G. Gschwend, D. Reynard, E. Smirnov, C. Dennison, H.H. Girault, P. Peljo

Laboratory of Physical and Analytical Chemistry (LEPA), École Polytechnique Fédérale de Lausanne – EPFL, Switzerland

Research group of Physical Electrochemistry and Electrochemical Physics, Department of Chemistry and Materials Science, Aalto University, Finland

Crossover-tolerant hydrogen electrocatalysts in hydrogen/bromine redox flow battery

Page 166

David Zitoun, Kobby Saadi

Department of Chemistry and Bar Ilan Institute of Nanotechnology and Advanced Materials (BINA), Bar Ilan University, Israel

The development of low cost, intrinsically safe flow batteries to meet the commercial challenge from competing battery technologies

Page 168

Huamin Zhang

Dalian Institute of Chemical Physics, Chinese Academy of Science, China

Rongke Power Co., Ltd, China

IFBF 2018 List of Conference Papers

Print ISBN: 978-0-9571055-8-4

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Mass-transfer measurements at porous 3D Pt-Ir/Ti electrodes in a direct borohydride fuel cell

Page 14

Abdulaziz A. Abahussain, Carlos Ponce de Leon, Frank C. Walsh
University of Southampton, UK

Effect of oxidation and reduction on vanadium kinetics at glassy carbon electrodes; surface area and surface state

Page 16

Maria Alhajji, Andrea Bourke D. Noel Buckley, Robert Lynch
Department of Physics, Bernal Institute, University of Limerick, Ireland
Case Western Reserve University, USA

Status of zinc-based redox flow batteries: a technological review

Page 18

Luis F. Arenas, Carlos Ponce de León, Frank C. Walsh
Electrochemical Engineering Laboratory, Department of Mechanical Engineering, University of Southampton, UK

The improvement of redox flow energy storage with an industry-academia consortium in Northern Ireland

Page 20

Laleh Bahadori, Sophie Tyrrell, Nicoloy Gurusinghe, Tim Littler, Martin Atkins, Peter Nockemann
School of Chemistry and Chemical Engineering, Queen's University Belfast, UK
School of Electronics, Electrical Engineering and Computer Science, Queen's University Belfast, UK

Testing of a prototype 25 kW/50 kWh Zn-Br₂ battery at the Power Networks Demonstration Centre and integrated to a community wind turbine

Page 22

Leonard Berlouis, Declan Bryans, Jawwad Zafar, Paul Tuohy, Tae Hyuk Kang, Dae Sik Kim, Dong Joo Kim, Michael Shaw, Patrick Atkinson and Andrew Peacock
University of Strathclyde, UK
Lotte Chemical Research Institute, South Korea
Findhorn Foundation College, UK
Heriot Watt University, UK

The “Power Drop Effect” during operation of a vanadium redox flow battery

Page 24

Arjun Bhattarai, Adam Whitehead, Ruediger Schweiss, Guenther Scherer, Nyunt Wai, Tam D. Nguyen, Purna C. Ghimire, Huey Hoon Hng
Nanyang Technological University, Singapore
redT energy plc., UK
SGL Carbon GmbH, Germany
Hagglingen, Switzerland

Sustainable energy storage market in Iran; current status and recent opportunities for RFB investment

Page 25

Seyyed Saeid Farhadi, Ali Davoodi, Ahad Zabett
Materials and Metallurgical Engineering Department, Faculty of Engineering, Ferdowsi University of Mashhad (FUM), Iran

A low-cost electrochemical impedance spectroscopy measurement device for online determination of electrolyte charge imbalance in vanadium flow batteries

Page 26

Thomas Buczkowski, Michael Schäffer, Peter Fischer, Karsten Pinkwart, Jens Tübke
Fraunhofer Institute for Chemical Technology, Germany

Carbon and graphite components for flow batteries - current status, trends and prospects

Page 28

Burak Caglar, Christian Ruediger, Ruediger Schweiss, Kathlyne Duong
SGL CARBON GmbH, Germany
SGL TECHNIC Inc., USA

An integrated thermal to electrical energy conversion and storage system

Page 30

Hui Cao, Xuemin Zhao, Yanqi Zhao, Peter Slater, Yulong Ding
University of Birmingham, UK
Southern University of Science and Technology, People’s Republic of China

1D electrode model for half-cell characterization of a redox flow battery

Page 32

Mathilde Cazot, Sophie Didierjean, Gaël Maranzana, Jérôme Dillet, Florent Beille
LEMETA – Université de Lorraine – CNRS, France
KEMWATT, France

An optimal flow frame design for the Fe/Cr flow battery

Page 34

Yun Young Choi, Seongyoon Kim, Mingyu Yang, Ki Jae, Kim and Jung-II Choi
Yonsei University, Korea
Konkuk University, Korea

Coordination chemistry flow battery

Page 36

Adam Morris-Cohen

Lockheed Martin Energy, USA

One-year field test of a fast-acting zinc-bromine 20 kW / 60 kWh flow battery system to develop a business model for distributed small and medium sized storage projects in the Dutch electricity market

Page 38

Jeroen de Veth

Trinergie, Netherlands

Field experience and application benefits with new generation VRFB

Page 40

John DeBoever, Zhenguo "Gary" Yang

UniEnergy Technologies, USA

Enhanced performance of membrane separated bromine-based flow batteries using complexing agents

Page 42

Ran Elazari, Ori Rorlik, Iris Ben-David, Olga Golberg-Oster

ICL Industrial Products R&D, Israel

Spatially resolved investigation of electrode compression effects in the vanadium redox flow battery

Page 44

Purna C. Ghimire, Arjun Bhattarai, Rüdiger Schweiss, Günther G. Scherer, Nyunt Wai, Qingyu Yan

Interdisciplinary Graduate School, Nanyang Technological University, Singapore

Energy Research Institute, Nanyang Technological University, Singapore

School of Material Science and Engineering, Nanyang Technological University, Singapore

SGL Carbon GmbH, Germany

5607 Häßlingen, Switzerland

ElectriStor™ – setting a new cost and performance standard for VRB

Page 46

H. Frank Gibbard, Gregory Cipriano, Reinder Boersma

WattJoule Corporation, USA

Effects of pressure differences between flow battery half-cells

Page 48

Jan Girschik, Nils Cryns, Jens Burfeind, Anna Grevé, Christian Doetsch

Fraunhofer UMSICHT, Germany

The VRFB industrial-scale experiment at the University of Padua

Page 50

Massimo Guarnieri, Andrea Trovò, Angelo D'Anzi, Giacomo Marini, Alessandro Sutto, Piergiorgio Alotto

Department of Industrial Engineering, University of Padua, Italy

Proxima srl, Italy (now StornEn Technologies Inc., USA)

Optimization of the stack design for the vanadium redox flow battery

Page 52

Ravendra Gundlapalli, Sreenivas Jayanti

Department of Chemical Engineering, IIT Madras, India

New organic electroactive molecules for electrolytes of redox flow batteries

Page 54

Thibaut Gutel, Yves Chenavier, Jessica Charoloy, Ines Mannai, Arnaud Morin, and Lionel Dubois

Univ. Grenobles Alpes, France

Presentation and analysis of novel zinc-bromine battery cell performance

Page 56

Bjorn Hage, Jens Noack, Peter Fischer

BH Consulting, Australia

Fraunhofer Institute for Chemical Technology, Germany

Cooling of a power conversion system for redox flow batteries using the electrolyte - a concept study

Page 58

Lothar Heinemann, Jana Schleif, Guido Dieter Hodapp

Trumpf Hüttinger, Germany

The project brine4power – a mega-battery for green energy

Page 60

Alrik Hervieu, Ralf Riekenberg, André Fisse, Timo Di Nardo, Hayo Seeba, Jan grosse Austing

EWE GASSPEICHER GmbH, Germany

Electrochemical impedance of an alkaline organic flow battery

Page 62

Doris Hoffmeyer, Johan Hjelm

Technical University of Denmark, Department of Energy, Conversion and Storage, Denmark

How the policies of China influence the global flow battery market

Page 64

Mianyan-Huang, Jim Stover

VRB Energy Operations (Beijing) Co. Ltd., China

The current status of vanadium redox flow battery development in South Korea: market opportunities and installation sites

Page 66

Jeehyang Huh and Shin Han

H2, Inc., South Korea

Performance of kW class vanadium redox flow batteries incorporating the VGCF™ electrode

Page 68

Irwansyah, Keizo Iseki, Kentaro Watanabe, Gaku Oriji, Yoshinori Abe, Masatoshi Ichikawa, Shuichi Naijo

Institute for Advanced and Core Technology, Showa Denko K.K., Japan

Unique processed large area bipolar plates for redox-flow-batteries

Page 69

Mario Gillmann, Thorsten Derieth

Centroplast Engineering Plastics GmbH, Germany

Harnessing natural convection in redox flow batteries: proof of concept

Page 69

Md Aslam Ansari, Sanjeev Kumar

Department of Chemical Engineering, Indian Institute of Science, India

Field test experience with 2.5 kW fully welded stacks

Page 70

Tobias Kappels, Thorsten Seipp, Fabian Brünger, Sascha, Berthold, Kai Bothe

Volterion GmbH, Germany

A novel carbonized electrode using phenol for flow battery

Page 72

Yongbeom Kim, Woon Cho, Joonhyeon Jeon

Donguk University, Republic of Korea

Voltage propagation within flow battery system and its implications on safety, DC topology and PCS selection

Page 74

Eugene Kizhnerman

Independent Technology Consultant, Electrochemistry and Energy Storage, Canada

Modeling the temperature dependence of the charge and discharge behaviours of a zinc/bromine flow battery

Page 76

Boram Koo, Dongcheul Lee, Chee Burm Shin, Dong Joo, Kim, and Tae Hyuk Kang

Dept. of Chemical Engineering and Division of Energy Systems Research, Ajou University, Republic of Korea

Lotte Chemical, Republic of Korea

Monitoring the state of charge in a VFB with a novel amperometric sensor

Page 78

Isabelle Kroner, Thomas Turek

Clausthal University of Technology; Institute of Chemical and Electrochemical Process Engineering, Germany

Bromine complexation agents in H₂ /Br₂ flow battery cathodes: physicochemical processes and their influence on cell operation and cell performance

Page 80

Michael Kuettinger, Ruben Brunetaud, Peter Fischer, Jens Tübke

Applied Electrochemistry, Fraunhofer Institute for Chemical Technology, Germany

Control system for flow batteries

Page 82

Thomas Lueth, Thomas Leibfried

Karlsruhe Institute of Technology (KIT), Germany

Evaluation of the transient characteristics of a redox flow battery with electrolyte flow

Page 84

Toko Mannari, Takafumi Okuda, and Takashi Hikiyama

Department of Electrical Engineering, Kyoto University, Japan

Proof of redox flow batteries' functionality by conducting electrochemical impedance spectroscopy tests

Page 86

Daniel Manschke, Thorsten Seipp, Sascha Berthold

Volterion GmbH, Germany

FleXtore II: 50kW hydrogen bromine flow battery

Page 88

Natalia Mazur, Wiebrand Kout, Joep Lauret, Peter Puttkammer, Raphaël T. van der Velde, Sebastian B. van Drenth, Yohanes Antonius Hugo, Friso D. Sikkema

Elestor b.v., Arnhem, The Netherlands

Witteveen+Bos, The Netherlands

Membrane Materials and Processes, Department of Chemical Engineering and Chemistry, Eindhoven University of Technology, The Netherlands

Vanadium-oxygen hybrid fuel cell: design and performance

Page 90

Chris Menictas, Mandar Risbud, Maria Skyllas-Kazacos and Jens Noack

School of Mechanical and Manufacturing Engineering, UNSW Sydney, Australia

School of Chemical Engineering, UNSW Sydney, Australia

CENELEST, German-Australian Alliance for Electrochemical Technologies for Storage of Renewable Energy, School of Mechanical and Manufacturing Engineering, UNSW Sydney, Australia

Fraunhofer-Institute for Chemical Technology, Germany

A pilot project using a VFB in a multiple-use application

Page 92

Yoshiyuki Nagaoka, Shohei Fukumoto, Yoshihiro Hirata, Riichi Kitano
Sumitomo Electric U.S.A., Inc. (SEUSA), USA
Sumitomo Electric Industries, Ltd (SEI), Japan
Innovation Core SEI, Inc. (ICS), USA

Tuning electrolyte transport with amphoteric PBI-Nafion bilayered membranes

Page 94

Fabio J. Oldenburg, Thomas J. Schmidt, Lorenz Gubler
Electrochemistry Laboratory, Paul Scherrer Institut, Switzerland
Laboratory of Physical Chemistry, ETH Zürich, Switzerland

Development and characterisation of a copper battery system for heat-to-power conversion

Page 96

Pekka Peljo, Sunny Maye
Laboratoire d'Electrochimie Physique et Analytique, École, Polytechnique Fédérale de Lausanne, Switzerland

3D-printed conductive static mixers enable the all vanadium redox flow battery using slurry electrodes

Page 98

Korcan Percin, Alexandra Rommerskirchen, Robert Sengpiel, Youri Gendel, Matthias Wessling
DWI Leibniz-Institute for Interactive Materials, Germany
RWTH Aachen University Chemical Process Engineering, Germany
Technion-Israel Institute of Technology, Israel

Vanadium market fundamentals

Page 100

Terry Perles
TTP Squared, Inc., USA

Vionx Energy: A small company leveraging large company innovations

Page 102

Mike L. Perry
United Technologies Research Center (UTRC), USA

Validated flow distribution analysis by a VFB model linked with optical measurements

Page 104

Eva Prumbohm, Gregor D. Wehinger, Ulrich Kunz and Thomas Turek
Clausthal University of Technology, Institute of Chemical and Electrochemical Process Engineering, Germany
Research Center Energy Storage Technologies, Germany

Numerical study of internal losses and their influence on the performance of a single vanadium redox flow cell

Page 106

M. Pugach, A. Bischi

Skolkovo Institute of Science and Technology, Russia

Moscow Institute of Physics and Technology, Russia

Harvesting low-grade heat using all-vanadium redox flow batteries

Page 108

Danick Reynard, Christopher Dennison, Alberto Battistel, Hubert Girault

Ecole Polytechnique Fédérale de Lausanne, Switzerland

Optimization of a hydrogen/manganese hybrid redox flow battery

Page 110

Javier Rubio-Garcia, Anthony Kucernak, Dong Zhao, Danlei Li, Vladimir Yufit, Nigel Brandon

Department of Chemistry, Imperial College London, UK

Department of Earth Science and Engineering, Imperial College London, UK

Flow battery integration in printed circuit boards

Page 112

Patrick Ruch, Omar Ibrahim, Ralph Heller, Stephan Paredes, Erik Kjeang, Bruno Michel

IBM Research – Zurich, Switzerland

School of Mechatronic Systems Engineering, Simon Fraser University, Canada

Improving the long term VFB operation by modelling crossover processes and capacity balancing methods

Page 114

Katharina Schafner, Thomas Turek

Clausthal University of Technology, Germany

Research Center Energy Storage Technologies, Germany

Evaluation of grid control for field operation using a 60 MWh vanadium flow battery system

Page 116

Toshikazu Shibata, Shuji Hayashi, Keiji Yano, Takuya Sano, Kazuhiro Fujikawa, Katsuya

Yamanishi, Takatoshi Matsumoto, Kunihiko Tada, Akira Inoue and Eiichi Sasano

Sumitomo Electric Industries, Ltd., Japan

Hokkaido Electric Power Co., Inc., Japan

Determining the state-of-charge of symmetric flow batteries using open circuit potentials and self-discharge profiles

Page 118

Kirk Smith, Charles Monroe

University of Oxford, United Kingdom

Flowable carbon suspension electrodes for sulfur-iron redox flow battery

Page 120

Ahmed Sodiq, Lagnamayee Mohapatra, Fathima Fasmin, Sabah Mariyam, Rachid Zaffou and Belabbes Merzougui

College of Science and Engineering, Qatar Environment and Energy Research Institute, Hamad Bin Khalifa University, Qatar

In situ state of charge and crossover estimation of vanadium redox flow batteries from electrolyte potentials and densities

Page 122

Thorsten Struckmann, Simon Ressel, Peter Kuhn, Claudia Weidlich

Hamburg University of Applied Sciences, Department of Mechanical Engineering and Production, Electrochemistry Laboratory, Germany

Instituto de Tecnología Química, Universitat Politècnica de València-Consejo Superior de Investigaciones Científicas, Spain

DFI – DECHEMA Research Institute, Electrochemistry, Germany

Recent progress in vanadium flow battery manufacture, scale-up and demonstration at IMR-CAS

Page 124

Ao Tang, Xiangrong Li, Xinzhuang Fan, Ye Qin, Jianguo Liu and Chuanwei Yan

Institute of Metal Research, Chinese Academy of Sciences, China

Flexible graphite soft felt electrodes for flow batteries

Page 126

Marcin Toda, George Law, John Meahan

Mersen Scotland, UK

NAFION™ membranes for vanadium flow battery

Page 128

Murat Unlu, Michael Raiford, Ruidong Yang

The Chemours Company, USA

High energy density anolyte for aqueous organic redox flow batteries

Page 130

Wei Wang, Aaron Hollas, Vijayakumar Murugesan, Xiaoliang Wei

Pacific Northwest National Laboratory, USA

Understanding transport phenomena in flow-battery separators

Page 132

Adam Z. Weber, Andrew Crothers, Douglas I. Kushner, Robert M. Darling, Michael L. Perry, Andrew M. Herring

Lawrence Berkeley National Laboratory, USA

United Technologies Research Center, USA

Colorado School of Mines, USA

Status and future perspectives of redox flow batteries

Page 134

Zhenguo (Gary) Yang

UniEnergy Technologies, US

Electrochemical investigation on the behaviour of ferroin as candidate redox mediator for aqueous flow batteries

Page 136

Elena Zanzola, Pekka Peljo, Evgeny Smirnov, Hubert Girault

Laboratory of Physical and Analytical Electrochemistry (LEPA), École Polytechnique Fédérale de Lausanne (EPFL), Switzerland

Quantitative analysis method of vanadium for the SOC monitoring of a vanadium flow battery

Page 138

Fan-wu Zeng, Shu-ting Wang, Nai-xu Du, Ming-ming Song, Yan-bo Chen

Dalian Bolong New Materials Limited Company, China

Three-dimensional lattice Boltzmann model for a polymer-based redox flow battery

Page 140

Duo Zhang, Antoni Forner-Cuenca, Oluwadamilol O.Taiwo, Vladimir Yufit, Fikile R. Brushett, Nigel P. Brandon, Qiong Cai, Sai Gu

Department of Chemical and Process Engineering, Faculty of Engineering and Physical Sciences, University of Surrey, UK

Department of Chemical Engineering, Massachusetts Institute of Technology, USA

Department of Earth Science & Engineering, Faculty of Engineering, Imperial College London, UK

Computational analysis of vanadium flow batteries for centralised storage applications in low-voltage grids

Page 142

Christina Zugschwert, Saskia Dinter, Georg Heyer, Karl-Heinz Pettinger, Tim Rödiger

Technology Center Energy, University of Applied Sciences Landshut, Germany

IFBF 2017 List of Conference Papers

Print ISBN: 978-0-9571055-7-7

Digital ISBN: 978-1-9164518-7-2

Aqueous organic-organometallic RFB with extreme capacity retention at neutral pH

Page 12

Michael J. Aziz, Eugene Beh, Diana DePorcellinis, Rebecca L. Gracia, Kay T. Xia, Roy G. Gordon

Harvard School of Engineering and Applied Sciences, USA

Department of Chemistry and Chemical Biology, Harvard University, USA

Harvard College, USA

Reducing electrolyte imbalance in the all vanadium flow battery

Page 14

Arjun Bhattarai, Rüdiger Schweiss, Adam Whitehead, Günther G. Scherer, Nyunt Wai, Purna C. Ghimire, Tam D. Nguyen, Moe O. Oo, Huey Hoon Hng

School of Material Science and Engineering, Nanyang Technological University, Singapore

Energy Research Institute, Nanyang Technological University, Singapore

SGL Carbon GmbH, Germany

Gildemeister energy storage GmbH, Austria

TUM CREATE, Singapore

Probing pore-scale mass transfer in redox flow batteries

Page 16

Fikile Brushett, Jarrod Milshtein, Kevin Tenny, John Barton, Javit Drake, Robert Darling

Joint Center for Energy Storage Research, USA

Massachusetts Institute of Technology, USA

The University of Kansas, USA

United Technologies Research Center, USA

Characterisation of novel additives for use in the ZnBr₂ hybrid flow battery

Page 18

Declan Bryans, Leonard Berlouis, Mark Spicer, Brian McMillan, Alastair Wark

WestCHEM, Department of Pure and Applied Chemistry, University of Strathclyde, UK

MoO₃ as catalysts for high power vanadium redox flow batteries

Page 20

Liuyue Cao, Maria Skyllas-Kazacos, Da-Wei Wang

School of Chemical Engineering, University of New South Wales, Australia

Study of in situ locally resolved current density measurements in flow battery single cells and stacks

Page 22

Tobias Gerber, Peter Fischer, Jens Noack, Karsten Pinkwart, Jens Tübke

Fraunhofer Institute for Chemical Technology (ICT), Germany

Organic RFB with alkaline aqueous-based electrolytes: Kemwatt's road to market strategy

Page 24

Thibault Godet-Bar

Kemwatt, France

Amphoteric ion exchange membranes for vanadium flow batteries with higher transport selectivity and cycle stability

Page 26

Lorenz Gubler, Olga Nibel, Thomas J. Schmidt

Electrochemistry Laboratory, Paul Scherrer Institut, Switzerland

The best choice for stationary energy storage

Page 28

Bjorn Hage, Jens Noack

bh-consulting, Australia

Fraunhofer ICT, Germany

Charging rate effect on Fe-V flow battery performance - the role of electrode kinetics

Page 30

Ahmad D. Hammad, Stamatios Souentie, Issam T. Amr, Abdulrahman S. Alsuhaibani, Essa I. Almazroei

Research and Development Center, Saudi Aramco Oil Company, Saudi Arabia

2D modelling of a hydrogen bromine redox flow battery

Page 32

J.W.Haverkort, K.Prasad, F. Sikkema, W.Kout

Delft University of Technology, The Netherlands

Elestor, The Netherlands

FH Aachen, Germany

Modular and flexible power conversion system optimized for flow batteries

Page 34

Lothar Heinemann, Jens Kaufmann, Sebastian Gruber

Trumpf Hüttinger, Freiburg, Germany

The current status and prospects for vanadium flow batteries in China

Page 36

Mianyan Huang, Eric Finlayson, Hanmin Liu, Jim Stover, Xiaofeng Xie, Billy Wu

Pu Neng, China

Zhangjiakou Wind & Solar Power Energy Demonstration Station Co. Ltd. China State Grid

Institute of Nuclear and New Energy Technology, Tsinghua University, China

Dyson School of Design Engineering, Imperial College London, UK

High selectivity-conductivity reinforced perfluorosulfonic acid membranes for hydrogen-bromine flow batteries

Page 38

Yohanes Hugo, Wiebrand Kout, Friso Sikkema, Zandrie Borneman, Kitty Nijmeijer

Elestor B.V., The Netherlands

Membrane Materials and Processes, Eindhoven University of Technology, Department of Chemical Engineering and Chemistry, The Netherlands

A high performance vanadium redox flow battery incorporating the VGCF™ electrode

Page 40

Irwansyah, Keizo Iseki, Gaku Oriji, Masatoshi Ichikawa, Kenzo Hanawa

Institute for Advanced and Core Technology, Showa Denko K.K., Japan

Validation of KIT's flow battery model with manufacturers' data while maintaining confidentiality

Page 42

Sebastian König, Thomas Leibfried, Hannes Barsch, Henrik Buschmann, Holger Fink, Markus Trampert, Martin Harrer

Karlsruhe Institute of Technology (KIT), Germany

Schmid Energy Systems GmbH, Germany

J. Schmalz GmbH, Germany

Gildemeister Energy Storage GmbH, Austria

The electrode composition determines the faster half-cell in a vanadium redox flow battery

Page 45

Jochen Friedl, Ulrich Stimming

Newcastle University, UK

Extra-large bipolar plates for redox flow batteries

Page 46

Lukas Kopietz, Peter Schwerdt, Jan Girschik, Jens Burfeind, Anna Grevé, Christian Doetsch

Fraunhofer UMSICHT, Germany

Charge strategies for soluble-lead flow batteries

Page 48

Michael Lanfranconi, Gregor Strangemann, Hans-Joachim Lilienhof

Westphalian University of Applied Science, Germany

New product development of RongKe Power (RKP) vanadium flow battery

Page 50

Xiangkun Ma, Huamin Zhang, Xianfeng Li

Dalian Rongke Power Co., Ltd., China

Division of Energy Storage, Dalian Institute of Chemical Physics, Chinese Academy of Science, China

The effect of cations on the proton transport of PFSA membranes used in hydrogen-bromine flow batteries: observations and mitigation solutions

Page 52

Natalia Mazur, Yohanes Antonius Hugo, Wiebrand Kout, Friso Sikkema, Ran Elazari, Ronny Costi

Elestor B.V., The Netherlands

ICL Industrial Products R&D, Israel

Tackling capacity fading with amphoteric membranes

Page 54

Fabio J. Oldenburg, Thomas J. Schmidt, Lorenz Gubler

Electrochemistry Laboratory, Paul Scherrer Institut, Switzerland

Laboratory of Physical Chemistry, Switzerland

Heat-to-power conversion with non-aqueous copper redox flow batteries

Page 56

Pekka Peljo, Sunny Maye

École Polytechnique Fédérale de Lausanne, Switzerland

Vanadium market fundamentals

Page 58

Terry Perles, Alberto Arias

TTP Squared, Inc, USA

Arias Resource Capital Management LP, USA

A combined multiscale experimental and modelling approach to studying redox flow batteries

Page 60

Martin Petit, Mélody Leroy, Philippe Jacquinet, David Pasquier

IFP Energies Nouvelles, France

Coordination chemistry flow battery

Page 62

Steven Reece, Michael Bufano

Lockheed Martin Energy, USA

Novel flow field designs and application in electronic packages

Page 64

Patrick Ruch, Julian Marschewski, Kleber Marques Lisboa, Lorenz Brenner, Neil Ebejer, Dimos Poulikakos, Bruno Michel

IBM Research – Zurich, Switzerland

Laboratory of Thermodynamics in Emerging Technologies, ETH Zurich, Switzerland

Recent progress in fully welded stack technology

Page 66

Thorsten Seipp, Sascha Berthold, Andreas Albert, Lukas Kopietz

Volterion GmbH, Germany

Fraunhofer UMSICHT, Germany

Demonstration of 60MWh vanadium flow battery system for grid control

Page 68

Toshikazu Shibata, Shuji Hayashi, Keiji Yano, Takuya Sano, Kazuhiro Fujikawa, Katsuya Yamanishi, Yasumitsu Tsutsui, Takatoshi Matsumot, Kunihiro Tada, Akira Inoue, Eiichi Sasano

Sumitomo Electric Industries Ltd., Japan

Hokkaido Electric Power Co., Inc., Japan

Precipitation inhibitors for supersaturated vanadium electrolytes for the vanadium redox flow battery

Page 70

Maria Skyllas-Kazacos, Chris Menictas, Nadeem Kausar, Asem Mousa

School of Chemical Engineering, University of New South Wales, Australia

Hybrid polyoxometalate membranes with high conductivity and selectivity

Page 72

Michael C Tucker, Douglas I. Kushner, Adam Z Weber, Gregory M. Haugen, Andrew R. Motz, Andrew Herring

Energy Storage Group, Lawrence Berkeley National Laboratory, USA

3M, USA

Colorado School of Mines, USA

A low-cost, non-hazardous all-iron battery for the developing world

Page 74

Michael C Tucker, David Lambelet, Adam Phillips, Mohamed Oueslati, Benjamin Williams, Wu-Chieh Jerry Wang, Adam Z Weber

Energy Storage Group, Lawrence Berkeley National Laboratory, USA

University of California, USA

Advanced redox flow battery systems

Page 76

Wei Wang, Xiaoliang Wei, M. Vijaykumar, Bin Li, Zimin Nie, Vincent Sprenkle

School of Chemical Engineering, University of New South Wales, Australia

Pacific Northwest National Laboratory, USA

Detection of electrolyte crossover by state of charge monitoring in all-vanadium redox-flow batteries

Page 78

Claudia Weidlich, Lucas Holtz, Klaus-Michael Mangold, Simon Ressel, Thorsten Struckmann

DEHEMA-Forschungsinstitut, Germany

HAW Hamburg, Germany

Scale-up of the iron-ferricyanide battery chemistry using WhEST's flow battery scale-up platform

Page 80

Ian Whyte, David Hodgson

Watt hour Energy Storage Technologies (WhEST), UK

The vanadium flow battery technology and its application in the energy storage field

Page 82

Huamin Zhang*

Dalian Institute of Chemical Physics, Chinese Academy of Sciences, China

Dalian Rongke Power Co. Ltd, China

A method of evaluating performance and structural design of flow batteries and implications for flow battery applications

Page 84

Qiong Zheng, Huamin Zhang

Division of Energy Storage, Dalian Institute of Chemical Physics, Chinese Academy of Science, China

Aqueous organic flow batteries

Page 86

Eugene Beh, Diana De Porcellinis, Michael Gerhardt, Rafael Gómez-Bombarelli, Marc-Antoni Goulet, Rebecca Gracia, Sergio Granados-Focil, Lauren Hartle, David Kwabi, Kaixiang Lin, Daniel Tabor, Liuchuan Tong, Alvaro Valle, Andrew Wong, Kay Xia, Zhengjin Yang, Alán Aspuru-Guzik, Roy Gordon and Michael Aziz

Department of Chemistry and Chemical Biology, Harvard University, USA

John A. Paulson School of Engineering and Applied Sciences, Harvard University, USA

Department of Chemical Science and Technologies, University of Rome "Tor Vergata", Italy
Harvard College, USA

Gustaf H. Carlson Department of Chemistry, Clark University, USA

School of Chemistry and Material Science, University of Science and Technology of China, P.R. China

Probing the localized behavior of an organic alkaline redox flow battery

Page 88

Mathilde Cazot, Gaël Maranzana, Sophie Didierjean, Jérôme Dillet

Laboratory of Energetics and Theoretical and Applied Mechanics (LEMTA) – Université de Lorraine - CNRS, France

Kemwatt, France

A simple technique for flow frame design in flow battery

Page 90

Yun Young Choi, Jung-Il Choi, Ki Jae Kim, Young Kwon Kim

Yonsei University, Korea

Seoul National University of Science and Technology, Korea

Korea Electronics Technology Institute, Korea

Thermal activation of electrospun carbon nanofiber electrodes for $\text{VO}^{2+}/\text{VO}_2^+$ redox couple

Page 92

Niall Dalton, Maria Al Hajji Safi, Bartek A. Glowacki, D. Noel Buckley, Robert P. Lynch

Department of Physics, and Bernal Institute, University of Limerick, Ireland

University of Cambridge, UK

Institute of Power Engineering, Poland

Case Western Reserve University, USA

Experimental and mathematical study of zinc electrodeposition from flowing alkaline zincate solutions

Page 94

Jan Dundálek, Ivo Šnajdr, Jiří Vrána, Jaromír Pociďič, Petr Mazúr, Juraj Kosek

University of Chemistry and Technology, Czech Republic

University of West Bohemia, Czech Republic

Measurement procedures and test conditions for reproducible and transparent redox flow battery research

Page 95

Tobias Greese, Hubert Gasteiger

Bavarian Center for Applied Energy Research, Germany (ZAE Bayern)

Department of Chemistry, Technical University Munich, Germany

Increasing the performance of vanadium flow batteries by flow field design modification

Page 96

Lina Elbers, Ramón Förster, Hans-Joachim Lilienhof

Westphalian University of Applied Sciences, Germany

Electrochemical behaviour of carbon felt for use as an electrode of redox flow batteries

Page 98

Shinji Inazawa, Yuta Itou, Izumi Yamada, Takeshi Abe

Graduate School of Engineering, Kyoto University, Japan

Hall of Global Environmental Research, Kyoto University, Japan

On the improvement of vanadium electrolyte performance for high thermal stability

Page 100

Donghyeon Kim, Youngho Lee, Joonhyeon Jeon

Dongguk University, Republic of Korea

Performance analysis of membranes in zinc-bromine flow battery cells

Page 102

Miae Kim, Woon Cho, Joonhyeon Jeon

Dongguk University, Republic of Korea

Design of a cathode electrode with wide reaction surface area and high bromine tolerance

Page 104

Yongbeom Kim, Joonhyeon Jeon

Dongguk University, Republic of Korea

Chemo-physical model of a vanadium redox flow cell with peripheral devices

Page 106

Björn Kleinsteinberg, Aysen Cerci, Dirk Uwe Sauer

SEA RWTH Aachen, Germany

JARA Energy, Germany

Model-based design and optimization of vanadium redox flow batteries

Page 107

Sebastian König, Thomas Leibfried

Karlsruhe Institute of Technology, Germany

Interaction of bromine complexation agents and Nafion® membrane in H₂ / Br₂ flow battery (ex situ measurements) and its influence on cell operation

Page 108

Michael Kuettinger, Mathieu Cappon, Peter Fischer, Karsten Pinkwart, Jens Tuebke

Applied Electrochemistry, Fraunhofer Institute for Chemical Technology, Germany

Toward high-activity graphite-felt electrodes for VFB

Page 110

Eunsook Lee, Dohun Kim, Jy-young Jyoung

JNTG Co. Ltd., South Korea

Study of dynamic response of vanadium redox flow batteries for smart grid applications

Page 112

Yifeng Li, Xinan Zhang, Jie Bao, Maria Skyllas-Kazacos

School of Chemical Engineering, University of New South Wales, Australia

A novel electrode-bipolar plate assembly for redox flow battery applications

Page 114

Lijun Liu, Chun Yu Ling, Yann Mei Lee, Mei Lin Chng, Ming Han

Clean Energy Research Center, Temasek Polytechnic, Singapore

Behind the thermal stabilizing ability of organic additives for a positive vanadium-based electrolyte: an intensive study

Page 116

Tam D. Nguyen, Adam Whitehead, Günther G. Scherer, Nyunt Wai, Moe O. Oo, Arjun

Bhattacharai, Ghimire P. Chandra, Zhichuan J. Xu

Interdisciplinary Graduate School, Nanyang Technological University, Singapore

Energy Research Institute, Nanyang Technological University, Singapore

Gildemeister energy storage GmbH, Austria

TUM-CREATE, Singapore

School of Material Science and Engineering, Nanyang Technological University, Singapore,

Suitable reference electrodes for vanadium flow batteries

Page 118

John O'Donnell, Daniela Oboroceanu, Nathan Quill, D. Noel Buckley, Robert P. Lynch

University of Limerick, Ireland

Case Western Reserve University, USA

Influence of electrode configurations of tubular redox flow cells on performance characteristics

Page 120

Simon Ressel, Simon Fischer, Michael Jeske, Antonio Chica, Thomas Flower, Thorsten Struckmann

Hamburg University of Applied Sciences, Germany

Instituto de Tecnología Química, Universitat Politècnica de València-Consejo Superior de Investigaciones Científicas, Spain

Uniwell Rohrsysteme GmbH & Co. KG, Germany

Fumatech BWT GmbH, Germany

Modeling the current distributions in a zinc-bromine flow battery

Page 122

Jaeshin Yi, Boram Koo, Chee Burm Shin, Dong Joo Kim, Dae-Sik Kim, Hyun-Jin Jung, Eun Mi Choi, Tae Hyuk Kang

Dept. of Chemical Engineering and Division of Energy Systems Research, Ajou University, Republic of Korea

Lotte Chemical, Republic of Korea

Stability of graphite felts in vanadium redox flow battery

Page 124

Jaromir Pcedic, Petr Mazur, Jan Dundalek, Jiri Vrana, Jindra Mrlik, Juraj Kosek

University of West Bohemia, Czech Republic

University of Chemistry and Technology Prague, Czech Republic

IFBF 2016 List of Conference Papers

Print ISBN: 978-0-9571055-6-0

Digital ISBN: 978-1-9164518-6-5

Demonstration of the synergies between hydrogen generation and a flow battery

Page 12

Véronique Amstutz, Heron Vrubel, Alberto Battistel, Frédéric Gummy, Christopher Dennison, Pekka Peljo, Hubert Girault

EPFL Valais-Wallis, Sion, Switzerland

The reaction environment at the positive electrodes of the zinc-cerium flow battery

Page 14

Luis Arenas, Carlos Ponce de León, Frank Walsh

Electrochemical Engineering Laboratory, Faculty of Engineering and the Environment, University of Southampton, UK

Recent progress in aqueous organic flow batteries

Page 16

Michael Aziz, Kaixiang Lin, Qing Chen, Eugene Beh, Michael Gerhardt, Andrew Wong, Liuchuan Tong, Alvaro Valle, Rafael Gomez-Bombarelli, Michael Marshak, Roy Gordon, Alan Aspuru-Guzik

Harvard School of Engineering and Applied Sciences, USA

Department of Chemistry and Chemical Biology, Harvard University, USA

Harvard College, USA

Study of flow behaviour in all-vanadium flow battery

Page 18

Arjun Bhattarai, Nyunt Wai, Rüdiger Schweiss, Adam Whitehead, Günther Scherer, Purna Ghimire, Hng Huey Hoon

Nanyang Technological University, Singapore

SGL Carbon GmbH, Germany

Gildemeister energy storage GmbH, Austria

TUM CREATE, Singapore

Felt compression for all-vanadium flow batteries

Page 20

Leon Brown, Rhodri Jervis, Tobias Neville, Thomas Mason, Paul Shearing, Daniel Brett

Electrochemical Innovation Lab, Dept. Chemical Engineering, UCL, UK

Centre for Nature Inspired Engineering, Dept. Chemical Engineering, UCL, UK

Ionic liquids-mediated aqueous electrolytes for redox flow batteries

Page 22

Ruiyong Chen, Rolf Hempelmann

Joint Electrochemistry Lab, KIST Europe, Germany

Physical Chemistry, Saarland University, Germany

High temperature bromine complexing agents for bromine-based flow batteries

Page 24

Ronny Costi, Ran Elazari, Alina Grego, Iris Ben-David, Olga Globerg-Oster
ICL Industrial Products R&D, Israel

The importance of cell compression pressure for flow battery performance

Page 26

Trevor Davies, Natasha Gunn and David Ward
University of Chester, UK

Chemical aging and electrochemical degradation of carbon felt electrodes in all-vanadium redox flow batteries

Page 28

Igor Derr, Michael Bruns, Daniel Przyrembel, Christina Roth
Freie Universität Berlin, Germany
Karlsruhe Institute of Technology (KIT), Germany

The benefits of commercial partnerships for market deployment of flow batteries

Page 30

Bruce Eberzy
Redflow, Australia

Investigating the solvation of vanadium ions in the vanadium flow battery electrolyte using molecular dynamics and metadynamics

Page 32

Sukriti Gupta, Nyunt Wai, Tuti Lim, Samir Mushrif
Energy Research Institute and Interdisciplinary Graduate School, Nanyang Technological University (NTU), Singapore
School of Civil and Environmental Engineering, NTU, Singapore
School of Chemical and Biomedical Engineering, NTU, Singapore

How resistive are your bipolar plates and end plates?

Page 34

Bjorn Hage, Burak Caglar, Jens Noack, David Lloyd, Pertti Kauranen, Alex Winter
bh consulting, Australia
Fraunhofer ICT, Germany
Aalto University, Finland
Redflow Ltd., Australia

Porous carbon-based 3D electrocatalysts for the positive half-cell reaction in all-vanadium redox flow batteries

Page 36

Mark Hartmann, Stefan Rümmler, Sabine Schimpf, Michael Bron
Martin-Luther-Universität Halle-Wittenberg, Naturwissenschaftliche Fakultät II, Technische Chemie Erneuerbarer Energien, Germany

Characterization of state-of-the-art membranes in a hydrogen-bromine flow battery: a key to understanding the mechanisms for proton and bromide-species transports

Page 38

Yohanes Antonius Hugo, Wiebrand Kout, Kitty Nijmeijer

Elestor B.V., The Netherlands

Membrane Science & Technology Group, Department of Chemical Engineering, Eindhoven University of Technology, The Netherlands

X-ray computed tomography as a tool for assessment of flow battery performance

Page 40

Rhodri Jervis, Leon Brown, Tobias Neville, Daniel Brett, Paul Shearing

Electrochemical Innovation Lab, Dept. of Chemical Engineering, UCL, UK

Centre for Nature Inspired Engineering, Dept. of Chemical Engineering, UCL, UK

An innovative approach for the model-based flow rate optimization of vanadium redox flow batteries

Page 42

Sebastian König, Michael Suriyah, Thomas Leibfried

Karlsruhe Institute of Technology (KIT), Germany

FleXtore: The first hydrogen bromine flow battery in an office building

Page 44

Wiebrand Kout, Raphaël van der Velde, Carolien Stroomer-Kattenbelt, Nico Dekker

Elestor BV, The Netherlands

Witteveen+Bos Raadgevende Ingenieurs BV, The Netherlands

HAN University of Applied Science, The Netherlands

ECN Energy research Centre of the Netherlands, The Netherlands

Investigation and operation of a 40 cm² hydrogen bromine redox flow battery with and without organic bromine complexation agents

Page 46

Michael Kuettinger, Jens Noack, Ran Elazari, Ronny Costi, Karsten Pinkwart, Jens Tübke

Applied Electrochemistry, Fraunhofer Institute for Chemical Technology, Germany

Electrochemistry Lab, R&D, ICL-IP, Israel

Influence of pulse current charging techniques and brighteners for electrodeposition of zinc in Zn/air flow cells

Page 48

Michael Lanfranconi, Hans-Joachim Lilienhof

Westphalian University of Applied Science, Germany

Research and development of the zinc bromine flow battery

Page 50

Xianfeng Li, Huamin Zhang

Dalian Institute of Chemical Physics, Chinese Academy of Science, China

Comparison of a high and low voltage inverter system designs used to connect flow batteries to the grid

Page 52

Thomas Lueth and Jens Kaufmann

TRUMPF Hüttinger, Germany

Advanced vanadium redox flow batteries and applications for renewable integration

Page 54

Andreas Luczak

Vanadis Power GmbH, Germany

New flow battery design concepts for increasing power density and market penetration

Page 56

Chris Menictas, Cheuk-Yi Cheung, Victoria Timchenko and Maria Skyllas-Kazacos

University of New South Wales, Australia

Recycling vanadium from boiler ash

Page 58

Gaku Oriji, Irwansyah, Keizo Iseki, Masatoshi Ichikawa, Kenzo Hanawa

Hanawa Laboratory, Institute for Advanced and Core Technology, Showa Denko K.K., Japan

The competitive landscape for flow batteries

Page 60

Anthony Price, Adam Whitehead,

Swanbarton Limited, United Kingdom

Gildemeister energy storage GmbH, Austria

Opportunities for flow batteries in off-grid markets: profitability, market size and recommendations for successful business development

Page 62

Michael Salomon

Clean Horizon Consulting, France

Towards symmetric all-organic flow batteries

Page 64

James Saraidaridis, Christo Sevov, James Suttill, Melanie Sanford, Charles Monroe

Department of Engineering Science, University of Oxford, UK

Department of Chemistry, University of Michigan, USA

Phillips 66, USA

Electroless aging of graphite-polypropylene composite bipolar plates in vanadium redox flow battery electrolyte

Page 66

Barbara Satola, Carolina Nunes Kirchner, Lidiya Komsiyiska, Gunther Wittstock

NEXT ENERGY·EWE Research Centre for Energy Technology at the University of Oldenburg, Germany

University of Oldenburg, Faculty of Mathematics and Natural Sciences, Center of Interface Science, Institute of Chemistry, Germany

Flow batteries - the clear choice for investors grade energy storage solutions

Page 68

Stefan Schauss

Gildemeister energy storage GmbH, Austria

Performance benchmarking of novel bromine sequestration agents for zinc / bromine flow battery applications

Page 70

Martin Schneider, Gobinath Rajarathnam, Anthony Vassallo

School of Chemical & Biomolecular Engineering, University of Sydney, Australia

High performance seal-less redox-flow-stacks for decentralized energy storage

Page 72

Thorsten Seipp, Sascha Berthold, Andreas Albert, Lukas Kopietz, Jens Burfeind, Christian Dötsch

Volterion GmbH, Germany

Fraunhofer UMSICHT, Germany

Large scale vanadium redox flow battery: fast – tracking development

Page 74

Enrique Serrano, Angel Hernández, Beatriz Oraá, Alba Sanchez, Veselin Miroslavov, Enrique Garcia – Quismondo and Jesús Palma

PVH Storage, Spain

IMDEA Energy Institute, Spain

60 MWh vanadium flow battery system for grid control

Page 76

Toshikazu Shibata, Shuji Hayashi, Yutaka Iwamura, Yoshiyuki Nagaoka, Keiji Yano, Shohei Fukumoto, Takahiro Kumamoto, Takashi Kanno, Atsuo Ikeuchi, Katsuya Yamanishi, Yasumitsu Tsutsui, Kunihiko Tada, Takatoshi Matsumoto, Akira Inoue, Masakazu Morishita, Toshiyuki Ono, Masakazu Niiyama, Takeshi Kimura, Shinichi Kimoto

Sumitomo Electric Industries Ltd., Japan

Flow batteries for high frequency power switching in renewable micro-grid applications

Page 78

Paul Siblerud

ViZn Energy Systems, Inc., USA

The German energy transition: status quo and investment opportunities for energy storage systems

Page 80

Heiko Staubitz, Nico Koch

Germany Trade & Invest Gesellschaft für Außenwirtschaft und Standortmarketing mbH, Germany

Optimization of the cerium/hydrogen redox flow cell

Page 82

Michael Tucker, Alexandra Weiss, Adam Weber
Lawrence Berkeley National Laboratory, USA

Evaluating 6 years of VFB operational experience in Vierakker, Netherlands (2010 - 2015)

Page 84

Jeroen de Veth
Trinergie, Nijmegen, Netherlands

Vanadium redox flow battery system testing under Washington State Clean Energy Fund

Page 86

Vilayanur Viswanathan, Alasdair Crawford, Trevor Hardy, Di Wu, Tao Yang, Patrick Balducci, Vincent Sprenkle
Pacific Northwest National Laboratory (PNNL), USA

Redox flow “X-Battery” for large-scale energy storage

Page 88

Qing Wang
Department of Materials and Engineering, National University of Singapore, Singapore

Flow battery technology: recent progress and applications

Page 90

Huamin Zhang
Dalian Institute of Chemical Physics, Chinese Academy of Science, China

Materials selection and chemistry development for novel redox flow batteries

Page 92

Wei Wang, Xiaoliang Wei, Bin Li, M. Vijaykumar, Zimin Nie, Vincent Sprenkle
Pacific Northwest National Laboratory, USA

Challenges in industrial production of flow battery stacks

Page 95

Albrecht Winter
J. Schmalz GmbH, Germany

Stress-dependent porosity estimation by non-linear structural analysis and post-CFD modelling of deformed flow fields in VRFB

Page 96

Sung-Jae Chung, Ah-Reum Kim, Joo-Hee Park, Sukkee Um
Dept of Mechanical Engineering, Hanyang University, Republic of Korea

Screening of redox couples for alkaline redox flow batteries

Page 98

Alejandro Colli, Pekka Peljo, Véronique Amstutz, Hubert Girault
EPFL Valais-Wallis, LEPA, Switzerland

Modification and advanced characterisation of carbon paper electrodes for the all-vanadium redox flow battery

Page 100

Barun Chakrabarti, Vladimir Yufit, Farid Tariq, Javier Rubio Garcia, Anthony Kucernak, Nigel Brandon

Imperial College London, UK

Solid-phase charge storage in redox mediated flow batteries

Page 101

Christopher Dennison, Tong Wu, Pekka Peljo, Alberto Battistel, Heron Vrabel, Véronique Amstutz, Hubert Girault

EPFL Valais-Wallis, LEPA, Switzerland

Comparison of a flow-by and a flow-through setup for a vanadium-redox-flow battery

Page 102

Lina Elbers, Ramón Förster, Hans-Joachim Lilienhof

Westphalian University of Applied Sciences, Germany

Experimental study of shunt currents in laboratory VFB stack

Page 104

Jan Dundalek, Jiri Vrana, Milan Solik, Jaromir Pocedic, Petr Mazur, Milos Toulec, Juraj Kosek
New Technologies – Research Centre, University of West Bohemia, Czech Republic

University of Chemistry and Technology Prague, Czech Republic

Modelling a novel interdigitated flow field design for redox flow battery

Page 104

Daouda Fofana, Edward Robert

Schulich School of Engineering, Canada

Electrospun-based composite carbon electrode for vanadium redox flow batteries

Page 105

Abdulmonem Fetyan, Manoj Kayarkatte, Christina Roth

Institute of Chemistry and Biochemistry, Free University of Berlin, Germany

Synthesis of glassy carbon model surfaces to catalyze the vanadium redox reactions

Page 106

Tobias Greese, Hubert Gasteiger

ZAE Bayern, Germany

Technical Electrochemistry, TUM, Germany

Characterisation study of vanadium redox flow battery and its implementation in automotive applications

Page 107

Gopinath Hariram, Pramila Rao, Samraj Dhinagar

TVS Motor Company Limited, India

Single cell performance analysis for novel titanium / manganese redox flow battery

Page 108

Kei Hanafusa, Kenichi Ito, Hirokazu Kaku, Yong-Rong Dong, Kiyooki Moriuchi, Toshio Shigematsu

Power Systems R&D Center, Sumitomo Electric Industries, Japan

Application of Nafion/polybenzimidazole blend membranes to vanadium flow batteries

Page 110

Sangwon Kim, Dirk Henkensmeier, Nayeun Jo, Lidiya Komsiyka, Gaurav Gupta

Microfluidics Group, KIST Europe, Germany

Fuel Cell Research Center, KIST, Korea

NEXT ENERGY · EWE Research Centre for Energy Technology, Germany

Economics of the vanadium redox flow battery for home and community storage

Page 112

Sebastian König, Martin Uhrig, Thomas Leibfried

Karlsruhe Institute of Technology (KIT), Germany

Optimization of electrode-flow field interaction in an all-vanadium redox flow battery

Page 114

Sanjay Kumar, Sreenivas Jayanti

Department of Chemical Engineering, IIT Madras, India

Advantages of the chloride-containing all vanadium redox flow battery system

Page 116

Liyu Li

UniEnergy Technologies, USA

Miniaturized interdigitated flow fields for redox flow batteries: Introducing tapered multi-pass architectures

Page 117

Julian Marschewski, Lorenz Brenner, Neil Ebejer, Patrick Ruch, Bruno Michel, Dimos Poulidakos

Laboratory of Thermodynamics in Emerging Technologies, Mechanical and Process Engineering Department, ETH Zurich, Switzerland

IBM Research – Zurich, Switzerland

Optical state of charge monitoring of vanadium flow battery

Page 118

Robert Lynch, Nathan Quill, Jennifer Joyce, Sergiu Albu, Cattleya Petchsingh, Deirdre Ní Eidhin, Daniela Oboroceanu, Catherine Lenihan, Xin Gao, D. Noel Buckley

Department of Physics & Energy, University of Limerick, Ireland

Graphene-modified graphite felts for a vanadium redox flow battery

Page 120

P. Mazúr, J. Mrlík, J. Pocič, J. Vrána, J. Dundálek, J. Kosek

New Technologies - Research Centre, University of West Bohemia, Czech Republic

Institute of Chemical Technology Prague, Czech Republic

Application of porous glass membranes in redox flow batteries - analysis of the influences of membrane thickness, pore structure and surface modification

Page 121

Horst Mögelin, Andrei Barascu, Ralf Meyer, Dirk Enke, Ulrich Kunz

Institute of Chemical and Electrochemical Process Engineering, Germany

Institute of Chemical Technology, Germany

Fine etching of electrode surface by catalytic oxidation using atomically dispersed metal for redox enhancement

Page 122

Jun Maruyama, Takahiro Hasegawa, Satoshi Iwasaki, Tomoko Fukuhara, Kei Hanafusa

Osaka Municipal Technical Research Institute, Japan

Sumitomo Electric Industries, Japan

Copper batteries for heat-to-power conversion

Page 124

Sunny Maye, Pekka Peljo

Laboratoire d'Electrochimie Physique et Analytique, École Polytechnique Fédérale de

Lausanne, Switzerland

Ion-exchange membranes with designed bifunctionality for vanadium redox flow batteries

Page 126

Olga Nibel, Lorenz Gubler, Thomas Schmidt

Electrochemistry Laboratory, Paul Scherrer Institut, Switzerland

Laboratory of Physical Chemistry, Switzerland

Vanadium supply for VFB applications

Page 128

Terry Perles

TTP Squared, Inc., USA

Unit cell model of a regenerative hydrogen-vanadium fuel cell

Page 130

Catalina Pino, Vladimir Yufit, Marina Lomberg, Harini Hewa Dewage, Nigel Brandon

Department of Earth Science and Engineering, Imperial College London, UK

Comparison of fluorinated membranes in an all-vanadium redox flow battery

Page 132

Jaromír Pociedič, Jiří Charvát, Petr Mazúr Jiří Vrána, Jan Dundálek, Juraj Kosekk

New Technologies – Research Centre, University of West Bohemia, Czech Republic

University of Chemistry and Technology, Prague, Czech Republic

High quality electrolyte support to achieve a good performance of the vanadium flow battery

Page 134

Jerry Qiu, Yanbo Chen

Dalian Bolong New Materials Co Limited, China

A tubular vanadium/air redox flow cell: fabrication and first experimental results

Page 136

Simon Ressel, Simon Fischer, Sandra Haschke, Stefanie Schlicht, Claudia Weidlich, Michael Jeske, Julien Bachmann, Antonio Chica, Thomas Flower, Thorsten Struckmann
Hamburg University of Applied Sciences, Inst. for Renewable Energy and Energy Efficient Systems, Electrochemistry Laboratory, Germany
Instituto de Tecnología Química, Universitat Politècnica de València-Consejo Superior de Investigaciones Científicas,, Spain
Uniwell Rohrsysteme GmbH & Co. KG, Germany
Friedrich-Alexander University Erlangen-Nürnberg, Department of Chemistry and Pharmacy, Germany
DECHEMA-Forschungsinstitut, Electrochemistry, Germany
FUMATECH BWT GmbH, Germany

Experimental validation of a zero-dimensional VFB model including transport processes through the membrane

Page 138

Katharina Schafner, Maik Becker, Nils Tenhumberg, Niels Bredemeyer, Gregor Polcyn, Ulrich Kunz, Thomas Turek
Clausthal University of Technology, Institute of Chemical and Electrochemical Process Engineering, Germany
Energie-Forschungszentrum Niedersachsen, Germany
ThyssenKrupp Uhde Chlorine Engineers GmbH, Germany
ThyssenKrupp Industrial Solutions AG, Germany

Design and feasibility study of a 10 MW industrial-scale vanadium redox-flow battery

Page 139

Katharina Schafner, Malte Bierwirth, Marvin Braun, Bjarne Kreitz, Frank Schwering, Jens Wiegmann, Eva Prumbohm, Christine Minke, Thomas Turek
Clausthal University of Technology, Institute of Chemical and Electrochemical Process Engineering, Germany
Energie-Forschungszentrum Niedersachsen, Germany

Development of carbon-based polymer composites as bipolar plates: understanding the relation between morphology and conductivity

Page 140

Jiří Vrána, Jan Dundálek, Martin Kroupa, Martin Pecha, Petr Mazúr, Jaromír Pociďič, Juraj Kosek
University of Chemistry and Technology, Czech Republic
New Technologies – Research Centre, University of West Bohemia, Czech Republic

Modelling the distributions of electrolyte flow and pressure in a zinc/bromine flow battery module

Page 142

Sung June Park, Boram Koo, Chee Burm Shin, Dae-Sik Kim, Hyun-Jin Jung, Tae Hyuk Kang
Ajou University, Republic of Korea
Lotte Chemical, Republic of Korea

Network redox-flow

Page 142

Claudia Weidlich, Christina Roth, Ulrich Kunz, Michael Bron

DECHEMA-Forschungsinstitut, Germany,

Freie Universität Berlin, Germany

Technische Universität Clausthal, Germany

Martin-Luther-Universität Halle-Wittenberg, Germany

Effect of material treatments via carbon nanoparticles on VRFB performance

Page 143

Matteo Zago, Eugenio Rovera, Giorgio Nava, Francesco Fumagalli, Fabio Di Fonzo, Andrea

Casalegno

Politecnico di Milano, Department of Energy, Italy

Istituto Italiano di Tecnologia, Center for Nanoscience and Technology, Italy

“tubulAir±”: in situ SOC-monitoring at a VFB test stand

Page 144

Claudia Weidlich, Philipp Pyka, Klaus-Michael Mangold, Simon Ressel, Thomas Flower

DECHEMA-Forschungsinstitut, Germany

HAW Hamburg, Germany

IFBF 2015 List of Conference Papers

Print ISBN: 978-0-9571055-5-3

Digital ISBN: 978-1-9164518-5-8

Design, manufacture and deployment of a VFB

Page 12

Ángel Álvarez, Raquel Ferret, Maddi Sánchez, Alberto Izpizua, María Rivas, Carlos Sánchez

EDP Spain, Zigor, Tekniker, Isastur, Spain

Zigor, Spain

Tekniker, Spain

Isastur, Spain

New developments on zinc/air flow batteries

Page 14

B. Amunátegui, A.Ibáñez, M. Sierra and M. Pérez

Tecnicas Reunidas, Proprietary Technology Development Division, Madrid, Spain

Recent developments in the zinc-cerium redox flow battery for energy storage

Page 16

Luis F. Arenas, Carlos Ponce de León, Frank C. Walsh

Electrochemical Engineering Laboratory, Faculty of Engineering and the Environment, University of Southampton, UK

Investigation of crossover processes in a bidirectional vanadium/air redox flow battery

Page 18

Jan grosse Austing, Carolina Nunes Kirchner, Lidiya Komsiyaska, Oliver Osters, Gunther Wittstock

Next Energy - EWE Research Centre for Energy Technology at the University of Oldenburg, Germany

Carl von Ossietzky University of Oldenburg, Faculty of Mathematics and Science, Institute of Chemistry, Germany

Performance characteristics of the Zn-Ce hybrid redox flow battery

Page 20

Léonard Berlouis, Georgios Nikiforidis and Rory Cartwright.

WestCHEM, Department of Pure and Applied Chemistry, University of Strathclyde, UK

Membraneless hydrogen bromine flow battery for low-cost energy storage

Page 22

William A. Braff, Martin Z. Bazant, and Cullen R. Buie

Giner, Inc., USA

Departments of Chemical Engineering and Mathematics, Massachusetts Institute of Technology, USA

Department of Mechanical Engineering, Massachusetts Institute of Technology, USA

A vanadium-redox flow battery for the Isle of Gigha: learning to date

Page 24

James Cross, John Samuel, Gary Simmonds, Peter Ridley

EA Technology, UK

Renewable Energy Dynamics Technology (REDT), UK

Study of loss mechanisms in a regenerative hydrogen cerium fuel cell

Page 26

H. Hewa Dewage, B. Wu, A. Tsoi, V. Yufit, G. Offer and N.P. Brandon

Imperial College London, Department of Earth Science and Engineering, UK

Imperial College London, School of Design Engineering, UK

Imperial College London, Department of Mechanical Engineering, UK

Boosting vanadium flow battery operating voltage at high load by 0.5 V using gold vs. carbon cathodes, and exploring non-vanadium oxidants with 15- to 30-fold greater current density

Page 28

David A. Finkelstein, Joseph D. Kirtland, Nicolas Da Mota, Abraham D. Stroock, Héctor D. Abruña

Department of Chemistry and Chemical Biology

Department of Chemical and Biomolecular Engineering, Cornell University, United States

Redox flow battery membranes with improved vanadium-ion barrier properties

Page 30

Lorenz Gubler, Olga Nibel, Lukas Bonorand

Electrochemistry Laboratory, Paul Scherrer Institut, Switzerland

Influence of vanadium ions on platinum catalysts for vanadium air redox flow batteries

Page 32

Christian Gutsche, Christoph J. Moeller, Martin Knipper, Holger Borchert, Juergen Parisi, Thorsten Plaggenborg

University of Oldenburg, Department of Physics, Energy and Semiconductor Research Laboratory, Germany

Experimental studies of size effect on pressure drop in serpentine flow fields for all-vanadium redox flow battery applications

Page 34

Sanjay Kumar, Rajshree Chakrabarti, Sreenivas Jayanti

Department of Chemical Engineering, IIT Madras, India

Evaluation of electrode materials towards extended cycle-life of all-copper redox flow battery

Page 36

Puiki Leung, Enrique Garcia-Quismondo, Laura Sanz, Jesus Palma, Marc Anderson

IMDEA Energy Institute, Spain.

Environmental Chemistry & Technology Program, University of Wisconsin-Madison, USA

Impact of pulsating electrolyte flow on full vanadium flow battery

Page 38

Chun Yu Ling, Ming Han and Erik Birgersson

Department of Chemical and Biomolecular Engineering, National University of Singapore, Singapore

Clean Energy Research Center, Temasek Polytechnic, Singapore

Separator performance and scale-up of the all-copper RFB

Page 40

David Lloyd, Laura Sanz, Lasse Murtomäki

Department of Chemistry, Aalto University, Finland

Cost potentials for VFB core components

Page 42

Christine Minke, Thomas Turek

Clausthal University of Technology, Institute of Chemical and Electrochemical Process Engineering, Germany

Robust 3D-structured carbon-based electrodes for all-vanadium redox flow batteries

Page 44

Joachim Langner, Julia Melke, Igor Derr, Mark Hartmann, Stefan Rümmler, Susanne Zils, Frieder Scheiba, Dominic Samuelis, Ansgar Komp, Matthias Otter, Christian Neumann, Sabine Schimpf, Michael Bron, Helmut Ehrenberg, Christina Roth

Karlsruhe Institute for Technology (KIT), Germany

Freie Universität Berlin (FUB), Institute for Chemistry and Biochemistry, Germany

Martin-Luther-Universität Halle-Wittenberg (MLU), Technische Chemie Erneuerbarer Energien, Germany

Freudenberg Forschungsdienste, Germany

Heraeus Quarzglas, Germany

Power delivery and thermal management of electronic packages using redox flow systems

Page 46

Patrick Ruch, Neil Ebejer, Arvind Sridhar and Bruno Michel

IBM Research – Zurich, Switzerland

A novel iron/iron flow battery for grid storage

Page 48

Jonathan Sassen, Jonathan Goldstein, Linoam Eliad, Nir Baram

Epsilon-Electric Fuel Ltd., Israel

Recent test results of the 5 MWh flow battery system

Page 50

Toshikazu Shibata, Toshio Ooka, Kazuhiro Fujikawa, Syuji Hayashi, Takahiro Kumamoto, Yoshiyuki Nagaoka, Katsuya Yamanishi and Yasumitsu Tsutsui

Sumitomo Electric Industries Ltd., Japan

Materials-selection criteria for next-generation flow-batteries

Page 52

Rylan Dmello and Kyle C. Smith

University of Illinois at Urbana-Champaign, USA and the Joint Center for Energy Storage Research

Supercooled catholyte based on solvate ionic liquid

Page 54

Kensuke Takechi, Yuichi Kato and Yoko Hase

Toyota Research Institute of North America, USA

Toyota Central R&D Labs., Inc., Japan

Improving the durability, performance, and cost of the Br₂ – H₂ redox flow cell

Page 56

Michael C. Tucker, Adam Z. Weber, Ryszard J. Wycisk, Peter N. Pintauro, Michael Bates, Sanjeev Mukerjee, Venkata Yarlagadda, Trung Van Nguyen, Pau Ying Chong, and Guangyu Lin

Lawrence Berkeley National Laboratory, USA

Vanderbilt University, USA

Northeastern University, USA

University of Kansas, USA

TVN Systems, Inc., USA

Scotland's energy systems

Page 58

Seonaid Vass

Scottish Enterprise, UK

Ambipolar zinc-polyiodide electrolyte for high energy density aqueous redox flow battery

Page 60

Wei Wang, Bin Li, Zimin Nie, Vijayakumar Murugesan, Guosheng Li, Jun Liu, Vincent Sprenkle,

Pacific Northwest National Laboratory, USA

Critical safety features of the vanadium redox flow battery

Page 62

Adam H. Whitehead, Markus Trampert, Peter Pokorny, Paul Binder, Thomas Rabbow

Cellstrom GmbH, Austria

Improvements to the soluble lead acid flow battery

Page 64

Richard G.A. Wills, Muthu Krishna, David Hall

Faculty of Engineering & the Environment, the University of Southampton, UK

C-Tech Innovation Ltd., UK

Go with the flow: reports on installed systems in Germany and the US

Page 66

Rick Winter

UniEnergy Technologies, USA

Advancements in the demonstrator of the dual-circuit all-vanadium redox flow battery for hydrogen generation

Page 70

Heron Vrabel, Véronique Amstutz, Pekka Peljo, Kathryn Toghil and Hubert Girault

Laboratoire d'Electrochimie Physique et Analytique, Ecole Polytechnique Fédérale de Lausanne, EPFL–Energypolis, Switzerland

Recent progress in quinone-based aqueous flow batteries

Page 72

Qing Chen, Michael P. Marshak, Michael Gerhardt, Changwon Suh, Andrew Wong, Liuchuan Tong, Suleyman Er, Roy G. Gordon, Alan Aspuru-Guzik, Michael J. Aziz

Harvard School of Engineering and Applied Sciences, USA

Department of Chemistry and Chemical Biology, Harvard University, USA

Investigation of the HCl-system and comparison to the conventional H₂SO₄-system for vanadium redox flow batteries

Page 73

J. Baumgarten, A. B. Britz, K. L. A. Belener, R. Hempelmann

Saarland University, Physical Chemistry, Germany

Functionality integration in bipolar plates for vanadium redox-flow batteries

Page 74

Maik Becker, Katharina Schafner, Peter Toros, Nils Tenhumberg, Niels Bredemeyer, Gregor Polcyn, Ulrich Kunz, Thomas Turek

Clausthal University of Technology, Institute of Chemical and Electrochemical Process Engineering, USA

Energie-Forschungszentrum Niedersachsen, Germany

ThyssenKrupp Industrial Solutions GmbH, Germany

ThyssenKrupp Electrolysis GmbH, Germany

Chemical aging of carbon felt electrodes in all-vanadium redox flow batteries (VFB)

Page 75

Igor Derr, J. Langner and C. Roth

Institute for Chemistry and Biochemistry, Freie Universität Berlin, Germany

Institute for Applied Materials - Energy Storage Systems, Karlsruhe Institute of Technology (KIT), Germany

Regeneration of capacity-disbalanced vanadium electrolyte for all-vanadium redox-flow batteries

Page 75

Nataliya Roznyatovskaya, Tatjana Herr, Matthias Fühl, Jens Noack, Karsten Pinkwart, Jens Tübke

Fraunhofer-Institut for Chemical Technology, Applied Electrochemistry, Germany

Hydrogen bromide flow batteries as a source for bulk energy storage

Page 76

Arnon Blum

EnStorage Israel, Israel

A vanadium redox flow battery for uninterruptible power supply applications

Page 78

Thomas Buczkowski, Jens Noack, Peter Fischer, Jens Tübke, Karsten Pinkwart

Fraunhofer Institute for Chemical Technology Applied Electrochemistry, Germany

PVC-Silica ion exchange membrane for use as separator in redox flow batteries

Page 80

Mateusz L. Donten, Cana Khalouche, Andreea Pasc, Michel Perdicakis, Mathieu Etienne and Carole Lainé

Amer-Sil, Luxembourg

Université de Lorraine, France

A dynamic equivalent circuit model for a vanadium flow battery with varying cell resistance

Page 82

Petra Dotzauer and Andreas Jossen

Bavarian Center for Applied Energy Research (ZAE Bayern), Germany

Two flow battery ideas

Page 82

Bjorn Hagen

BH Consulting, Australia

Carbon composite materials with chemical surface functionalization as electrodes in all-vanadium redox flow batteries

Page 83

M. Hartmann, S. Rümmler, S. Schimpf and M. Bron

Martin-Luther-Universität Halle-Wittenberg, Technische Chemie Erneuerbarer Energien, Germany

Design of organic additives for vanadium redox flow battery

Page 84

Jinyeon Hwang, Hyuck Lee, Bo-Mi Kim, Sheeraz Mehboob and Heung Yong Ha

Center for Energy Convergence Research, Korea Institute of Science and Technology, South Korea

Department of Materials Science and Engineering, Korea University, South Korea

Fluidic and charge network analyses for the theoretical optimization of electrolyte flow field design in advanced vanadium redox flow battery

Page 85

Ah-Reum Kim, Sung-Jae Chung, Sukkee Um

Department of Mechanical Engineering, Hanyang University, South Korea

Lab-scale VFB investigation at IFPEN – from experiment to modelling

Page 86

Jenny Jonquille, Domenico Di Domenico, Nadine Gürer, David Pasquier, Renaud Revel
IFP Energies Nouvelles, France

Nitrogen-doped carbons as electrode materials for all-vanadium redox flow batteries

Page 88

Hyo June Lee, Hansung Kim
Dept. of Chemical and Biomolecular Engineering, South Korea

A nickel chelate complex cation as a single redox couple working in non-aqueous electrolyte for redox-flow batteries

Page 90

Hyun-seung Kim, Taeho Yoon, Ji Heon Ryu, Seung M Oh
Department of Chemical and Biological Engineering, Seoul National University, South Korea

Improvements to the soluble-lead flow battery (SLFB)

Page 91

M. Krishna and R.G.A Wills
Energy Technology Research Group, Faculty of Engineering and the Environment, University of Southampton, UK

Optimal system design for all-vanadium redox flow batteries considering the power-electronic grid connection

Page 92

Sebastian Koenig, Michael R. Suriyah, Thomas Leibfried, Thomas Lueth, Daniel Leypold and Joerg Bornwasser
Karlsruhe Institute of Technology (KIT), Germany
TRUMPF-Hüttinger GmbH & Co. KG, Germany
Fraunhofer Institute for Solar Energy Systems (ISE), Germany

The influence of the graphitization degree of carbon-based electrodes in all-vanadium redox flow batteries

Page 94

J. Langner, S. Zils, F. Scheiba, H. Ehrenberg and C. Roth
Karlsruher Institut für Technologie (KIT), Institut für Angewandte Materialien (IAM), Germany
Freudenberg New Technologies, Germany
Freie Universität Berlin, Fachbereich Biologie, Chemie, Pharmazie, Germany

Influence of ion-exchange membrane features on the performance of all-vanadium redox flow battery

Page 95

J. Pociđič, P. Mazúr, P. Blěský, J. Vrána, J. Dundálek, J. Kosek
New Technologies – Research Centre, University of West Bohemia, Czech Republic
Institute of Chemical Technology Prague, Czech Republic

Use of UV-Vis absorption spectroscopy to measure state of charge in all-vanadium flow batteries

Page 96

Cattleya Petchsingh, Nathan Quill, Robert P. Lynch, Daniela Oboroceanu, Deirdre Ní Eidhin, Catherine Lenihan, Xin Gao and D. Noel Buckley

Department of Physics & Energy, University of Limerick, Ireland

Zinc bromide flow batteries: custom bromine complexing agents

Page 98

Ben-Zion Magnes, Ran Elazari, Iris Ben-David and Ronny Costi

ICL-IP R&D, Isreal

Numerical investigation of species crossover phenomena in hydrogen/bromine redox flow batteries

Page 100

Kyeongmin Oh and Hyunchul Ju

Inha University, South Korea

Three-dimensional, transient modelling of H₂/Br₂ redox flow batteries

Page 102

Kyeongmin Oh and Hyunchul Ju

Inha University, South Korea

Oxidation resistivity of VGCFTM electrode for vanadium redox flow batteries

Page 104

Gaku Oriji, Keizo Iseki, Masatoshi Ichikawa and Kenzo Hanawa

Institute for Advanced and Core Technology, Showa Denko K.K., Japan

Functionality integration in bipolar plates for vanadium redox-flow batteries

Page 106

Antonio Rodolfo dos Santos, Thorsten Hickmann, Thomas Turek, Ulrich Kunz

Clausthal University of Technology, Institute of Chemical and Electrochemical Process Engineering, Germany

Energie-Forschungszentrum Niedersachsen, Germany

Eisenhuth GmbH & Co. KG, Germany

Chemical stability of a polypropylene-graphite composite bipolar plate in a resting vanadium redox flow battery

Page 107

Barbara Satola, Carolina Nunes Kirchner, Lidiya Komsiyiska, Oliver Osters, Gunther Wittstock

Next energy - EWE Research Centre for Energy Technology at the University of Oldenburg, Germany

Characterization of membranes for vanadium redox-flow batteries

Page 108

Katharina Schafner, Maik Becker, Peter Toros, Nils Tenhumberg, Niels Bredemeyer, Gregor Polcyn, Ulrich Kunz, Thomas Turek

Clausthal University of Technology, Institute of Chemical and Electrochemical Process Engineering, Germany

Energie-Forschungszentrum Niedersachsen, Germany

ThyssenKrupp Industrial Solutions GmbH, Germany

ThyssenKrupp Uhde Chlorine Engineers GmbH, Germany

Larger-scale pilot plant for VFB electrolytes preparation

Page 110

Jiří Vrána, Petr Mazúr, Jaromír Pocedič, Jan Dundálek, Juraj Kosek

Department of Chemical Engineering, University of Chemical Technology Prague, Czech Republic

New Technologies – Research Centre, University of West Bohemia, Czech Republic

Polysulphide-air redox flow battery - a novel solution for grid scale energy storage

Page 112

Yuhua Xia, Nigel Brandon and Vladimir Yufit

Department of Earth Science and Engineering, Imperial College London, UK

Physically based impedance modelling of a VFB for diagnostics

Page 113

Matteo Zago, Eugenio Rovera and Andrea Casalegno

Politecnico di Milano, Italy

IFBF 2014 List of Conference Papers

Print ISBN: 978-0-9571055-4-6

Digital ISBN: 978-1-9164518-4-1

Performance of a vanadium/air redox flow battery (VARFB) comprising a two-layered cathode

Page 10

Jan grosse Austing, Carolina Nunes Kirchner, Lidiya Komsiyka, Gunther Wittstock
NEXT ENERGY EWE Research Centre for Energy Technology at the University of Oldenburg, Germany

University of Oldenburg, Department of Chemistry, Germany

Long term supply potential of redox battery electrolyte from black shale hosted vanadium mineralisation in Xiushui County, Jiangxi Province, South Eastern, China

Page 12

A.Lee Barker

VanSpar Mining Inc., Canada

Guidance for membrane selection in vanadium flow batteries: micro-porous separators versus thin-film anion-or cation-exchange membranes

Page 14

Bernd Bauer, Tomá Klicpera, Michael Schuster

FuMA-Tech GmbH, Germany

Investigation of positive and negative half-cells in a vanadium redox flow battery

Page 16

Andrea Bourke, Nathan Quill, Robert P. Lynch and D. Noel Buckley

Department of Physics & Energy, Materials & Surface Science Institute, University of Limerick, Ireland

New concept for large scale redox-flow-systems

Page 18

NielsBredemeyer, Dr Christoph Roosen, Gregor Polcyn, Peter Toros

ThyssenKrupp Industrial Solutions AG, Germany

ThyssenKrupp Electrolysis GmbH, Germany

Study of loss mechanisms in a regenerative hydrogen vanadium fuel cell

Page 20

H. Hewa Dewage, V. Yufit, G. Goenaga, D. Aaron, A. Papandrew, T. Zawodzinski and N.P. Brandon

Imperial College London, Department of Earth Science and Engineering, UK

University of Tennessee, Department of Chemical and Biochemical Engineering, USA

Development of improved bipolar plates for vanadium redox-flow batteries with functionality integration

Page 22

Antonio Rodolfo dos Santos, Thorsten Hickmann, Thomas Turek, Ulrich Kunz
Clausthal University of Technology, Institute of Chemical Process Engineering, Germany
Energie-Forschungszentrum Niedersachsen, Germany
Eisenhuth GmbH & Co. KG, Germany

The electrode composed of carbon nanotube for vanadium redox flow batteries

Page 24

Keizo Iseki, Gaku Oriji, Masatoshi Ichikawa, Ryuji Monden, Kenzo Hanawa
Institute for Advanced and Core Technology, Showa Denko K.K., Japan

Bromine based rechargeable batteries: the chemistry and the electrochemistry

Page 26

B.-Z. Magnes, E. Lancry, I. Ben-David, R. Elazari and M. Freiberg
ICL-IP R&D, Israel

A metal-free organic-inorganic aqueous flow battery

Page 28

Michael P. Marshak, Brian Huskinson, Changwon Suh, Süleyman Er, Michael R. Gerhardt, Cooper J. Galvin, Xudong Chen, Alán Aspuru-Guzik, Roy G. Gordon and Michael J. Aziz
Harvard School of Engineering and Applied Sciences, USA
Department of Chemistry and Chemical Biology, Harvard University, USA

Coordination chemistry flow battery (CCFB) for grid-scale energy storage

Page 29

Steven Reece
Sun Catalytix, USA

EnerVault 250 kW – 1 MWh system: development and commissioning of the world's largest iron-chromium RFB

Page 30

Ronald J. Mosso
EnerVault Corporation, USA

The development of VFB systems for renewable energy applications

Page 32

Yoshiyuki Nagaoka, Katsuya Yamanishi, Toshiikazu Shibata, Takahiro Kumamoto and Yasumitsu Tsutsui
Sumitomo Electric Industries Ltd., Japan

Elucidating modes of degradation in vanadium redox flow batteries

Page 34

Alan Pezeshki, Che-Nan Sun, Thomas A. Zawodzinski, Jr., Matthew M. Mench
Department of Chemical and Biomolecular Engineering, University of Tennessee, USA
Physical Chemistry of Materials Group, Oak Ridge National Laboratory, USA
Department of Mechanical, Aerospace and Biomedical Engineering, University of Tennessee, USA
Emissions and Catalysis Research Group, Oak Ridge National Laboratory, USA

Online controlled operation of corrosion resistant vanadium flow battery with constant capacity

Page 36

S.Rudolph, U.Schröder, I.M.Bayanov
Bozankaya BC& C, Germany
Institute of Environmental and Sustainable Chemistry TU-Braunschweig, Germany
Kazan National Research Technical University, Russian Federation

What does it take to manufacture an efficient carbon felt electrode?

Page 38

Rüdiger Schweiss, Stefan Wöhner, Martin Kucher, Oswin Öttinger, Christian Rüdiger, Dirk Schneider
SGL Carbon GmbH, Germany

Improved catalyst for vanadium redox flow battery development

Page 40

Vincent Sprenkle, Wei Wang, David Reed, Bin Li, Brent Kirby, Ed Thomsen, Xiaoliang Wei, Zimin Nie, Vijayakumar Murugesan, Vilayanur Viswanathan, Brian Koeppel, Baowei Chen, Alasdair Crawford
Pacific Northwest National Laboratory, USA

Developments in the design, fabrication and implementation of a dual-circuit redox flow battery

Page 42

Kathryn E. Toghil, Véronique Amstutz, Heron Vrabel, Pekka Peljo, Joanna Morgado, Hubert H. Girault
EPFL-ISIC-SB-LEPA, Switzerland

Performance and durability of the Br₂ – H₂ redox flow cell

Page 44

Michael C Tucker, Kyu Taek Cho, Venkat Srinivasan, Vincent Battaglia, Adam Z. Weber, Guangyu Lin, Pau Ying Chong, and Trung Van Nguyen
Environmental Energy Technologies Division, Lawrence Berkeley National Laboratory, USA
TVN Systems, Inc., USA

Nanomaterials for redox flow batteries

Page 46

Ivan Vakulko, Mathieu Etienne, Michel Perdicakis, Alain Walcarius
Laboratory of Physical Chemistry and Microbiology for the Environment, France

Investigation of energy loss by shunt current and membrane permeation for improving VFB stack performance

Page 48

Baoguo Wang, Minghua Li, Bingyang Li, Shiqiang Song, Yongshen Fan

R & D Centre of Flow Battery, Tsinghua University, China

Dept of Chemical Engineering, Tsinghua University, China

Regulation of the vanadium redox flow battery in Europe

Page 50

Adam Whitehead, Gerhard Fuchs, Martin Harrer

Cellstrom GmbH, Austria

Flow batteries for high renewable penetration micro grid applications

Page 52

Craig Wilkins and Paul Sibley

ViZn Energy Systems, Inc., USA

The development of flow battery technology

Page 54

Huamin Zhang

Division of Energy Storage, Dalian Institute of Chemical Physics, Chinese Academy of Science, China

Flow batteries for duck curves

Page 56

Rick Winter

UniEnergy Technologies, USA

Temperature effect on vanadium redox battery capacity decay due to ion diffusion and side reaction

Page 60

Rajagopalan Badrinarayanan, Jiyun Zhao

EXQUISITUS, Centre for E-City, School of Electrical & Electronic Engineering, Nanyang

Technological University, Singapore

Electrolyte flow configuration in vanadium flow battery, optimised in accordance with operation efficiency

Page 62

I.M.Bayanov, S.Rudolph, U.Schröder,

Bozankaya BC& C, Germany

Kazan National Research Technical University, Russian Federation

Institute of Environmental and Sustainable Chemistry TU-Braunschweig, Germany

Model validation for a VFB using potential probes during polarisation curve measurements

Page 64

Maik Becker, Niels Bredemeyer, Christoph Roosen, Gregor Polcyn, Ulrich Kunz, Thomas Turek

Clausthal University of Technology, Institute of Chemical Process Engineering, Germany

Energie-Forschungszentrum Niedersachsen, Germany

ThyssenKrupp Industrial Solutions GmbH, Germany

ThyssenKrupp Electrolysis GmbH, Germany

Characterisation of gasket materials for flow batteries

Page 65

Jonas Brenk, Samuel Kage, Jens Noack, Peter Fischer and Jens Tübke

Fraunhofer Institute for Chemical Technology (FhG-ICT), Department of Applied Electrochemistry, Germany

Searching for the suitable and best operation mode - modelling and operational management of a vanadium redox flow battery system

Page 66

Maximilian Bruch, Martin Dennenmoser, Joachim Went, Kolja Bromberger

Fraunhofer Institute of Solar Energy Systems ISE, Germany

A 2D model of vanadium flow batteries: analysis of self-discharge due to vanadium ions crossover

Page 68

Andrea Casalegno, Eugenio Rovera, Matteo Zago, Andrea Baricci, Enrica Micolano, Mauro Scagliotti

Department of Energy, Politecnico di Milano, Italy

Power Generation Technologies and Materials Department, Ricerca sul Sistema Energetico – RSE S.p.A., Italy

Degradation of carbon felt electrodes in all-vanadium redox flow batteries

Page 68

I. Derr, J. Langner, C. Roth

Institute for Chemistry and Biochemistry, Freie Universität Berlin, Germany

Flexible multiscale testing bench for vanadium flow batteries

Page 69

Petra Dotzauer

ZAE Bayern, Energy Storage, Germany

Vanadium crossover in vanadium air redox flow batteries: studies on the influence on platinum catalysts

Page 69

Christian Gutsche, Martin Knipper, Holger Borchert, Thorsten Plaggenborg and Jürgen Parisi
University of Oldenburg, Germany

Polyimide membrane for vanadium redox-flow batteries

Page 70

Dennis Düerkop, Hartmut Widdecke, Ulrich Kunz, Antonio Rodolfo dos Santos
Ostfalia University of Applied Sciences, Faculty of Automotive Engineering/Institute of Recycling, Germany
Clausthal University of Technology, Institute of Chemical Process Engineering, Germany
Clausthal University of Technology, Energie-Forschungszentrum Niedersachsen, Germany

Modified carbon materials as electrocatalysts in all vanadium-redox-flow batteries

Page 72

Mark Hartmann, Stefan Rümmler, Susanne Zils, Matthias Otter, Christian Neumann, Sabine Schimpf, Michael Bron
Martin-Luther-Universität Halle-Wittenberg, Naturwissenschaftliche Fakultät II, Technische Chemie Erneuerbarer Energien, Germany
Freudenberg Forschungsdienste, Germany
Heraeus Quarzglas, Germany

Electrochemical impedance spectra of vanadium redox flow battery at different operating conditions

Page 74

Chin-Lung Hsieh, Yen-Ting Liu, Kan-Lin Hsueh, Ju-Shei Hung
Institute of Nuclear Energy Research, Taiwan
Dept. Energy Engineering, National United University, Taiwan
Dept. Chem. Eng., National United University, Taiwan

Designing flow fields for all-liquid redox flow battery systems

Page 76

Sreenivas Jayanti and Jyothi Latha Tamalapakula
Department of Chemical Engineering, IIT Madras, India

A unique PVC-silica microporous membrane

Page 78

Carole Laine
Amer-Sil S.A., Luxembourg

3D-structuring of carbon-based electrodes for all-vanadium redox flow batteries

Page 79

J. Langner, D. Dixon, S. Zils, C. Neumann, M. Otter, F. Scheiba, H. Ehrenberg and C. Roth
Karlsruher Institut für Technologie, Institut für Angewandte Materialien (IAM), Germany
Freudenberg Forschungsdienste, Germany
Heraeus Quarzglas, Germany
Freie Universität Berlin, Fachbereich Biologie, Chemie, Pharmazie, Germany

Redox-flow batteries with robust 3D-structured carbon-based electrodes

Page 79

J. Langner, J. Melke, I. Derr, C. Roth, F. Scheiba, H. Ehrenberg, S. Schimpf, S. Rümmler, M. Bron, S. Zils, A. Komp, M. Otter and C. Neumann
Karlsruhe Institute for Technology (KIT), Germany
Freie Universität Berlin (FUB), Germany
Martin-Luther-Universität Halle-Wittenberg (MLU), Germany
Freudenberg Forschungsdienste, Germany
Heraeus Quarzglas, Germany

Highly efficient, dendrite-free zinc deposition in the alkaline zinc-air flow battery

Page 80

Andreas Laskos, Christian Zelger, Bernhard Gollas, Aleksandra Gavrilovi-Wohlmuther
Centre of Electrochemical Surface Technology (CEST GmbH), Austria
Institute for Chemistry and Technology of Materials, Graz University of Technology, Austria

Commercialising the chloride-containing all vanadium redox flow battery

Page 83

Liyu Li, Rick Winter and Gary Z. Yang
UniEnergy Technologies, LLC., USA

Electrochemical deposition of iridium on graphite felt electrode for vanadium air redox flow battery cathodes

Page 84

Timo Michele Di Nardo, Lidiya Komsiyka, Jan grosse Austing, Oliver Ostera, Carolina Nunes Kirchner
NEXT ENERGY - EWE Research Centre for Energy Technology at the University of Oldenburg, Germany

Optimisation of stable and conductive graphite-based composite bipolar plate for an all-vanadium redox flow battery

Page 85

Minjoon Park, Yang-jae Jung and Jaephil Cho
School of Energy and Chemical Engineering, Ulsan National Institute of Science and Technology, South Korea

Wrapping carbon black in N-doped graphene by using corn protein: electrocatalyst for high performance vanadium redox flow batteries

Page 86

Minjoon Park, Jaechan Ryu, Youngsik Kim and Jaephil Cho
School of Energy and Chemical Engineering, Ulsan National Institute of Science and Technology, South Korea

Organic electrolytes for symmetric redox flow batteries

Page 87

Rebecca Potash, James McKone, Kenneth Hernández-Burgos and Hector Abruña
Department of Chemistry and Chemical Biology, Cornell University, USA

Optimisation of the all-vanadium redox-flow battery system regulation based on spatial modelling

Page 88

Yu Wang, Heide Budde-Meiwes, Dirk Uwe Sauer

Electrochemical Energy Conversion and Storage Systems Group, Institute for Power Electronics and Electrical Drives (ISEA), Germany

Institute for Power Generation and Storage Systems (PGS), E.ON ERC, RWTH Aachen University, Germany

Juelich Aachen Research Alliance, JARA-Energy, Germany

Tubular redox-flow battery: “tubulAir”

Page 89

C. Weidlich, K.-M. Mangold, S. Ressel and W. Winkler

DECHEMA-Forschungsinstitut, Germany

HAW Hamburg, Germany

IFBF 2013 List of Conference Papers

Print ISBN: 978-0-9571055-3-9

Digital ISBN: 978-1-9164518-3-4

A dual-circuit cerium-vanadium redox flow battery for water electrolysis

Page 8

Véronique Amstutz, Kathryn E. Toghil, Hubert H. Girault

Ecole Polytechnique Fédérale de Lausanne, Switzerland

Insights into hydrogen/bromine flow batteries

Page 10

Kyu Taek Cho, Adam Z. Weber, Vincent Battaglia and Venkat Srinivasan

Environmental Energy Technologies Division, Lawrence Berkeley National Laboratory, USA

The importance of material selection and exploitation for improving flow battery cost and performances

Page 12

Paula Cojocar, Luca Merlo, Francesco Triulzi, Marco Apostolo

Solvay Specialty Polymers, Italy

What a redox flow battery really has to cost?

Page 14

Martin Dennenmoser, Sebastian Steininger, Heidrun Reile, Joachim Went, Matthias Vetter

Fraunhofer Institute for Solar Energy Systems ISE, Germany

Plasma activated modification of ion exchange membrane for vanadium crossover removal

Page 16

Francisco Fernández-Carretero, Daniel González-Santamaria, Alberto García-Luis, Mikel

Insausti-Munduate

Tecnalia, Spain

Testing and analysis of vanadium redox flow battery – learning from fuel cell research

Page 18

Peter Fischer, Karsten Pinkwart, Heinz Sander, Erich Gülzow, Stefan Heidemann, Stephan Moeller

Fraunhofer Institute for Chemical Technology (FhG-ICT), Department of Applied Electrochemistry, Germany

Deutsches Zentrum für Luft- und Raumfahrt (DLR), Institute of Technical Thermodynamics, Germany

balticFuelCells GmbH, Schwerin, Germany

Spectroscopic study of VO²⁺/VO₂⁺ electrolytes

Page 20

Xin Gao, Andrea Bourke, Robert P. Lynch, Martin J. Leahy and D. Noel Buckley

Dept. of Physics and Energy, Charles Parsons Initiative on Energy and Sustainable

Environment, Materials and Surface Science Institute, University of Limerick, Ireland

Operating experiences: scalable and modular VRFB energy storage systems under real conditions

Page 22

Stefan Haslinger, Ilja Pawel, Martin Harrer, Adam H. Whitehead

Gildemeister Energy Solutions (Cellstrom GmbH), Austria

Industriezentrum NÖ-Süd, Austria

Redox flow lithium-ion battery

Page 23

Qizhao Huang, Feng Pan and Qing Wang

Department of Materials Science and Engineering, Faculty of Engineering, NUSNNI-

NanoCore, National University of Singapore, Singapore

Introducing EnerVault's Engineered Cascade™ system: results from a novel redox flow battery architecture and use of mixed-species iron chromium electrolytes

Page 24

Dr. Craig R. Horne and Ronald J. Mosso

EnerVault Corporation, USA

Corrosion of a carbon-based bipolar plates for vanadium redox flow batteries in presence of chloride

Page 26

Alan Kwan, Carolina Nunes Kirchner, Lidiya Komsiyaska, Eva Maria Hammer, Sergio Alfredo

Garnica Barragan, Meinert Lewerenz

NEXT ENERGY·EWE-Research Centre for Energy Technology, Germany

Advanced diagnostics for redox flow batteries

Page 28

Qinghua Liu, Jason Clement, Thomas A. Zawodzinski Jr and Matthew M. Mench

BRANE Laboratory, Department of Mechanical, Aerospace and Biomedical Engineering and

Department of Chemical and Biomolecular Engineering University of Tennessee, USA

Physical Chemistry of Materials Group, Oak Ridge National Laboratory, USA

Emissions and Catalysis Research Group, Oak Ridge National Laboratory, USA

Field tests of the 1 MW x 5 hours vanadium flow battery system with the photovoltaic power system

Page 30

Yoshiyuki Nagaoka, Toshikazu Shibata, Takahiro Kumamoto, Kazunori Kawase, Keiji Yano

Sumitomo Electric Industries, Ltd, Japan

Development of redox flow batteries for mobile applications

Page 32

J. Noack, F. Wandschneider, T. Herr, D. Palminteri, M. Hihn, T. Roth, G. Cognard, K.

Stadelmann, P. Fischer, J. Tübke, K. Pinkwart, P. Elsner

Fraunhofer Institute for Chemical Technology, Applied Electrochemistry, Germany

A power system operator's requirements for electrical energy storage

Page 34

Jonathan O'Sullivan,
Sustainable Power Systems, EirGrid plc, Ireland

Oxygen electrodes for alkaline metal–air flow batteries

Page 36

Derek Pletcher, Andrea A. Russell, Stephen W.T. Price, Stephen J. Thompson, Frank C. Walsh, Xiaohong Li, Richard G.A. Wills and Scott F. Gorman
Chemistry, University of Southampton, UK

Carbon components in redox flow batteries – the past and the future from an industrial perspective

Page 38

Dirk Schneider, Rüdiger Schweiss
SGL Carbon GmbH, Germany

Scale-up of vanadium-redox-flow-stacks

Page 40

Thorsten Seipp, Sascha Berthold, Jens Burfeind, Christian Dötsch
Fraunhofer Institute for Environmental, Safety and Energy Technology UMSICHT, Germany

Flow battery research to flow battery commercialisation

Page 42

Maria Skyllas-Kazacos
School of Chemical Engineering, University of New South Wales, Australia

The vanadium air redox flow battery project “tubulair±”

Page 45

Wolfgang Winkler
Institute for Energy Systems and Fuel Technology, Hamburg, Germany

Semi-solid flow cells

Page 46

Kyle C. Smith, Zheng Li, Nir Baram, Brandon J. Hopkins, Frank Fan, W. Craig Carter, and Yet-Ming Chiang
Massachusetts Institute of Technology, USA

Redox flow battery development for stationary energy storage applications at Pacific Northwest National Laboratory

Page 48

Vincent Sprenkle, Wei Wang, Qingtao Luo, Xiaoliang Wei, Bin Li, Zimin Nie, Baowei Chen, Vijayakumar Murugesan, David Reed, Ed Thomsen, Vilayanur Viswanathan, Brian Koeppel, David Stephenson, Alasdair Crawford
Pacific Northwest National Laboratory, Washington, USA

Redox flow batteries – design by the numbers

Page 50

Lawrence Thaller

USA

Large scale batteries - safety requirements for European Union and North America

Page 52

Werner Varro

TÜV-SÜD, Germany

Development of manufacture processes of key materials and VRFB stack for energy storage

Page 54

Baoguo Wang, Yongshen Fan, Weinan Guo, Shiqiang Song, Zhijun Jia

R & D Centre of Flow Battery, Tsinghua University, China

Dept of Chemical Engineering, Tsinghua University, China

Charge imbalance in the vanadium redox flow battery

Page 56

Adam H. Whitehead, Peter Pokorny, Markus Trampert and Paul Binder

Gildemeister Energy Solutions (Cellstrom GmbH), Austria

Flow battery operating experience: residential scale

Page 58

Chris Winter

Redflow Limited, Australia

Chemistry & engineering to make a good vanadium battery better

Page 60

Rick Winter

UniEnergy Technologies, USA

Progress on the technology and utility-scale demonstration of vanadium flow battery

Page 62

Huamin Zhang, Xiaoli Wang, Zonghao Liu, Xianfeng Li

Division of energy storage, Dalian Institute of Chemical Physics, Chinese Academy of Science, China

Dalian Rongke Power Co. Ltd. (RKP), China

Improving performance through advanced materials for redox flow batteries

Page 64

Thomas A. Zawodzinski, Jr, Che Nan Sun, Zhijiang Tang, Douglas S. Aaron, Jamie Lawton,

Michael Bright, Alan Pezeshki, Alexander B. Papandrew, and Matthew Mench

Chemical and Biomolecular Engineering Department, University of Tennessee, USA

Mechanical, Aerospace and Biomedical Engineering Department, University of Tennessee, USA

Physical Chemistry of Materials Group, Oak Ridge National Laboratory, USA

Operational experiences of using a 500 kWh zinc-bromine flow battery system in an industrial scale wind auto production application

Page 66

Raymond Byrne

Centre for Renewable Energy, Dundalk Institute of Technology, Ireland

Preparation and characterization of cathodes for vanadium-air-redox-flow batteries (VARFB) by electrochemical metal deposition on 3D carbon-based electrodes

Page 68

Jan grosse Austing, Eva Maria Hammer, Lidiya Komsiyka

NEXT ENERGY·EWE-Research Centre for Energy Technology, Germany

Carl-von Ossietzky-Str. 15, Germany

Towards bifunctional catalysts for vanadium-air redox flow batteries: preparation and characterization of Pt nanoparticles

Page 69

C. Gutsche, M. Knipper, H. Borchert, T. Plaggenborg and J. Parisi

Department of Physics, Energy and Semiconductor Research Laboratory, University of Oldenburg, Germany

Oldenburg, Germany

Asymmetric structured and highly soluble redox couples for non-aqueous redox flow battery

Page 70

Doo-Yeon Lee, Jung-Won Park, Duk-Jin Oh, Myung-Jin Lee, Basab Roy, Seok-Gwang Doo
EV/ESS Group, Energy Storage Lab, Energy & Environment R&D Center, Samsung Advanced Institute of Technology, Samsung Electronics Ltd., Korea

Redox flow batteries with robust 3D-structured carbon-based electrodes

Page 72

J. Langner, S. Zils, C. Neumann, M. Otter, M. Bron, J. Melke, K. Nikolowski, H. Ehrenberg, C. Roth

Karlsruher Institut für Technologie (KIT), Institut für Angewandte Materialien (IAM), Germany

Freudenberg Forschungsdienste, Germany

Heraeus Quarzglas, Germany

Martin-Luther-Universität Halle-Wittenberg, Technische Chemie erneuerbarer Energien, Germany

Freie Universität Berlin, Fachbereich Biologie, Chemie, Pharmazie, Germany

Performance of new generation vanadium mixed acid redox flow batteries

Page 73

Liyu Li, Rick Winter, and Gary Z. Yang

UniEnergy Technologies, USA

Occupational safety issues with chloride-based redox flow batteries

Page 74

John McCann and Maria Skyllas-Kazacos

School of Chemical Engineering and Industrial Chemistry, University of New South Wales, Australia

Development of cation exchange membrane for the all-vanadium redox flow battery

Page 75

Yong-Hwan Oh, Cheol-Hwi Ryu, Gab-Jin Hwang

Grad. School, Dep. Green Energy, Hoseo University, Korea

Integration and characterization of gaskets and frame into bipolar plates for vanadium redox flow battery applications

Page 76

Antonio Rodolfo dos Santos, Thorsten Hickmann, Thomas Turek, Ulrich Kunz

Institute of Chemical Process Engineering, Clausthal University of Technology, Germany

Energie-Forschungszentrum Niedersachsen, Germany

Eisenhuth GmbH & Co. KG, Germany

Predictive model for electrolyte flow distribution in flow battery systems

Page 78

Jyothi Latha Tamalapakula and Sreenivas Jayanti

Department of Chemical Engineering, IIT Madras, India

Diffusion of vanadium ion (3^+) and proton in hydrated Nafion membrane by molecular dynamic simulation

Page 80

Hwa-Jou Wei, Wen-Song Hwang, Lee-Chung Men Rouh-Chyu Ruaan

Chemistry Division, Institute of Nuclear Energy Research, Taiwan

Department of Chemical and Materials Engineering, National Central University, Taiwan

Development of ion exchange membranes for high energy efficiency redox flow batteries

Page 82

Masako Yoshioka, Ryohei Iwahara, Akira Nishimoto, Masahiro Yamashita and Masaru Kobayashi

Corporate Research Center, Toyobo Co., Ltd., Japan

Performance optimisation of a regenerative hydrogen vanadium fuel cell

Page 84

V. Yufit, P. Mazur, H. Hewa Dewage and N.P. Brandon

Department of Earth Science and Engineering, Imperial College London, UK

IFBF 2012 List of Conference Papers

Print ISBN: 978-0-9571055-2-2

Digital ISBN: 978-1-9164518-2-7

Metal ionic liquid (MetIL) electrolytes for redox flow batteries

Page 8

Travis M. Anderson, Nicholas S. Hudak, Jonathan C. Leonard, Harry D. Pratt III, and Chad L. Staiger

Sandia National Laboratories, USA

Design layout and operational experience of kW-class all vanadium redox flow battery stack

Page 10

Kolja Bromberger, Martin Dennenmoser, Matthias Vetter, Tom Smolinka

Fraunhofer Institute for Solar Energy Systems ISE, Germany

Thermodynamic framework for assessing the risk of large-scale electrochemical energy storage systems

Page 12

Sean Cuthbert

Technical Directorate, Lloyds Register Energy, Denmark

Computational fluid dynamics analysis applied to a prototype flow battery

Page 14

J. Escudero-González¹, A. Alberola, P.A. López-Jiménez¹

¹*Hydraulic and Environmental Department, Universitat Politècnica de València, Spain*

²*Resenergie S.L., Spain*

Advanced electrodes for vanadium redox flow batteries

Page 16

H. Finka, M. Rzepkaa, M. Wienerb, G. Reichenauerb and U. Stimmingc

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^b*Div. 2: Functional Materials for Energy Technology, Germany*

^c*Technische Universität München, Institute for Advanced Study, Germany*

Deploying the future - lessons from three megawatt-scale energy storage projects

Page 18

Matthew Harper

Prudent Energy Corporation, USA

A stand-alone, coupled solar photovoltaic and redox flow battery power generator system for domestic applications

Page 20

Jyothi Latha Tamalapakula and Sreenivas Jayanti

Department of Chemical Engineering, IIT Madras, India

Practical operation of a 500 kWh zinc flow battery in a renewable energy building application

Page 22

Bjorn Jonshagena, Geoff Jamesb and Nathan Coadc

^a*Jonshagen Consulting, Australia*

^b*CSIRO Energy Technology, Australia*

^c*ZBB Energy Corporation, Australia*

Cycle life performance of a double component non-aqueous redox flow battery

Page 24

Doo-Yeon Lee, Duck-Jin Oh, Myung-Jin Lee Jung-won Park, Jun-young Mun, Seok-Gwang Doo

Battery Group, Energy Lab, Samsung Advanced Institute of Technology, Samsung Electronics Co., Korea

Pathway to greatly enhanced power density in vanadium redox flow batteries

Page 26

Matthew M. Mencha,b,c, Alexander B. Papandrewb, Qinghua Liua, Ahmet Turhana and Thomas A. Zawodzinski, Jrb,c.

^a*Mechanical, Aerospace, and Biomedical Engineering, University of Tennessee, USA*

^b*Chemical and Biomolecular Engineering, University of Tennessee, USA*

^c*Oak Ridge National Laboratory, USA*

Multifunctional energy storage system FB200-400 based on Vanadium redox flow Technology

Page 28

Ilja Pawel, Stefan Haslinger, Adam H. Whitehead, Martin Harrer

Gildemeister Energy Solutions, Cellstrom GmbH, Austria

Vanadium – a critical element

Page 30

Bill Radvak

American Vanadium Corp, Canada

Evaluation of graphite based bipolar plates for vanadium redox flow battery applications

Page 32

Antonio Rodolfo dos Santosa, Maik Beckera, Christine Minkea, Thorsten Hickmannb, Thomas Tureka, Ulrich Kunza

^a*Clausthal University of Technology, Institute of Chemical Process Engineering, Germany*
Energie-Forschungszentrum Niedersachsen, Germany

^b*Eisenhuth GmbH & Co. KG, Germany*

Potentiometric control system for the all iron redox flow battery under operation conditions

Page 34

Carlos M. Sánchez-Sánchez, David Valeroa, Francisco Galluda, Vicente García-Garcíaa, Eduardo Expósitoa, Antonio Alberolab, Vicent Garcíab, Antonio Aldaza, Vicente Montiela

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^b*Resenergie S.L., Spain*

Carbon materials for redox flow batteries - an industrial perspective

Page 36

Rüdiger Schweiss^a, Stefan Wöhner^a, Dirk Schneider^b, Martin Kucher^a, Oswin Öttinger^a

^a*SGL Carbon GmbH, Meitingen, Germany*

^b*SGL Carbon GmbH, Bonn, Germany*

Performance results of a redox flow battery system applied to DC micro grid

Page 38

*Toshikazu Shibata, Toshiya Hisada, Naoki Ayai

Sumitomo Electric Industries Ltd., Japan

Mathematical modelling and simulation of thermal effects on electrolyte temperature for the all-vanadium redox flow battery

Page 40

Ao Tang, Jie Bao, Maria Skyllas-Kazacos

School of Chemical Engineering, University of New South Wales, Australia

Cost estimates for redox flow battery systems

Page 42

Lawrence H. Thallera, Vilayanur Viswanathanb, Soowhan Kimb, Gary Yang^b, Alasdair Crawford^b and Liyu Li^b

^a*Consultant, USA*

^b*Pacific Northwest National Laboratory, USA*

Hydrogen-bromine flow battery for grid-scale energy storage

Page 44

Kyu Taek Cho, Adam Z. Weber, Vincent Battaglia and Venkat Srinivasan

Environmental Energy Technologies Division, Lawrence Berkeley National Laboratory, USA

Zinc-air flow batteries – an introduction to POWAIR

Page 46

Richard Wills^a and John Collins^b

^a*School of Engineering Sciences, University of Southampton, UK*

^b*C-Tech Innovation Ltd, UK*

Standardising flow batteries for use by system integrators

Page 48

Chris Winter

RedFlow Limited, Australia

Electrochemical study of surface modified graphite bipolar plates and felt electrodes applied in a redox flow battery to improve the energy efficiency

Page 50

Haiming Xiao, Julian Norley, David Stuart, Ryan Wayne, Deanna Burwell, Larry Jones, Shio-Jing Huang, Michael Capp, Ian McCallum
GrafTech International, USA

New generation vanadium redox flow batteries

Page 52

Z. Gary Yang^a, Liyu Li^a, Wei Wang^b and Vince Sprenkle^b

^a*UniEnergy Technologies, USA*

^b*Pacific Northwest National Laboratory, USA*

Regenerative fuel cells – a new perspective on longstanding problems

Page 54

Vladimir Yufita, Brian Halea, Mardit Matiana, Anthony Kucernak^b and Nigel Brandon^a

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^b*Department of Chemistry, Imperial College London, UK*

Membranes for flow batteries: materials and transport

Page 56

Thomas A. Zawodzinski, Jra,^{b*} Zhijiang Tanga, Douglas S. Aaronson, Jamie Lawton, Qinghua Liua, Alexander B. Papandrewa, and Matthew Mench

^a*Chemical and Biomolecular Engineering, University of Tennessee, USA*

^b*Physical Chemistry of Materials Group, Oak Ridge National Laboratory, USA*

Demonstration projects of vanadium flow batteries by RKP and DICP

Page 58

Huamin Zhang^{1,2}, Xiaoli Wang¹

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²*Dalian Institute of Chemical Physics (DICP), Chinese Academy of Sciences, P.R.China*

Critical parameters of a vanadium redox flow battery for implementation with renewable energy sources

Page 60

B. K. Antonopoulos^c, D. Most^c, J. Kunze-Liebhäuser^{a,b}

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^c*Siemens AG, Germany*

Office of naval research global: energy research program - information and opportunities

Page 61

Shawn Thorne^a

^a*U.S. Office of Naval Research Global, UK*

Office of Naval Research (Headquarters), USA

Evaluation of operating parameters for the Zn-Ce hybrid RFB

Page 63

L.E.A. Berlouis^a, G. Nikiforidis^a, D. Hall^b and D. Hodgson^c

^a*WestCHEM, Department of Pure and Applied Chemistry, University of Strathclyde, UK*

^b*C-Tech Innovation, UK*

^c*Vallontia, UK*

Influence of the membrane electrode assembly preparation procedure on the discharge performance of vanadium-air redox flow batteries (VARFB)

Page 64

J. grosse Austing, U. Martin, A. Blömer, L. Komsiyiska, E. Hammer

NEXT ENERGY • EWE-Research Centre for Energy Technology, Germany

All-lead flow battery in fluoroboric acid electrolyte

Page 66

D.Y. Liu^{a,b}, J. Cheng^b, C. Gao^{a,b}, Y.H. Wen^b, J.Q. Pan^b, G.P. Cao^b, Y.S. Yang^{a,b}

^a*College of Science, Beijing University of Chemical Technology, China*

^b*Research Institute of Chemical Defence, China*

Evaluation of treated graphite electrodes for a vanadium redox fuel cell

Page 68

O. Di Blasi, A. Di Blasi*, N. Briguglio, V. Antonucci

Institute of Advanced Technologies for Energy "Nicola Giordano", National Research Council of Italy, Italy

Dendrite-free Zn deposition in the Zn-air flow battery for the electrical power distribution networks

Page 68

Aleksandra Gavrilovi^{c,a}, Andreas Laskosa^{a,b}, Adam H. Whitehead^a, Bernhard Gollas^{a,c}

^a*CEST - Centre of Electrochemical Surface Technology, Austria*

^b*Institute of Chemical Technologies and Analytics, Technical University of Vienna, Austria*

^c*Institute for Chemistry and Technology of Materials, Graz University of Technology, Austria*

Bifunctional oxygen electrocatalysts for the rechargeable zinc-air flow battery

Page 69

Xiaohong Li, Derek Pletcher, Frank C. Walsh, Andrea E. Russell, Richard G.A. Wills, Stephen

W.T. Price, Scott F. Gorman,

Stephen J. Thompson

School of Engineering Sciences & School of Chemistry, University of Southampton, UK

Simulation of off-grid power systems incorporating a vanadium redox battery storage system

Page 70

Jon Estornés, Sara Corcuera, Chris Menictas and Maria Skyllas-Kazacos

School of Chemical Engineering, University of NSW, Australia

Sandia validation testing of a RedFlow 5 kW, 10 kWh zinc-bromine module

Page 72

Summer R. Ferreira and David M. Rose

Sandia National Laboratories; USA

Thermodynamics of flow battery electrode reactions

Page 74

Nicholas Hudak

Advanced Power Sources R&D, Sandia National Laboratories, USA

An all copper RFB based on chloride rich ionic liquids

Page 76

David Lloyd, Tuomas Vainikka, Lasse Murtomäki, Kyösti Kontturi

Laboratory of Physical Chemistry and Electrochemistry, Department of Chemistry, Aalto University, Finland

Redox flow battery strategies – making renewable energy viable

Page 78

Sarah Mallinson, Jamie Kizewski and Robert Slade

Department of Chemistry, University of Surrey, UK

New modification of a vanadium flow battery in Iran

Page 80

S. A. Mousavifar, B. Ansar Dezfooli, M. Hassani, A. Younesi, A. Shiroudi

Renewable Energy Organization of Iran (SUNA), Iran

Cell design, long-term stability test and direct half-cell measurements with dynamic hydrogen electrode for a vanadium/air fuel cell

Page 82

J. Noack and J. Tuebke

Fraunhofer Institute for Chemical Technology, Applied Electrochemistry, Germany

Development of VRFB stack and proton conductive membrane for electricity energy storage applications

Page 84

Baoguo Wang*, Yongshen Fan, Geletu Qing, Xiao Chen, Wei-Nan Guo, Shiqiang Song

R & D Centre of Flow Battery, Department of Chemical Engineering, Tsinghua University, China

Study on an acid single flow Zn-PbO₂ battery

Page 86

Yuehua Wen, Jie Cheng, Yan Xu, Gaoping Cao, Yusheng Yang

Research Institute of Chemical Defence, China

Research of two kinds of organic electrode materials —hydroquinones/quinones in the redox flow battery

Page 87

Yan Xu, Yue-Hua Wen, Jie Cheng and Yu-Sheng Yang

Research Institute of Chemical Defence, China

Investigation of several carbon allotropes as electrode materials for vanadium redox flow batteries

Page 87

J. Melke, J.Oehl, M. Kerner, C. Roth

Karlsruhe Institute for Technology, Germany

IFBF 2011 List of Conference Papers

Print ISBN: 978-0-9571055-1-5

Digital ISBN: 978-1-9164518-1-0

Scottish and Southern Energy – energy storage projects

David MacLeman

SSE Power Distribution, UK

Challenges and development opportunities for redox flow batteries

Maria Skyllas-Kazacos

School of Chemical Engineering, University of New South Wales, Australia

An overview of the US department of energy's flow battery program under the office of electricity delivery and energy reliability

Karen E. Waldrip

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Advanced redox flow battery R&D at PNNL

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Zinc bromine flow battery - grid substation installation

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The opportunity for flow batteries within the energy storage market

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Report on the ZBB / CSIRO building energy storage project

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Design, characterisation and operation strategies of 1 kW all-vanadium redox flow battery

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A comparison of vanadium/oxygen fuel cells and vanadium redox flow batteries

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Substrates for the cathode reaction in the Zn/Ce redox flow battery

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Characterization of a divided and undivided zinc-cerium flow battery

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The soluble lead acid flow battery

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Progress on ion exchange membrane for VFB and experience of off-grid PV-VFB power supply system design

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Performance data, advantages and disadvantages of vanadium flow batteries

Martha Schreiber, Martin Harrer, Peter Pokorny
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Report on the commissioning of Prudent Energy's 500 kW, 1000 kWh battery and recent projects

Simon Gray, Eric Lewis and Hugh Sharman
Convertteam UK Ltd, UK
Prudent Energy Washington USA & Beijing China

Controlling photovoltaic power generation with a vanadium redox flow energy storage system

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Zinc-bromine batteries – commercialisation considerations and manufacturing economics

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Early design principles and test procedures for redox flow batteries

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Recent insights into carbon felt electrodes for redox flow batteries

Rüdiger Schweiss, Tabea Oelsner, Fabian Dörfler, Anatoli Davydov, Stefan Wöhner and Alfred Hirschvogel

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Supply chain issues for flow battery separators

Michael Schuster, Fabian Wachs, Tomas Klicpera, Bernd Bauer

FuMA-Tech GmbH, Germany

Dynamics of vanadium supply and demand

Paul Casey

American Vanadium, USA

The impact of the batteries directive 2006/66/EC on the flow battery industry

Ruska Kelevska

European Commission, DG Environment, Belgium

Standards for flow batteries

Guido De Jongh

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Case studies for vanadium flow battery applications

Christof Wiedmann, Stefan Schauss, Max Sylvester Thomas, Alexander Steingass, Lars Möllenhoff, Martha Schreiber

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Advanced battery storage systems' testing – a practical solution for power networks in cold climate operations

B. Muhando, G. Holdmann, M. Mager and K. Keith

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Technical and economic assessment of utilizing vanadium redox flow batteries for grid integration of wind power

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Progress on the EnergyPod™ product development

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Organic fuels for a novel flow battery / fuel cell energy storage system

Grigorii Soloveichik, Davide Simone, Matthew Rainka
General Electric Global Research, USA

Aromatic ligand coordinated redox couples and their application into redox flow batteries

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2-D All-vanadium redox-flow battery physical model for analyzing current distribution inside the cell and flow rate

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Fabrication of the first vanadium flow battery in Iran

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Recent advances with vanadium-based redox flow batteries

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Progress & challenges in the development of flow battery technology

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The redox flow battery for energy storage and its future development

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Polymer-filled expanded graphite: an advanced bipolar plate material for redox flow batteries

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The vanadium supply chain

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Carbon materials for the negative electrode of the Zn-Ce redox flow cell

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Redox flow batteries: electric storage systems for renewable energy

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The metamorphosis of flow batteries

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Scale-up, operation and manufacture of redox flow batteries

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Zinc-bromine batteries: reducing the cost of electrical infrastructure

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Practical and commercial issues in the design and manufacture of vanadium flow batteries

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Research effort on flow batteries at Pacific Northwest National Laboratory

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Novel design and non-conventional applications for vanadium redox technology

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The development of redox couples for non-aqueous redox flow batteries

Doo-Yeon Lee, Hee-Young Sun, Seung-Sik Hwang, Joung-Won Park, Seok-Gwang Doo
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Vanadium/air redox flow batteries

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Zinc bromine flow batteries

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Electric vehicle applications of flow batteries: rapid recharging of EV's by electrolyte exchange

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Non-aqueous vanadium redox flow batteries

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Standards for flow battery operation

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Techno-economic modelling of a utility scale redox flow battery system

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Economic aspects of grid connected VRB-PV systems in domestic applications

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The design and application of a flow cell system

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Modelling, simulation and validation of PV-VRB systems

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Redox flow batteries for next generation grid design and operation paradigms

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Legislation and the commercialisation of flow battery systems in Europe

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