# INTERNATIONAL FLOW **BATTERY FORUM 2025**



## PRELIMINARY PROGRAMME

24 - 26 JUNE 2025 / VIENNA, AUSTRIA .. and online

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**PLATINUM** 

GOLD

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**POSTER SESSION** 

**Sinflow** energy storage

CONFERENCE DINNER



















### **IFBF 2025 - PRELIMINARY PROGRAMME**

# DAY ONE **TUESDAY 24 JUNE**

**INTERCONTINENTAL HOTEL Morning and Afternoon** 

PLEASE NOTE THAT THIS **STILL CHANGE** 

#### INVITED KEYNOTE ADDRESSES AND DISCUSSIONS COVERING

- The need for and the take up of energy storage in Austria, central and Eastern Europe
- Presentations by the California Energy Commission and EU policymakers on the European and US market opportunities for flow batteries, and longer duration energy storage.
- Energy security and energy storage security.
- Changes needed in the current regulatory environments to grow and support the flow battery industry

#### **DELIVERY OF A LARGE-SCALE FLOW BATTERY INSTALLATION**

- Cost effective applications for flow batteries such as:
  - o Replacements for peaking plants
  - o Providing 24 / 7 (continuous) power
  - o The role of capacity markets
  - o Assembling the application value stack
  - o Supplying energy, or power, or both?
- The roles of an EPC and a systems integrator
- Warranties, and technical assurance for flow battery projects
- The life cycle analysis of a flow battery project

#### THE KEY TRENDS IN THE FLOW BATTERY INDUSTRY

- Technical and commercial performance metrics for flow batteries
- Competitive analysis between flow batteries and other energy storage types
- Flow batteries in microgrids, transport and other non stationary applications

IS NOT A FINAL VERSION AND THE AGENDA WILL



#### **PALAIS FERSTEL Evening**



#### CONFERENCE DINNER AT PALAIS FERSTEL

Enjoy an elegant night in the historic Palais Ferstel, where timeless Italian architecture meets the Viennese elegance.

On Tuesday, June 24, the IFBF Conference Dinner will be held at Palais Ferstel, a magnificent palace inspired by Venetian architecture and situated in the heart of Vienna's historic first district.

Originally designed as a stock exchange, the venue features stunning rooms, dazzling chandeliers, and an impressive colonnaded courtyard. Palais Ferstel offers the perfect setting for an unforgettable evening, complemented by traditional Austrian

Are you interested in sponsoring the conference dinner in this stunning location? Contact us at info@flowbatteryforum.com!

IFBF 2025

# DAY ONE TUESDAY 24 JUNE

08:30	WELCOMING COFFEE - Foyer and Exhibition Area
09:30	Introduction to the IFBF. A review of the successes and challenges for the flow battery industry
	• Anthony Price, Programme Coordinator <i>IFBF</i> , Kees van de Kerk, President of <i>Flow Batteries Europe</i> .
09:45	Deployment of large-scale flow batteries and energy storage systems
	<ul> <li>Sponsor's Keynote Address: CellCube: Christoph Stelzer, CellCube</li> <li>Philip Krause, Rongke Power: Building and operating a large-scale vanadium flow battery in China</li> <li>Christian Barba Rodulfo, EDPR: Experience with Long Duration Energy Storage, thermal and other storage types</li> </ul>
	<ul> <li>Karl Zach, Verbund: Why Aren't Large Redox Flow Batteries Implemented in Central Europe Yet? A         Utility's Perspective</li> </ul>
	<ul> <li>Philippe Stevens, EDF: EDF's programme to evaluate flow batteries and other energy storage types</li> <li>Jan grosse Austing, Vanevo: Business Cases for Flow Batteries</li> <li>Pascal Wyss, Flexbase: Developing a multi 100 MW FB in Switzerland</li> </ul>
	• <b>Jean Louis Cols,</b> <i>Invinity Energy Systems,</i> Using effective partnerships to scale up for utility-scale vanadium flow battery
11:00	COFFEE BREAK - Foyer and Exhibition Area
11:30	Policies and plans to promote Long Duration Energy Storage and flow batteries in Europe and North America
	<ul> <li>Viktor Horváth, Deputy State Secretary for Energy Transition, Hungary: Diverse energy storage technologies for a balanced energy transition</li> <li>Commissioner David Hochschild, California Energy Commission: Why is California investing in Long Duration Energy Storage and Flow Batteries?</li> <li>Speaker European Commission, TBA</li> <li>Speaker Austrian Ministry, TBA</li> </ul>
13:00	LUNCH BREAK - Foyer and Exhibition Area
14:00	The future for large flow battery installations
	<ul> <li>Ian Ellerington, Faraday Institution, Looking for the next generation Long Duration Energy Storage Technology</li> <li>Massimo Guarnieri, University of Padua, Flow Battery share of the LDES market</li> </ul>
	<ul> <li>Jens Noack, Fraunhofer Institute-ICT: Flow Battery development and deployment in Australia</li> <li>Jeremy Peters, Vecco Gp: Supporting mining operations in Australia</li> <li>Daisaku Taguchi, Sumitomo Electric: Development and modelling of large scale Vanadium Flow Batteries</li> </ul>
15:30	TEA BREAK - Foyer and Exhibition Area
16:00	The market potential for flow batteries
	<ul> <li>Conrad Nichols, IDTechEx: The Global view of the flow battery market</li> <li>Johannes Haentzschel, Prolux Solutions: The flow battery markets in DACH</li> <li>Andrii Bodnar, R-Flow Ukraine: Flow batteries as a tool for rebuilding Ukraine's energy grid</li> <li>Ahmad Hammad, Aramco: Development of a flow battery technology for manufacture and development in Saudi Arabia</li> <li>Gary Yang, Enduro: Development and scale up of Iron Vanadium flow batteries for the Middle East</li> </ul>
19:00	CONFERENCE DINNER - Palais Ferstel
	IMPORTANT: A separate ticket is needed for the IFBF Conference Dinner.

The conference dinner is sponsored by AvCarb.

IFBF 2025



# DAY TWO WEDNESDAY 25 JUNE

INTERCONTINENTAL HOTEL Full Day

## UPDATES ON TECHNICAL AND COMMERCIAL DEVELOPMENTS IN THE WORLD OF FLOW BATTERIES

- Operational experience of flow battery installations: reviews of commercial applications, and technical performance
- Novel chemistry and novel configurations
- Research and development in flow battery operation, components, integration, and manufacture

#### IMPROVING THE COMPETITIVENESS OF PRODUCING AND DELIVERING FLOW BATTERIES

- The supply chain for flow battery materials, components and subsytems, including vanadium electrolyte and other electrolytes
- Manufacturing issues and case studies
- Delivering scale in manufacturing and delivery
- Introducing standardisation to achieve scale in the flow battery industry
- Financial analyses and comparisons between market sectors

#### SELECTION OF FLOW BATTERIES FOR ENERGY STORAGE PROJECTS

- Comparisons between flow battery types (inorganic / organic and hybrid systems
- Hybridisation of flow batteries with other energy storage systems

#### RESEARCH AND ACADEMIC INSTITUTIONS AND SUPPORT FOR FLOW BATTERY DEVELOPMENT

- Status of research projects, (including the US National Labs, American states inititatives, European Framework Programmes and other national support)
- Policy support for flow battery R&D and investment in flow battery manufacturing and project development

#### POSTER SPEED PITCH "JUST A MINUTE!"

As a prelude to the IFBF Poster session, invited poster presenters will talk for "just a minute" about their work. Listen to their pitches as you hear about the latest research and new ideas in the industry before the poster and exhibition networking session.

# IFBF POSTER SESSION AND NETWORKING RECEPTION

Our popular IFBF poster session is back! We will be featuring 50 posters on the latest R&D in the world of flow batteries. Pick up your refreshments and talk to the poster presenters, visit our exhibition stands and discuss the latest developments with experts, colleagues and friends!





# DAY TWO WEDNESDAY 25 JUNE

08:30	WELCOMING COFFEE - Foyer and Exhibition Area
09:00	Vanadium Systems
	<ul> <li>Terry Perles, TTP Squared, Inc: Vanadium market analysis</li> <li>Svetlana Novikova, RDI Center: Central Asian Production for VFB</li> <li>Nataliya Roznyatovskaya, Fraunhofer-ICT: Lab test methods for VFB electrolytes</li> <li>Adam Whitehead, CellCube: The economics of state of health management for VFB</li> <li>Alasdair Robertson, Invinity Energy Systems: Honing VFB Electrolyte Specification</li> <li>Jeehyang Huh, H2, Inc.: Insights into the design and operation of a LDES VFB in Spain</li> </ul>
10:45	COFFEE BREAK - Foyer and Exhibition Area
11:15	Scale up and operation of inorganic flow battery systems
	<ul> <li>Fraser Hughson, Allegro Energy: Microemulsion flow battery at Australia's largest power station</li> <li>Norah Alghamdi, University of Queensland: Optimizing zinc-ion salvation for ZnBr</li> <li>Erlantz Villar, KTH Royal Institute of Technology: A Systematic Study on the Performance and Stability of Hydrogen-Manganese Flow Battery</li> <li>Eleonora Natale, Politecno Milano: Scaling Zn-Mn Flow Batteries: Performance &amp; Economic Assessment</li> <li>John Alper, VoltStorage: Iron Salt Battery for Grid Scale Applications – MWh scaling</li> <li>Mikhail Petrov, Aarhus University: All iron dual flow battery</li> <li>Jiajun Cen, Aquabattery: Aquabattery at Deltares: Scaling Sustainable, Cost-Effective, Behind-the-Meter Energy Storage using water and table salt.</li> </ul>
13:00	LUNCH BREAK (SPONSORED BY QUINO ENERGY) - Foyer and Exhibition Area
14:00	<ul> <li>Sponsor's Keynote Address: QUINO ENERGY: Eugene Beh, Quino Energy: Multi MWh scale production of quinone flow batteries</li> <li>Cristina Flox, Iberian Center for Research in Energy Storage: Promising organic flow batteries</li> <li>Thomas Guarr, Jolt Energy: Optimization of a High Performance Nonaqueous Organic Redox Flow Battery Via Machine Learning</li> <li>Laura Giorgia Rizzi, Flow Nano: Nanostructured carbon electrodes</li> <li>Liyu Li, Cougar Creek: Second generation Fe Cr</li> <li>Ishani Natha, Arxo Metals: From Mine to Megawatt Hour: Sustainable Low-Cost Industrial Scale Production of Iron-Chromium Flow Battery Electrolyte</li> </ul>
16:00	Poster Speed Pitch "Just a minute!"  As a prelude to the IFBF Poster session, invited poster presenters will talk for "just a minute" about their work. Listen to their pitches as you hear about the latest research and new ideas in the industry before the poster and exhibition networking session.
17:00	IFBF POSTER SESSION AND NETWORKING RECEPTION - Foyer and Poster Area
	Our popular IFBF poster session is back! We will be featuring around 40 posters on the latest R&D in the world of flow batteries. Pick up your refreshments and talk to the poster presenters, visit our exhibition stands and discuss the latest developments with experts, colleagues and friends!
	The Poster Session and Networking Reception is sponsored by Pinflow.

# DAY THREE THURSDAY 26 JUNE

# INTERCONTINENTAL HOTEL Morning

# THE GROWING OPPORTUNITIES FOR FLOW BATTERIES - MARKET DEVELOPMENTS IN ENERGY STORAGE

- What is the competition for flow batteries?
  - o Competitive comparison between long and short duration energy storage technologies
  - o Manufacturing cost comparisons between flow batteries and other battery types
  - o Critical, financial and strategic issues in flow battery manufacture
- Comparisons and contrasts between business and environmental cases for flow batteries
- Business opportunities for flow battery applications in industrial and commercial operations

#### **ENERGY STORAGE SUPPLY SECURITY**

- Cyber security and operational security
- Supply chain security
- Environmental responsibility and safety

# RESEARCH AND DEVELOPMENT IN FLOW BATTERY OPERATION, COMPONENTS, AND MANUFACTURING

- Operational experience of flow battery installations
- Flow battery systems integration, power conversion systems, digital control
- International collaboration on flow batteries and energy storage and reports on collaborative projects
- Finance, funding and regulatory changes to support the research, development and deployment of flow batteries

#### **CONFERENCE CLOSING SUMMARY AND PRESENTATION OF AWARDS**

 A short summary of the proceedings will follow the presentation of awards for the poster session



**CELLCUBE HQ Afternoon** 

#### IFBF SITE VISIT – CELLCUBE

As part of the IFBF visit, CellCube is excited to open its doors and provide exclusive behind-the-scenes access to the development and production of Vanadium Flow Batteries (VFB).

With decades of experience in energy storage, CellCube has become a trusted leader in the industry, delivering innovative, durable, and flexible energy storage solutions.





## DAY THREE THURSDAY 26 JUNE

08:30	WELCOMING COFFEE - Foyer and Exhibition Area
09:00	Manufacturing, Performance and Reliability
	<ul> <li>Thorsten Seipp, Volterion: What's the perfect stack size?</li> <li>Mike Perry, Storion Energy: High-Performance Vanadium Flow Battery (VFB) Electrolyte and Cell Stacks are the Key to Low Cost VFB Systems</li> <li>Jim Hoshino, ACM Tokyo: Carbon felt made of recycled aircraft parts for ample supply, quality assured, unit cost savings, and performance enhancement</li> <li>Georg Lieser, Schmalz: Minimizing Pressure Loss and Shunt currents</li> <li>Marta Janssen Gross, Syensqo: Towards enlarging ionomer solutions for RFB with a fluorine-free ionomer</li> <li>Lukas Pachernegg-Mair, Ecolyte: Biobased Membranes for Redox Flow Batteries</li> <li>Nate Kirchhofer, BioZen: Development and validation of a flexible, low-cost, small-volume flow cell platform for high-throughput flow battery research, development, and deployment</li> </ul>
10:45	COFFEE BREAK - Foyer and Exhibition Area
11:15	Business Opportunities for Flow Batteries
	<ul> <li>Reinhard Czerny, CFO Energie Burgenland</li> <li>Rick Winter, Enduro: Views of improving flow battery manufacture and operation</li> <li>Shail Godiwala, UNSW: Economic model predictive control of vanadium redox flow batteries for power arbitrage</li> <li>Jan Girshik, Fraunhofer UMSICHT: Project Spaceflow</li> </ul>
12:30	Conference Closing Summary and Presentation of Awards Our short summary of the proceedings will follow the presentation of awards for the poster session.
13:00	LUNCH BREAK - Foyer and Exhibition Area
14:00	IFBF Site visit – CellCube Headquarters IZ NÖ Süd Straße 3, Obj. M36, Wiener Neudorf, Niederösterreich 2355, AT  As part of the IFBF visit, CellCube is excited to open its doors and provide exclusive behind-the-scenes access to the development and production of Vanadium Flow Batteries (VFB). With decades of experience in energy storage, CellCube has become a trusted leader in the industry, delivering innovative, durable, and flexible energy storage solutions.
	IMPORTANT: A separate ticket is needed for the IFBF Site Visit. Your ticket will have the information on your assigned group and bus times for departure from the InterContinental Hotel.

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