

# Energy Symposium 2025

Powering the Future –  
Accelerating the Energy Transition

24 - 27 June 2025 · KIT Campus North, FTU · Karlsruhe

# Energy Symposium 2025

## Program Summary

### Tuesday, 24 June 2025

9:30 – 10:00	Registration and Welcome Coffee	<i>Tent in front of FTU</i>
10:00 – 10:20	Welcome and Opening	<i>Auditorium in the FTU</i>
10:20 - 12:30	<b>Session 1: From Electricity to Hydrogen to Power-to-X and Fusion</b> <b>Intermittent Renewables and Hydrogen Production in European Carbon-Neutral Energy Systems</b> Patrick Jochem, <i>German Aerospace Center (DLR)</i> <b>Modularity: the Game-Changer for Commercial Scale E-Fuel Production from Power-to-X/PtX</b> Samantha Michaux, <i>INERATEC GmbH</i> <b>Hydrogen for the Energy Transition</b> Daniel Banuti, <i>Karlsruhe Institute of Technology (KIT)</i> <b>Advancing the Frontiers of Fusion: Background, Breakthroughs, and Burning Ambitions</b> Sophia Henneberg, <i>Max Planck Institute for Plasma Physics (IPP)</i>	
12:30 - 14:00	Lunch break	<i>Tent in front of FTU</i>
14:00 - 15:30	<b>Session 2: Innovations for Energy Storage</b> <b>Storing Energy: The Different Roles of Storage Technologies in Energy Systems Analysis</b> Theresa Klütz, <i>Forschungszentrum Jülich (FZJ)</i> <b>Harnessing Heat: Advancements in High-Temperature Thermal Energy Storage</b> Annelies Vandersickel, <i>German Aerospace Center (DLR)</i> <b>Exploration of Cathode Materials for Li-S Batteries</b> Yan Lu, <i>Helmholtz-Zentrum Berlin (HZB)</i>	<i>Auditorium in the FTU</i>
15:30 - 16:00	Coffee break	<i>Tent in front of FTU</i>
16:00 - 17:30	<b>Session 3: Pathways to a Resilient Energy Future</b> <b>Rethinking Electricity Market Design: Lessons Learned and Future Needs</b> Antonio J. Conejo, <i>The Ohio State University</i> <b>Planning the Net Zero Grid of 2050</b> Robert Cox, <i>University of North Carolina at Charlotte</i> <b>Power Hardware in the Loop: How Experiments can Accelerate the Energy Transition</b> Giovanni De Carne, <i>Karlsruhe Institute of Technology (KIT)</i>	<i>Auditorium in the FTU</i>
18:00 - 20:30	Barbecue	<i>Casino on Campus North</i>

**Abstracts of the talks** are available online

## Wednesday, 25 June 2025

9:00 - 12:00	<b>Lab Tours and Site Visits 1</b>	<i>Campus North, Campus South Tent in front of FTU</i>
12:00 - 13:30	Lunch break	
14:00 - 16:00	<b>Poster session and Get-together</b> <b>All poster titles</b> are available online	<i>Tent in front of FTU Back area in the FTU</i>
16:00 - 16:30	<b>Greetings from Helmholtz Vice President Bernd Rech,</b> <b>Greetings from KIT President Jan S. Hesthaven</b>	<i>Auditorium in the FTU</i>
16:30 - 17:30	<b>Presentation of the Heinrich Hertz Award</b> <b>and lecture by the award winner</b> <b>The Rise of Electrochemistry and Future Batteries</b> Jürgen Janek, <i>Justus-Liebig University (Gießen)</i> and <i>Karlsruhe Institute of Technology</i>	<i>Auditorium in the FTU</i>
17:30 - 17:40	<b>Poster Prize Award</b>	<i>Auditorium in the FTU</i>
17:40 - 18:40	<b>Science Slam Energy</b>	<i>Auditorium in the FTU</i>
19:00 – 22:00	Conference Dinner	<i>Casino on Campus North</i>

## Thursday, 26 June 2025

9:00 - 10:30	<b>Session 4: Advanced Materials and Circular Processes</b> <b>Material Bottlenecks of the Energy Transition – Exemplary Case Studies from a Systems Perspective</b> Heidi Heinrichs, <i>Forschungszentrum Jülich (FZJ)</i> <b>The Role of Information and Energy for Closing Material Cycles</b> Karl Gerald van den Boogaart, <i>Helmholtz-Zentrum Dresden-Rossendorf (HZDR)</i> <b>A Hybrid Workflow to Discover Optimized Materials and Processes for the Energy Transition</b> Christoph J. Brabec, <i>Forschungszentrum Jülich (FZJ)</i>	<i>Auditorium in the FTU</i>
10:30 - 11:00	Coffee break	<i>Tent in front of FTU</i>
11:00 - 12:30	<b>Session 5: Energy Economics and Perspectives</b> <b>Flexibility in the Electricity System – Surplus or Bottleneck?</b> Wolf Fichtner, <i>Karlsruhe Institute of Technology (KIT)</i> <b>Technical Safety Aspects of Small Modular Reactors and New Reactor Designs: Global Developments and Challenges</b> Sara Beck, <i>Gesellschaft für Anlagen- und Reaktorsicherheit (GRS) gGmbH</i> <b>Innovating Tomorrow! Focus on Industrial Solutions for the Energy Transition</b> Jens Dietrich, <i>Siemens Energy Global GmbH &amp; Co KG, Innovation Center Berlin</i>	<i>Auditorium in the FTU</i>

12:30 - 12:40	Closing Remarks <b>Abstracts of the talks</b> are available online	<i>Auditorium in the FTU</i>
12:40 - 14:00	Lunch break	<i>Tent in front of FTU</i>
14:00 - 16:00	<b>Lab Tours and Site Visits 2</b>	<i>Campus North, Campus South, Campus East</i>
14:00 - 16:00	<b>Open Space: Coffee and Science</b>	<i>Tent in front of FTU</i>
16:15 – 17:45	<b>Science Policy Dialog: Insights from Scientists, Consulting Experts, and Politicians</b>	<i>Auditorium in the FTU</i>

Friday, 27 June 2025			
Helmholtz Energy Workshops for Young Scientists			
09:00 - 10:30	<b>08:30 - 10:30</b> <b>Women at Helmholtz Energy Breakfast and Networking event</b> <i>Helmholtz Energy Office</i> Location: <b>Tent, FTU</b>	<b>Good Leadership in Teams - First Aid for Getting Started</b> <i>Britta Hoffmann</i> Location: <b>Room 164, FTU</b>	<b>Career Compass: Where You Are and Where You Want to Go</b> <i>Patrizia Köhler, Katrin Hess</i> Location: <b>Room 163, FTU</b>
10:30 - 11:00	<i>Coffee break</i>		
11:00 - 12:30	<b>Clear Communication</b> <i>Simone McInturff</i> Location: <b>Aula, FTU</b>	<b>Ideas on Demand. Strategies for Creative Problem-Solving</b> <i>Stefan Götze</i> Location: <b>Room 164, FTU</b>	<b>Deep Dive into Your Network: Analyze, Reflect and Strengthen Your Career Connections</b> <i>Patrizia Köhler, Katrin Hess</i> Location: <b>Room 163, FTU</b>
12:30 - 13:30	<i>Lunch break</i>		
13:30 - 15:00	<b>How to Network and Make Valuable Connections</b> <i>Simone McInturff</i> Location: <b>Aula, FTU</b>	<b>Your Personal AI-SSISTANT has arrived: Using Generative AI as a Professional Tool in Academia</b> <i>Stefan Götze</i> Location: <b>Room 164, FTU</b>	<b>Leading with Responsibility - First Aid for Getting Started</b> <i>Michael Stolle</i> Location: <b>Room 163, FTU</b>
15:00	<b>End</b>		

#### Information

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