



2nd International Symposium on Energy System Analysis (ISESA)

“Implementing the energy transition: Holistic challenges and solutions for resilient energy systems & 10-year STRise anniversary”

October 13th and 14th, 2025

ZSW, Meitnerstraße 1, 70563 Stuttgart, Germany

Program

Monday, October 13	
12:00 – 12:45	Arrival, Registration, Hanging posters, Light lunch
12:45 – 1:55	Welcome to ZSW (<i>Prof. Dr. Frithjof Staiß, ZSW</i>) Welcome to ISESA (<i>Prof. Dr. Patrick Jochem, DLR Institute of Networked Energy Systems</i>) Welcome by GEE-AAEE-SAE & first impulse: Decarb of a City: The example of Vienna (<i>Michael Strebl, WienENERGIE</i>) Keynote 1: The economics of sustainable solutions in transport (<i>Prof. Dr. Amela Ajanovic, TU Vienna</i>)
2:00 – 3:30	Session 1 (<i>Chair: Dr. Annika Gillich, University of Stuttgart, IER</i>) - Heading towards democratic, sustainable competitive electricity systems (<i>Prof. Dr. Reinhard Haas, TU Vienna</i>) - Handling uncertainty in long-term active distribution network planning (<i>Dr. David Ulrich Ziegler, Comillas Pontifical University, Madrid</i>) - Dynamic electricity pricing and time-of-use network charges for private households – Are mixed signals favorable? (<i>Hendrik Kramer, University of Duisburg-Essen</i>) - Economic and regulatory assessment of new gas power plants in the Austrian electricity market (<i>Dr. Hamid Aghaie, Wien Energie</i>)
3:30 – 4:00	Coffee break
4:00 – 5:30	Session 2 (<i>Chair: Maike Schmidt, ZSW</i>) - Resilience in hydrogen supply and infrastructure: Market responses to disruption in Europe and MENA (<i>Ellen Österlein, Fraunhofer ISI</i>) - Global production and trade pathways of low-carbon fuels: Trade-offs between liquid bio- and e-fuels (<i>Dr. Martin Densing, ETH Zurich, Paul Scherrer Institute</i>) - Hydrogen horizons: Charting New Zealand and the Pacific Islands' path to a clean energy future (<i>Hadi Vatankhah Ghadim, University of Canterbury, NZ</i>) - Dynamic context scenario analysis for robust hydrogen transition pathways in the EU and Germany (<i>Dr. Wolfgang Hauser, University of Stuttgart, ZIRIUS</i>)
5:30 – 6:30	Poster pitches (<i>Chair: Steffen Schlosser, DLR Institute of Networked Energy Systems</i>) Poster session
6:30	Social Event 10 Years STRise, ZSW Stuttgart

Tuesday, October 14	
9:00 – 9:45	Keynote 2: Navigating Complexity: Coordination across Institutions and Levels in Energy Policy (<i>Prof. Dr. Michèle Knodt, TU Darmstadt</i>)
9:50 – 11:20	Session 3 (<i>Chair: Prof. Dr. Kai Hufendiek, University of Stuttgart, IER</i>) 1. From coal to green iron: Repurposing combined heat-and-power plants to run on carbon-free iron (<i>Jannik Neumann, TU Darmstadt</i>) 2. From walls to watts: Modelling the envelope retrofit–supply temperature–heat pump interaction in building energy system optimisation (<i>Julian Hermann, ETH Zurich</i>) 3. Modeling energy infrastructures in the energy system model – An analysis with TIMES PanEU (<i>Peiwen Zhang, University of Stuttgart, IER</i>) 4. Examining the flexibility resulting from heat sector coupling with an energy system model (<i>Colton Chow, Robert Bosch GmbH and TU Munich</i>)
11:20 – 11:45	Coffee break (including another chance to chat at the posters)
11:45 – 1:15	Session 4 (<i>Chair: Dr. Wolfgang Hauser, University of Stuttgart, ZIRIUS</i>) 1. Storyline development for resilient energy system transformations: A structural complexity reduction approach integrating shock events and slow burn processes (<i>Richard Schmitz, Fraunhofer IEE and University of Kassel</i>) 2. Electricity transitions for the overlooked: 14 Pacific Island Countries (<i>Akash Jyoti Handique, University of Canterbury, Christchurch</i>) 3. Dealing with uncertainties: Actor strategies in an electricity market dominated by flexible renewable energies (<i>Sandra Wassermann, University of Stuttgart, ZIRIUS</i>) 4. Bridging systems for sustainability: The innovation dynamics of synthetic fuels (<i>Dr. Tobias Buchmann, ZSW</i>)
1:15 – 2:15	Farewell (<i>Organizing Committee</i>), Light lunch
2:00 – 4:00	IAEE PhD paper session (<i>Prof. Dr. Russell McKenna, ETH Zurich & Paul Scherrer Institute, Prof. Dr. Reinhard Haas, TU Vienna, Prof. Dr. Patrick Jochem, DLR-VE</i>) (Submission of full paper required)

Overview of posters

1	Analyzing Germany's hydrogen ramp-up from an investor's point of view (<i>Dr. Johannes Kochems, DLR Institute of Networked Energy Systems</i>)
2	Energy prices and firms' behavioural responses – Plant-level evidence from the German manufacturing census (<i>Dr. Karsten Müller, DLR Institute of Networked Energy Systems</i>)
3	Overcoming hurdles in implementing energy transition: A proven pathway to economic success for early entrepreneurial adopters (<i>Dr. René Schellenberger, Magility GmbH</i>)
4	Modeling investment behavior and energy management strategy of industrial prosumers under policy uncertainty (<i>Tom Warendorf, University of Bremen</i>)
5	Quantifying the regret of using simplified optimization models in multi-energy system operation (<i>Bianca Helbach, RWTH Aachen</i>)
6	Identifying drivers of lost load events in future energy systems under different climate scenarios (<i>Paul Pütz, Ruhr University Bochum</i>)
7	Swarm intelligence based cooperative framework for optimizing decentralized green hydrogen production in renewable-dominant grids (<i>Antony Dominic, Reutlingen University</i>)
8	Raw material risk at the level of energy transformation scenarios and the potential of recycling as a mitigating factor (<i>Steffen Schlosser, DLR Institute of Networked Energy Systems</i>)
9	Sociotechnical imaginaries of locals on the transformation in the German mining area "Rheinisches Revier" (<i>Katharina Vollmer, Forschungszentrum Jülich</i>)
10	Modeling of private mobility load profiles under future societal change in Germany (<i>Camila Villarraga Díaz, DLR Institute of Networked Energy Systems</i>)
11	Heat demand forecasting as a strategic tool for decarbonizing Vienna's energy system (<i>Dr. Georg Scharinger-Urschitz, Wien Energie</i>)
12	Vienna's municipal heat planning: A strategic framework for district heating expansion (<i>Sophie Zeiger, Wien Energie</i>)
13	OSEP – Optimized Strategic Energy Portfolio: Integrated long-term planning for thermal, renewable, and cooling systems in Vienna (<i>Dr. Andreas Fleischhacker, Wien Energie</i>)
14	Adequacy 2050: Security of supply in the power system (<i>Simeon Benner, TransnetBW</i>)

Organizing Committee



Prof. Dr. Patrick Jochem
patrick.jochem@dlr.de



Prof. Dr.-Ing. Kai Hufendiek
kai.hufendiek@ier.uni-stuttgart.de



Prof. Dr. Cordula Kropp
cordula.kropp@zirius.uni-stuttgart.de



Prof. Dr. Frithjof Staiß
frithjof.staiss@zsw-bw.de

Scientific Committee

Steffen Schlosser
steffen.schlosser@dlr.de



Institut für
Vernetzte Energiesysteme

Nicolas Messerschmidt
nicolas.messerschmidt@ier.uni-stuttgart.de



Universität Stuttgart
IER Institut für Energiewirtschaft
und Rationelle Energieanwendung

Sandra Wassermann
sandra.wassermann@zirius.uni-stuttgart.de



Zentrum für Interdisziplinäre Risiko- und Innovationsforschung

Dr. Tobias Buchmann
tobias.buchmann@zsw-bw.de



Since 2015, STRise (Stuttgart Research Partnership on Integrated Systems Analysis for Energy) has been advancing the energy transition in Europe, Germany, Baden-Württemberg, and Stuttgart. The interdisciplinary systems research in Stuttgart is unique in Europe and enables new approaches to analyzing and implementing the sector-coupled energy transition with high system complexity and increasing interaction in the socio-technical-economic environment.



Stuttgart Research Partnership
on Integrated Systems Analysis
for Energy

