NEFI NEW ENERGY FOR INDUSTRY

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22 – 23 OCTOBER

NEFI CONFERENCE 2026

FUTURE INDUSTRY – INNOVATING FOR COMPETITIVENESS

MUSEUMSQUARTIER, Museumsplatz 1, Vienna, Austria

Registration: www.nefi.at/en/nefi-conference

The innovation network NEFI – New Energy for Industry, funded by the Climate and Energy Fund and supported by the federal states of Upper Austria and Styria, has been established around a consortium comprising AIT Austrian Institute of Technology, the Technical University of Leoben, the OÖ Energiesparverband, and Business Upper Austria. In doing so, it brings together a wide range of expertise in energy research and project implementation.

AIT AUSTRIAN INSTITUTE OF TECHNOLOGY

Montanuniversität Leoben

business upper austria

OÖENERGIESPARVERBAND

Das Land Steiermark

ober österreich

PROGRAMME

NEFI NEW ENERGY FOR INDUSTRY

Day 1
Thursday,
22 October 2026

Overview Day 1

09.30 – 10.00
Check-in and Get-together

10.00 – 10.30
Welcoming and Opening

10.30 – 10.45
Impulse Lecture NEFI

10.45 – 11.30
Keynotes

11.30 – 12.20
Panel Discussion

12.30 – 13.45
Lunch Break

13.45 – 15.15
Parallel Sessions 1–4
(Session 4 until 15.30)

15.15 – 16.00
Break and Poster Session

16.00 – 17.30
Parallel Sessions 5–7

17.35 – 17.50
Summary and Conclusion of
the First Conference Day

18.00 – 22.00
Get-together,
Conference Dinner and
Young Scientist Award Ceremony

sponsored by

INNIO kelag OMV

wienerberger

09.30 – 10.00
Check-in and Get-together

10.00 – 10.30 | Arena 21
Welcoming and Opening

BERNHARD GAHLEITNER
Member of the NEFI Network Steering Committee, Business Manager Energy Markets & Infrastructure Policy, Center for Energy, Austrian Institute of Technology (AIT)

CORNELIA ERTL
Moderation

10.30 – 10.45 | Arena 21
Impulse Lecture NEFI

Innovating for Competitiveness – Science Based Transformation Pathways for Austrian Industry

THOMAS KIENBERGER
Member of the NEFI Network Steering Committee, Head of the Chair of Energy Network Technology, Technical University of Leoben

10.50 – 11.30 | Arena 21
Keynotes

Keynote 1
Building Blocks of Future Industrial Energy Systems

ALEXANDER SAUER
Director of the Institute for Energy Efficiency in Production (EEP), University of Stuttgart, *Head of the* Fraunhofer Institute for Manufacturing Engineering and Automation (IPA)

Keynote 2
Net-Zero Clusters: Enabling Infrastructure for Competitive Industries

MERCEDES MAROTO-VALER
Champion and Director of the UK Industrial Decarbonisation Research and Innovation Centre (IDRIC), *Director of the* Research Centre for Carbon Solutions (RCCS), *Deputy Principal for Global Sustainability, Buchan Chair in Sustainable Energy Engineering at* Heriot-Watt University

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Keynote 3
Early-Stage Operating Experience with a 3 MW PEM Electrolyser

CHRISTIAN WALLNER
Managing Director of the PVI, Head of Business Development Kärntner Elektrizitäts-Aktiengesellschaft (KELAG)

11.30 – 12.20 | Arena 21
Panel Discussion

MARTIN GRAF
Member of the Board, Energie Steiermark AG

THOMAS KIENBERGER
Member of the NEFI Network Steering Committee, Head of the Chair of Energy Network Technology, Technical University of Leoben

STEPHAN LAIMINGER
Chief Technologist, INNIO Jenbacher GmbH & Co OG

JUDITH NEYER
Head of the Department for Strategic Energy Policy, Federal Ministry of Economy, Energy and Tourism

URBAN PEYKER
Head of the Department Industry, Enterprise and Financing, Deputy Managing Director Climate and Energy Fund, *Mission Director* Net-Zero Industries Mission

ALEXANDER SAUER
Director of the Institute for Energy Efficiency in Production (EEP), University of Stuttgart, *Head of the* Fraunhofer Institute for Manufacturing Engineering and Automation (IPA)

CHRISTIANE EGGER
Moderation, Member of the NEFI Network Steering Committee, Deputy Manager of the OÖ Energiesparverband, *Manager of the* Cleantech-Cluster Energy

12.30 – 13.45 | Ovalhalle
Lunch Break

13.45 – 15.15
Parallel Sessions 1–4 **(page 4 & 5)**

15.15 – 16.00 | Ovalhalle
Break and Poster Session **(page 6 & 7)**

16.00 – 17.30
Parallel Sessions 5–7 **(page 8)**

17.35 – 17.50 | Arena 21
Summary and Conclusion of the First Conference Day

CHRISTIANE EGGER
Moderation, Member of the NEFI Network Steering Committee, Deputy Manager of the OÖ Energiesparverband, *Manager of the* Cleantech-Cluster Energy

18.00 – 22.00
Get-together,
Conference Dinner and
Young Scientist Award Ceremony

Day 2
Friday,
23 October 2026

Overview Day 2

08.30 – 09.00
Check-in and Get-together

09.00 – 09.20
Welcoming and Opening

09.20 – 09.40
Keynote

09.40 – 09.55
Introduction to Funding Programme

09.55 – 10.15
Keynote

10.15 – 11.30
Parallel Sessions 8–10

11.30 – 11.50
Break

11.50 – 13.00
Parallel Sessions 11–13

13.00 – 14.00
Networking Lunch

08.30 – 09.00
Check-in and Get-together

09.00 – 09.20 | Arena 21
Welcoming and Opening

BERNHARD GAHLEITNER
Member of the NEFI Network Steering Committee, Business Manager Energy Markets & Infrastructure Policy, Center for Energy, Austrian Institute of Technology (AIT)

CORNELIA ERTL
Moderation

09.20 – 09.40 | Arena 21
Keynote

Innovation in Austria and International Impact (TBA)

09.40 – 09.55
Introduction to Funding Programme

RTI Initiative for the Transformation of Industry

URBAN PEYKER
Head of the Department Industry, Enterprise and Financing, Deputy Managing Director Climate and Energy Fund, *Mission Director* Net-Zero Industries Mission

09.55 – 10.15
Keynote

The Renewables Pull Effect: A Socio-Technical Perspective on Green Energy Innovation and Industrial Competitiveness

STEFAN LECHTENBÖHMER
Head of the Sustainable Technology Design Group, Kassel Institute for Sustainability, University of Kassel

10.15 – 11.30
Parallel Sessions 8–10 **(page 9)**

11.30 – 11.50 | Ovalhalle
Break

11.50 – 13.00
Parallel Sessions 11–13 **(page 10)**

13.00 – 14.00 | Ovalhalle
Networking Lunch

Day 1
Thursday,
22 October 2026

13.45 – 15.15

Session 1 – Arena 21
Advanced Carbon Capture Technologies and CO_2 Infrastructure

This session explores advanced carbon capture technologies as well as infrastructure and investment strategies required for their industrial deployment. Contributions cover innovative solvent- and adsorption-based capture processes, spatial planning of European CO_2 networks, and decision-making approaches for industrial CCUS investments under uncertain economic and regulatory conditions.

Session Chair

MARKUS LEHNER
Chair of Process Technology and Industrial Environmental Protection, Technical University of Leoben

Carbon Capture with Novel Amine-Based Natural Deep Eutectic Solvents

MARLENE KIENBERGER
Institute of Chemical Engineering and Environmental Technology, Graz University of Technology

Continuous Temperature Swing Adsorption for Carbon Dioxide Capture in Industry

ANTONIA BIEBIGHÄUSER & BENJAMIN FLEISS
BOKU University

Planning CO_2 Infrastructure for Industrial Decarbonisation: A Spatial Aproach to Network Deployment Across Europe

MARIA BERCHICHE
Mines Paris-PSL, France

Beyond Wait-and-See: Valuing Readiness Investments for Industrial Decarbonisation Under Uncertainty

DANIEL DANTINE
Net Zero Scout GmbH

Session 2 – Barock Suite A
Industrial Heat Pumps and Waste Heat Recovery

This session brings together different approaches to the integration of heat pumps into industrial energy systems. The contributions share a common focus on reducing fossil fuel consumption by making better use of available heat sources, electrifying process heat, and improving the overall efficiency of industrial processes. Across sectors and technologies, the studies highlight the importance of system integration, dynamic operation, and the interaction between heat sources and demand when developing effective heat pump solutions for industry.

Session Chair

WOLFGANG HRIBERNIK
Chair of Energy Network Technology,
Technical University of Leoben

GreenBricks: Operational Strategies for Brick Drying with Heat Pumps

VERENA SULZGRUBER
Austrian Institute of Technology (AIT)

Defossilisation Pathways Agrana Fruit – Integration Assessment of Heat Pump and Biomass Steam Solutions

WOLFGANG GRUBER-GLATZL
AEE – Institute for Sustainable Technologies (AEE INTEC)

MILP-Based Sizing of Heat Pump and Buffer Storage for Industrial Waste Heat Recovery

JOHANNES WINDISCH
AEE – Institute for Sustainable Technologies (AEE INTEC)

Designing of High-Temperature Heat Pump and Test Bench for a Reversed Brayton Cycle with Single Shaft Turbo Components

ANTOINE VERHAEGHE
University of Mons, Belgium

Day 1
Thursday,
22 October 2026

13.45 – 15.15

Session 3 – Barock Suite B
Sustainable Hydrogen Value Chains, Applications and Policy

This session addresses the development of sustainable hydrogen value chains from technological application to regulation, circularity and regional implementation. Contributions examine the utilisation of ammonia in marine engines, the use of RFNBOs in public gas grids, policy instruments supporting SME participation in hydrogen ecosystems, and recycling strategies for critical materials used in PEM electrolysers. The session emphasises the systemic conditions required for a sustainable hydrogen economy.

Session Chair

FRANZ WINKLER
Hydrogen Research Center Austria (HyCenta)

From Electrolyser to End Consumer: Can RFNBOs Stay Countable in the Public Gas Grid?

JOVANA WINKLER
Graz University of Technology

Onboard Ammonia Cracking as a Key Enabler for Large-Bore Ammonia Engines

ANTONY NYONGESA
Graz University of Technology

A Policy Improvement Methodology for Strengthening SME Participation in Regional Hydrogen Ecosystems

BEATA KVIATEK
Hanze University of Applied Sciences Groningen, Netherlands

LCA of Recycling Strategies for PEM Electrolyser Components: Relevance of Critical Metal Recovery for Green Hydrogen Production

HANNAH ASTER
Energieinstitut an der Johannes Kepler Universität Linz

13.45 – 15.30

Session 4 – Libelle
Industrial Symbiosis and Systemic Transformation

This session explores industrial symbiosis as a systemic approach to transforming industrial value chains and regional energy and resource systems. The contributions highlight how stronger connections between industries, infrastructures, resources and stakeholders can create opportunities for more efficient, resilient and sustainable industrial systems. Across different perspectives, the session emphasises the importance of understanding interdependencies and creating the right conditions for successful industrial transformation.

Session Chair

CHRISTOPH BRUNNER
AEE – Institute for Sustainable Technologies (AEE INTEC)

Technology Investment in the Austrian Manufacturing Industry: Energy Demand, Carbon Emissions and Policy Implications from an Agent-Based Technology Diffusion Model

CHRISTIAN SCHÜTZENHOFER
Austrian Institute of Technology (AIT)

Utilisation of Excess Heat in a Seasonal Thermal Energy Storage in Austria: Challenges and Environmental Implications

HELENE MIHATSCH
Energieinstitut an der Johannes Kepler Universität Linz

Accelerating Industrial Decarbonisation through a Whole-Systems Approach

MERCEDES MAROTO-VALER
Industrial Decarbonisation Research and Innovation Centre, UK (IDRIC), Research Centre for Carbon Solutions (RCCS), Heriot-Watt University

Risk Management in Industrial Symbiosis – Reflections on ISO 31000:2018 and Its Application in Symbiosis

RICKARD FORNELL
Research Institutes of Sweden (RISE)

The Cement Industry's Industrial Symbiosis: Material and Energy Flows Across the Supply Network

LUKAS WECHNER
Technical University of Leoben

Transforming Recovery Boilers into Biogenic CO_2 Production Plants

PATRIK YRJAS
Abo Akademi University, Finland

Day 1
Thursday,
22 October 2026

15.15 – 16.00

Poster Session (I) – Ovalhalle

Energy Efficiency Potential in Norwegian Industry

LASSE BORG ANDERSON
SINTEF Energy Research, Norway

Testing Facilities Developed for Experimental High Temperature Energy-Related Research in Process Engineering

JIRI BOJANOVSKY
Brno University of Technology, Czech Republic

Energy Systems and Climate Change: Fully Renewables Systems under Adequacy Stress

SIMON BRIGODE
Mines Paris-PSL, France

Downstream CO_2-Capture Pathway Selection for Oxy-Combustion SOFC-Micro Gas Turbine Hybrids in Industrial Flare-Gas Valorisation

MARIA CLARADE JESUS VIEIRA
University of Mons, Belgium

From Complexity to Clarity: Multicriteria Readiness Assessment and NeScience Management in Industrial Innovation Projects

THOMAS DOPLER
ISCON GmbH

Low-Pressure Steam Network Optimisation in Refinery

DANIELA DÚBRAVSKÁ & BARBORA BOŽIDARA FERKOVÁ
Slovak University of Technology, Slovak Republic

Combined Process Flexibility and Thermal Energy Storage in a Norwegian Food Industry

SVERRE STEF FOSLIE
SINTEF Energy Research, Norway

A Scenario-Based Techno-Economic Analysis of the CO_2-to-Methanol Pathway through CO_2 Hydrogenation

RAMIN GHIAMI SARDROUD
Chair of Energy Network Technology, Technical University of Leoben

Nuclear Technology Made in Austria – SMR X – Energy.Everywhere. Innovation Meets Regulatory Challenges

GERHARD GREINER
Emerald Horizon AG

Towards an Integration Guideline for Hybrid Renewable Energy Systems in Industrial Process Heat and Power

WOLFGANG GRUBER-GLATZL
AEE – Institute for Sustainable Technologies (AEE INTEC)

Industrial Consumer-Led Flexibility in Energy-Intensive Industry: Technical Potential, Operational Constraints and Policy Priorities

DEBATRI GUPTA
Industrial Decarbonisation Research and Innovation Centre, UK (IDRIC)

Refrigerant Blends for MW-Scale High-Temperature Heat Pumps

FELIX HUBMANN
Austrian Institute of Technology (AIT)

From Techno-Economic Assessment to Construction Site: A Reality Check of Investment Costs in Austrian Hydrogen Infrastructure Projects

TERESA JAGIELLO
HyCentA Research GmbH

Austrian DC Pilot Factory – Industrial DC Microgrid Demonstrator with Bidirectional V2X

GERHARD JAMBRICH
Austrian Institute of Technology (AIT)

Integrated Thermochemical and Sensible Heat Storage in a Solar-Driven Sorption-Enhanced Gasification System for Flexible Heat, Power, and Ammonia Generation

SOHEIL KHOSRAVI
Technical University of Denmark

Industrial Load Flexibility as a Lever for Electrification: A Scenario-Based Techno-Economic Analysis of the French Industry

SIMON LANG
EDF R&D, France

AVL's Pathway from Industrial SOEC Scale-Up to High-Efficiency Co-SOEC Power-to-Liquid Systems

VINCENT LAWLOR
AVL List GmbH

Scaling Chemical Recycling Through State Capital and Local Industrial Policy: A Case Study of Mixed Waste Plastics Recycling in Jieyang, China

LIXUE LIN-SIEDLER
Kassel Institute for Sustainability, University of Kassel, Germany

Quantifying the Monetary Flexibility Potential of a Waterworks Operation under Day-Ahead Electricity Prices

IVAN MARIUZZO
Austrian Institute of Technology (AIT)

Day 1
Thursday,
22 October 2026

15.15 – 16.00

Poster Session (II) – Ovalhalle

A Comprehensive Approach for Building Capacity in Industrial Decarbonisation

MERCEDES MAROTO-VALER
Industrial Decarbonisation Research and Innovation Centre, UK (IDRIC), Research Centre for Carbon Solutions (RCCS), Heriot-Watt University

Energy Research in Process Engineering: Vacuum Evaporation for Circular Heat and Water Recovery

VÁCLAV MIKLAS
Brno University of Technology, Czech Republic

Exploring Societal Acceptance of New Energy Technologies

ALEXANDRA MILLONIG
Austrian Institute of Technology (AIT)

E-FLEX: Multi-Objective Energy and Flexibility Management in SMEs

TOMI NORD
i2m Unternehmensentwicklung GmbH

Unlocking Value with Decentralised, Sector-Coupled Energy Systems

EDMUND PENZ
ICT Impact GmbH

Industrial Carbon Management and CCUS Policy Frameworks: A Comparative International Analysis

VALERIE PFEFFER-RODIN
Energieinstitut an der Johannes Kepler Universität Linz

Industrial-Scale Ethanol Recovery for Pharmaceutical Manufacturing: A Circular Economy Reference Project

FLORIAN PÖLLABAUER
VTU Engineering GmbH

Energy from Wastewater in the Industry Sector: Case Study Voest Alpine

FLORA PRENNER
Rabmer GreenTech GmbH

Sustainable Technology Integration and a Context-Responsive Toolkit for Industrial Symbiosis Development in the Pulp and Paper Industry

STEFAN PUSCHNIGG
Energieinstitut an der Johannes Kepler Universität Linz

TRENT: Technology Scenarios for the Energy Transition – Identifying Strategic Technologies, Industrial Opportunities and Supply Chain Challenges for Austria

GUSTAV RESCH
Austrian Institute of Technology (AIT)

Influence of Ethane Concentrations on Conversion in Methane Pyrolysis

THOMAS SCHINNERL
Technical University of Leoben

Industrial Symbiosis for Sugar-Based Biopolymer Production: A Research Agenda for Regional Value Chains in Europe

MICHAEL SCHÜNGEL
University of Kassel, Germany

Transformation Industrial Energy Systems in the Construction Sector: Electrification, Flexibility and Cross-Site System Integration

ANDREAS STREITMAYER
PORR AG

Decarbonised Energy Efficient Paper Production

VERENA SULZGRUBER
Austrian Institute of Technology (AIT)

Cost, Carbon and Grid-Peak Trade-Offs of Hybrid Storage for Electrified Process Heat: A Sector-Coupled Digital-Twin Study of a Business Park

GIFT UDOH
School of Engineering and Physical Sciences, Heriot-Watt University

Comparing Technologies for Materials Recovery from Diluted Effluents

MIROSLAV VARINY
Slovak University of Technology in Bratislava, Slovak Republic

Industrial Energy Clusters Enabled by a One-Stop-Shop Transformation Partner: An Integrated Approach for De-Carbonising Industrial Energy Consumers

JOHANNES WIDHALM
Energie AG

Life Cycle Assessment of Plastic Waste Collection Systems

LUKAS ZEILERBAUER
Energieinstitut an der Johannes Kepler Universität Linz

Day 1
Thursday,
22 October 2026

16.00 – 17.30

Session 5 – Arena 21
CO_2 Utilisation Pathways

This session explores different pathways for the utilisation of captured CO_2, ranging from CO_2-based fuels such as e-methanol, FT-diesel, and sustainable aviation fuels (SAF) to mineral carbonation. Through techno-economic and environmental assessments, the contributions examine the potential and limitations of these pathways, with particular attention to process efficiency, economic viability, climate impacts, and regulatory recognition.

Session Chair

MARLENE KIENBERGER
Institute of Chemical Engineering and Environmental Technology, Graz University of Technology

Integrated Techno-Economic and Life-Cycle Assessment of E-Methanol and FT-Diesel for European Transport Applications

MARION ANDRITZ
Technical University of Leoben

Legal Evaluation of Carbonation as Decentralised Carbon Sinks in Relation to European Emission Trading Systems

VIKTORIA KRON
Energieinstitut an der Johannes Kepler Universität Linz

Decentralised CO_2 Sinks Based on Mineral Carbonation in Austria: Results from the Project DeCarbStore

SUSANNE HOCHMEISTER
Technical University of Leoben

Comparative Techno-Economic Assessment of CO_2-Based SAF Pathways: Fischer-Tropsch, Methanol-to-Jet and Ethanol-to-Jet Across Three Global Regions: EU, USA and Middle East

SEVERIN SENDLHOFER
Technical University of Leoben

Session 6 – Barock Suite A
Pathways and Technologies for Industrial Process Heat Electrification

This session explores different pathways towards the electrification and defossilisation of industrial processes. The contributions bring together technological innovation, process-level solutions and system perspectives, highlighting how industrial energy demand can be transformed through electrification, alternative energy carriers and energy storage. Across different industrial sectors and applications, the studies share a common focus on the technical challenges, opportunities and system implications of reducing fossil fuel consumption.

Session Chair

FRIEDERICH KUPZOG
Austrian Institute of Technology (AIT)

From CFD-Based Design to Full-Scale Operation: Electrification of an Industrial Brick Firing Tunnel Kiln

MANUEL SCHIEDER
Austrian Institute of Technology (AIT)

Electrifying Industrial Drying Using Thermochemical Energy Storage

JOEP PIJPERS
Tempo Innovations, Inc., United States

Industrial Gas Demand on Austria's Route to Net-Zero

NICOLE ZECHNER
Austrian Gas Grid Management

Physics-Based Simulation of Inductive Heating for Press Hardening

LUKAS KNORR
Paderborn University, Germany

Session 7 – Barock Suite B
Advanced Production and Conversion Pathways for Hydrogen and E-Fuels

This session presents advanced technologies and modelling approaches for the production of hydrogen, e-fuels and carbon-neutral platform chemicals. The contributions cover bicarbonate electrolysis, data-driven modelling of reverse water-gas shift reactors, innovative production concepts for e-methanol and e-ammonia, and pilot-scale hydrogen production through liquid metal methane pyrolysis. Together, they demonstrate how advanced reactor technologies, process modelling and system optimisation can support the development and scale-up of low-carbon production pathways for the energy and chemical sectors.

Session Chair

STEPHAN ABERMANN
Austrian Institute of Technology (AIT)

Influence of Operating Parameters on Electrolyser Performance in Bicarbonate Electrolysers

FELIX ETTLINGER
TU Wien

Modelling a Reverse Water-Gas Shift Reactor with a Neural Network

ENZO KOMATZ
Technical University of Leoben

Selected Results of the European Project ALCHEMHY on the Carbon-Neutral Production of E-Methanol and E-Ammonia

CHRISTOPH ZAUNER
Austrian Institute of Technology (AIT)

Demonstrating CO_2-Free Hydrogen Production at Pilot Scale via Liquid Metal Methane Pyrolysis

CHRISTOPH SCHERR
Technical University of Leoben

Day 2
Friday,
23 October 2026

10.15 – 11.30

Session 8 – Arena 21
Circular Economy and Resource Efficiency

This session explores circular economy approaches for achieving climate-neutral and resource-efficient industrial production. The contributions address circular carbon management in the petrochemical industry, the valorisation of food-processing residues in biorefineries, and the reuse of wastewater and low-grade waste heat for hydrogen production. Together, they demonstrate how integrated resource use can reduce dependence on primary and fossil resources.

Session Chair

KARIN FAZENI-FRAISL
Energieinstitut an der Johannes Kepler Universität Linz

EU Petrochemical Industry Pathways: Carbon Management and Circular Economy in a Cross-Sectoral Perspective

MICHAEL SCHÜNGEL
University of Kassel, Germany

A Net-Zero Accounting Perspective on a Circular Food-Residue Biorefinery

SONJA SIEGL
Institut for Industrial Ecology

DCMD for Wastewater Reuse in Electrolyser Water Supply Using Low-Grade Waste Heat

JOSEPHIN PAETZOLD
AEE – Institute for Sustainable Technologies (AEE INTEC)

Session 9 – Barock Suite A
Advanced Technologies for Carbon, Resource and Energy Recovery

This session presents innovative technologies for recovering value from carbon, industrial residues and waste streams while improving the sustainability of energy and process systems. The contributions address sustainable working fluids for absorption heat pumps, electrochemical CO_2 conversion to synthesis gas, and advanced technologies for multi-metal recovery from zinc-rich residues. Together, they demonstrate how innovative materials, process concepts and energy integration can support circularity, reduce emissions and enable more efficient use of industrial resources.

Session Chair

THOMAS FLECKL
Austrian Institute of Technology (AIT)

Pyrometallurgic Recycling of Zinc-Containing Residues

DAVID BANASIAK
Technical University of Leoben

Hydrophilic natural deep eutectic solvents as sorption media

CHRISTOPH WEINZETTL
Graz University of Technology

Direct CO_2 Capture and Electrochemical Conversion

MARTIN SCHULZ
TU Wien

Session 10 – Barock Suite B
Flexibility for Resilient Energy Systems

This session explores the role of flexibility in enabling resilient and efficient energy systems during the transition towards a more renewable and increasingly interconnected energy landscape. The contributions address how storage technologies, infrastructure, market mechanisms and regulatory conditions interact at the system level. Together, they emphasise the importance of flexibility not only for balancing energy supply and demand, but also for maintaining system reliability and supporting the transformation of energy systems.

Session Chair

THOMAS KIENBERGER
Chair of Energy Network Technology, Technical University of Leoben

Determining the Optimal Range of Storage Capacity via Market Modelling of Sector Coupled Energy Systems

DAVID SIEBENHOFER
Technical University of Leoben

Clearing the Path for Austrian BESS Development: Economics, System Integration, and Grid Access

ANDREAS FISCHER
Austrian Institute of Technology (AIT)

Capability Assessment of German Natural Gas Storage Facilities

STEFAN OBERLEITNER
ILF Consulting Engineers Germany GmbH

Day 2
Friday,
23 October 2026

11.50 – 13.00

Session 11 – Arena 21
Systemic Perspectives on Industrial Transformation

This session explores industrial transformation from a systemic perspective, considering the broader conditions that shape their development and implementation. The contributions address the integration of material demand impacts into technology strategies, economic perspectives on industrial waste heat utilisation, and the influence of public policy signals on private investment. Together, they highlight the need for coordinated policy, investment and decision-making frameworks that consider economic viability, regulatory conditions, resource requirements and wider sustainability impacts.

Session Chair

ROBERT TICHLER
Energieinstitut an der Johannes Kepler Universität Linz

Waste Heat Valuation: A Techno-Economic Framework for Pricing and Negotiation

NICOLAS OLIVER MARX
Austrian Institute of Technology (AIT)

How Do Public Policy Signals Shape Private Investment and Lending Conditions in Green Industrial Capacity Build-Up?

LENNART MROSS
Climate Neutrality Foundation, Germany

The Material Foundations of Industrial Transformation: Integrating Primary Material Demand into Industrial Transformation Strategies

ANNA SCHOMBERG
University of Kassel, Germany

Session 12 – Barock Suite A
Thermal Energy Storage for Flexible Industrial Heat Supply

This session explores the role of thermal energy storage in making industrial energy systems more flexible. The contributions investigate different storage concepts and materials for high-temperature applications, addressing the challenges of fluctuating energy supply and variable industrial heat demand. Together, they highlight how thermal storage can support the integration of renewable electricity, enable more flexible operation of industrial processes and strengthen the connection between energy supply and industrial heat demand.

Session Chair

DAVID BANASIAK
Chair of Energy Network Technology,
Technical University of Leoben

Technology, opportunities and challenges of process steam generation with P2H-LHTES using metallic PCM

DANIEL KADEN
Fraunhofer UMSICHT, Germany

CFD Modeling and Thermal Analysis of Metallic Phase Change Materials for Thermal Energy Storage in the Beverage and Rubber Industries: Case Studies

BARTŁOMIEJ MELKA
Silesian University of Technology, Poland

Techno-Economic Design of Molten Hydroxide Thermal Energy Storage for Flexible Industrial Steam Supply

MING CHEN
Technical University of Denmark

Session 13 – Barock Suite B
Flexible and Sustainable Industrial Processes

This session presents advanced technologies and modelling approaches that support the transition towards flexible and climate-neutral industrial production. The contributions address demand-response optimisation in the pulp and paper industry, flexible CO_2 utilisation for on-demand chemical production, and advanced catalysts for efficient hydrogen generation. Together, they demonstrate how process modelling, operational flexibility and innovative materials can facilitate the integration of renewable energy, improve resource efficiency and reduce dependence on fossil-based energy carriers and feedstocks.

Session Chair

GUSTAV RESCH
Austrian Institute of Technology (AIT)

Real-Time-Capable Modeling of a Multiple-Effect Evaporator for Demand Response in a Kraft Pulp Mill

ANDREAS GRUBER
Technical University of Leoben

Dynamic System-Level Simulation of a CO_2-to-CO Utilisation Process

LORENZ LINDENTHAL
Technical University of Leoben

Cu Nanoparticle Exsolution From Cu-Fe Spinels For Enhanced Methanol Steam Reforming Activity

TOBIAS BERGER
Technical University of Leoben