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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.

Pre-Conference Day Wednesday, 21 October 2026

Opening of the NEFI Virtual Industry Lab (VIL) & NEFI Reception

Invitation-only event | 17.30 – 19.00

Virtual Industry Lab, Gußhausstraße 23, Vienna

The NEFI Virtual Industry Lab (VIL) is an innovative platform supporting companies in their industrial transformation. Participants will gain exclusive insights into immersive extended reality applications, digital tools and simulation-based approaches that help industries evaluate, plan and implement sustainable energy and resource systems. The event will feature keynote inputs, live demonstrations and hands-on experiences, followed by the exclusive NEFI Reception opening the NEFI Conference 2026.

CETP TRI 6 (Integrated Industrial Energy Systems) Annual Event

Invitation-only event | 09.00 – 16.30

Virtual Industry Lab, Gußhausstraße 23, Vienna

Following the [online CETPartnership Annual Conference 2026: Impactful RTDI for Energy Security and Resilience](#), members of the TRI 6: Integrated Industrial Energy Systems initiative of the Clean Energy Transition Partnership (CETPartnership) will meet in person at the Virtual Industry Lab. The event brings together experts working on integrated solutions for climate-neutral industrial energy systems to exchange experiences, discuss strategic priorities and strengthen international collaboration on future research and innovation activities supporting industrial transformation.

Overview Day 1

09.30 – 10.00
Check-in and Get-together

10.00 – 10.30
Welcoming and Opening

10.30 – 10.50
Impulse Lecture NEFI

10.50 – 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



09.30 – 10.00
Check-in and Get-together

10.00 – 10.30 | Arena 21
Welcoming and Opening

PETER HANKE
*Federal Minister of Innovation, Mobility, and
Infrastructure*

WOLFGANG HATTMANNSDORFER
*Federal Minister for Economic Affairs, Energy
and Tourism*

SIMONE SCHMIEDTBAUER
*Regional Minister for Agriculture and Forestry,
Hunting and Fisheries, Agricultural and Forestry
Schools, Housing and Energy, Water and
Resource Management, and Veterinary Affairs,
Federal State Styria*

WILLIBALD EHRENHÖFER
*State Councillor for Economic Affairs and
Regional Minister for Economic Affairs, Labour,
Finance, Science and Research, Federal State
Styria*

MARKUS ACHLEITNER
*Regional Minister for Economy and Energy,
Federal State Upper Austria*

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
Moderator

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

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-Aktiengesell-
schaft (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
*Moderator, 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 5 & 6)

15.15 – 16.00 | Ovalhalle
Break and Poster Session (page 7 & 8)

16.00 – 17.30
Parallel Sessions 5–7 (page 9)

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

CHRISTIANE EGGER
*Moderator, 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

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

Moderator

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 10)

11.30 – 11.50 | Ovalhalle

Break

11.50 – 13.00

Parallel Sessions 11–13 (page 11)

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 CO₂ 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 CO₂ 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 CO₂ Infrastructure for Industrial Decarbonisation: A Spatial Approach 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 electrolyzers. 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

Energieinstitut an der Johannes Kepler Universität Linz

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 CO₂ 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 CO₂-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 & RAINER HASENAUER
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 CO₂-to-Methanol Pathway through CO₂ 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 & ROBERT HAMMERLING

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 CO₂ Utilisation Pathways

This session explores different pathways for the utilisation of captured CO₂, ranging from CO₂-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 CO₂ Sinks Based on Mineral Carbonation in Austria: Results from the Project DeCarbStore

SUSANNE HOCHMEISTER

Technical University of Leoben

Comparative Techno-Economic Assessment of CO₂-Based SAF Pathways: Fischer-Tropsch, Methanol-to-Jet and Ethanol-to-Jet Across Three Global Regions: EU, USA and Middle East

SEVERIN SENDLHOFFER

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 PIJERS

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 AL-CHEMHY on the Carbon-Neutral Production of E-Methanol and E-Ammonia

CHRISTOPH ZAUNER

Austrian Institute of Technology (AIT)

Demonstrating CO₂-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 CO₂ 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 CO₂ 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

HARRY GRIFFITH

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 CO₂ 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 CO₂-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

SIDE EVENT

Friday, 23 October 2026

NIM Global Research Network Meeting

Invitation-only event | 15.00 – 17.00

Virtual Industry Lab, Gußhausstraße 23, Vienna

The NIM Global Research Network is part of Mission Innovation's Net-Zero Industries Mission and focuses on advancing international research projects along strategic pathways for industrial transformation. At the Virtual Industry Lab, network members will meet in person to discuss the network's future direction and positioning within the international R&D landscape.