



Organized by:

ISEC

4th INTERNATIONAL
SUSTAINABLE ENERGY
CONFERENCE 2026



14 – 16 April 2026

Messecongress Graz
Austria

Conference for Renewable Heating
and Cooling in Integrated Urban
and Industrial Energy Systems

Conference Programme



We warmly welcome you to ISEC 2026 in Graz



Photos: ACR/Dieter Schewig

Following the momentum of the previous editions, ISEC 2026 once again provides a high-level forum to advance renewable heating and cooling in integrated urban and industrial energy systems. In a time shaped by climate urgency and geopolitical tensions, the central question remains: How can we strengthen energy sovereignty and resilience within the limited time horizon defined by climate change and political realities?

ISEC has always been a conference where dialogue matters. In 2026, this exchange is strengthened even further through the newly established Industry Board, creating additional opportunities to connect research insights with real-world needs and to accelerate scalable deployment.

Through AEE INTEC's close cooperation with UNIDO and other international partners, ISEC 2026 also places a special emphasis on global collaboration and solutions that are relevant for developing and emerging economies, particularly in the Global South. The conference aims to foster partnerships across regions and disciplines because the energy transition can only succeed if it is both reliable and scalable, and socially just.

We wish you inspiring days, engaging discussions, and many new connections.

Welcome to Graz - welcome to ISEC 2026

**Christian Fink and
Christoph Brunner**

Conference Chairs of ISEC 2026



Photo: David Visnjic

The energy transition is one of the crucial challenges of our time. To meet it, we need sustained investment in research and innovation to turn new ideas into scalable solutions. ISEC 2026 is an important international meeting point for advancing renewable heating and cooling in integrated energy systems. As Federal Minister, I am pleased to invite you to Graz and wish you inspiring days of intensive professional exchange.

Peter Hanke

Minister, Federal Ministry Innovation, Mobility and Infrastructure, Republic of Austria



Photo: BMWET/Holey

Achieving the energy and technological sovereignty that is so vital for Austria and Europe depends largely on transforming the heating and cooling sector through innovative solutions, a reliable regulatory framework and strong partnerships. ISEC 2026 brings together the key actors working on this transition in buildings, industry and infrastructure. I am delighted to welcome you to Graz and wish you an engaging and successful conference.

Elisabeth Zehetner

State Secretary, Federal Ministry of Economy, Energy and Tourism, Republic of Austria

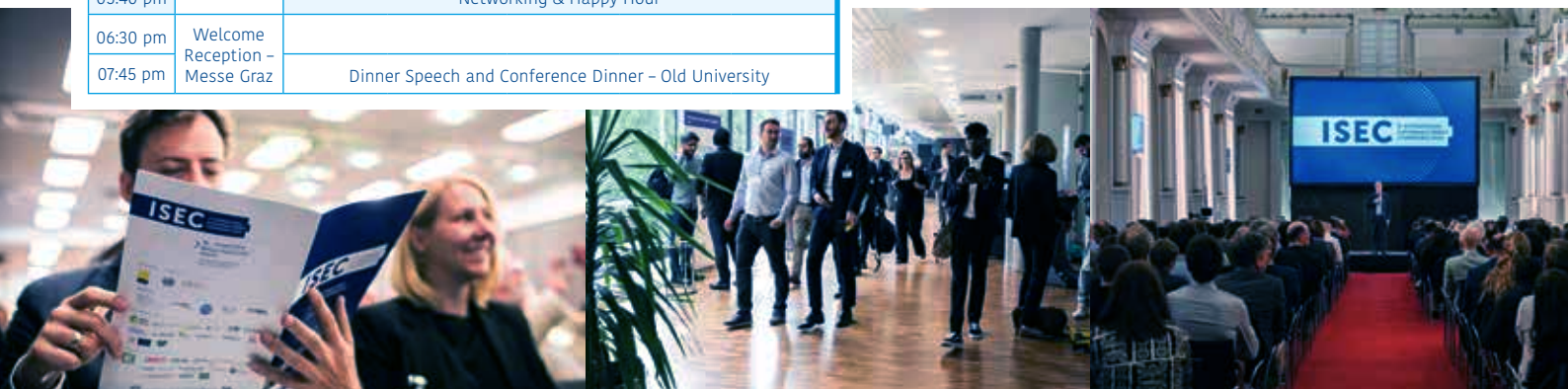
Programme Overview

Welcome Reception, Tuesday 14 April 2026

Doors open at 06:00 pm. Start at 06:30 pm. Venue: Messe Graz
 Moderation: **Bernhard Weingartner**, ARGE Wissenschaftskommunikation, S&B Weingartner, AT
 Welcome address:
Miriam Herlicska, Councillor City of Graz, AT
Ao.Univ.-Prof.i.R. Dr. Hans Schnitzer, Deputy Chairman of AEE INTEC, AT
 Music & Science Slam

Programme Overview

Tuesday, 14 April 2026		Wednesday, 15 April 2026					Thursday, 16 April 2026										
08:15 am		Get Together - Networking Coffee					08:15 am	Get Together - Networking Coffee									
08:45 am	Side Events	Welcome Session					08:45 am	Welcome Session									
		Key-Notes						Key-Notes									
10:30 am		Coffee Break					10:40 am	Coffee Break									
11:00 am		Future District Heating and Cooling	Transformation in Buildings, districts and Cities	Sustainable Fuels and Chemicals	Implementing the Belém Declaration: Policy, Finance and Deployment for Global Green Industrialization hosted by UNIDO	Building the Future Energy Infrastructure	11:00 am	From Insights to Action: Digitalisation and AI as Enablers for RHC Technologies hosted by RHC-ETIP	Promising Heat & Cold Storage Technologies	Industrial Circular economy solution	Advancing Solar & Renewable Heating and Cooling in Southern Africa	Novel Approaches in Data Usage, Digitisation, Modelling and System Assessment					
12:30 pm		Lunch Break					12:30 pm	Lunch Break									
01:30 pm		Welcome Session					01:30 pm	Emerging Energy Technologies and System Integration	Innovations in the use of renewables and waste heat	Symbiosis Through Coupling Energy Sectors and Customer Groups	Policies for Phase-Out Fossil Fuels and Carbon Management	Spatial Energy Planning					
02:20 pm		Coffee Break					03:00 pm						Coffee Break				
02:30 pm		Implementations and novel Concepts in District Heating & Cooling	Technologies and measures for the rapid renovation of the building stock	Carbon Management by Carbon Capture and Utilisation	Accelerating Regional Just Energy Transitions in the Global South, hosted by UNIDO and GN-SEC centers	Non-Technical Enablers Driving the Energy Transition	03:15 pm						Closing Session				
04:00 pm		Coffee Break					04:00 pm	End of Conference									
04:10 pm		The Skill Transition for the Energy Transition – what does the District Heating and Cooling Sector need?	Austria-China Collaboration on Low-Carbon Façade Systems and Building Decarbonisation	Beyond Hydrogen-Based CCU Concepts - Solar Carbon Recycling as Future CCU Alternative. Potentials and Challenges	Digitalization as a Driver of the Energy Transition	Poster Session											
05:40 pm	Networking & Happy Hour																
06:30 pm	Welcome Reception – Messe Graz	Dinner Speech and Conference Dinner – Old University															
07:45 pm																	



Conference Dinner, Wednesday 15 April 2026

07:00 pm

Doors open at 07:15 pm. Start at 07:45 pm. Venue: Old University
Session Chair: **Martin Lugmayr**, UNIDO, AT

Dinner Speech

A Just and Resilient Energy Transition in a Fragmented World

Hon. Dr. Kandeh Kolley Yumkella, Chairman Presidential Initiative on Climate Change, Renewable Energy & Food Security at Office of the President, Sierra Leone. Former Director-General of UNIDO, SL

Dinner Speech, Wednesday 15 April 2026



Photo: EGCG, Sierra Leone

Dr. Kandeh K. Yumkella

Chairman Presidential Initiative on Climate Change, Renewable Energy & Food Security at Office of the President, Sierra Leone. Former Director-General of UNIDO, SL

A Just and Resilient Energy Transition in a Fragmented World

Dr. Kandeh K. Yumkella is Energy Sector Lead and Chairman of the Presidential Initiative on Climate Change, Renewable Energy and Food Security and Energy Governance Coordination Group (EGCG) in Sierra Leone. As a distinguished development economist and an expert in agricultural economics with over 30 years of experience, he is a former Member of Parliament in Sierra Leone and the Pan African Parliament. He is also founder and CEO (on leave) of The Energy Nexus Network (TENN), a regional ecosystem hub for sustainable energy solutions. Previously he served for two decades in United Nations System including as Under-Secretary-General and Special Representative of the UN Secretary-General for Sustainable Energy for All and founding Chief Executive Officer for the Sustainable Energy for All (SE4All) Initiative (2013 – 2015). He also served two four-year terms as Director-General of the UN Industrial Development Organization (UNIDO, 2005-2013).

Photo: Miriam Raneburger





Photo: Unido

Rana Ghoneim

UNIDO

Director - Division of Energy and Climate Action

The Belém Declaration on Global Green Industrialization - From Commitment to Global Action

Rana Ghoneim is the Director of the Division of Energy and Climate Action at the United Nations Industrial Development Organization (UNIDO) where she oversees the organization's strategy and programmes in promoting a low carbon infrastructure powering industrialization and supporting the decarbonisation of industry in developing and emerging economies. She has a long standing experience of 21 years in designing and implementing programmes in the energy sector in Africa and the MENA region. She also coordinates the organization's engagement and partnerships in global energy fora. She also leads on behalf of UNIDO global initiatives such as the Clean Energy Ministerial's industrial deep Decarbonisation initiative (IDDI).



Photo: ZAE Bayern

Dr. Andreas Hauer

Chair of the Board at Bavarian Center for Applied Energy Research, ZAE Bayern

Value of Flexibility through Energy Storage - Perspective Matters!

Dr. Andreas Hauer studied Physics at the Ludwig-Maximilians-University in Munich, Germany. He made his PhD at the Technical University in Berlin. Now he is the Chair of the Board at the Bavarian Center for Applied Energy Research, ZAE Bayern, an independent research institute with about 60 scientists. Dr. Hauer is an international known expert on sector coupling, energy storage in general and specialized on thermal energy storage. Today he is active within Energy Storage Programme of the Technology Network of the International Energy Agency, IEA, where he is member of the Executive Committee. He is Co-Chairing the IEA Coordination Group on Energy System Flexibility. He is also Vice-President of the International Solar Energy Society, ISES, member of the Board of trustees of the Bundesverband Energiespeichersysteme (BVES), German Energy Storage Systems Association, and member of the board of directors of the Forschungsverbund Erneuerbare Energien, FVEE, the renewable energy research association in Germany.



Photo: Rob Stevens - KU Leuven

Prof. Dr. Lieve Helsen

Professor of Mechanical Engineering at University of Leuven

Physics-Based Intelligence for Decarbonization of the Built Environment - Reinventing System Integration in the Age of Data

Prof. Dr. Lieve Helsen is Professor of Mechanical Engineering at KU Leuven (University of Leuven), leading the Thermal Systems Simulation Team on modelling, control and design of thermal systems in the built and industrial environment. In her view, system integration across multiple building types, energy services, energy vectors and sectors is key to unlock system flexibility and to provide low-carbon services. Lieve is Building & Districts Research Line Coordinator of EnergyVille and co-founder of the company Builtwins. In 2021 she was Chair of the International Building Simulation Conference of IBPSA in Bruges. Furthermore Lieve is member of the Royal Flemish Academy of Belgium for Science and the Arts, Board member of the Flemish Organization Sustainable Energy and the KU Leuven Institute for Energy and Society, member of IBPSA, ATIC, EHPA and multiple international Scientific Advisory Boards.



Photo: Siemens

Aleš Prešern

CEO of Siemens Energy Austria and Slovenia

From Technology to Impact: Shaping the Energy Transition

Aleš Prešern completed his studies at the Technical University of Ljubljana. He began his professional career in the process industry, focusing on automation and research, and subsequently moved into the automotive industry, where he worked in manufacturing management.

In 2003, he joined Siemens, initially as a Sales Engineer for power plants, and later held various management positions, including Head of Power Plant Services for Central and Eastern Europe.

Since May 2019, Mr. Prešern has been Managing Director of Siemens Energy in Austria as well as of the company in Slovenia.



Photo: Energie Steiermark AG

Werner Ressi

Member of the Management Board of Energie Steiermark AG

Driving the Energy Transition: Strategy and Flagship Projects from Energie Steiermark

Werner Ressi has been a member of the Management Board of Energie Steiermark AG since April 2025. He is responsible, among other areas, for Energy Sales & Trading, Generation, District Heating, Energy Services, Materials and Real Estate Management, as well as IT & Digitalization.

Werner Ressi looks back on a long-standing career in the energy sector. From 2013 until March 2025, he served as Managing Director of Energie Graz, where he was responsible, among other areas, for Energy Sales, Networks, Regulatory Management, Controlling, Finance and Accounting, as well as Legal Affairs. In addition, he was Managing Director of Solar Graz and Chairman of the Supervisory Board of Stromnetz Graz. He led key projects such as the Energiewerk Graz and the large-scale geothermal project aimed at securing the future of district heating in Graz.

His academic background includes studies in Business Administration and Law at Karl Franzens University of Graz. He has further complemented his education with executive programs such as the International Directors Programme at INSEAD in Paris and a research stay at the University of California, Berkeley.



Photo: Farhang Tahmasebi

Prof. Dr. Michelle Shipworth

Associate Professor UCL Energy Institute

Unspeakable people: Truth and humanity in the energy transition

Prof. Dr. Michelle Shipworth specialises in the human dimensions of energy use and the social forces that shape energy transitions. Before joining academia, she worked in Australia's overseas aid programme. She founded and taught the innovative and acclaimed "Data Detectives" module for a decade. When a student challenged a long-standing critical-thinking exercise, the module was removed, prompting Michelle to whistleblow the curtailment of her academic freedom. She is a founding member of the London Universities Council for Academic Freedom and advocates for robust free-speech and academic-freedom legislation and policies.

08:15 am Get Together - Networking Coffee

WELCOME SESSION - HALL 1 / Saal 1



08:45 am Session Chair: **Stefan Lenglinger**, ORF, AT
Christoph Brunner, Conference Chair, AEE INTEC, AT
Christian Fink, Conference Chair, AEE INTEC, AT
Peter Hanke, Minister, Federal Ministry Innovation, Mobility and Infrastructure, Republic of Austria, AT
Urban Peyker, Deputy Managing Director, Climate and Energy Fund, AT
Werner Ressi, Member of the Management Board, Energie Steiermark, AT
Rana Ghoneim, Director - Division of Energy and Climate Action, UNIDO, AT

KEY-NOTES - Hall 1 / Saal 1

Driving the Energy Transition: Strategy and Flagship Projects from Energie Steiermark
Werner Ressi, Member of the Management Board, Energie Steiermark, AT
The Belém Declaration on Global Green Industrialization - From Commitment to Global Action
Rana Ghoneim, Director - Division of Energy and Climate Action, UNIDO, AT

10:30 am Coffee Break

PARALLEL SESSIONS



	Hall 1 / Saal 1	Hall 2 / Galerie A	Hall 3 / Galerie B	Hall 4 / Galerie C	Hall 5 / Saal 10
11:00 am	Future District Heating and Cooling Session Chair: Dr. Heiko Huther , CEO AGFW Projekt GmbH, DE	Transformation in Buildings, Districts and Cities Session Chair: Prof. Dr. Christina Hopfe , Graz University of Technology, AT	Sustainable Fuels and Chemicals Session Chair: Prof. Dr. Christian Sattler , Director, Institute for Future Fuels DLR, DE	Hosted by  Implementing the Belém Declaration: Policy, Finance and Deployment for Global Green Industrialization Session Chair: Christopher Hope , UNIDO, AT	Hosted by  Building the Future Energy Infrastructure Session Chair: Tobias Schwab , Head of the Strategy Department Energie Steiermark, AT
	District cooling vision for Vienna towards a climate neutral urban future Burkhard Hölzl , Wien Energie, AT	The Five-Stage Transformation of the Austrian Housing Stock Towards Net Zero and Beyond Dr. Gerlinde Gutheil-Knopp-Kirchwald , GBV, AT	From Biogas to Grid: Co-Electrolysis and Methanation for High-Yield Biomethane Dr. Stefan Sturm , Energienetze Steiermark, AT	Short Introduction on the role of the Belém Declaration Rana Ghoneim , UNIDO, AT	Grid-Forming Controllers in the Distribution Network Landscape Dr. Andreas Tarraso , AIT, AT
	Transformation of District Heating Supply Towards Climate Neutrality in Germany Dr. Matthias Koch , Öko-Institute, DE	Cooling Demand Pathways Under Climate and Socio-Economic Change Aadit Malla , Technical University of Vienna, AT	Operation and Optimization Options of Integrated System of Reactor Modules for Solar Energy Conversion into Chemicals David Brust , DLR, DE	Panel Discussion I: Financing Green Industrialization Otunba Francis Meshioye , Manufacturers Association of Nigeria, NG Angels Orduña , A.SPIRE aisbl, BE	Optimal Operation of a self-regulating Smart Distribution System Dr. Adel Younis , Australian University, KW
	The Importance of Asset Management of District Heating Pipes for the Implementation of Climate Goals in Europe Stefan Hay , AGFW, DE	Greening as Low-Tech Solution to improve Building Energy Performance - What can it achieve? Dr. Martina Majcen , AEE INTEC, AT	Proof-of-Concept of Oscillatory Flow Photoreactors for Solar Fuel Production in Real Sunlight Sarah Meitz , AEE INTEC, AT	Panel Discussion II: Technology partnerships and industrial capability development Prof. Dr. Nasir Fagge Isa , Bayero University of Kano, NG Prof. Dr. Kevin Nwaigwe , University of Botswana, BW Prof. Dr. Samson Mhlanga , National University of Science and Technology, ZW Kiesha Farnum , CCREEE, BB	Integrated Energy Solutions for Sustainable Port Development Prof. Dr. Elimar Frank , OST, CH
	A Comparative Techno-Economic Assessment of Seasonal Thermal Energy Storage for Decarbonized District Heating Networks Delaram Bayat , KTH Royal Institute of Technology, SE	Towards Positive Energy Districts - Heat Pump System Topology Design Guidelines Assoc. Prof. Dr. Fabian Ochs , University of Innsbruck, AT	Cryo-EM visualisation of Photosystem Prof. Dr. Joanna Kargul , University of Warsaw, PL		Innovative Battery Storage Strategy and Technology Development Mathias Trauner Wien Energie, AT
	Bi-Generation in Data Centres: Waste Heat Recovery for District Heating using High-Temperature Heat Pumps Gerald Zotter , AEE INTEC, AT	Thermally Activated Building Systems in Timber structures Michael Moltinger , Salzburg University of Applied Sciences, AT	Influence of Alternative Design Concepts on the Technoenvironmental Performance of Photocatalytic Systems F. Tabita Gonzalez-Zubieta , IMDEA Energy, ES		Underground Thermal Energy Storage and its Impact on Groundwater Based on Experimental Mock-Ups Florian Kainz , Graz Uni-versity of Technology, AT



12:30 pm Lunch Break


AFTER LUNCH PLENARY SESSION - HALL 1 / Saal 1

01:30 pm Session Chair: **Stefan Lenglinger**, ORF, AT
 From Technology to Impact: Shaping the Energy Transition
Aleš Prešern, CEO of Siemens Energy Austria and Slovenia, AT
Elisabeth Zehetner, State Secretary, Federal Ministry of Economy, Energy and Tourism, AT
Hon. Dr. Kandeh Kolleh Yumkella, Chairman Presidential Initiative on Climate Change, Renewable Energy & Food Security at Office of the President, Sierra Leone. Former Director-General of UNIDO, SL

NEW SCHEDULE

	Hall 1 / Saal 1	Hall 2 / Galerie A	Hall 3 / Galerie B	Hall 4 / Galerie C	Hall 5 / Saal 10
02:20 pm	Coffee break				
PARALLEL SESSIONS					
02:30 pm	Implementations and Novel Concepts in District Heating & Cooling Session Chair: Dr. Christian Einzinger , Head of the Research and Energy Technologies Department, Wien Energie, AT	Technologies and Measures for the Rapid Renovation of the Building Stock Session Chair: Isabella Warisch , Head of Department III/3 – Energy and Environmental Technologies, BMIMI, AT	Carbon Management by Carbon Capture and Utilisation Session Chair: Prof. Dr. Michael Harasek , Technical University of Vienna, AT	Hosted by  Accelerating Regional Just Energy Transition Investments in the Global South Session Chair: Dr. Irene Giner-Reichl , GN-SEC Goodwill Ambassador	Hosted by  Non-Technical Enablers Driving the Energy Transition Session Chair: Dr. Sonja Sheikh , CEO ACR, AT
	Hydrogen-Fuelled combined heat and power for district heating Andreas Patha , AIT, AT	A Showcase Of Serial Renovation with Integrated Technologies Dr. Florine Leighton , AEE INTEC, AT	Managing Carbon: Impacts of CCUS from an Austrian Perspective Dr. Hans Böhm , Energyinstitute JKU Linz, AT	Short Introduction to the role of the Global Network of Regional Sustainable Energy Centers (GN-SEC) Martin Lugmayr , UNIDO, AT	Leave noone behind. Vulnerable People and Energy Communities. First Insights Dr. Bente Knoll , B-NK, AT
	Pilot Study of a Waste-Heat-Driven Sorption Heat Transformer for Low-Carbon Cooling and Heating in a Municipal District Energy System Dr. Majid Bahrami , Simon Fraser University, CA	Energy and Greenhouse Gas Emission Savings Through Serial Renovations by Applying the Renvelope System in Austria Dr. Alexis Mundt , iibw, AT	Closing the carbon loop - amine scrubbing and catalytic methanation at an integrated steel-mill Alexandra Kogler , K1-MET, AT	Panel Discussion I: Spotlight on Africa Nadia Chioukh , RCREEE, EGT Georgette Fumtchum Tamko , CEREEAC, AO Readlay Makaliki , SACREEE, NA Dr. Mawufemo Modjinou , ECREEE, CV Yunus Alokore , AECREEE, Uganda Avishek Malla , REEECH, NP	Saf-Oriented Public Policies and their Social Dimension: An AHP Application to the Case of Brazil Julia Saint Martin , LabTrans/UFSC, BR
	Introduction to the project innoBeLs - Development and assessment of innovative container concepts for latent heat stores in cold solar heating networks Dr. Harald Drück , University of Stuttgart, DE	New Business and Financing Models to Enable Industrialised Renovations: Escos and Crowdfunding Julia Semeniuk , Ener2Crowd, IT	Food-Grade CO ₂ Recovery via Temperature Swing Adsorption: Ipse Process Simulation for Net-Zero Biomass Industries Antonia Biebighäuser , BOKU University, AT	Panel Discussion II: Spotlight on Small Island Developing States Christine Neves Duncan , SIDS, SIDS DOCK, BZ Solomone Fifita , PCREEE, TO Kiesha Farnum , Caribbean Centre for Renewable Energy and Energy Efficiency, BB Tatiana Orellana Rivera , SICA, SV	Non-energy benefits of energy efficiency projects Ilyas Gain-Nachi , ALLICE, FR
	Demonstration of Successful Modernisation and Retrofitting in Austrian Biomass-Based District Heating Networks Joachim Kelz , AEE INTEC, AT	Pareto Refurbishment Evaluation for Energy Flexibility David Sengl , University of Applied Sciences Technikum Vienna, AT	Electrification Potential for Industrial Decarbonisation in Quebec Soseh Zadoorian , CanmetENERGY Varennes, CA		Elena Styria – A Contribution to the Climate-Neutral Federal Administration of Styria: Review and Outlook Reinhard Ungerböck , Energy Agency Styria, AT
	Assessing the economic potential of german lakes as heat sources for large-scale heat pumps Paula Oberfeier , Fraunhofer ISE, DE	Daylight simulations based on a Digital-Twin model towards workplace and facade-individual optimization Martin Hauer , Bartenbach GmbH, AT	CCU Pathways in Austria: A Life Cycle-Based Assessment of Climate Target Compatibility and Mitigation Potentials Alexander Knaak , Montan University Leoben, AT		Regulation's Role Shaping Prefabrication for Energy Retrofit Laura Orfalie Soria , KU Leuven, BE
04:00 pm	Coffee break				
	Hall 1 / Saal 1	Hall 2 / Galerie A	Hall 3 / Galerie B	Hall 4 / Galerie C	Hall 5 / Saal 10
Workshops 04:10 pm	The Skill Transition for the Energy Transition – what does the District Heating and Cooling Sector need? Sabrina Metz , AEE INTEC, AT	Austria-China Collaboration on Low-Carbon Façade Systems and Building Decarbonisation Dr. Tobias Weiß , AEE INTEC, AT	Beyond Hydrogen-Based CCU Concepts - Solar Carbon Recycling as Future CCU Alternative. Potentials and Challenges Dr. Bettina Muster-Slawitsch , AEE INTEC, AT	Digitalization as a Driver of the Energy Transition Jasmin Lichtenwagner , Virtual Vehicle Research, AT & Christoph Rohringer , AEE INTEC, AT	Poster Session Prof. Dr. Kevin Nwaigwe , University of Botswana, BW ★ Poster presenters are marked with an asterisk on the poster list.
05:40 pm	„Meet the Industry“ at the Happy Hour supported by Brau Union, Brainworks and Weingut Posch, AT				
07.45 pm - 10.00 pm	Session Chair: Martin Lugmayr , UNIDO, AT Conference Dinner – Old University: Dinner Speech “A Just and Resilient Energy Transition in a Fragmented World” Hon. Dr. Kandeh Kolleh Yumkella , Chairman Presidential Initiative on Climate Change, Renewable Energy & Food Security at Office of the President, Sierra Leone. Former Director-General of UNIDO, SL				

08:15 am	Get Together - Networking Coffee					
POLICY TALK - Hall 1 / Saal 1						
08:45 am	<p>Session Chair: Dr. Gabriela Straka, respACT, AT</p> <p>Sabine Mitter, BMIMI, Department III/3 - Energy and Environment Technologies, AT</p> <p>Michael Aumer, Head of Department V/5: Energy Efficiency and Heating, BMWET, AT</p> <p>Dr. Thomas Schleker, Policy Officer, DG Research & Innovation, C2 Clean Energy Transitions, European Commission, BE</p>					
KEY-NOTES - Hall 1 / Saal 1						
<p>Unspeakable people: Truth and humanity in the energy transition Prof. Dr. Michelle Shipworth, Associate Professor, UCL Energy Institute, UK</p> <p>Value of Flexibility Through Energy Storage - Perspective Matters! Dr. Andreas Hauer, Chair of the Board at Bavarian Center for Applied Energy Research, ZAE Bayern, DE</p> <p>Physics-Based Intelligence for Decarbonization of the Built Environment - Reinventing System Integration in the Age of Data Prof. Dr. Lieve Helsen, Professor of Mechanical Engineering, KU Leuven, BE</p>						
10:40 am	Coffee Break					
	Hall 1 / Saal 1	Hall 2 / Galerie A	Hall 3 / Galerie B	Hall 4 / Galerie C	Hall 5 / Saal 10	
11:00 am	<p>Hosted by </p> <p>From Insights to Action: Digitalisation and AI as Enablers for RHC Technologies</p> <p>Session Chair: Marco Calderoni, Head of Boards RHC-ETIP, R2M Solution, IT</p>	<p>Promising Heat & Cold Storage Technologies</p> <p>Session Chair: Prof. Dr. Andreas Häberle, Head of the SPF Institute, OST, CH</p>	<p>Industrial Circular Economy Solution</p> <p>Session Chair: Angels Orduna Cao, Executive Director, A. SPIRE aisbl, BE</p>	<p>Advancing Solar & Renewable Heating and Cooling in Southern Africa</p> <p>Session Chair: Wolfgang Gruber-Glatzl, Head of department „Industrial systems“, AEE INTEC, AT</p>	<p>Hosted by </p> <p>Novel Approaches in Data Usage, Digitisation, Modelling and System Assessment</p> <p>Session Chair: Prof. Dr. René Hofmann, Technical University of Vienna, AT</p>	
	<p>From Data to Value: Digitalisation for Efficient and Flexible District Heating and Cooling Networks Dr. Ralf-Roman Schmidt & Dr. Edmund Widl, AIT, AT</p>	<p>Implementation of Large Ground-based Heat Storage Systems Findings from European Demonstration Projects Dr. Wim van Helden, AEE INTEC, AT</p>	<p>Switch to Circular Economy in global value chains as part of the energy transition Mark Draeck, UNIDO, AT</p>	<p>Energy Consumption in Lodges and Guesthouses in Lesotho: Insights From Energy Audits and Solar Water Heating Modelling Reabetsoe Sehobai, Energy Research Centre at National University of Lesotho, LS</p>	<p>Towards A Smart City Digital Twin: Bim-Based 3d Visualization Of Real-Time and Aggregated District Data Dr. Andreas Riffnaller-Schiefer, AEE INTEC, AT</p>	
	<p>Affordable, Sustainable and Resilient Heating & Cooling: Powered by Physics-Based MPC Prof. Dr. Lucas Verleyen & Prof. Dr. Lieve Helsen, KU Leuven, BE</p>	<p>Planning and design of world's largest cavern thermal energy storage - VARANTO VECTES Dr. Abdulrahman Dahash, AIT, AT</p>	<p>“Going Circular” - Circular Economy & Technology Development at Wien Energie Dr. Christoph Ponak & Nicolas Devantie, Wien Energie, AT</p>	<p>Techno-Economic Assessment of Solar Water Heating Systems: A Proof-of-Concept for Large-Scale Deployment in Namibia Joseph Shigwedha, Namibia University of Science and Technology, NA</p>	<p>On the impact of typical model simplifications Dr. Sven Moosberger, EQUA Solutions, CH</p>	
	<p>Predictive Energy Management in Office Buildings: Harnessing Flexibility to Reduce Costs and Improve Efficiency and Comfort Dr. Valentin Kaisermayer, BEST, AT</p>	<p>Enhanced controllability of latent thermal energy storage in flexible cooling systems Ass. Prof. Dr. Gerald Englmaier, DTU, DK</p>	<p>Transformation to Sustainable Clinker Production through Model-Based Control and Real-Time Recipe Optimization Dr. Florian Pöllbauer, VTU, AT</p>	<p>Cost-Benefit Analysis of Solar-Assisted Heat Pump Hybrid Systems in South Africa Dr. Francois Rozon, Stellenbosch University, SA</p>	<p>Reference Models for Comparing Simulation Tools to Evaluate Low-Carbon High-Comfort Integrated Lighting Dr. David Geisler-Moroder, University of Innsbruck, AT</p>	
	<p>Digital tools to optimise the design, operation and maintenance of hybrid solar thermal systems Dimitros Papageorgiou, TVP Solar, CH</p>	<p>High Temperature ATEs in Fürstenfeld (Austria): Early Findings Nikolaus Petschacher, Hydro, AT</p>	<p>Cobalt Extraction from Aqueous Solutions using Novel Phosphonium-based Ionic Liquid Extractants Prof. Dr. Mustafa Esen Marti, TNW SPT, NL</p>	<p>Driving Inclusion: The Impact of Soltrain+ Gender-Responsive Implementation Design Karen Gibson, So Solar, BW</p>	<p>Development of a Robust Index to Quantify Resource use Improvements of Organisations Dr. Almut Sanchen, EnAW, CH</p>	
		<p>Characterization of a large Lab-Scale Latent Heat Storage Dr. Maïke Johnson, DLR, DE</p>	<p>Cascading Utilization Pathways of Food Processing Residues and Valorization Potentials of Biogas Digestates Christian Platzer, AEE INTEC, AT</p>	<p>Impact Of Task 69 In The Southern African Region Prof. Samson Mhlanga, National University of Science and Technology, Zimbabwe</p>	<p>Assessing Circularity and Climate Neutrality as two new Impact Categories in LCA - A Case Study on Heating Systems Dr. Gerfried Jungmeier, Joanneum Research, AT</p>	
				<p>Toward a Bankable of the Solar Thermal Technology Roadmap and a Plan for Namibia Helvi Ilikea, Namibia Energy Institute, NA</p>		

	Hall 1 / Saal 1	Hall 2 / Galerie A	Hall 3 / Galerie B	Hall 4 / Galerie C	Hall 5 / Saal 10
12:30 pm	Lunch Break				
01:30 pm	Emerging Energy Technologies and System Integration Session Chair: Boris Papousek , CEO Energie Graz, AT	Innovations in the Use of Renewables and Waste Heat Session Chair: Dr. Christian Kaltenegger , CEO DECA, AT	Symbiosis Through Coupling Energy Sectors and Customer Groups Session Chair: Prof. Dr. Thomas Kienberger , Montan University Leoben, AT	Policies for Phase-Out Fossil Fuels and Carbon Management Session Chair: Michael Aumer , Head of Department V/5: Energy Efficiency and Heating, BMWET, AT	Hosted by  Spatial Energy Planning Session Chair: Tara Esterl , Head of Competence Unit, AIT, AT
	Seasonal Underground Thermal Energy Storage as a key Technology for Climate-Neutral District Heating in Vienna Marieleuise Pöschko-Reinweber , Wien Energie, AT	From Lab to Grid: Operating a Sorption Heat Storage System in a District Heating Network Dr. Henner Kerskes , University of Stuttgart, DE	Sector Coupling of Electricity and Heat Through Smart District Heating Networks Dr. Stefan Retschitzegger , AEE INTEC, AT	Is Efficient Efficient? or: How to Define Efficient District Heating in a Renewable World? Benjamin Köhler , Öko-Insitut, DE	Platform for Spatial Energy Planning: A harmonized Approach to Energy Data Management Judith Draschl , SIR, AT
	Enabling energy efficient processing in circular economy via oscillatory flow Dr. Bettina Muster-Slawitsch , AEE INTEC, AT	Waste Heat Utilisation in Automotive Factories: From On-Site Heat Coverage to District Heating Contribution Manuel Berendes , Volkswagen AG, DE	PVT-Ready Heat Pumps – Definition and Market Overview Bärbel Epp , solrico, DE	Review of Innovative Demonstration Buildings from Leading Funding Programs in Austria - Comparative Presentation and Trends Walter Becke , AEE INTEC, AT	Planning Sustainable Energy Development of Local Communities in Slovenia Jure Cizman , Jozef Stefan Institute, SI
	Experimental Validation of an Alu-To-Energy Prototype Dr. Michel Haller , OST, CH	Integrated Counterflow Heat Exchanger for Efficient Domestic Hot Water in Low-Temperature District Heating Dr. Markus Leeb , Link3, AT	Adoption Pathways and Operation Strategies of Residential Batteries in Europe Aron Dénes Hartvig , Corvinus University of Budapest, HU	Implementing the EPBD: What drives Target Achievement? Dr. Lukas Kranzl , Technical University of Vienna, AT	Quantitative Analysis of Building Design Variables on Demand Response Capability Simon Hinterseer , Technical University of Vienna, AT
	Plug & Play Energy Management for Hybrid Energy Storage Dr. Maria Aigner , Energienetze Steiermark, AT	Technoeconomic analysis of high temperature Carnot battery retrofit into several district heating CHP plants Ass. Prof. Dr. Vaclav Novotny , Czech Technical University in Prague, CZ	Integrating Business Models, Data Governance, and Toolchains to Unlock Industrial & Urban Symbiosis at Scale Prof. Dr. Zheng Grace Ma & Prof. Dr. Bo Nørregaard Jørgensen , SDU, DK	FLEXcheck - a guideline for estimating industrial flexibility potential Dr. Bernd Riederer , BEST, AT	From local to national: Heating sector projections from municipal heat plans in Germany towards 2045 Dr. Tilman Hesse , Öko-Insitut, DE
	Performance Evaluation of a Photovoltaic Shutter System: A Demonstrator Study Stephan Moser , HELLA, AT	TTES Model Validation for Commercial-Scale Projects Performance Guarantee Nathan Fournier , Newheat, FR	Hybrid Pit Thermal Energy Storage for Solar Heat and Surplus Electricity: System Integration, Operational Strategies, and Economic Perspectives Maria Moser , Solid Solar Energy Systems, AT	Developing Transition Pathways for Deep Transformative Changes in the Building Sector Eric Menke , BOKU University, AT	Economic Viability of Decentralized vs. Collective Heat Supply in Urban Blocks: A Case Study from Vienna Gerhard Hofer , e7, AT
03:00 pm	Coffee break				
03:15 pm	Closing session				
	Best Poster Award Ceremony Moderated by Prof. Dr. Thomas Kienberger , Montan University of Leoben, AT Chair of the Poster Award Committee				
	Highlights, Feedback and Outlook ISEC 2028 Moderated by Conference Chairs of ISEC Christoph Brunner and Christian Fink , AEE INTEC, AT				
04:00 pm	End of conference				

The Skill Transition for the Energy Transition – what does the District Heating and Cooling Sector Need?



Photo: Fernwärme_AEE INTEC_AI

The energy transition requires more than technology – it requires a skilled workforce. The workshop “The skill transition for the energy transition – what does the district heating and cooling sector need?”, taking place at ISEC 2026, addresses this challenge by focusing on qualification needs, innovative training formats and successful education initiatives for district heating and cooling across Europe.

In short expert pitches, speakers from Austria, Germany and European organisations will present vocational training programmes, academic teaching approaches and transnational initiatives such as Skills4DHC. Contributions will be given by **Katalin-Andrea Griessmair-Farkas** (FGW), **Thomas Pauschinger** (AGFW), **Dominik Rutz** (WIP), **Alice Denarie** (POLIMI), **David Bertermann** (Soil2Heat) and **Sara Comparetto** (Euro Heat & Power).

In the subsequent World Café, participants will jointly discuss future skills requirements and the framework conditions needed to accelerate the heat transition.

This workshop offers a unique opportunity to bring together international experience, link with ongoing initiatives such as Skills4DHC, and jointly shape a skilled and forward-looking DHC workforce.

Austria–China Collaboration on Low-Carbon Façade Systems and Building Decarbonisation



Photo: AEE INTEC/Tobias Weiß

The workshop invites participants to examine how Austria and China are jointly advancing the decarbonisation of the built environment through state-of-the-art façade technologies and integrated energy concepts. Moving beyond the presentation of isolated research findings, the session provides a focused exploration of how renewable-energy-active façades, serial renovation methodologies, digital planning environments, and low-carbon design strategies can be synergistically applied to deliver scalable, high-impact solutions. Participants will gain a deeper understanding of how complex façade and fenestration systems can significantly reduce thermal loads, enhance on-site energy generation, and accelerate climate-neutral renovation, particularly in dense urban settings.

Through concise impulse presentations and scientific discussion, the workshop will highlight transferable insights from ongoing Austria–China collaborations: Which advancements in complex façade and fenestration systems are approaching market readiness? How do technological concepts perform across contrasting climate zones? And in what ways can digital twins and advanced simulation workflows support robust design and decision-making? The session aims to equip attendees with evidence-based knowledge and applicable methodologies that can inform future research, policy development, and large-scale implementation efforts.

Beyond hydrogen-based CCU concepts: Solar carbon recycling as a future CCU alternative. Potentials and challenges



Photo: AEE INTEC/Sarah Meitz

The workshop will discuss current H₂ based CCU routes with its potential and challenges and compare two novel pathways:

- 1) new H₂ production technologies for CCU as near future potential,
- 2) potentials for H₂ free CCU recycling options in the further future – via direct solar photochemical CO₂ reduction.

Two keynote speeches will lay the ground for the workshop discussion: **Anastasios Peremis**, CO₂Value Europe, will give an overview on the current situation of CCU in Europe and beyond, primarily based on the “classical route (H₂+CO₂)” and show its potentials but also deployment barriers. **Prof. Dr. Michele Aresta**, University Bari/IC2R, will then introduce direct CO₂ conversion as a H₂ free alternative, focused on research needs, barriers and challenges of this new technology.

The following panel discussion with **Dr. Christian Sattler**, Institute of Future Fuels/DLR and **Emile van Eygen**, Wien Energie will discuss the deployment of CCU in a step-wise approach in future – first via debottlenecking barriers for classical routes, 2nd via new H₂ pathways (are they necessary?) and finally via H₂ free alternatives – will they be required and which framework must such technologies ensure to become competitive in the long-run?

The workshop is organized in conjunction with the EU-funded project DESIRED (<https://desired-project.eu>).

Digitalization as a Driver of the Energy Transition



Photo: shutterstock

How can digital technologies accelerate the transformation toward a sustainable energy system—and what does this mean for companies across different sectors? This interactive workshop brings together representatives from the energy industry, manufacturing, and the construction sector to share their digitalisation journeys, challenges, and successes.

Participants will also gain insights into the European Digital Innovation Hubs (EDIH) initiative and the support they offer to companies of every size.

A moderated panel discussion with audience involvement will explore key questions through the perspectives of four speakers: **Armin Tüchler** (Senior Manager Strategic digitalization at Energie Steiermark) for energy utilities; **Hannes Voraberger** (Head of RnD at AT&S) for industry; **Theresa Kohl** (CEO DILT) for the building sector; and **Martin Benedikt** (Senior Researcher Virtual Vehicle Research GmbH) for research. They will discuss how digital transformation is approached in their sectors, key challenges and strategies, differences between SMEs and large enterprises, and how EDIHs can create value. The panel will also highlight opportunities for cross-sector collaboration. Join us to explore practical pathways and shared challenges at the intersection of digitalisation and the energy transition.

Smart Energy Systems and Sector Coupling

A Design Methodology for Solar District Heating Systems Using Python and TRNSYS

Dr. Puneet Saini, Dalarna University, SE

★ A MINLP Optimisation Method to Solve Hydraulic Bottlenecks on Existing District Heating Networks

Dr. Anne-Geneviève Lemelle, CEA /LITEN, FR

A Region's Track Record in Transforming Its Energy System

Dr. Günther Maier, EnergieZukunft WEIZplus, AT

Achieving the Net-Zero Target in the Cement Industry

Dr. Umberto Pasqual Laverdura, ENEA, IT

An Overview of the Networking Potential of DHC Test Facilities

Dr. Edmund Widl, AIT, AT

Bio-Based Alternatives to Glass Fibers: Systematic Life Cycle Assessment Review and Prospective Global Warming Potential Analysis

Aiganym Abduraimova, Graz University, AT

Cliff: The Climate Firefighters Initiative

Benjamin Köhler, Öko-Institut, DE

Construction and Validation of a Modular Photoelectrochemical Cell for Solar-to-Hydrogen Conversion

Sarah Holler, HyCentA Research GmbH, AT

Designing Multilayered Photoanodes for the Co-Valorization of CO₂ and Glycerol

Dr. Ivan Merino Garcia, Universidad de Cantabria, ES

DH Status Assessment as Contributor to Asset Management

Dr. Andreas Leuteritz, Leibniz-Institut für Polymerforschung Dresden e. V., DE

Dynamic Planning and Operation of District Heating Systems with Flexible Geothermal Solutions

Nirav Patel, Technical University of Vienna, AT

Development of Improved Heat Sources for a New Generation of Cold District Heating Systems

Peer Huber, University of Stuttgart, DE

Dynamic Heat Pricing as a Tool to Enable Flexibility in District Heating Networks

Matthias Krammer, Forschung Burgenland, AT

★ Energy from Wastewater: Successful Implementations, Further Potential and Future Outlook

Flora Prenner, Rabmer GreenTech GmbH, AT

Estimating Real-Time Occupancy in Multi-Zone Offices: A Comparison Between Conventional Techniques and Deep Learning Methods

Dr. Pablo Hernandez-Cruz, University of the Basque Country (UPV/EHU), ES

Electrochemically Assisted Liquid-Liquid Extraction of Lactic Acid Produced via Fermentation

Alegra Vezjak-Fluksi, University of Twente - TNW, NL

★ Energy Transition at Alwera AG

Michael Klammler, ALWERA AG, AT

★ From Static Energy Audits to Dynamic Living Labs: A Multi-Stage Audit System for Carbon-Neutral Thermal Spas in Austria

Carina Seidnitzer-Gallien, AEE INTEC, AT

Flexibility Service Implementation for Soho as Pilot of the Optix Project

Dr. Gerfried Cebrat, effiziente.st Energie- und Umweltconsulting, AT

High Flux Heat Transfer for Concentrated Solar Technology Applications

Dr. Joachim Fuchs, Karlsruhe Institute of Technology (KIT), DE

Improving Supervision of Cooling Towers with Complementary Machine Learning

Lennart Heinen, Fraunhofer ISE, DE

Insights from Concept Development

Laura Wahl, Wien Energie GmbH, AT

★ Investigation of District Heating and Cooling Systems Using Carbon Dioxide as Heat Transfer Medium
Robert Pratter, 4ward Energy Research GmbH, AT

Life Cycle Assessment of Thermosyphon and PV Hot Water Systems in a Side-by-Side Setup in Namibia
Harald Kicker, Johannes Kepler University Linz | JKU, AT

Optimization of Co₂ Emission Taxation for Internal Combustion Passenger Vehicles in Switzerland Using Machine Learning
Huy-Duc Nguyen, & **Prof. Dr. David Wannier**, HES-SO Valais-Wallis, Haute école de gestion Arc, CH

★ Parabolic Trough Collectors for Existing District Heating Networks
Silas Tamm, Solites - Steinbeis Innovation gGmbH, DE

Power-To-Methane: Heat Integration and Techno-Economic Analysis
Abdelkrim Benmehel, University of Pau and the Adour Region, FR

Predicting and Detecting DHW Losses in Low-Energy
Samuel Breuss, University of Innsbruck, AT

Roadmap for Zone-Specific Renewable Heat Supply in Ottensheim
Katharina Schlager, e7, AT

★ Supply-Side Optimisation and P2H Sizing for a 2040 Net-Zero District Heating System: The Kapfenberg Case
Dr. Hakan Ibrahim Tol, AEE INTEC, AT

Supporting DHC Operators in the Decarbonisation of Their Systems
Dominik Rutz, WIP Renewable Energies, DE

Techno-Economic Viability of a Solar Thermal Steam Kitchen for Rural Schools of the Global South
Matt Janssen, Vapor Motive Company, US

★ The Potential of Agri-Solar Thermal Systems for Dual Land Use Combining Agriculture and Large-Scale Solar Heat Generation
Dr. Christoph Trinkl, Technische Hochschule Ingolstadt, DE

The Missing Link in Solar Thermal Uptake: A Rhetorical Analysis of Awareness and Dissemination in Windhoek
Hendrina Shinime, Namibia University of Science and Technology, NA

The Role of Organizational Learning and Knowledge Management for Successful BIM Integration in Lighting Design
Dr. Sascha Hammes, University of Innsbruck, AT

TiO₂ Photoanodes for Photoelectrochemical Water Splitting
Sara Kurakin, HyCentA Research GmbH, AT

Topological Analysis of French District Heating Networks Flexibility
Martin Badet-Rialhe, LAMA, FR

Unlocking Value with Decentralized, Sector-Coupled Energy Systems
Michael Friedman & Edmund Penz, ICT Impact GmbH, AT

Digitalisation, Energy Modelling and Data-Driven Energy Systems

A Hybrid LLM-Enabled Simulation Framework for Climate Change Negotiations: A Case Study of the Like-Minded Developing Countries (LMDC)
Tianrong Ding, Tsinghua University, CN

A Review and Classification of Ageing Models for District Heating (DH) Pipelines: Deterministic, Probabilistic, and Data-Driven Approaches
Pakdad Langroudi, HafenCity Universität Hamburg (HCU), DE

Advancing Gender Equality in Renewable Heating and Cooling Sector: Lessons from Soltrain+
Selma Festus, SADC Centre for Renewable Energy and Energy Efficiency (SACREEE), NA

Application of Smart Thermal Monitoring and Control System (STMACS) for Solar Water Heating System Installations: A Case Study
Gorata Matsapa, University of Botswana, BW

Artificial Intelligence Based Model Predictive Control of a Solar Water Heating System
Dr. Theddeus Akano, University of Botswana, BW

Assessing Model Sensitivities in District Heating Planning: A Case Study Using a Python-Based Toolchain
Clara Pineau, Fraunhofer ISE, DE

Characterisation and Control of Sunlight-Driven Photocatalytic Processes in a Scaled 3 L Stirred Loop Reactor
Dr. Daniel Kowalczyk, Ulm University, DE

Co-Optimizing Integrated Energy Systems for Enhancing Thermal-to-Electric Flexibility: Modeling of Heat Flow Directions
Saltanat Kuntuarova, Technical University of Munich, DE

Climate Risk, Supply Chain Disruption, and Oil Price Uncertainty: The Role of ICT and Technological Innovation in Shaping Food Security in Qatar
Fawziya Al-Kubaisi, Qatar University, QA

Direct Generation of Compressed Air from Low-Temperature Waste Heat
Dr. Olaf Andersen, Fraunhofer IFAM Dresden, DE

★ Data-Driven Analysis of Energy Efficiency and Optimization Potentials in a Local Low Temperature District Heating and Cooling System
Anna-Lena Sidney Fiedler, Institut Wohnen und Umwelt GmbH, DE

Equitable Financing and Organizational Models for Renewable Heating & Cooling in Urban Neighborhoods
Rachel Leutgöb, e7 GmbH, AT

Evaluation of the Seasonal Accuracy of Thermal Array Sensors for Occupancy-Based Control Systems
Dr. Sascha Hammes, University of Innsbruck, AT

Experimental Study and Modeling of Sorption-Enhanced SMR Using Ni/CAO-Mayenite Combined Material
Dr. Francesca Rita Famà, **Dr. Umberto Pasqual Laverdura**, ENEA, IT

★ From Process Chains to Hub-Level Optimisation: Assessing Industrial Flexibility for Hubs for Circularity
Dr. Kerstin Pflieger-Schopf, Montan University Leoben, AT

Governance, Financing, and Digitalisation to Reduce Non-Revenue Water (NRW): Adoption and Strategies (Case Study: Jakarta)
Prof. Dr. Reini Wirahadikusumah, Institut Teknologi Bandung, ID

Identification and Utilization of Photovoltaic Resources: A Focus on Urban High-Density Area Distribution Laws
Dr. Junyi Yang, South China University of Technology, CN

Improved Overheating Control Strategy in Flat Plate Collector Solar Thermal Plant for Ship Application
Dr. Capucine Lasserre, CEA /LITEN, FR

Long-Term District Heating Capacity Expansion Under Policy and Price Uncertainty: Insights from a Multistage Stochastic Model
Ali Kök, Technical University of Vienna, AT

Monitoring and Comparative Analysis of Forced Circulation Solar Thermal Installations
Prof. Dr. Kevin Nwaigwe, University of Botswana, BW

Methane Pyrolysis in Liquid Metals for Sustainable Hydrogen Production
Christoph Scherr, Montan University Leoben, AT

Modelling of Multi Fuel Supply Chains
Jasmin Pflieger, AEE INTEC, AT

Occupant Counting and Position Detection via Machine Learning on Multimodal Image Data
Dr. Sascha Hammes, University of Innsbruck, AT

★ Potential and Challenges of AI Tools in the Process of Industrial Decarbonisation Strategy Development and Evaluation
Juergen Fluch, FH JOANNEUM GmbH, AT

Predicting Solar Thermal Power Plant Yield Using Physics-Based and Machine Learning-Based Models
Damian Bednarz, Solid Solar Energy Systems, AT

★ Simplifying District Heating Topology with Bidirectional Lines for Optimal Control
Theda Zoschke, Fraunhofer ISE, DE

Simulation and Evaluation of an Inter-Municipal District Heating Network
Xhoi Zhupani, AEE INTEC, AT

Solar Thermal Systems Training and Awareness for Gender & Diversity
Welcome Nukeri, SANEDI, ZA

★ Spirit - Sustainable Power Integration and Recovery of Industrial Thermal Waste
Prof. Dr. Per Sieverts Nielsen, DTU - Technical University of Denmark, DK

Smart Control of Small District Heating: Towards an Actual Implementation
François Lédée, CEA-LITEN, Grenoble, France, FR

The Role of ICTP in Energy-Efficient Appliance Manufacturing and Value Chains for Africa's Just Energy Transition
Sheryl Farag, UNIDO, AT

Closing Data Gaps in Urban Energy and Climate Planning with Remote Sensing and AI
Franz Mauthner, AEE INTEC, AT

★ Unlocking ATES: Scaling Sustainable Heating and Cooling Across Europe
Bas Godschalk, DTESS BV, NL

Automated and Transferable UBEM Generation Using Open-Data for Austrian Municipalities
Raphael Drexel, Fachhochschule Technikum Wien, AT

Reliable and Flexible Flux Simulation Tool for Solar and Light Applications
Cord Bleibaum, Institute of Future Fuels, DLR e.V., DE

Renewable Energy Integration and Power System Flexibility

Data-Driven Algorithm for Tailored CCUS Facility and Service Planning Across the Lifecycle
Akshay Mehta, Baker Hughes Inc., IN

Advent of the 'Metal Age' of Thermoelectricity: Green Power Generation and Cooling by Metallic Thermoelectrics
Prof. Dr. Andrej Pustogow, Technical University of Vienna, AT

Community Owned Virtual Powerplants: Supporting Our Modern Electricity Grids
Fabian Sander, Centria-ammattikorkeakoulu, FI

From Forecasting to Grid-Friendly Ev Charging: Field Test and Operational Data Management
Dr. Ahmad Fayyaz Bakhsh, Montan University Leoben, AT

Replicable Business Cases for the Multi-Level Integration of Low-Temperature DHC Grids
Dr. Iná Maia-Novak, AIT - Austrian Institute of Technology, AT

Unlocking Grid Capacity: The Challenge of Climate Change for Dynamic Thermal Rating
Bernhard Spitzer, Energienetze Steiermark GmbH, AT

Thermal Energy Storage and Underground Storage Technologies

★ 600 °C Class Middle-High Temperature Packed-Bed Latent Heat Storage Unit with Aluminium-Silicon Based PCM Pellets ~ Performance Analysis of Bench-Scale Apparatus ~
Tomokazu Nakamura, Hokkaido University, JP

Adsorption Heat Storage Systems for the Industrial Decarbonization
Amelia Torres, University of Stuttgart, Germany, DE

An Automated Methodology for Thermal Energy Storage Selection and Integration in Industrial Heat Symbiosis
Dr. Nasrin Arjomand Kermani, Technical University of Denmark, DK

CFD Modeling and Multi-Objective Optimization of a Segmented Open Sorption Heat Storage
Elham Abohamzeh, Saarland University, DE

Compatibility of Steel Slag with Lead at 750°C for Application in Thermal Energy Storage Systems
Margaux Zehnder, Karlsruhe Institute of Technology (KIT), DE

Decarbonizing District Heating: The Role of Network Temperatures and Seasonal Storages Considering an Uncertain Future
Dr. Ralf-Roman Schmidt, AIT, AT

★ Developing Efficient Pit Thermal Energy Storages for District Heating - Storage Laboratory and Simulation Work
Thomas Labda, Solmax Geosynthetics GmbH, DE

Evaluating Locations for Seasonal Thermal Energy Storages
Carles Ribas Tugores, AEE INTEC, AT

Exploration of Sand as a High Temperature Thermal Energy Storage (TES) Material for the Growing Renewable Energy Market in Botswana
Kago Rabasoma, University of Botswana, BW

★ Electricity, Heat and Grid Services - Investigation of Economic Efficiency of Thermal Storage Power Plants
Philipp Trompetter, DLR, DE

★ Examining a Salt-Based Energy Storage System with an Emphasis on Latent Heat
Johannes Hochenauer, Graz University of Technology, AT

Innovative Thermal Storage for High Temperature Industry Decarbonation - Heaternal EU Project
Dr. Sylvie Douard, CEA /LITEN, FR

Load Optimization for Borefields
Philipp Gradl, AEE INTEC, AT

Multi-Criteria Decision Analysis of Energy Storage Systems for a PV-Mini-Grid in Sub-Saharan Africa
Lion Rudi, Hochschule Bochum, DE

Novel Materials for Heat Storage: CuSO_4 - Pdms Composites in Microfluidic Thermal Batteries
Jakob Werner-Hörmann, Technical University of Vienna, AT

★ Recent Progress in Thermochemical Energy Storage Materials (Tcms)
Assoc. Prof. Dr. Peter Weinberger, Technical University of Vienna, AT

Seasonal Performance of a Photovoltaic Array with Hybrid Battery-supercapacitor Storage: A Case Study for Botswana
Dr. Theddeus Akano, University of Botswana, BW

★ Sodium Trisilicate as Stabilizer of Li_2SO_4 - Na_2SO_4 Solid-solid Pcms for High - Temperature Thermal Energy Storage
Dr. Eukene Garcia Ocina, University of the Basque Country, ES

Sodium-Ion Batteries for Alternative Battery Storage Systems
Assoc. Prof. Erwin Povoden-Karadeniz, Technical University of Vienna, AT

Soil Investigations for Pit Thermal Energy Storages
Dr. Elisabeth Lachner, AEE INTEC, AT

★ Understanding the Hygrothermal Behaviour of the Cover of Large-Scale Thermal Energy Storage Systems for Performance-Oriented Design
Dr. Alice Tosatto, University of Innsbruck, AT

★ Zinc Zwischenschritt Electrolyzer (Zze) - a New Approach for Efficient Energy Storage Green Hydrogen Production
Jonas Wolfsberger, HyCentA Research GmbH, AT

Heat Pumps, Buildings and Energy Efficiency

★ A Spatial Multi-Criteria Analysis for Optimal Heat Pump Placement in Municipal Heat Planning
Hannah Görigk, RWTH Aachen University, DE

Advanced Heat Load Calculation Methods for Energy-Efficient Residential Buildings
Michael Branz, FH Salzburg GmbH, AT

An Approach for a Discursive Transformation of Energy Systems Using Aggregated Building Models
Stefanie Lott, University of Stuttgart, DE

An Overview of Renewable Heating & Cooling (RHC) Training and Capacity Building Activities of the Soltrain+ Project in Botswana
Kago Rabasoma, University of Botswana, BW

Analysis of Thermal Stratification in Production Halls and Solutions for Air Conditioning and Energy Efficiency
Dr. Janine Glänzel, Fraunhofer IWU, DE

Assessing Deep Renovation Effectiveness Through Energyplus Simulations Validated by Monitoring Data: A Residential Case Study
Zishu Luo, Institute of Green Civil Engineering, AT

Building Energy Efficiency: How Does It Interact with the Energy System and Which Level is Cost-Optimal?
Malte Bei der Wieden, Öko-Institut, DE

Circular Economy for Heat Pumps – Status, Approaches, Potential – IEA HPT Annex 65
Dr. Karl-Anders Weiß, Fraunhofer ISE, DE

Economic Comparison of Different Heat Pump Heating Systems in Single Family Houses
Dr. Stephan Fischer, University of Stuttgart, DE

Energy Booster; A Qualification and Information Offensive for Innovative Building Technology and Renewable Energies
Prof. Dr. Bram Entrop, Saxion UAS, NL

Effects of Heat Saving Measures on Thermal Comfort in an Office Building in Germany
Raffaella Goldschmidt, University of Stuttgart, DE

Electricity Price-Driven Control of Heat Pumps in Industrial District Heating Prosumer Substations
Ulrich Trabert, Universität Kassel, DE

Factors that Influence User Satisfaction During Serial Building Renovation Projects
Thomas Kreamsner, Forschung Burgenland GmbH, AT

Greenhouse Renewable Energy Heating, Cooling and Dehumidification: A Case Study for Lesotho
Prof. Dr. Enock Jonathan, National University of Lesotho, LS

Integration of Industrial Heat Pumps
Ilyas Gain-Nachi, ALLICE, FR

Low Temperature Distributed DHC Plant for Residential Communities
Edoardo Corsetti, RSE, IT

Natural Deep Eutectic Solvents and Ionic Liquids as Sorption Media in Absorption Heat Pumps
Christoph Weinzettl, Graz University of Technology, AT

Operational Optimization of PV-Assisted Heat Pump Systems Using Reinforcement Learning
Dr. Andreas Heinz, Graz University of Technology, AT

Optimizing Energy in Single-Family-Homes: From Biomass Boilers to Heat Pumps
Dr. Astrid Leitner, BEST - Bioenergy and Sustainable Technologies GmbH, AT

Optimizing Hydraulic Integration for Large-Scale Thermal Energy Storage through Heat Pump Cycle Selection
Jakob Hütter, AEE INTEC, AT

Performance and Life-Cycle Impacts of Residential Heating Systems in Existing Homes: A Comparative Sustainability Assessment
Marie Fischer, Fraunhofer ISE, DE

Performance of a Forecast-Based Predictive Controller in a Residential Building
Bernhard Kling, BOKU University, Vienna, AT

Robust Feature Relevance and Building Clustering for Heat Demand and Return Temperature Forecasting in District Heated Multi Dwelling Residential Buildings
Cosima Amanda Wörle, Fraunhofer Institute for Building Physics, DE

★ Retrofitting Existing Buildings in Austria: Current Status and Future Trajectories
Dr. Hui Yang, China Academy of Building Research, CN

Study on Thermal Performance and Application Potential of Phase Change Vacuum Ceramic Thermal Insulation Materials in Building Renovation in Hot Summer and Warm Winter Zones
Lishuai Yang, South China University of Technology, CN

Synergizing Austrian and Chinese Expertise for Climate-Neutral Buildings: Intelligent Facades and Daylighting Systems
Dr. Tobias Weiss, AEE INTEC, AT

Testing and Demonstration of a River Water Heat Pump with Partial Freezing and District Heating Feed-In
Thomas Gubsch, Zittau/Görlitz University of Applied Sciences, DE

Testing of Air-Brine Collectors for Use as Sole Heat Source for Heat Pumps

Dr. Stephan Fischer, University of Stuttgart, DE

Thermal Active Surfaces as Drivers of Passive Cooling Strategies. A Study of Public Office Buildings in Mexico City.

Dr. Ivett Flores, Technische Universität Carolo-Wilhelmina zu Braunschweig, DE

We Goe(s) Circular - from Vision to Reality: The Hands-on Journey Building Regenerative Business in Practice

Laura Fariello, Wien Energie GmbH, AT

Pilgrims' Barn: A Carbon Positive Class Q Retrofit for Post-Hydrocarbon Living

Geoffrey Nicholas Woolley, Woolley Project Management Limited, UK

AI-Driven Control Models for Heat Pump Flexibility and Grid Stability

Bernhard Kling, BOKU University, AT

Industrial Energy Systems and Industrial Decarbonisation

★ Analysis of Marine and Industrial Condensing Steam Engine Performance for Low-Grade Waste Heat Recovery

Matt Janssen, Vapor Motive Company, US

★ CO₂ Electrolysis Utilizing CO₂-Captured from Flue Gas to Close the Carbon Loop in the Steel Industry and Beyond

Dr. Nina Plankensteiner, K1-MET GmbH, AT

Decarbonization of Process Heat in Germany: An Overview of Existing Studies

Javier Inigo Labairu, DLR, DE

Enhancing Circularity in Industrial-Urban Symbiosis Through Technology Integration

Peter Gruber, AEE INTEC, AT

Membrane Distillation: A Versatile Separation Technology for Circular Economy and Hydrogen Production

Josephin Paetzold, AEE INTEC, AT

★ Methane Pyrolysis and Dry Reforming in a Liquid Metal Bubble Column Reactor - Process Performance and Carbon Characterization

Marie Denise Gutsch, Karlsruhe Institute of Technology (KIT), DE

★ Perception of Industrial Symbiosis and Carbon Management in Austria

Dr. Simon Moser, Energieinstitut an der JKU Linz, AT

Revolutionizing Industries: Energy Systems for Decarbonization Through Geothermal Integration in Industrial Processes

Žan Frumen, University of Ljubljana, AT

Solar Heating for Industrial Processes (SHIP) Potential in Zimbabwe

Prof. Dr. Samson Mhlanga, National University of Science and Technology, ZW

Techno-Economic Optimization of Hybrid Solar Energy Systems for Process Heat Applications

Matthias Loevenich, German Aerospace Center (DLR), Institute of Solar Research, DE

Towards Clean Hydrogen Production: Pilot-Scale Methane Pyrolysis in Liquid Metal Catalysts

Dr. David Scheiblehner, Montan University Leoben, AT

Circular Energy Systems and Sustainable Energy Technologies

A Kinetics-Based Methodology for Evaluating the Long-Term Thermal Stability of Phase Change Materials Using DSC

Dr. Eukene Garcia Ocina, University of the Basque Country, ES

Advancing Mechanical Recycling of Polypropylene: LCA Insights from Sorting and Washing Strategies

Lukas Zeilerbauer, Energieinstitut an der JKU Linz, AT

Evaluating Circularity in Life Cycle Assessment Based on the Case Study Ziegelwand Reuse

Semjon Popek, Graz University of Technology, AT

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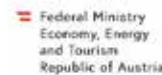
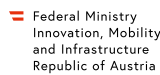
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