



Transilvania
University
of Brasov

CSE 2026

8th Conference for Sustainable Energy, October 29–31, 2026
Renewable Energy Systems and Recycling Research Centre

Conference venue: R&D Institute of the Transilvania University of Brasov

10 Institutului Street, Brasov, Romania

CONFERENCE PROGRAMME

Thursday (October 29, 2026)	
08:00-08:30	Participants' Registration
08:30-09:15	Opening Ceremony
09:15-10:15	Keynote Lecture 1
10:15-10:30	Coffee Break
10:30-11:00	Keynote Lecture 2
11:00-13:00	Energy Efficient Built Environment for Energy Communities
13:00-14:00	Lunch
14:00-15:00	Keynote Lecture 3
15:00-17:00	Renewable Electric Energy for Energy Communities
17:00-17:15	Coffee Break
17:15-18:35	Green Mobility for Energy Communities
Friday (October 30, 2026)	
08:00-08:30	Participants' Registration
08:30-09:15	Keynote Lecture 4
09:15-10:45	Renewable Thermal Energy for Energy Communities
10:45-11:00	Coffee Break
11:00-11:30	Keynote Lecture 5
11:30-13:30	Environmental Protection for Energy Communities
13:30-14:30	Lunch
14:30-16:30	Policies and Education for Energy Communities
16:30-16:45	Coffee Break
16:45-18:05	Artificial Intelligence for Energy Communities
Saturday (October 31, 2026)	
10:00-11:00	Visit to the Renewable Energy Systems and Recycling Research Center
11:00-12:30	Workshop: Research Projects on Energy Communities
12:30-13:00	Conference Closing
13:00-14:00	Farewell Lunch



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DETAILED CONFERENCE PROGRAMME

Wednesday (October 28, 2026)	
19:00-21:00	Welcome Reception
Thursday (October 29, 2026)	
08:00-08:30	Participants' Registration
08:30-09:15	Opening Ceremony Brigitte Hasewend – <i>European Sustainable Energy Innovation Alliance</i> Viorel Badescu – <i>Romanian Academy</i> Ana Maria Dabija – <i>Renewable Energy Commission – Romanian Academy</i> George Cristian Lazaroiu – <i>Energy Commission – Romanian Academy</i> Mihai Lucian Pascu – <i>Brasov Agency for Sustainable Development</i> Ion Visa – <i>Transilvania University of Brasov, Romania</i>
09:15-10:15	Keynote Lecture 1 <i>Renewable Energy Systems: Current Status in the World, Prospects and Problems</i> <u>Soteris Kalogirou</u> , Cyprus University of Technology, Cyprus
10:15-10:30	Coffee Break
10:30-11:00	Keynote Lecture 2 <i>Achieving Human-Centric Engineering: Examples of Paradoxes and Trilemmas from Energy Use in Buildings</i> <u>Brian Norton</u> , Dublin Technological University, Ireland
11:00-13:00	Energy Efficient Built Environment for Energy Communities <i>Hourly Useful Energy Demand Modelling and System Optimization for the 100% Renewable Transition of European Energy Communities,</i> <u>Sebastian Gajardo</u> <i>Modular Construction as a Circular Strategy for Nearly Zero Energy Communities</i> <u>Kenza Belkhiri</u> , Raluca Buzatu and Viorel Ungureanu <i>Assessment of the Impact of Masonry Materials on the Thermal Energy Demand of a Residential Building</i> <u>Gabriela-Elena Iordache</u> and Horia Necula <i>Impact of the Glazed-to-Opaque Surface Ratio on Heating and Cooling Energy Demand in a Temperate Office Building</i> <u>Ioana Maria Codarcea (Ungureanu)</u> , Ligia Moga and Sinziana Suba <i>Beyond the Green Transition — EU Energy Security in a Multipolar World</i> Razvan Ionescu, Mirela Panait and <u>Ioan-Anton Savulescu</u> <i>From Building to Collective: Architectural Design Strategies for Energy Communities in Contemporary Practice</i> <u>Simina Anamaria Lorincz</u>

13:00-14:00	Lunch
14:00-15:00	Keynote Lecture 3 <i>Smart Energy Systems and Electrification of Nearly Everything</i> <u>Neven Duic</u> , University of Zagreb, Croatia
15:00-17:00	Renewable Electric Energy for Energy Communities <i>National Institute for Research, Development and Testing in Electrical Engineering - ICMET Craiova</i> <u>Ioan Iordache</u> <i>A Data-Driven Workflow for Mapping Photovoltaic Generation: API Ingestion, Clear-Sky Normalisation and Indicative Mapping of 600 PV Systems in Cyprus</i> Minas Patsalides, Andreas Ioannides, Elena Georgiou Strouthos, Steven Nicolaou and Alexandros Charalambides, <u>Vasilis Mavroudes</u> <i>From Architectural Design to Long-Term Reliability: Coupled Experimental Electrical and Thermal Assessment of a Building-Integrated Photovoltaic System</i> <u>Gabriela Mantescu</u> , Dorin-Dacian Let, Paul Ciprian Patric, Ion Valentin Gurgu, Andrei Militaru and Emanuel-Valentin Buica <i>Life Cycle Assessment of mono-Si Rooftop Photovoltaic Electricity for Romania</i> <u>Ioana-Cristina Benga</u> and Cristina Cazan <i>Constructive and Technological Solutions for Increasing the Conversion Efficiency of Horizontal-Axis Wind Turbines</i> <u>Valeriu Dulgheru</u> , Marin Gutu, Oleg Ciobanu, Radu Ciobanu and Sergiu Zaporojan <i>A Predictive Maintenance Model for Wind Turbines Based on Contactless Sensors and Artificial Neural Network</i> <u>Eugeniu Munteanu</u> , Sergiu Zaporojan and Valeriu Dulgheru
17:00-17:15	Coffee Break
17:15-18:35	Green Mobility for Energy Communities <i>The Hydrogen Energy Vector, Approaches and Uses for Romania</i> <u>Ioan Iordache</u> , Romanian Association for Hydrogen Energy, Ramnicu Valcea, Romania <i>Accelerating the Island Energy Transition through Passenger Vehicle Electrification: A Techno-Economic and Energy System Analysis of Cres and Lošinj (Croatia)</i> Petar Nevistic, Stjepan Druzinec and <u>Goran Krajacic</u> <i>The Transition Towards Green Ports: a Systematic Review of Strategies for Sustainable Development and Decarbonizing for Port Operators in Constanta Port</i> <u>Alexandru Cotorcea</u> , Florin Nicolae and Dragos Simion <i>A Python application for State of Health prediction in Battery Electric Vehicles: design and preliminary validation</i> <u>Maria Cristea</u> , Thomas Imre Cyrille Buidin, Daniela-Florentina Niste, Ciprian Cristea and Radu-Adrian Tirnovan
19:30-21:30	Conference Dinner

Friday (October 30, 2026)	
08:00-08:30	Participants' Registration
08:30-09:15	Keynote Lecture 4 <i>Upper Bounds for the Heating Efficiency: Potential for Fuel Savings and Performance Optimization</i> <u>Viorel Badescu</u> , Romanian Academy
09:15-10:45	Renewable Thermal Energy for Energy Communities <i>Sustainability-Oriented Assessment of Renewable Energy Communities in Rural and Mountain Areas</i> Beatrice Marchi, <u>Ivan Ferretti</u> , Roberto Ranzi and Lucio Zavanella <i>Simulation of a Photovoltaic-Thermal Powered Energy Community for Enhanced Self-Reliance</i> Alexandru Sorin Nistor, <u>George Cristian Lazaroiu</u> , Georgiana Balaban, Diana Lacramioara Robescu and Soteris Kalogirou <i>Numerical Simulation of Air-Source Heat Pump to Mitigate the Natural Gas Consumption in Dwellings</i> <u>Mihail-Bogdan Carutasiu</u> , Horia Necula and Gabriela-Elena Iordache <i>Building-Level Energy Flexibility Study of an Air-to-Water Heat Pump Coupled with Phase Change Material Storage</i> <u>Virginia Petre</u> and Horia Necula <i>A Multiparametric Approach to Monitoring Induced Seismicity: the St. Gallen Geothermal Case Study</i> Guido Maria Adinolfi, Raffaella De Matteis, Vincenzo Convertito, Ortensia Amoroso, Bruno Massa and <u>Sergio Carmelo Vinciguerra</u> <i>Solar Thermal System Optimisation for Energy Communities</i> <u>Macedon Moldovan</u> and Adrian Ilie
10:45-11:00	Coffee Break
11:00-11:30	Keynote Lecture 5 <i>Energy Recovery and Efficiency in Electrochemical Wastewater/Water Treatment</i> <u>Florica Manea</u> , Politehnica University of Timisoara, Romania
11:30-13:30	Environmental Protection for Energy Communities <i>Photocatalytic Beads Based on TiO₂ and G-C₃N₄ for Solar-Activated Photocatalytic Removal of Organic Pollutants</i> <u>Maria Covei</u> , Ioana Tismanar., Cristina Bogatu, Jose Maria Calderon Moreno, Irina Atkinson, Veronica Bratan and Mariuca Gartner <i>Microplastics in Urban Wastewater: An Emerging Challenge for Sustainable Energy Communities</i> <u>Dana Perniu</u> , Cristina Bogatu and Maria Covei <i>Waste-Based Adsorbents for Sustainable Wastewater Treatment</i> <u>Cristina Bogatu</u> , Ileana Manciualea, Maria Covei and Dana Perniu

	<i>Copper Sulphide-Based Nanostructures as Photocatalysts for Efficient Wastewater Treatment</i> <u>Luminita Isac</u> <i>Stability challenges in dye-sensitized solar cells: degradation mechanisms and mitigation strategies</i> <u>Liviu Olteanu</u> <i>Recycling of End-of-Life Tire Rubber in Multi-Waste Composite Materials for Sustainable Outdoor Applications</i> Cristina Cazan, Ioana Benga and <u>Mihaela Cosnita</u> <i>Comparative Fenton and Photo-Fenton Oxidation. Kinetics of Resorcinol and Catechol</i> <u>Larisa Mocanu</u> and Maria Gonta
13:30-14:30	Lunch
14:30-16:30	Policies and Education for Energy Communities <i>Sustainable Energy Initiatives in Rural Communities: the Role of Tools and Knowledge in Starting and Maturing</i> <u>Frans HJM Coenen</u> and Peter de Vries <i>A Short Review of Fairness in Energy Communities</i> <u>Adrien Chatel</u>, Gilles Notton, Ghjuvan Antone Faggianelli and Cyril Voyant <i>Governance Challenges in Positive Energy Districts Implementation: Energy Efficiency Perspective</i> <u>Stefan Dragos Cirstea</u>, Denisa Stet, Levente Czumbil and Roxana Valentina Briscan <i>Energy Communities in Three Countries with Slow Progress: State of Implementation, Research and Education Activities</i> <u>Ioanna Kyprianou</u>, Panayiotis Papadopoulos, Marios Karmelos, Maria Covei, Cristina Bogatu, Dana Perniu, Ioana Tismanar, Valentina Turanjanin and Biljana Vucicev <i>Operating Regulations of Energy Communities. Legal Models of Energy Sharing Within the Community and in Relation to the Energy Market</i> <u>Laura Neacsu</u>, Dan Micu, Mihaela Cretu and Andrei Ceclan <i>Designing Inclusive Energy Communities: Policy Mechanisms for Energy Justice in the European Green Transition</i> <u>Christina Di Sipio</u>
16:30-16:45	Coffee Break
16:45-18:05	Artificial Intelligence for Energy Communities <i>Can Distributed Edge Data Centres Support Energy Communities? A Perspective on Flexibility, Control and Local Value Creation</i> <u>Xingxing Zhang</u>, Jingchun Shen and Rosaria Volpe <i>Machine Learning for Energy-Efficient Dynamic Resource Allocation in Optical Networks</i> Olena Shevchenko, Oleksandr Shevchenko and <u>Mariia Golovianko</u>

	<i>Hybrid Deep Learning Model for Renewable Energy Forecasting and Predictive Maintenance in Local Energy Communities</i> <u>Mirela Panait</u>, Ioan-Anton Savulescu, Ana Tanasescu and Doru Stoica <i>Off-Grid Renewable Energy IOT Edge System with Integrated Adaptive Power Management for DC Loads</i> <u>Viorel Miron-Alexe</u>, Ion Valentin Gurgu and Dorin Dacian Let
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