

International Symposium

Green Energy Frontiers

-Bridging Geoscience with Energy professionals-

27 February 2025, Bucharest. Venue: Casa Universitarilor

Join us for an insightful event hosted by the GeoAlliance, which will connect perspectives focused on the application of geoscience and engineering skills in renewable energy systems, emphasizing the interdisciplinary approaches required to overcome the challenges of energy transition. As the world shifts toward sustainable energy systems, the integration of geological and geophysical with energy professional expertise becomes critical for unlocking the potential of renewable energy resources and achieving a resilient, low-carbon future. The event offers a platform for professionals, researchers, and policymakers to share insights, discuss innovations, and foster collaborations that support the transition to renewable energy. This event aims to highlight the role of geoscience and engineering in driving the global energy transition, and the diverse perspectives and strategies essential to realizing the ambitious goal for Green Transition while addressing the significant challenges ahead.

Participants will have the opportunity to exchange best practices, foster collaboration, and ultimately help pave the way for a sustainable and resilient future for Romania.

Invited presentations & speakers

- 1. Geothermal Energy in Smart Cities: heating, cooling, electricity, energy efficiency and decarbonization**
Presented by **Sonia Isabella López Kovács** (*Reserves Audit Leader, Repsol Spain. SPE Spain Section Chair, SPE Geothermal Technical Section Europe Membership Chair and SPE Hydrogen Technical Section Europe Program Chair. Member of CCS Technical Committee and in the Geothermal Technical Committee of the EAGE*)
- 2. Geothermal energy in Romania. Present and perspectives.**
Presented by **Marian Bordeianu** (*Geological Engineer - TRANSGEX SA Oradea, Research Assistant STAR-UBB Institute, Babeş-Bolyai University of Cluj-Napoca, CEO - THERMOZOIC SRL*)
- 3. Troubleshooting on recent geothermal tenders from Romania. How to handle planning failures during tendering and realizing of running projects?**
Presented by: **Viktória Försterné Nán** (*Foratherm Kft., Hungary*)

Call for contributions

We welcome contributions from all sectors that explore technical, economic, social, and environmental dimensions in advancing renewable energy's role in the global energy mix. We are seeking submissions with insights on the state of the art, literature overview, personal considerations, past or present research results from all over the world.

Topics list

1. Geothermal resources

- Techniques for resource identification
- Geological aspects of geothermal areas
- Geothermal zones from Romania
- Geophysics - Exploration and Appraisal of New Resources
- Sustainable development and management of geothermal systems
- Case studies/case examples (various aspects)
- Role of scientific projects in Green Transition
- Others

2. Geothermal Energy Exploration and Utilization

- Techniques for subsurface imaging and reservoir characterization.
- Sustainable development and management of geothermal systems
- Technical challenges when drilling
- Harnessing geothermal energy
- Retrofitting Existing Facilities for Enhanced Energy Efficiency
- Sustainable Water Management
- Geothermal exploitation and environmental protection
- Natural seismology and Induced seismicity in geothermal exploration
- Others

3. Hazards and energy production

- Energy Transition in Seismically Active Regions
- Assessing seismic hazards for renewable and non-renewable energy facilities
- Geothermal Energy and Induced Seismicity
- Hazards in the Lifecycle of Renewable Energy Projects
- Hydropower and Seismicity (various aspects)
- Monitoring networks for real-time seismic risk assessment in energy plants
- Environmental risks at renewable and non-renewable energy facilities
- Geotechnical and geophysical studies
- Hazards and their impact on energy production (worldwide case examples)

4. Carbon Capture, Utilization, and Storage (CCUS)

- Subsurface assessment for safe and effective carbon sequestration.
- Monitoring and verification of CO₂ storage sites.
- CCUS plans
- Case studies-case examples

5. Hydropower, Nuclear, Waste, Wind and Solar Energy Integration

- Hydropower and reservoir induced risks
- Nuclear Power Plants
- Geoscience-driven site assessments for wind and solar installations.
- Geoscience-driven site assessments for nuclear power plants.
- Environmental and geological considerations in renewable energy development.
- Waste to Energy for SMART cities - successful case implementation
- Hybrid solutions (combining energy from various resources)
- Integrated Energy Systems
- Others

6. Hydrogen Storage in Geological Formations

- Role of Geological-Geophysical data in feasibility studies for hydrogen storage.
- Innovations in subsurface hydrogen containment and monitoring.

7. Policy and Regulatory Frameworks

- Geoscience contributions to shaping energy policies.
- Strategies for aligning renewable energy projects with global climate goals.
- Investments in Romanian Energy Transition

8. Case Studies and Best Practices

- Successful geoscience-engineering collaborations in renewable energy.
- Lessons learned from pilot projects and full-scale implementations.
- From science to implemented projects
- New Projects for renewable energy in Romania

9. **Panel Discussion: Developing future workforce for the Energy Transition. Shaping the future through Education and Curriculum Development: Academia, Oil & Gas Industry, know-how transfer between countries, and authorities collaboration**

Audience

This symposium is ideal for any interested party, geoscientists, engineers from various fields of activity, energy professionals, academics, and policymakers interested in advancing renewable energy's role in the global energy mix. It provides a dynamic platform for knowledge exchange, networking, and sparking interdisciplinary collaboration.

Attendance & registration as a participant:

Free (requires pre-registration) Link: <https://forms.gle/xvMwRuUzbXLfrwYg8>

Key Dates: Abstract Submission Deadline: 31 January 2025. Notification of Acceptance: 5 February 2025

Submit your abstract via this form: <https://forms.gle/6bEb3WwiGAnHF97R8>
For questions or additional information e-mail at: florina.tuluca@g.unibuc.ro

Accepted abstracts will be included in a volume with DOI. Extended presentations can be later submitted for publishing as a book chapter under the aegis of the *Romanian Society of Applied Geophysics*.