**Sixth International Forum on Long-Term Energy Scenarios (LTES) for the Clean Energy Transition**

**Session 5: Addressing supply chain uncertainties in energy scenarios**

(This session addresses Thematic Area 4: Resilient and Inclusive Scenario Content)

**Co-host**: EPRI/RMI (TBC)

1. **Description**

Global supply chains for critical materials and technologies, such as batteries, solar modules, and electrolyzers, are increasingly exposed to geopolitical risk, trade disputes, and concentrated market power. This session will explore how scenario-based planning can be used to stress-test supply chain assumptions and examine strategic options for resilience, including diversification of suppliers, regional manufacturing, and strategic reserves. Drawing on national and regional experiences, panelists will show how LTES-informed analysis has supported industrial policy, investment prioritization, and regional cooperation strategies to reduce vulnerability. The focus will be on translating supply chain risk insights into policy pathways and strategic choices that strengthen resilience.

Geopolitics

Crtitical materials are a cornerstone for the global energy transition. Their concentration in Africa and Asia requires the existence and maintenance of stable supply chains to ensure an efficient global energy transition. Critical materials are therefore vital for the energy security of countries and are now analyzed and planned for in national energy scenarios and national energy plans. IRENA’s 2023 [Geopolitics of the Energy Transition: Critical Materials](https://www.irena.org/Publications/2023/Jul/Geopolitics-of-the-Energy-Transition-Critical-Materials?%E2%80%89trk=public_post_comment-text) report notes that various geopolitical risks impact critical material supply therefore posing a risk to national energy security and the global energy transition. The report notes that external shocks, resource nationalism, export restrictions, mineral cartels, political instability and market manipulation pose a threat to critical material supply. During this session countries will discuss the risks they foresee in critical material supply for their national circumstances and how they use scenarios to propose policy solutions.

Access to data

A second key challenge in planning for critical material supply chains is the difficulty in accessing accurate data on reserves and global supply chains. IRENA’s 2024 [Critical materials for renewable energy: Improving data governance](https://www.irena.org/Publications/2024/Oct/Critical-materials-for-renewable-energy-Improving-data-governance) report notes that a “unified, open and transparent global repository of data on critical materials, covering extraction, trade and criticality assessment” is necessary for making informed decisions when planning for the national demand of critical materials and therefore the deployment of renewable energy technologies.

During this session countries will explore how they incorporate critical material supply chain risks and opportunities into their national and regional energy planning. Further, countries will highlight the challenges faced, including access to data, and jointly explore potential solutions to ensure that critical material supply chains are adequately accounted for in national energy planning for the global energy transition.

1. **Objective**

This session is aimed at achieving the following objectives:

1. Understand the different approaches taken by countries in incorporating critical materials supply chain indicators into their national energy planning
2. Understand challenges faced and solutions implemented nationally and regionally to ensure that critical materials supply chains are accounted for in energy planning
3. Highlight how long-term energy scenarios are used in policy making to ensure secure critical materials supply chains for the energy transition
4. **Expected outcomes**

The session will provide practical insights into how countries can plan for credible “Plan B” options to safeguard the energy transition under conditions of disruption or market concentration.

1. **Proposed Agenda (90 minutes)**

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| **Time** | **Content** |
| 5 mins | Welcome remarks and introduction  Moderator: EPRI/RMI (TBC) |
| 7 min | Scene-setting presentation: TBA  Presenter: Gustavo Naciff de Andrade, Brazil |
| 7 min | Scene-setting presentation: TBA  Presenter: Marija Miletic, JRC |
| 7 min | Scene-setting presentation: TBA  Presenter: Kaare Sandholt, China (ERI) |
| 45 mins | Panel discussion  Panellists:   * Gustavo Naciff de Andrade, Brazil * Marija Miletic, JRC * Kaare Sandholt, China (ERI) * PBL * UK * Philippines * IEA   Moderator: EPRI/RMI (TBC) |
| 15 mins | Q&A |
| 3 mins | Closing remarks |

1. **Suggested guiding questions**

* What major supply chain vulnerabilities have you identified for your country or region, and what alternative pathways have been considered to address them?
* How can scenario-based planning help policymakers evaluate trade-offs between cost, resilience, and domestic capability?
* What policy levers (e.g., industrial policy, regional agreements, strategic reserves) have proven effective in strengthening supply chain resilience?