6th International Forum on Long-Term Energy Scenarios (LTES) for the Clean Energy Transition

**Session 7. Governing AI in energy planning: Enablers and barriers for adoption.**

*Thursday, 30 October 2025. Bonn, Germany. 14:00-15:15 (CET)*

1. **Context**

Artificial Intelligence (AI) is increasingly present and influencing energy modelling and planning workflows. Research institutions and international organizations have tested and piloted applications ranging from grid optimization to AI-enhanced geospatial data, automated scenario analysis, and AI bots for training and capacity building. These pilots show AI potential to accelerate analysis and broaden scenario exploration, but they also expose challenges of trust, validation, data privacy, data quality, and explainability.

For governments, the key question is not whether AI has potential, but what institutional conditions must exist to make adoption feasible, responsible, and aligned with national planning mandates. This session will focus on translating the lessons from early pilots into insights for governments: what institutional mandates, procurement rules, data policies, and validation practices would be needed to adopt AI responsibly and sustainably. The discussion will also consider proposals for global cooperation, such as developing guidelines or working groups on responsible AI in energy planning under initiatives like the LTES Network.

1. **Objective**

To identify governance conditions and institutional prerequisites that governments would need to adopt AI responsibly in energy planning, drawing lessons from pilots by research institutions and international organizations.

1. **Expected outcomes**

* Identification of enablers (mandates, procurement, partnerships) and barriers (data quality, trust, validation gaps) to AI adoption in planning.
* Insights from pilots illustrating opportunities and risks.
* Practical recommendations for governments on building institutional capacity and governance frameworks for responsible AI adoption.
* Contributions to LTES dialogues on how emerging digital tools can be integrated into national planning ecosystems.

1. **Proposed Agenda (75 min)**

**Moderator:** TBC

**Start:** 14:00 (CET)

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| **Duration** | **Details** |
| 03 min | **Welcome and introduction by moderator.**  *Overview of the session and context of the topic.* |
| 20 min | **Opening round of panelist statements.**  *Panelists introduce their AI application experience and lessons relevant to energy planning.* |
| 40 min | **Panel discussion.**  *This panel will examine how research institutions, IGOs, and technical organizations are piloting AI applications in energy planning, and what their experiences imply for governments. Panelists will share examples of AI use in modelling, forecasting, and capacity building, and discuss the governance conditions that would allow such tools to be responsibly adopted in official planning processes. The session will highlight enablers, risks, and capacity needs, and aim to distill practical governance insights for countries considering AI in their planning ecosystems.*  *Panelist:*   * *David McCollum. Oak National Lab.* * *Bassam. IAEA* * *Alvin Jose. SEforAll. (TBC)* * *Mark Howells. CCG. (TBC)* * *Bo Yuan and Jun Liu. SGERI. (TBC)* * *EPRI. (TBC)* |
| 10 min | **Floor interventions/Q&A** |
| 02 min | **Wrap-up of the session** |

1. **Proposed guiding questions[[1]](#footnote-1)**

* From your experience, what governance conditions would a government need in place to actually benefit from the kind of AI application you described?
* What risks or limitations have you seen in your work that governments should be especially careful about (e.g. validation (black boxes), explainability, data standards)?
* Based on your pilot or tool, what kind of capacity-building or institutional support would make it feasible for governments to adopt similar approaches?

1. Note to moderator: Frame the questions so panelists reflect on what governments would need to benefit from their innovations [↑](#footnote-ref-1)