



# Global Conference on Energy & AI

Paris, France

## Agenda

### **4 December 2024: Forum on Energy and AI**

*Thematic technical sessions to foster knowledge sharing among key experts from government, industry and academia*

### **5 December 2024: High-level Roundtable on Energy and AI**

*A strategic dialogue among global decisionmakers on the role of AI in shaping the future of energy, and of energy in shaping the future of AI*

International  
Energy Agency



## Energy for AI, and AI for Energy

Artificial Intelligence (AI) is emerging as one of the most consequential technologies of our time. Recent progress in AI models shows huge improvements, with the latest generation approaching – and even exceeding – expert human-level performance on test benchmarks. AI models have grown exponentially in size and capability, benefiting from the availability of massive datasets and improved computational power. The application of AI to technology innovation and invention has the potential to accelerate solutions to hard problems and unlock a new wave of material and chemistry discovery. At the same time, rapid transformation is not a given: incentives and institutions may also need to change to deliver the benefits of AI, particularly for the energy sector.

AI is also energy intensive. A wave of recent investment in power-hungry data centres is already straining the grid in some locations – and the outlook only seems to be accelerating. Power availability is now being seriously discussed as a possible constraint to the rate of AI growth and is shaping decisions about where companies build data centres and develop this cutting-edge technology. At the same time, energy planners are faced with an unusually wide range of uncertainty. The range of possible outcomes regarding AI uptake is huge. Stakeholders also lack understanding of the data centre value chain, market and technology outlook, making the outlook for electricity demand from the sector too often a “black box”.

There is an **urgent need for dialogue** between the energy industry, tech sector and policymakers, and a **structured, comprehensive assessment of the potential implications of AI in the energy sector**.

The IEA’s **Global Conference on Energy and AI** provides this space for dialogue. The outcome deliverable will:

- Build **strategic understanding** among global leaders of the implications of AI for energy and energy for AI.
- Develop a shared sense of **priorities** to unlock the potential benefits of AI for the energy transition and manage the risks, including the rise of electricity demand.
- Establish a lasting **platform** for dialogue between stakeholders.

This Conference will feed into the IEA’s forthcoming **Special Report on Energy and AI**. The event will also help to support various **political fora** where the AI and energy nexus is discussed.

The Conference is structured around two days:

- **4 December**: the IEA will host a technical-level **Forum on Energy and AI**, bringing together key experts from across government, industry and academia.
- **5 December**: the IEA will host an invitation-only **High-Level Roundtable on Energy and AI** with global decisionmakers from government, the tech sector and the energy industry.

## 4 December: Forum on Energy and AI

The Forum on Energy and AI brings together leading subject-matter experts from government, the energy industry, the tech sector, civil society and academia. The objective is to engage in a series of expert roundtables on the implications of AI for energy systems, and energy for AI. Roundtables will be structured with input presentations from selected participants, and ample time for discussion. It is envisaged that participants will participate actively throughout the day, attending several roundtables, and that insights from one sector or issue area will spark reflections in another. The agenda overview is shown below. Exact timing and sequencing of sessions is subject to change.

Time	Room 1	Room 2
08:30 – 09:30	<i>Arrival and Registration</i>	
09:30 – 10:00	Opening: <b>AI for energy, energy for AI</b>	
	Welcome address from IEA followed by scene setting remarks from selected delegates	
10:00 – 11:00	<b>AI in Energy Supply and Generation</b> Applications of AI in electricity generation, networks, storage, and oil and gas supply	<b>AI in Energy Use</b> Applications of AI in energy consumption from industry, transport and buildings
11:00 – 11:30	<i>Coffee Break</i>	
11:30 – 13:00	<i>(Continuation of previous session)</i> Applications of AI in electricity generation, networks, storage, and oil and gas supply	<i>(Continuation of previous session)</i> Applications of AI in energy consumption from industry, transport and buildings
13:00 – 14:00	<i>Lunch</i>	
14:00 – 16:00	<b>The Outlook of Data Centre Growth</b> Projecting electricity demand from data centres	<b>AI and Energy Innovation</b> Applications of AI in energy technology R&D, deployment and early commercialisation
16:00 – 16:30	<i>Coffee Break</i>	
16:30 – 18:00	<b>Procuring Clean Electricity for AI</b> Strategies to procure clean electricity for data centres	<b>AI in Emerging and Developing Countries</b> Applications of AI in meeting the energy security and transition needs of emerging and developing countries

Rooms will be available for bilateral meetings throughout the Conference. Specific details on the room allocation and booking process will be outlined in the logistical document which will be shared in due course. For any questions or specific requests, please contact [EnergyAI@iea.org](mailto:EnergyAI@iea.org).

## 5 December: High-Level Roundtable on Energy and AI

The High-Level Roundtable brings together global leaders from policymaking, the energy industry and the tech sector. Discussions will be in roundtable format. Part of the discussions will be livestreamed to enable participation from the IEA’s large global group of stakeholders. The remaining discussion will be closed-door to enable an open discussion. High-level participants will be able to network and book bilateral meeting rooms to conduct side meetings and the Conference organisers will offer opportunities to engage with the journalists present as desired. The agenda overview is shown below.

Time	Session overview
08:30 – 09:30	<i>Arrival and Registration</i>
09:30 – 11:30	<p><b>Energy for AI, and AI for Energy:</b> Strategic Overview</p> <ul style="list-style-type: none"> <li>• Keynote and welcome, Dr. Fatih Birol, IEA Executive Director</li> <li>• Keynote government leaders</li> <li>• Keynote tech sector leaders</li> <li>• Keynote energy industry leaders</li> <li>• Roundtable discussion</li> </ul>
11:30 – 12:00	<i>Networking Coffee and Group Photos</i>
12:00 – 13:00	<p><b>AI for Energy:</b> Unlocking the Transformative Potential of AI in the Energy Sector</p> <ul style="list-style-type: none"> <li>• Keynote government leaders</li> <li>• Keynote tech sector and energy industry leaders</li> <li>• Roundtable discussion</li> </ul> <p>AI’s impact on the energy sector could be transformative. This session will explore the blue skies applications of AI in energy innovation, and how AI can be applied in the energy sector to boost productivity, safety and sustainability.</p>
13:00 – 14:00	<i>Lunch</i>
14:00 – 15:00	<p><b>Energy for AI:</b> Understanding and Sustainably Meeting the Energy Footprint of AI</p> <ul style="list-style-type: none"> <li>• Keynote government leaders</li> <li>• Keynote tech sector and energy industry leaders</li> <li>• Roundtable discussion</li> </ul> <p>The AI and digital boom are increasing energy demand, prompting questions about the role of efficiency, impacts on grids, investments in new generation and sustainability. This session will explore the outlook for energy demand from AI, key challenges, and sustainable options to meet the rising demand.</p>
15:00 – 15:30	<i>Coffee Break</i>
15:30 – 16:30	<b>Conclusions, Outlook, and Next Steps:</b> Summary Reflections on the Conference Outcomes and Next Steps

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