

11th Global Conference on Energy Efficiency

Thematic session

New frontiers in modern and efficient data centres

Tuesday 30 June 2026
15:30 – 17:00
Room 517-BC

International
Energy Agency

Event background

In today's context of energy market volatility and economic uncertainty, energy efficiency remains essential for affordability, energy security, and competitiveness. The 11th Annual Global Conference on Energy Efficiency will bring together global leaders to accelerate action, with data centres emerging as a key focus due to their rapidly growing electricity demand.

Data centres are critical infrastructure for digital and energy transitions, but their electricity use is rising quickly. The IEA estimates their electricity consumption was nearly [500 terawatt hours](#) (TWh), or about 1.5% of global electricity consumption in 2025, and will double by 2030. Ensuring efficient and flexible electricity use is therefore essential to balance data centre growth with grid resilience. This requires smarter design and operation of data centres, stronger integration with power and heat networks, and improved data and metrics to support business and policy decisions.

Stronger alignment among stakeholders is needed to unlock these opportunities. A shared understanding of priorities, such as how demand-side flexibility from data centres can support grids, or how waste heat can be integrated into district heating systems, will be essential. Where labelling schemes or regulatory approaches are being considered, appropriate efficiency metrics, monitoring practices, and transparency frameworks must also be developed.

The challenge for policy makers is therefore to ensure that the rapid growth of data centres is aligned with energy efficiency and system resilience objectives, while enabling these facilities to contribute to more flexible and integrated energy systems.

This thematic session provides a platform to explore how countries can develop the policies, metrics, and collaborative approaches needed to support sustainable data centre development, offering participants practical insights and opportunities to engage with key stakeholders on solutions to manage rapid demand growth.

Objective

This session will bring together policy makers, industry stakeholders, and experts to explore how energy efficiency policy can contribute solutions at the intersection of data centre growth and power system transformation. Discussions will focus on:

- *Unlocking energy efficiency in design and operation:* Identifying opportunities to improve performance and manage rapidly growing electricity demand from data centres.
- *Strengthening data and metrics for planning and decision-making:* Developing robust indicators and monitoring frameworks to support planning, investment, and regulatory decisions.
- *Enhancing exchange and collaboration:* Identifying priority areas for stakeholder exchange and cooperation to better align data centre development with power system needs.

Draft agenda

15:30-15:40	Opening	remarks	[10	min]
15:40-15:50	Setting the scene [10 min] <i>Panellists will highlight what is already known about data centres and their growing role in electricity demand, including the implications for energy systems and system resilience.</i>			
15:50-16:20	Panel Session 1 – Aligning growth and sustainability [30 min] <i>Panellists will discuss how energy efficiency can help manage rising electricity demand from data centres, sharing best practices and case studies from different regions. Speakers may cover efficient equipment and systems, operational measures on individual sites and across sites, integrated planning to enable offtake of waste heat for district heating, and demand-side flexibility. They will also discuss policy and incentive frameworks to exploit energy efficiency and flexibility opportunities.</i>			
16:20-16:50	Panel Session 2 – Measuring what matters [30 min] <i>Panellists will discuss the data, metrics, and transparency regimes needed to inform and implement policy, regulatory, and business decisions. Speakers will touch on standards and labels, and on compound metrics that incorporate multiple aspects of performance. Practical approaches to collecting and managing data will also be discussed, including institutional arrangements.</i>			
16:50-17:00	Closing remarks [10 min]			

Contacts

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