

AI Infrastructure: Why Energy Is Becoming a Bigger Bottleneck Than Chips

MANAGEMENT SUMMARY & CORE TAKEAWAY

The AI race is shifting from chip ownership to energy availability. China produced around 10,000 TWh of electricity in 2024, and data centre consumption is set to double by 2026. For Swiss decision-makers, that makes cloud location, edge efficiency and energy costs strategic factors. Scaling AI requires actively planning for energy reality.

CONTEXT & EXECUTIVE RELEVANCE

For years, the assumption was: whoever owns the best AI chips wins. But the real bottleneck is shifting. Energy is becoming the limiting factor—not only for hyperscalers, but for every company serious about scaling AI. The question is no longer just which model you choose, but where and how you run the compute.

The International Energy Agency (IEA) expects data centre electricity consumption to more than double from 460 terawatt-hours in 2022 to as much as 1,050 TWh by 2026—more than Germany's total annual electricity use. For the US, the IEA projects a 130 percent increase by 2030 (+240 TWh), for China +170 percent (+175 TWh), and for Europe +70 percent (+45 TWh). Energy is becoming the constraint faster than chip production.

CORE ACTION ITEMS

- 01 China: national grid and ultra-high-voltage lines provide stability; data centres are set to grow from 170 TWh (2025) to a planned 800 TWh by 2030—around 6 percent of national consumption.
- 02 US: rapidly expanding data centre boom, but dependence on Chinese transformers and switchgear—already a 15 percent supply bottleneck in 2026.
- 03 Europe: lagging behind in data centre construction; Ireland has more than 20 percent of electricity going to data centres, Dublin has paused permits, and the Netherlands and Denmark restrict growth.

SWISS COMPLIANCE & ARCHITECTURE GUIDELINES

- ☑ Full compliance with revised Swiss Data Protection Act (revDSG).
- ☑ Zero vendor lock-in on closed proprietary models.
- ☑ Seamless integration into Abacus, Bexio and M365 ecosystems.

Non-Binding Process Analysis

Let us review in 20 minutes where AI agents create immediate measurable efficiency in your workflows.

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