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Powering the AI Era: How Data Centers Are Transforming the Energy Landscape



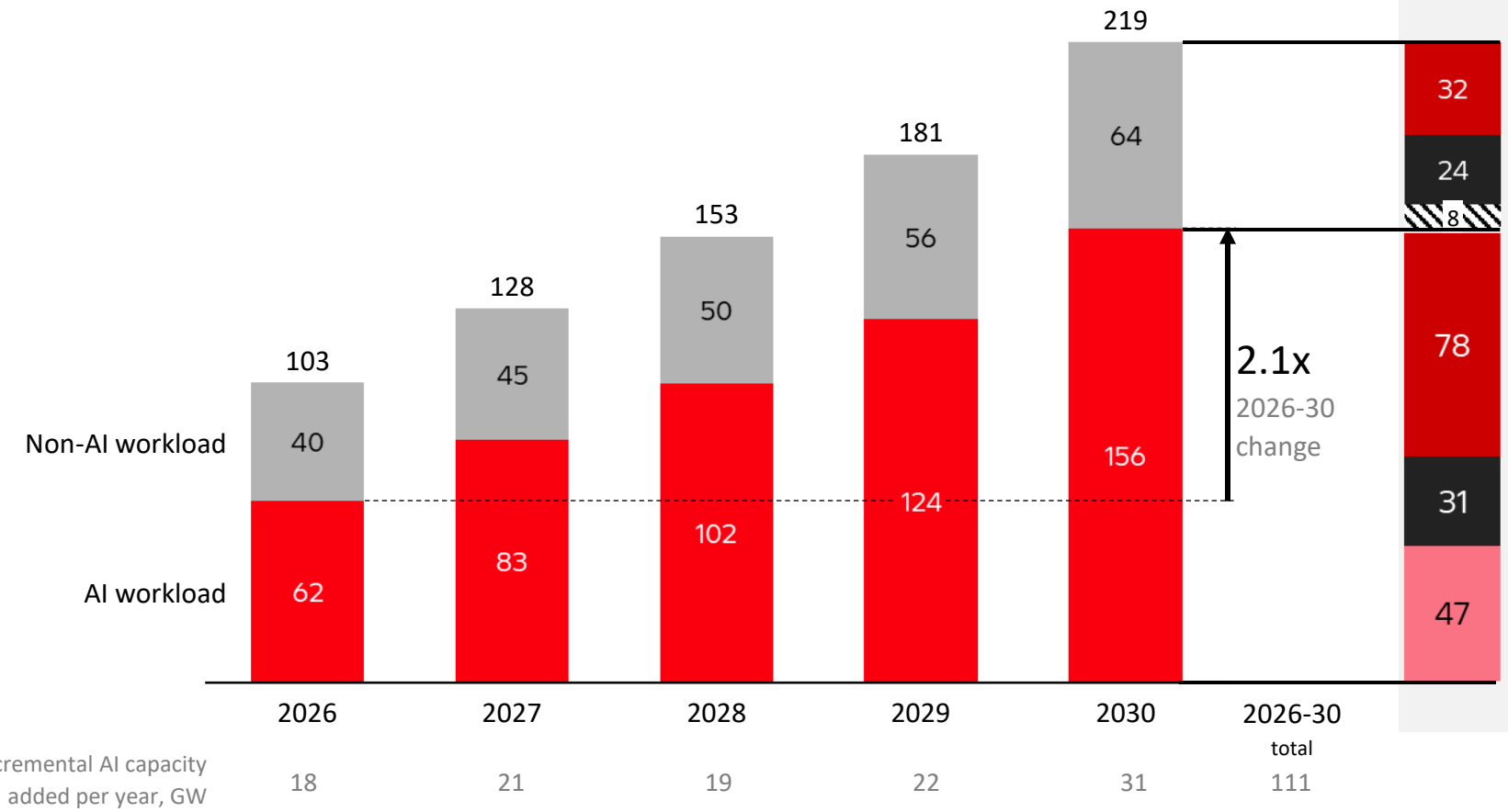
Fecha
05 de noviembre
2026

Preparado por:
Ben Frazer
Global Business Development Manager, Data Centers

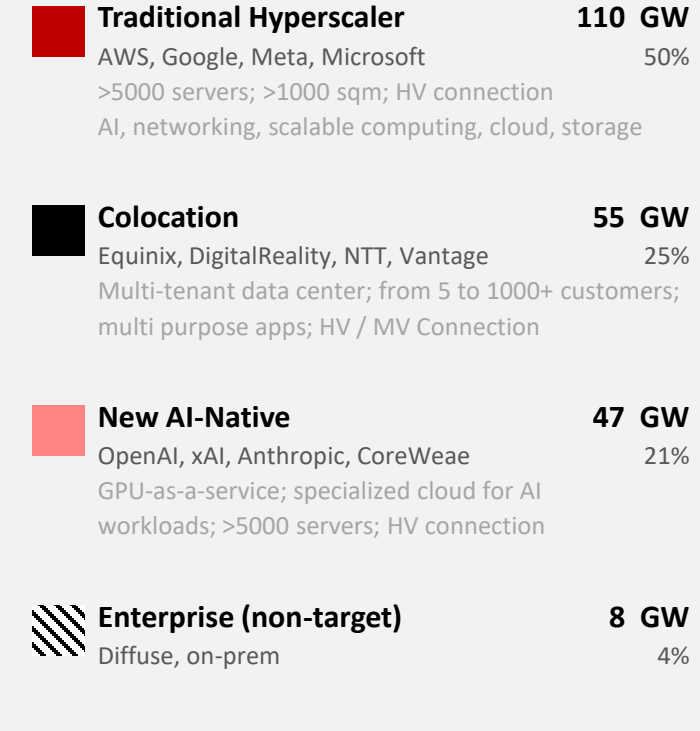
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AI-driven data center growth concentrates in large, HV-connected Projects

Data Center Power Demand, 2026-2030 (GW)*



2030 Demand by Segment (GW)



Traditional Hyperscaler **110 GW** 50%
AWS, Google, Meta, Microsoft
>5000 servers; >1000 sqm; HV connection
AI, networking, scalable computing, cloud, storage

Colocation **55 GW** 25%
Equinix, DigitalReality, NTT, Vantage
Multi-tenant data center; from 5 to 1000+ customers; multi purpose apps; HV / MV Connection

New AI-Native **47 GW** 21%
OpenAI, xAI, Anthropic, CoreWeae
GPU-as-a-service; specialized cloud for AI workloads; >5000 servers; HV connection

Enterprise (non-target) **8 GW** 4%
Diffuse, on-prem

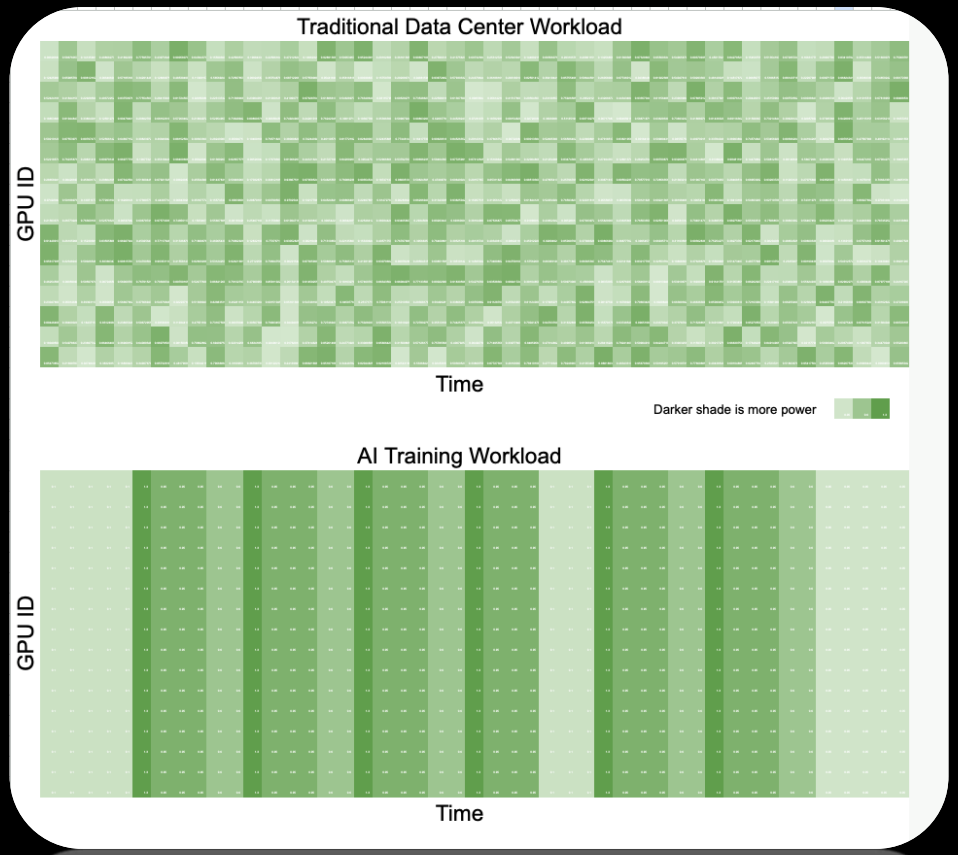
*Source: ***McKinsey Data Center Demand Model; Sinergy Research Group; JLL Global Data Center Outlook***

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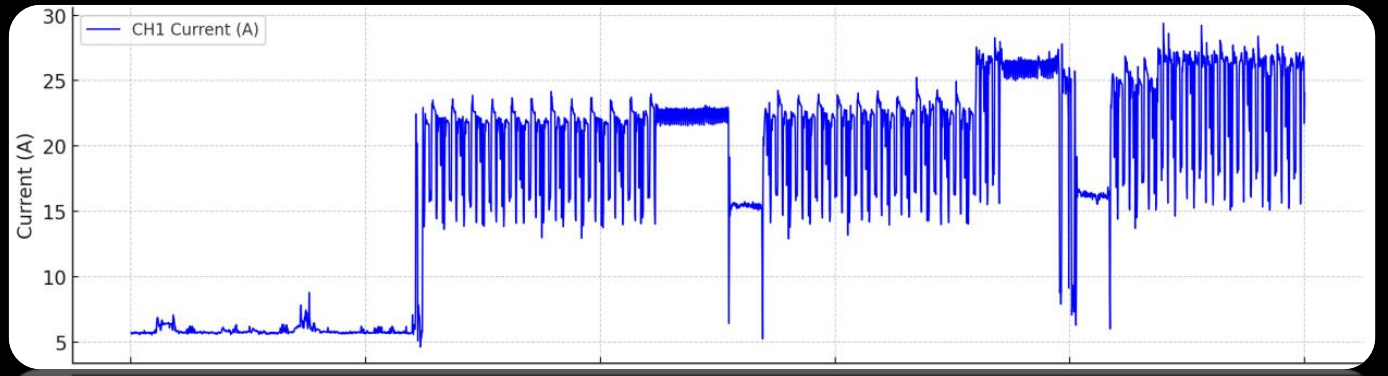
Traditional or AI workloads and the Grid

GPU workloads



01 AI Factory loads provide **strong and fast power load fluctuations**, creating a situation beyond the design limits of the Grid and connected Generators

02 Utilities have started **imposing strict requirements** on large loads to ensure Grid stability.



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From passive to active partner

IRELAND

ADOPTED

Bring power with the load.

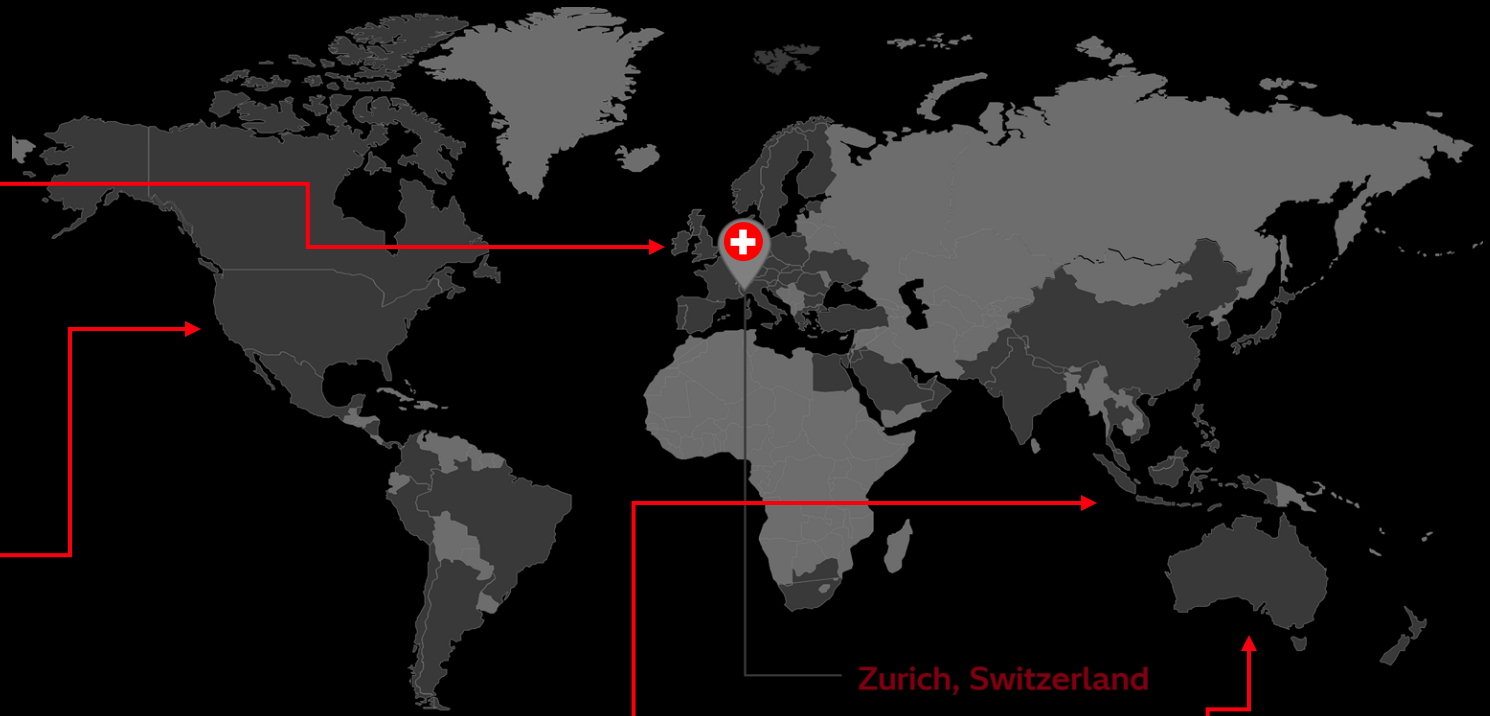
New connections ≥1 MVA require nominated generation and/or storage. At least 80% of annual demand must be matched with additional renewable electricity in Ireland.

NORTH AMERICA | TEXAS

ADOPTED

Study first. Allocate capacity.

ERCOT places projects ≥75 MW into coordinated studies, links connection to available grid capacity and strengthens curtailment, security and cost-allocation obligations.



SINGAPORE

SELECTIVE

Allocate scarce MW competitively.

DC-CFA2 provisionally allocated 200 MW to four operators. New capacity is linked to best-in-class efficiency, green-energy pathways and strategic value.

AUSTRALIA | NEM

DRAFT RULE

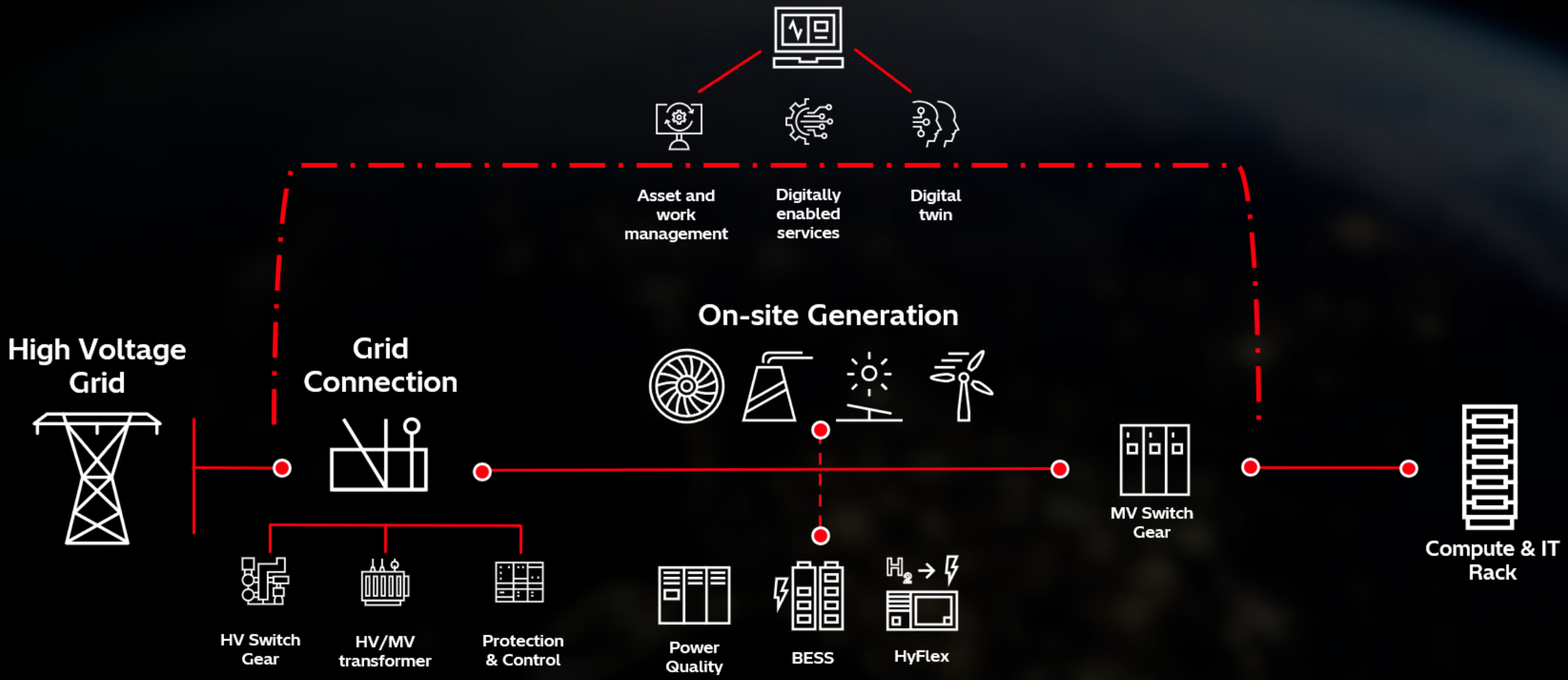
Treat data centers as grid participants.

AEMC proposes a 30 MW threshold for large inverter-based loads, with voltage/frequency ride-through and defined recovery performance.

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The new energy landscape for Data Centers



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Hitachi Energy’s BESS qualifies as NVIDIA DSX Ready BESS

Hitachi Energy's BESS has qualified as NVIDIA DSX Ready BESS as part of the inaugural DSX Ready launch

What means DSX Ready?

NVIDIA DSX™ Ready helps organizations identify specific products and solutions that have completed category-specific qualification requirements for AI factory infrastructure

Reduced Integration Risk

DSX Ready qualification validates key grid-interactive and power-performance characteristics required in modern AI campuses

Ready for AI Workloads

Supports power continuity, power quality, and operational flexibility while responding to changing load conditions

Reliable & Efficient Operations

Predictable performance, operational uptime, and power efficiency as AI factory infrastructure scales

Future-Ready

Helps facilities integrating renewable energy while supporting demand response and energy cost optimization

Validated, trusted BESS solution to support resilient, flexible and scalable AI Factory operations while reducing deployment complexity and integration risk

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Key considerations

AI is changing the pace and scale of electricity demand

Speed & early engagement are critical

The energy system must evolve together with digital infrastructure

Chile

The significant renewable energy build out in Chile (2026 – 2035) provides a unique opportunity for the Energy Transition.

Embracing a robust capacity expansion plan, early engagement with stakeholders from Industry and adoption of grid technologies and digital infrastructure will form a solid foundation for success.

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