

The AI Economy Map

From Energy to Applications

A practical introduction for founders, operators and decision-makers who want to understand the system behind AI.

01 **Energy & grid**
Electricity and connection capacity

02 **Data-center facilities**
Powered, cooled and connected space

03 **Chips & systems**
Accelerators, servers and networking

04 **Compute & cloud**
Access to running computing resources

05 **Models & tooling**
Model access and development tools

06 **Applications & workflows**
A useful task or business outcome

An AI Keeper teaching framework. These six economic layers overlap; a company can operate in several. They complement the five analytical lenses on our website.

Original AI Keeper synthesis. All numerical scenarios are hypothetical.

01 / FOLLOW THE MONEY

Who pays whom?

Start with a customer buying a useful outcome. Trace the costs required to deliver it.

An application may pay a model provider, which may buy cloud compute. A compute operator pays for equipment, facilities and electricity. Some firms own several stages; open models and on-premises deployments create different routes. This is a map of possible relationships, not one mandatory supply chain. [2]

Layer	Typical sale	Typical buyer
Energy & grid	Electricity and connection capacity	Data-center operators
Data-center facilities	Powered, cooled and connected space	IT owners and cloud operators
Chips & systems	Accelerators, servers and networking	Clouds and compute operators
Compute & cloud	Access to running computing resources	Model developers and business users
Models & tooling	Model access and development tools	Application builders and businesses
Applications & workflows	A useful task or business outcome	End users and organizations

Revenue is a payment received. Margin depends on what remains after the costs of delivery. To examine a business, ask what it owns, which risks it carries and how its customer can switch suppliers.

Capital and geopolitics cross every layer: financing terms, ownership, access and policy can change what a business is able to build or sell. The six-layer map is our editorial framework, not a formal market definition.

02 / FIND THE CONSTRAINT

What can stop delivery?

A promising market does not by itself establish that a specific project can serve a specific customer.

ENERGY / Is power available on the required date?

Request a connection offer, capacity limits and a complete tariff schedule.

FACILITY / Does the building fit the workload?

Check rack density, cooling design, connectivity and the required service level.

HARDWARE / Is the equipment suitable and deliverable?

Match memory, networking and software support to the actual workload.

COMPUTE / Will capacity become paid usage?

Separate theoretical capacity, equipment power draw and billable utilization.

MODELS / Can the service change its dependencies?

Review model access, usage terms, data handling and a tested alternative.

APPLICATION / Can a customer verify the improvement?

Define a baseline task, acceptance criteria, human review and operating cost.

The IEA identifies local grid constraints and power-sector bottlenecks as material issues for data-center expansion. [1] Our practical inference: assess the date and conditions of usable supply alongside its price.

03 / A WORKED EXAMPLE

A tariff is only one input.

A simplified annual electricity-cost calculation. Every input below is an assumption, not a market quote or forecast.

Assume 1,000 kW of installed IT capacity with an average electrical load of 80% over a non-leap year (8,760 hours). This load factor describes power draw; it does not establish occupancy, billable usage or revenue.

PUE means Power Usage Effectiveness: total facility energy divided by IT equipment energy. [3] Here we assume a constant annual PUE and apply it to annual IT energy.

Annual facility energy (kWh)
= IT capacity (kW) x average electrical load factor x 8,760 x PUE

Assumption / result	Scenario A	Scenario B
IT capacity	1,000 kW	1,000 kW
Average electrical load	80%	80%
Annual PUE	1.30	1.60
Assumed energy rate	$0.06/kWh	$0.09/kWh
Annual facility energy	9,110,400 kWh	11,212,800 kWh
Annual energy charge	$546,624	$1,009,152

Difference: $462,528 per year. Both tariff and PUE change in this comparison, so it does not isolate either effect. A 1 MW IT load at full draw also requires more than 1 MW of facility supply when PUE exceeds 1.

Scope: energy-only arithmetic. Excludes capital spending, financing, fixed and demand charges, taxes, backup fuel, maintenance, connectivity and revenue. It cannot establish profitability or the preferred location.

04 / USE THE MAP

Ten questions before the next commitment.

For each question, record the evidence, its owner, its date and what remains unknown.

01 / Customer - Who pays, for which outcome, and how often?

02 / Dependency - Which external service or physical input can stop delivery?

03 / Power - How much usable power is documented, and from what date?

04 / Cost boundary - Which costs are included in the quoted price?

05 / Workload - What technical requirements follow from the customer task?

06 / Demand - What evidence supports usage, occupancy or purchase commitments?

07 / Delivery - Which permits, equipment and connections set the schedule?

08 / Quality - How will useful performance and errors be measured?

09 / Alternatives - What happens if a supplier, model or tariff changes?

10 / Decision - Which unresolved fact would change the next commitment?

Use three evidence states: documented, assumed or unresolved. Avoid a numerical score until the criteria and weights have been justified for the actual decision.

Next step: choose the unresolved issue most likely to change delivery, timing or unit economics. Request the specific evidence needed to resolve it before expanding the model.

05 / SOURCES & NEXT STEPS

Keep evidence and interpretation separate.

This briefing is an original AI Keeper educational synthesis. The layer map, questions and screening prompts are editorial tools. The numerical example is constructed for teaching and does not describe an actual project.

[1] IEA - Energy and AI, Executive summary (2025)

Background on electricity supply, grid constraints and the uncertainty around data-center growth.

Open primary source

[2] OECD - Competition in artificial intelligence infrastructure (2025)

Background on the interconnected compute supply chain, chips, data centers and cloud services.

Open primary source

[3] The Green Grid - Power Usage Effectiveness (PUE)

Definition of PUE as total facility energy divided by IT equipment energy.

Open primary source

The report editions identified above provide background; this briefing is not a live market-data feed.

Continue with the analysis

Why cheap electricity is not enough for an AI data center.
Read the companion note in the Free Briefing section at aikeeper.org.

Have a question worth examining?

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