THEMATIC RESEARCH · AI INFRASTRUCTURE · READER'S GUIDE

The AI Infrastructure Map

One Profit Migration, Two Forces, Four Notes. Where the AI Premium Is Going, What Could Stop It, and Which Companies Own the Durable Slice — A Reader's Guide to the Series

TON618 CAPITAL RESEARCH · AS OF JULY 19, 2026 ·

Every figure in this guide traces to one of the four notes it connects, each cited inline and linked. This is the READ-FIRST map: it states the single thesis the series is built on, the two forces that drive it, and where each company sits — then points to the note that does the work. Read this first; read the others for the evidence.

§0 The Thesis in One Page

The migration

FOR A DECADE THE TECH PROFIT POOL SAT WITH THE ASSET-LIGHT HYPERSCALERS. THE AI WAVE IS HANDING IT DOWN THE STACK — TO THE MAKERS OF HARDWARE AND POWER. THIS SERIES MAPS WHERE IT LANDS, AND WHETHER IT STAYS

One thesis, two forces. The AI buildout is a **profit migration**. For fifteen years compute was abundant and cheap, so the premium accrued to the software platforms on top of it — the hyperscalers, earning software margins on almost no capital. AI made the **physical** inputs scarce again — leading-edge silicon, high-bandwidth memory, and above all power — and by the economics of scarcity, the premium migrates to whoever owns the bottleneck. Two forces govern the migration. The **demand** force is whether the ~$700bn a year of AI capital spending ever earns its cost of capital — the risk is a **plateau**. The **supply** force is where, within the hardware layer, the premium is **durable** versus a fleeting shortage rent — decided by how fast new supply can be built. The demand force is the risk to the whole complex; the supply force decides who keeps the money. This guide is the map; the four notes are the territory.

The evidence that the migration is already underway is in the cash flows: aggregate hyperscaler free cash flow **peaked in 2024 and rolled over in 2025** as capital spending overran even their surging operating cash, while the semiconductor complex's free cash flow compounded. The money is visibly moving from the buyers to the suppliers. The two open questions — does the spending pay back, and which suppliers keep the premium — are what the series answers.

~$137bn

The 2026 payback gap — what the year's AI capex must earn on a 3-yr clock, less every dollar of AI profit we can credit ([the Clock](../ai-capex-payback-clock/))

~2 yrs vs ~5 yrs+

Time to add silicon supply vs power supply — the split between a shortage rent and a durable premium ([the Power Wall](../power-wall/))

FV $163 vs $203

NVIDIA — the supplier, priced for the demand not to plateau ([NVDA](../nvda-valuation/))

FV $672 vs $985

GE Vernova — the durable-premium winner, priced for the super-cycle to be secular ([GEV](../gev-valuation/))

§1 The Two Forces

Everything in the series is one of these two questions. Keep them separate and the whole picture resolves.

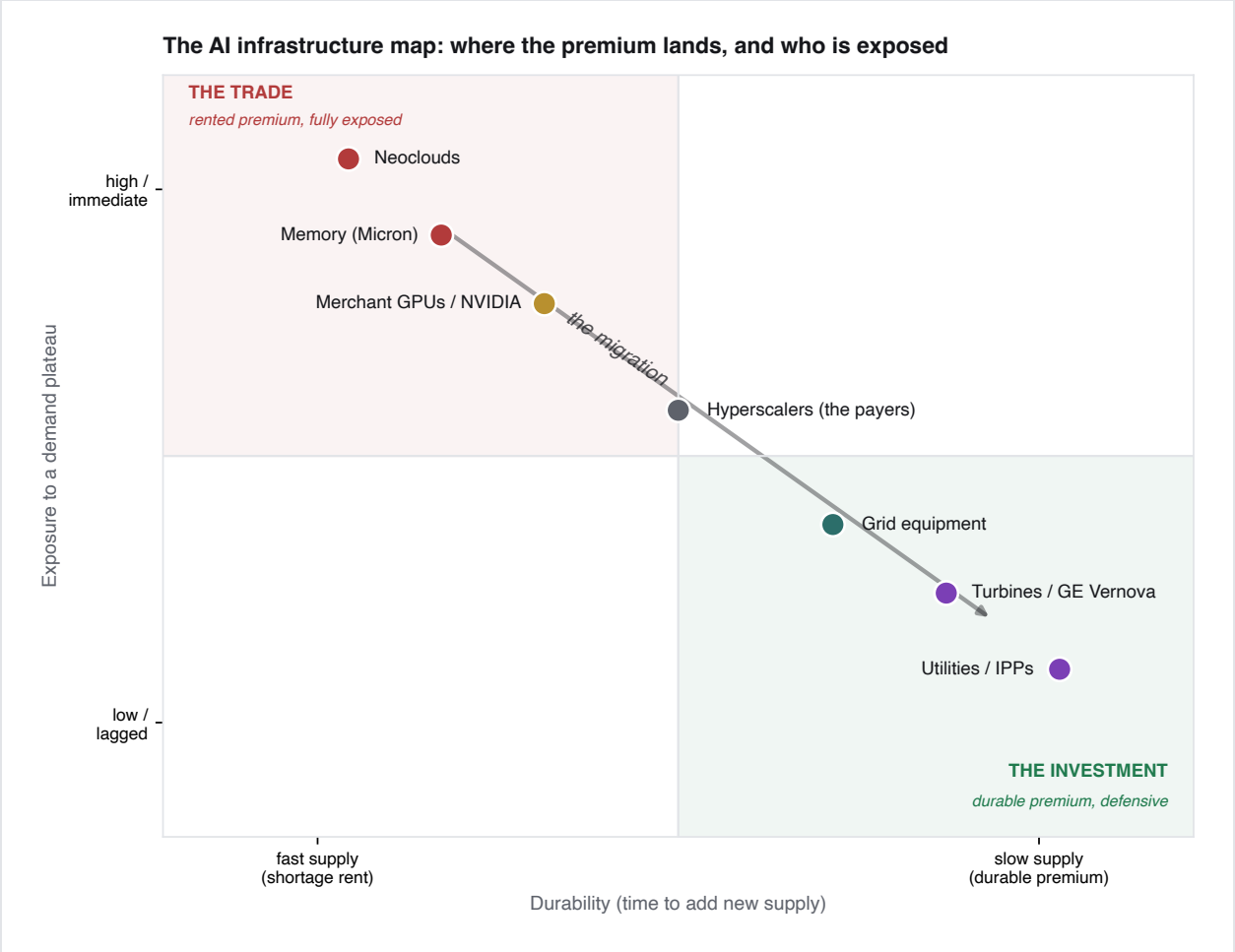
Force one — demand: does the capex pay back? The four hyperscalers have guided to roughly **$700bn of capital expenditure in 2026**, up from ~$420bn in 2025. On the three-year clock the silicon actually keeps, that single year's spend must earn on the order of **$221bn of annual operating profit** to clear its cost of capital — and against a generous count of AI profit it falls about **$137bn a year short** (the Clock). The gap closes only in one family of futures: capex growth *stops* while AI revenue keeps compounding — a contradiction, because the spending is guided *up*. The demand force is the risk to *everyone* in the stack: if the buildout plateaus, every supplier's revenue plateaus with it. *Example:* NVIDIA's revenue is, by identity, other companies' capex — so a demand plateau is the dominant risk in its valuation, which is why it trades at a discount to a disciplined fair value despite being the best business in the complex.

Force two — supply: where does the premium stay? A shortage rent lasts exactly as long as the bottleneck can't be supplied. Sort the hardware layer by time-to-add-supply and it splits cleanly (the Power Wall):

- **Silicon is a rent.** Advanced-packaging capacity is doubling annually; H100 rental rates have already fallen **64–75%** from peak. The premium is real but self-liquidating on a ~2-year clock. *Example:* memory is the extreme case — Micron, a "winner," had *negative* free cash flow in 2023; the shortage round-trips to glut.
- **Power is durable.** You cannot add a gigawatt on a two-year clock. Gas turbines are sold out through 2030 across all three makers; the grid-interconnection wait has stretched to **five years and lengthening**. This premium persists across the whole investment horizon. *Example:* GE Vernova's backlog is booked toward 2030 — visibility no silicon name can match.

§2 The Map

Two axes — how fast supply can be added, and how exposed you are to a demand plateau — place every player. The migration runs from the top-left to the bottom-right.



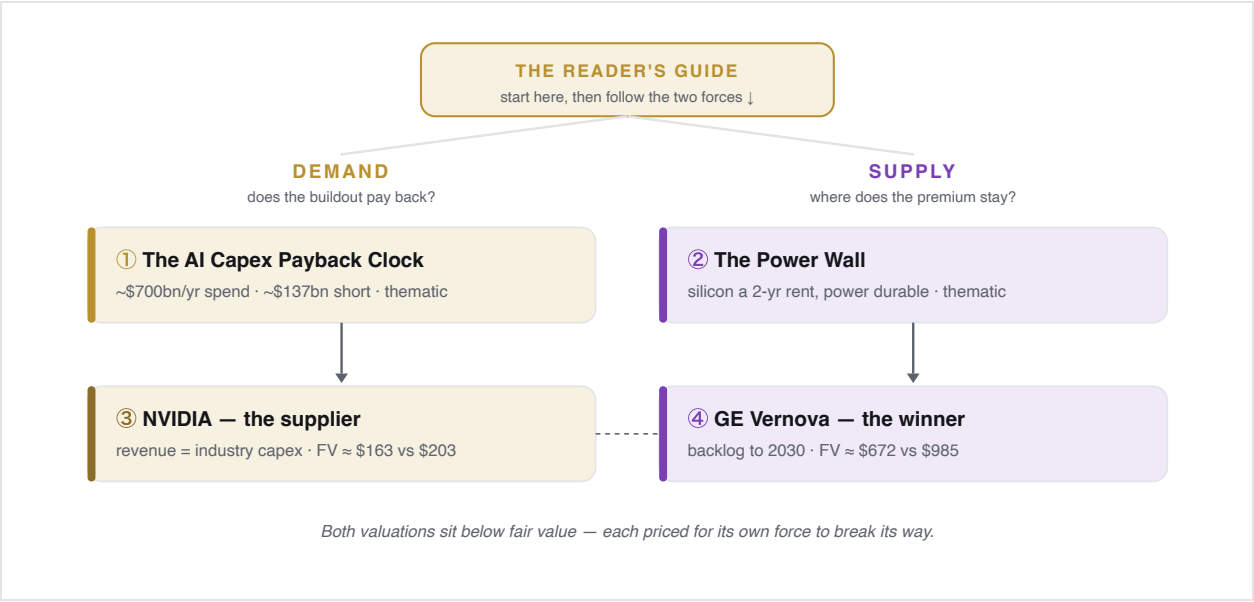
The map is the synthesis. The **horizontal axis is durability** — time to add new supply, which sorts a shortage rent (left) from a durable premium (right). The **vertical axis is demand-plateau exposure** — how quickly a slowdown in AI capex would bite. Read it in three moves:

- **Top-left — the trade (rented premium, fully exposed).** Memory, merchant GPUs, and the neocloud landlords that rent depreciating silicon on borrowed money. High return while the shortage lasts, but supply is being added fast *and* they are the first to feel a demand plateau. Own the move; don't marry it.
- **Bottom-right — the investment (durable premium, defensive).** Turbines, firm and nuclear generation, grid equipment, utilities. Long lead times, few suppliers, and a demand plateau reaches them last and slowest. This is where the premium settles.
- **The middle — the payers.** The hyperscalers themselves, handing the premium down the stack as their own free cash flow rolls over. Still the owners of the customer relationship — losers of *cash generation* today, not of the franchise.

The diagonal is the whole thesis in one stroke: value is migrating out of the exposed, self-liquidating top-left and into the durable, defensive bottom-right. In a phrase — the one that runs through the whole series — **the chips are the trade; the power is the investment.**

§3 The Four Notes

What each does, the call it makes, and where the two valuations sit relative to the map.



NOTE	FORCE	WHAT IT ESTABLISHES	THE CALL
The AI Capex Payback Clock	Demand	~$700bn/yr must earn ~$221bn; ~$137bn short; payback needs a capex plateau	Thematic — no target; the demand risk to the whole stack
The Power Wall	Supply	Silicon a ~2-yr rent; power a 5-yr+ durable bottleneck; winners & losers named	Thematic — the durable premium is in power, not silicon
NVIDIA	Both	The supplier; revenue = the industry's capex; priced for the clock not breaking	**FV ≈ $163 vs $203** — great business, full price
GE Vernova	Supply	The purest durable-premium winner; backlog to 2030; but ~25× its 2028 target	**FV ≈ $672 vs $985** — the sold-out decade

The two valuations rhyme, and the rhyme is the point. **Both the most-exposed supplier (NVDA) and the most-durable winner (GEV) trade below a disciplined fair value** — each priced for its own force to break its way: NVIDIA for the demand never to plateau, GE Vernova for the supply scarcity to be a secular decade rather than a cycle. The migration is real and the winners are the right winners; what the market has already done is *pay* for both outcomes in full. The series' net message is not "buy the picks-and-shovels" — it is "the picks-and-shovels thesis is correct and largely priced; the edge is in the discipline about *what you pay* and the *durability* of each bottleneck."

§4 The One Number That Governs It All

Two forces, but one of them is the master risk. Watch it.

The supply force decides *who* wins; the demand force decides *whether anyone does*. A plateau in AI capital spending is the single risk that reaches every box on the map — the exposed top-left immediately, the durable bottom-right last and with a lag, but eventually all of them. That is why the Clock is the keystone: it is the one note whose subject is the risk to every other note.

So the signposts that matter most are the ones that would show the demand force turning, and the supply force confirming its split:

- **Capex guidance revisions** — a *plateau* is the tell. Paradoxically it is bullish for payback and bearish for supplier revenue; watch the direction.
- **The FCF crossover** — hyperscaler free cash flow already peaked (2024) and rolled over (2025); the quarter it turns negative is when the financing strain becomes reported fact.
- **GPU rental prices vs the interconnection wait** — the two forces' own gauges. Falling GPU rents confirm silicon is a rent; a lengthening grid wait confirms power is durable. As of now both point the way the map is drawn.
- **The valuations** — NVDA at $163 fair value and GEV at $672 are logged calls; if the market comes to them, the discipline was right; if it doesn't, the demand force stayed intact longer than a disciplined model assumed.

The migration has happened; the cash flows prove it. What remains uncertain is only what the whole series is built to weigh: whether the spending that drove it pays back, and how long the scarcities that captured it last. Read the four notes for the answers. This map is where they connect.

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§5 Disclosures

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