From Grid to GPU: Risks & Rewards of the AI Investment Race

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From Grid to GPU:
Risks & Rewards of the AI Investment Race

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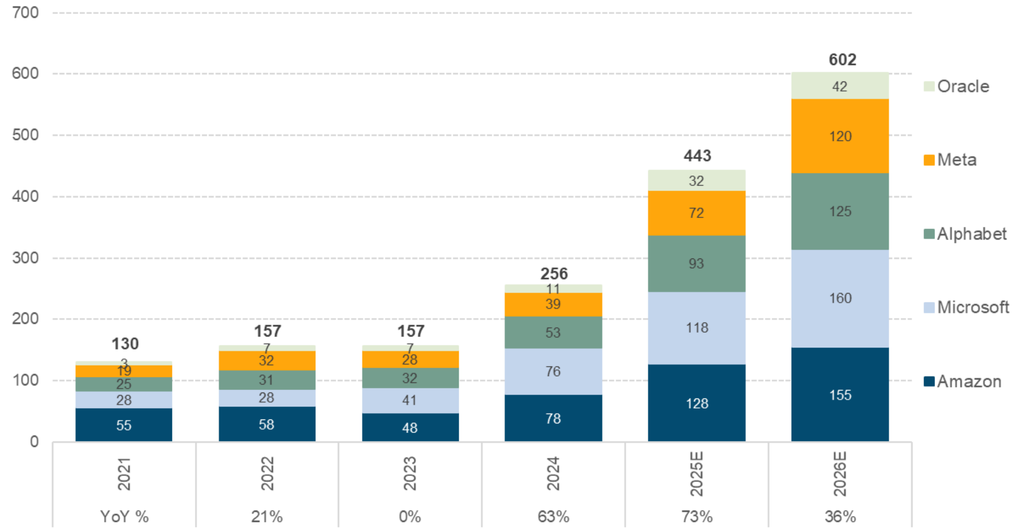
Hyperscalers: Massive Capex Ramp Requires More Issuance

Hyperscalers: CreditSights Capex Estimates (CY, $ bn)



Amazon and Microsoft CapEx includes property acquired under finance leases; Meta includes principal payments on finance leases; Oracle calendar years are twelve months ending November.
Source: Company Reports, CreditSights

- Hyperscaler capex primary tech hardware (e.g., GPUs)
- Data center developers and neoclouds are also funding the AI infrastructure buildout in private credit and HY markets.
- Top 5 hyperscalers issued $93 bn in US$ IG bonds this year
- Oracle and Meta have ratings downgrade risk.

Financial Metrics: Pro Forma for Recent Bond Deals (LTM, $ mn, %)

	AMZN	MSFT	GOOGL	META	ORCL
Recommendation & Ratings					
CreditSights Recommendation	O/P	U/P	O/P	U/P	M/P
Credit Ratings (Mdy / S&P / Fitch)	A1 / AA / AA-	Aaa / AAA / NR	Aa2 / AA+ / NR	Aa3 / AA- / NR	Baa2 / BBB / BBB
Key Finacials					
Revenue	691,330	293,812	385,477	189,457	59,018
YoY % growth	11.5%	15.6%	13.4%	21.3%	9.7%
EBITDAR	175,153	193,912	170,366	120,989	31,905
Operating lease cost	(13,413)	(6,019)	(3,296)	(2,630)	(1,929)
EBITDA	161,740	187,893	167,070	118,359	29,976
EBITDA margin	23.4%	64.0%	43.3%	62.5%	50.8%
Capex	118,316	103,100	77,872	64,914	27,414
Capex % of Sales	17.1%	35.1%	20.2%	34.3%	46.5%
CFO-capex	12,375	43,939	73,552	42,660	(5,880)
Balance Sheet & Leverage					
Debt*	70,317	49,208	51,319	58,834	109,315
Cash*	109,197	102,012	123,496	74,448	29,005
Net Debt	(38,880)	(52,804)	(72,177)	(15,614)	80,310
Operating lease liabilities	86,233	22,733	15,205	22,226	16,290
Finance lease liabilities	11,765	54,434	2,388	709	4,017
Total lease liabilities	97,998	77,167	17,593	22,935	20,307
Lease-adjusted gross leverage*	**1.0x**	**0.7x**	**0.4x**	**0.7x**	**4.1x**
Equity Valuation					
Market cap	2,479,113	3,572,929	3,877,137	1,708,006	620,984
Enterprise value	2,440,233	3,520,125	3,804,960	1,692,392	701,294
EV / Revenue	3.5x	12.0x	9.9x	8.9x	11.9x
EV / EBITDA	15.1x	18.7x	22.8x	14.3x	23.4x
FCF yield	0.5%	1.2%	1.9%	2.5%	-0.9%

*Pro forma debt, cash, and lease-adjusted gross leverage for bond deals after quarter-end. Specifically, META ($30 bn), GOOGL (~$25 bn cross-border), ORCL ($18 bn), and AMZN ($15 bn)
Operating lease costs are estimated in LTM for some of the companies
Source: Company Reports, CreditSights

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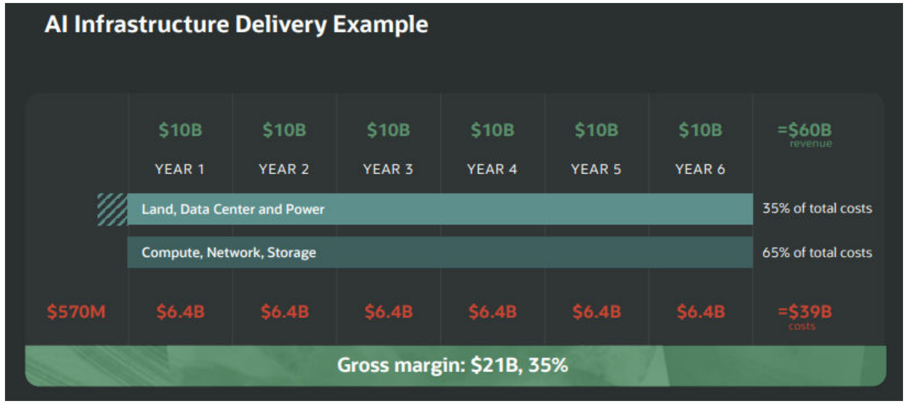
Oracle: Short-Term Bearish, Long-Term Bullish

Oracle: CreditSights vs. Consensus Estimates ($ bn)

	FY2023A	FY2024A	FY2025A	FY2026E	FY2027E	FY2028E
Revenue						
CreditSights Estimates	**49,955**	**52,961**	**57,399**	**66,964**	**84,849**	**129,791**
Consensus				66,451	82,728	125,319
Difference ($ bn)				*513*	*2,121*	*4,472*
Gross Margin						
CreditSights Estimates	**74.0%**	**72.8%**	**72.0%**	**68.1%**	**63.0%**	**56.0%**
Consensus				68.2%	64.4%	56.3%
Difference (bp)				*(7)*	*(140)*	*(30)*
Opex						
CreditSights Estimates	**16,078**	**15,482**	**16,279**	**17,390**	**18,497**	**19,598**
Consensus				17,356	19,823	23,456
Difference ($ bn)				*34*	*(1,326)*	*(3,858)*
EBITDA						
CreditSights Estimates	**23,430**	**26,183**	**28,901**	**34,386**	**45,958**	**72,085**
Consensus				36,232	45,334	65,958
Difference ($ bn)				*(1,846)*	*624*	*6,127*
Capex						
CreditSights Estimates	**8,695**	**6,866**	**21,215**	**36,102**	**55,000**	**80,000**
Consensus				35,729	48,870	70,430
Difference ($ bn)				*373*	*6,130*	*9,570*
FCF						
CreditSights Estimates	**8,470**	**11,807**	**(394)**	**(10,638)**	**(19,192)**	**(19,565)**
Consensus				(10,165)	(15,638)	(21,366)
Difference ($ bn)				*(473)*	*(3,554)*	*1,801*

There could be differences in definitions in how certain metrics ae defined (e.g., stock-based compensation)
Consensus estimates updated on 12/4/2025
Source: Company Reports, Bloomberg, CreditSights

Oracle: AI Infrastructure Customer Example (1GW)



Source: Oracle Financial Analyst Meeting 10-16-2025, CreditSights

- Largest IG tech credit (15% of index) and widest in our coverage at back-end of the curve.
- We estimate Oracle needs to issue ~$83 bn notes over 3 years (FY2026-FY2028) including recent ~$18 bn bond deal.
- Debt and lease liabilities could increase by ~$66 bn and ~$69 bn respectively during this 3-year period.
- Contract with OpenAI for $300 bn over 5-years is the majority of Oracle's $500+ bn RPO.
- Long-term opportunity to emerge a much stronger credit, if unscathed by OpenAI, as FCF burn is timing-related.

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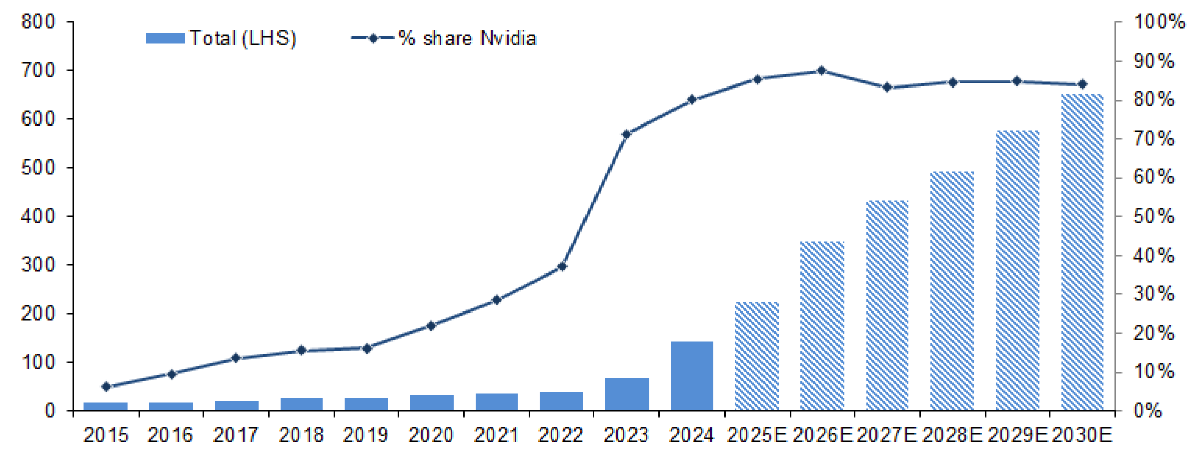
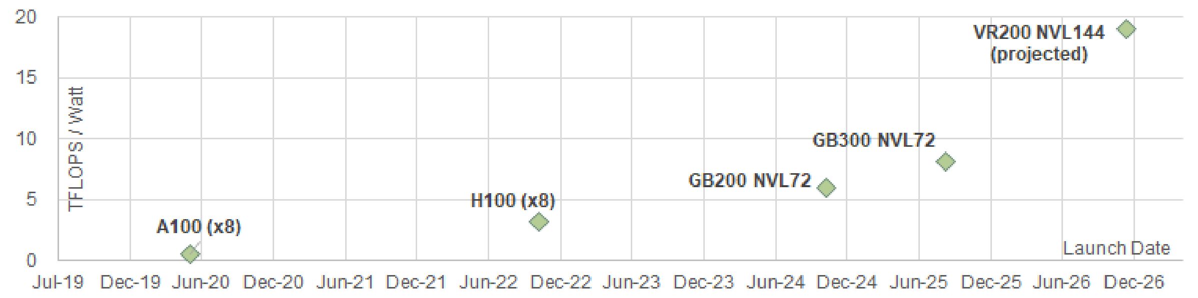
Consensus Already Reflects Insatiable Chip Demand

Est. Data Center Merchant Silicon Sales ($ bn)



2025-2030E based on sell-side consensus for NVDA, AMD, INTC
Source: Company reports; CreditSights

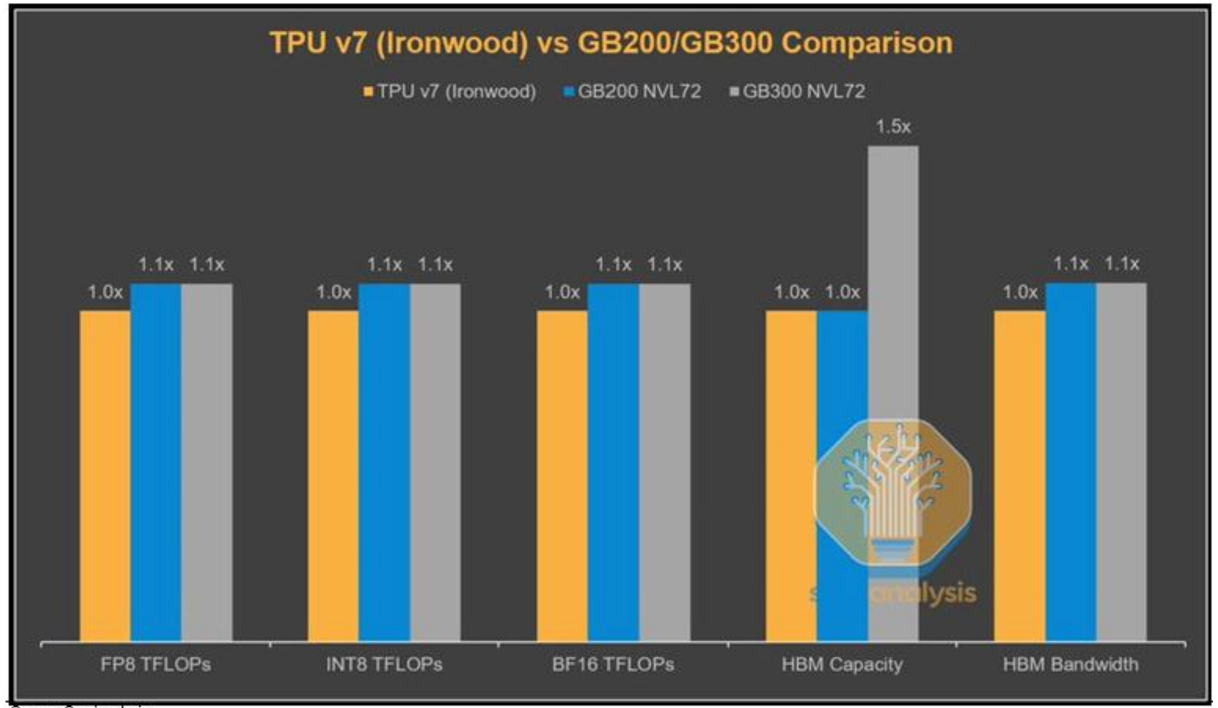
Nvidia GPUs: Systems Level Performance / Watt Improvements



Source: Company reports, CreditSights

- The data center merchant silicon market is ~$225 bn for 2025; consensus estimates call for 25% CAGR from 2025-2030.
- Implied merchant silicon cumulative shipments over the next 5 years is $2.5 tn; ASICs such as TPUs could account for another $600-$700 bn.
- Nvidia GPUs have averaged ~50% in annual perf / watt improvements; Vera Rubin (launching 2H26) targets even steeper gains.
- Implies compute capacity adds growing by nearly 90% per year; in 2030, chip spend may be “just” 3x vs. 2025, but FLOPS added would be >20x.
- Reasonable to have questions re: longer-term ROI of this unprecedented buildout as unit cost of compute continues to march lower.

TPU a Shining Star Among ASICs; Nvidia May Feel the Squeeze



Source: Semianalysis

- Estimated TCO advantage of ~40% for TPUv7 vs. GB200/300 systems.
- ~30% from lower upfront capex (Nvidia ~75% GM, Broadcom ASICs programs likely ~50%).
- ~10% from operational efficiencies: focus on uptime / utilization vs. peak FLOPS, more use of optical networking, better cooling, etc.
- Generally comparable peak performance metrics, ~10% shortfall vs. GB300.
- Efficiency vs. rigidity: TPUs have no general purpose cores. Nearly 100% of the die area is optimized for large-scale matrix multiplication. Underperforms GPUs for multimodal, non-LLM workloads.

Datacenter Supply/Demand Points to Significant Overbuild

Supply: Utility 3Q25 Datacenter Connection Requests

	Gigawatts (GWs)		
Ticker	Signed	Potential	Total
AEP	22	190	212
PPL	21	9	29
Exelon	18	47	65
Dominion	10	37	47
Berkshire Hath. Energy	9	5	14
Oncor	9	210	219
Southern	8	50	58
Evergy	6	10	16
Pinnacle West (Ariz)	5	20	25
AES, FE & DTE (each)	4	4	8
Everyone else	25	134	155
Total	**143**	**735**	**848**
Pwr Usage Efficiecy (PUE)	1.3	1.3	1.3
Compute Connecting to Grid	**110**	**565**	**652**

Demand: 3rd Party 2030 Est's of AI/DC Compute

Date	Source	GW
Oct '25	S&P Global Commodity	134
Sep '25	Boston Consulting Group	95
Sep '25	Major Sell-Side Bank A	90
Nov '25	GridStrategies	90
Jun '25	Deloitte	82
Dec '25	Bloomberg Intelligence	78
Apr '25	Major Sell-Side Bank B	76
Nov '25	IEA	58
Aug '25	Major Sell-Side Bank C	57
Aug '25	EPRI (mid-point)	50
	Consensus 2030 Datacenter Demand	**81**
	Consensus 2035 (table not shown, fewer est's)	160
	Less 2024 Actual	(35)
	3rd Party Growth: 2030	**46**
	2035	**125**

Utilities have firm and committed datacenter load connecting to the grid of 2x what 3rd parties expect we will need by 2030 with a significant pipeline of connect requests behind that.

Utility & Power Credit Implications of DC Overbuild

Regulated Utilities (we love the hybrids)

- Pleasantly surprised at EEI (Nov.) hearing almost all utilities talk about the importance of protecting residential customers from datacenter capex
    - Cash collateral up front (Oncor holding $2.5 bn)
    - Stated ramp periods (4 years in VA)
    - Minimum volume commits, early exit fees and/or full re-imburse of utility T&D capex if early shutdown
- Wires-only easier to protect ratepayers but we prefer integrated utilities because they have higher customer growth (Carolinas, FL, GA, TX)
- **Risk**: Private credit chases datacenters off-balance sheet (e.g. Meta / Louisiana). Who does the utility have a claim against? Big Tech or a Blue Owl LLC?

Independent Power Producers are in Great Shape

- Big Tech has only signed for 20-25 GW out of ~85 of needed demand so room for dozens more PPAs
- CO2 free (nuke/renew) commanding $85-95/MWh in a forward market of $55/MWh. CEG biggest beneficiary but fully expected
- Vistra going to IG in 2026, buy the secured only 10 bps inside NRG
- **Risk**: Trump interferes with PJM capacity mkt (NJ power bills are $20/month from PJM) again; Talen the most exposed (50% off EBITDA)

Source: PUCO filings

Data Centers: Bears Battle the Bulls

Notable investors taking public bets for (Elliott, KKR) and against (Gotham, Hindenburg) data center operators

Bear Case

- Overbuild risk
- Obsolescence risk
- Aggressive accounting practices inflate profitability metrics
- Cash burn and growing debt loads

Bull Case

- Contracted builds with long-term offtake agreements
- Capital intensity is barrier to entry
- Market still supply constrained by power
- Strong demand, rising hyperscaler spend

Key Takeaway:
Demand for data centers is not going away, but an overbuild would pressure leasing rates, drive up vacancy rates

To Mitigate Risk:

1. Focused builds in top tier markets
2. Operators with long-term offtake, preferably with IG counterparty
3. Balanced funding mix (debt/equity)

Source: FactSet, DatacenterHawk, and CreditSights.

Data Centers: Betting on Tier 1 Markets

Largest Data Centers Markets by GW IT Capacity (60 GW Total)

(Top metros identified below)

Country	US	China	Japan	Ireland	Singapore	UK	Germany	India	Australia	Denmark
GW	27.9	9.1	2.3	1.7	1.6	1.6	1.5	1.5	1.0	1.0

- **Focused developments in top tier markets**
  - EQIX aims to double its total capacity to 4 GW by 2029. ~80% of construction in top markets.
  - DLR has 2.9 GW of capacity and +730 MW under construction. 85% of construction in top markets.
  - IRM has ~500 MW of capacity and another 200 MW under construction, of which ~85% is in top markets.

- **Favor DLR, more cautious on EQIX**

DLR

- Seeing earlier tailwinds from hyperscalers/AI, and superior organic growth.
- Financing ambitious capex ($4-4.5 bn/year) with balanced mix of debt and equity.

EQIX

- Aiming to capture ramp up in AI inference demand towards the end of the decade.
- Using solely debt financing, and greater technical pressure on bonds.

Source: CreditSights

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