US Data Center Daily Briefing

January 02, 2026

KEY THEMES

- India CERC issues first formal VPPA framework for RECs and RCO compliance
- US state-level environmental and water scrutiny creates permitting and incentive risk (Michigan, Kentucky)
- Taiwan industrial parks show large investment pipeline including Foxconn affiliate + NVIDIA AI Factory supercomputing center
- Cloud GPU commercialization continues with NVIDIA GeForce NOW adding Blackwell RTX 5080-class tier
- Operational/SLA risk highlighted for MoE inference under DoS-style router imbalance attacks
- Emerging efficiency/interconnect concepts: waste-to-energy absorption cooling and terahertz wireless data centre roadmaps

Market overview (Global | as of 2026-01-02 UTC)

Demand signals continue to concentrate around AI-capable compute and the enabling infrastructure stack (industrial parks, grid access, and procurement of clean power attributes). Two policy threads stand out for institutional capital: (1) formalization of **renewables procurement instruments** for large power users (India's VPPA framework), and (2) **rising local environmental and water scrutiny** around new data centres (notably US state-level politics in Michigan and Kentucky). On the supply side, Taiwan is highlighting large, multi-project industrial-park investment momentum—including an AI supercomputing "AI Factory" initiative tied to Foxconn and NVIDIA.

Risks and watchpoints

Near-term downside risks / execution bottlenecks

- **Local opposition and shifting incentive regimes (US states):** Michigan reporting includes resident opposition following state tax breaks and discussion of a **proposed repeal of data center tax breaks** (Michigan's 2025 environmental roundup). This raises permitting and reputational risks and could affect underwriting assumptions on incentives.
- **Water-related constraints and permitting capacity:**
  - Michigan Senate reference to a **water-withdrawal cap at 2,000,000 gallons/day** (Michigan's 2025 environmental roundup)—a potential siting constraint for water-intensive cooling approaches.

  - Kentucky debate highlights water protections (SB 89) and the governor's estimate of **$1.8m/year** needed for permit-review staff under new water rules (Kentucky 2026 General Assembly). Even if rules are supportive, under-resourced review processes can slow project timelines.

- **Security/SLA risk for MoE inference services:** Research shows an inexpensive black-box pattern attack can increase inference latency by **3.063×** on a Mixture-of-Experts model (Mixtral-8x7B), potentially driving device bottlenecks and SLA breaches (RepetitionCurse). This is a near-term operational risk for AI-serving platforms that can translate into customer churn/penalties.

Near-term upside risks / accelerants

- **Faster route-to-market for clean power attribute compliance (India):** A formal VPPA framework can broaden access to REC-backed procurement for designated consumers including data centres (CERC VPPA framework). This could accelerate hyperscaler/colo decarbonization roadmaps and reduce compliance uncertainty.
- **AI capacity deployment momentum in Asia:** Taiwan's industrial-park pipeline (166 projects in 2025) and named AI compute initiatives suggest continued build-out demand for powered shells and high-density facilities (Taiwan industrial parks investment).
- **Cloud GPU productization signaling sustained utilization:** NVIDIA added Blackwell RTX with RTX 5080-class GPUs to GeForce NOW's Ultimate tier and emphasized higher-end streaming features (e.g., 5K/120 fps) (GeForce NOW update). While consumer-facing, it reinforces ongoing commercialization of GPU-backed cloud services.

Key deals and projects

Taiwan: industrial park investment pipeline (manufacturing + compute adjacency)

- The Bureau of Industrial Park (BIP) facilitated **166 investment projects in 2025 totaling NT$174.5bn** (Taiwan industrial parks investment).
- Named investors and capex signals:
  - **ASE Group:** annual investments **> NT$35bn**.
  - **Dynamic Computing Technology (Foxconn affiliate):** partnering with **NVIDIA** on an **AI Factory supercomputing center**.
  - **Yung-Shine Electric:NT$2.66bn** expansion.

Investor take: This cluster indicates potential demand pull for utility upgrades, substations, and grid capacity around industrial parks, alongside high-density compute requirements tied

to the AI Factory concept.

Cloud GPU services: NVIDIA GeForce NOW

- NVIDIA introduced **Blackwell RTX** with **GeForce RTX 5080-class GPUs** to GeForce NOW Ultimate, alongside platform enhancements (DLSS 4, 5K 120 fps, expanded Steam Deck support) and January game additions (GeForce NOW update).

Investor take: Continued rollout of higher-tier GPU classes into cloud offerings is consistent with sustained demand for GPU hosting, networking, and power/cooling upgrades across relevant facilities.

Power and grid / interconnection highlights

India: Virtual PPA framework for REC procurement (CERC)

- India's Central Electricity Regulatory Commission issued its first formal **Virtual PPA (VPPA) framework** enabling designated consumers—including **data centres**, C&I units, and discoms—to procure RECs via VPPAs for **RCO compliance** (CERC VPPA framework).
- Key mechanics and constraints:
  - **Minimum duration:** at least **one year**.
  - **Settlement clarity:** norms clarify settlement of the **VPPA Strike Price vs market Settlement Price**.
  - **Anti-double-counting:** requires REC Registry undertakings to avoid double counting.

Investor take: This is a material step toward standardizing contract structures for clean attributes in India, potentially improving bankability and compliance pathways for large-load projects.

Policy and regulation

United States (state/local): incentives, water constraints, and environmental politics

- **Michigan:**
  - Resident opposition to new data centers following state tax breaks; mentions a **proposed repeal of data center tax breaks** (Michigan's 2025 environmental roundup).
  - Notes a **Senate water-withdrawal cap at 2,000,000 gallons/day** and other environmental/power items (including Consumers Energy reporting **$80m** in coal plant extension costs) (Michigan's 2025 environmental roundup).
- **Kentucky:**

- 2026 General Assembly preview emphasizes contention over **data centers** and **water protections (SB 89)**; also highlights a permitting resourcing gap with a stated need for **$1.8m/year** for permit-review staff under new water rules (Kentucky 2026 General Assembly).

Investor take: Underwriting for new US capacity should increasingly stress-test for (i) incentive durability, (ii) water availability/withdrawal limits, and (iii) permitting throughput.

Technology & efficiency signals (research; longer-dated, but relevant to infrastructure economics)

- **Cooling and resilience concept:** A modeled **waste-to-energy coupled AI data center** configuration uses low-grade WtE heat to drive absorption cooling, aiming to displace grid electricity for cooling and improve resilience (Waste-to-Energy Coupled AI Data Centers).
- **Intra-DC interconnect roadmap:** A "Terahertz Wireless Data Center" vision targets up to **1 Tbps/link**, **10 Tbps aggregate**, **sub-50 ns latency**, and **sub-10 pJ/bit** over ~20m (THz wireless AI data centers).
- **Operational robustness for AI training/serving:** A fault-tolerant collective communications library reports **<1% training** and **<3% inference** overheads on evaluated systems (R^2CCL).

What to watch (next 1–4 weeks)

- Whether India's VPPA framework quickly translates into **contracting activity** from data centres and other designated consumers (CERC VPPA framework).
- Any concrete next steps in Michigan regarding a **repeal of data center tax breaks** and how that impacts pipeline economics (Michigan's 2025 environmental roundup).
- Kentucky legislative and regulatory movement on **SB 89 water protections** and the state's capacity to staff permitting reviews (Kentucky 2026 General Assembly).
- Follow-through details on Taiwan's **AI Factory supercomputing center** partnership (Foxconn affiliate + NVIDIA) and related site/power build-out needs (Taiwan industrial parks investment).
- AI-serving operational risk controls in light of **MoE latency DoS-style stress** research results (RepetitionCurse).

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