

Data Centers

Testing America's Infrastructure



Data centers are becoming essential infrastructure for artificial intelligence, cloud computing, and the digital economy. Their expansion can bring substantial local investment, skilled jobs, and recurring tax revenue. But national technological ambitions do not automatically make every development a good deal for its host community.

Communities are questioning whether promised tax revenue and economic growth justify the demands placed on electricity supplies, water resources, and surrounding neighborhoods. These disputes are already producing permitting battles, development moratoriums, and legal challenges.

The data center debate centers on four questions:

- **Who receives the profits?**
- **Who pays for the electricity and water infrastructure?**
- **Will AI generate enough revenue to justify the spending?**
- **Will the project earn local support or face resistance?**

For investors, community opposition needs to be part of the financial analysis.

Delayed approvals can postpone revenue, increase financing and construction costs, and require expensive redesigns. Strong demand for computing capacity does not guarantee that a project can secure public approval, sufficient power, or a workable operating agreement. Local support or resistance is therefore a major investment consideration.

Accelerating Demand

Data centers house the servers that power cloud computing, AI, websites, business software, and other digital services. AI is accelerating demand for new facilities and sharply increasing electricity consumption. In its base case, the International Energy Agency projects that global data center electricity consumption will more than double to approximately **945 terawatt-hours by 2030**.

FOR INVESTORS willing to look beyond the prevailing conflicts, my preferred candidates are **Eaton, Microsoft, EMCOR, Quanta Services, and Vertiv**. Growing community resistance makes project selection, execution, and valuation critical. These businesses merit selective buying at disciplined entry prices—not a blanket recommendation to buy the entire data-center sector.

SWI STOCKWATCHINDEX			
DATA CENTER STOCKS: INVESTMENT ASSESSMENT			
Investment cases and principal risks			
Stock	SWI assessment	Why it earns consideration	Main risk
Eaton — ETN	First infrastructure candidate	Essential electrical equipment, with demand extending beyond data centers. Q2 2026 organic sales grew 14%, and free cash flow rose 22%.	Paying too much for expected growth; project delays.
Microsoft — MSFT	Preferred cloud candidate	Established enterprise customers and multiple revenue streams. Azure exceeded \$100 billion in annual revenue in FY2026.	Heavy spending and depreciation can pressure returns.
EMCOR — EME	Preferred construction candidate	Earns revenue installing essential systems. Q2 operating margin reached 10.6%.	Construction execution, labor costs, and cancellations.
Quanta Services — PWR	Selective infrastructure buy	Benefits from grid investment, electrification, and large power users.	Permitting delays, project execution, and valuation.
Vertiv — VRT	Higher-risk growth candidate	Direct exposure to power and cooling demand. Its July guidance projected 31% organic sales growth for 2026.	Greater sensitivity to the data center spending cycle.
NVIDIA — NVDA	Selective AI exposure	Central supplier of AI computing infrastructure.	Customer spending concentration, competing chips, export restrictions, and high expectations.
Equinix / Digital Realty — EQIX / DLR	Consider for property exposure	Lease facilities and infrastructure rather than relying solely on equipment sales.	Financing costs, development spending, and access to power.

Assessments are opinions. Investing involves risk, including loss of principal.

SWI RESEARCH | DATA CENTER INVESTMENT OUTLOOK

The controversy surrounding data centers is already disrupting development. Microsoft has pledged to cover the electricity and related infrastructure costs that its facilities create and improve transparency around water use. [Microsoft On the Issues](#) Ceres reports that local opposition driven by water and grid-capacity concerns is delaying or blocking projects. [Ceres: Sustainability is the bottom line](#)

Corporate commitments must be judged by measurable local results: protected household utility bills, responsible water use, and community benefits that materialize.

Who builds them - who uses them?

A data center project can involve several companies, each with a distinct role. Developers or owners finance the facility; construction contractors build it; equipment suppliers provide power, cooling, and computing systems; and operators manage daily operations. Customers use the capacity for cloud storage, business applications, and AI. Some companies perform several of these roles, while others specialize in one.

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WHO BUILDS AND USES DATA CENTERS?		
The companies behind the infrastructure		
Role	Main companies / stocks	What they do
Commission and operate large campuses	Microsoft (MSFT), Amazon (AMZN), Alphabet (GOOGL), Meta (META)	Build or lease capacity for cloud services, AI, and their own platforms.
Own and lease data center space	Equinix (EQIX), Digital Realty (DLR)	Provide facilities, power capacity, connectivity, and associated services to customers.
Install electrical and mechanical systems	EMCOR (EME)	Builds the electrical, cooling, and mechanical infrastructure inside facilities.
Build supporting power infrastructure	Quanta Services (PWR)	Constructs and upgrades infrastructure that delivers electricity to large users.
Supply power and cooling equipment	Eaton (ETN), Vertiv (VRT)	Supply equipment needed to distribute power, maintain uptime, and remove heat.
Supply computing hardware	NVIDIA (NVDA)	Provides AI accelerators, networking, and related computing systems.

| SWI RESEARCH | DATA CENTER INDUSTRY | | |

These roles are reflected in company disclosures; **NVIDIA supplies computing infrastructure, while EMCOR and Quanta perform construction and infrastructure work.**

The ultimate users include businesses, governments, AI developers, and consumers accessing these services. Meta also uses substantial capacity internally to support its platforms and AI.

Which Stocks do I favor?

The assessments below are my investment judgment. They rank business exposure and risk; they do not imply that today's share price offers an attractive entry.

My strongest preference is Eaton for infrastructure exposure and Microsoft for cloud monetization, followed by EMCOR and Quanta. Vertiv offers more concentrated growth exposure with greater downside sensitivity.

StockWatchIndex DATA CENTER & AI INFRASTRUCTURE 24-MONTH STOCK OUTLOOK OCTOBER 2026 - OCTOBER 2028					
THE BUILDOUT IS REAL. RETURNS STILL DEPEND ON PRICE. USD share prices: Oct. 19, 2026, approximately 9:59 a.m. Pacific • Intraday quotes, not closing prices Bear / base / bull are illustrative research scenarios; outcomes can fall outside these levels.					
COMPANY / ROLE	PRICE	OCT. 2028 SCENARIOS	BASE UPSIDE	WHY IT CAN WORK	MAIN RISK
Eaton ETN Power equipment	\$393.83	Bear \$300 Base \$510 Bull \$630	+29.5% 24 months Excl. dividends	Electrical backlog +43% YoY. Switchgear and power-management demand support sustained earnings growth.	Premium valuation; capacity expansion and portfolio execution.
Microsoft MSFT Cloud & AI	\$533.16	Bear \$420 Base \$720 Bull \$900	+35.0% 24 months Excl. dividends	Azure and other cloud revenue +43% in fiscal Q4. Cloud demand and Copilot adoption support recurring revenue.	Heavy AI capital spending must generate adequate cash returns.
EMCOR EME Systems installation	\$720.46	Bear \$560 Base \$990 Bull \$1,260	+37.4% 24 months Excl. dividends	Remaining performance obligations reached \$17.14B, up 43.9%. Electrical and mechanical work supports revenue visibility.	Labor costs, project delays and lower contract margins.
Quanta Services PWR Grid infrastructure	\$619.54	Bear \$420 Base \$800 Bull \$1,040	+29.1% 24 months Excl. dividends	\$53.4B backlog supports grid and electrical infrastructure work. Power availability remains a constraint on expansion.	High expectations; permitting, project execution and integration.
Vertiv VRT Power & cooling	\$207.57	Bear \$140 Base \$300 Bull \$420	+44.5% 24 months Excl. dividends	Q2 adjusted EPS grew 60%. Higher rack density supports demand for thermal management and power systems.	AI spending concentration, competition and order volatility.
BASE-CASE VALUATION: ESTIMATED FY2028 EPS × SELECTED P/E ETN \$17 × 30 = \$510 MSFT \$24 × 30 = \$720 EME \$45 × 22 = \$990 PWR \$25 × 32 = \$800 VRT \$10 × 30 = \$300					
Method: Estimated FY2028 EPS: adjusted for ETN/PWR/VRT; normalized for MSFT; GAAP for EME. Assumptions are research estimates, not company guidance or consensus. Base upside = target ÷ price – 1.					
Sources: Eaton, EMCOR, Quanta and Vertiv Q2 2026 earnings releases; Microsoft FY2026 Q4 results; market quote feed. Research prepared Oct. 19, 2026. Backlog definitions differ among companies.					
AI-assisted research • Informational use only • No target or return is guaranteed • Capital is at risk • This comparison is not a diversified portfolio.					

Source note: Financial evidence and business exposures come from Eaton's latest available disclosures. [eaton.com](https://www.eaton.com)

Compare current Valuations

Before buying, compare the current valuation with sustainable earnings and cash flow. A booming industry can drive rapidly rising stock prices but can still produce poor returns when investors pay for growth the company cannot deliver.

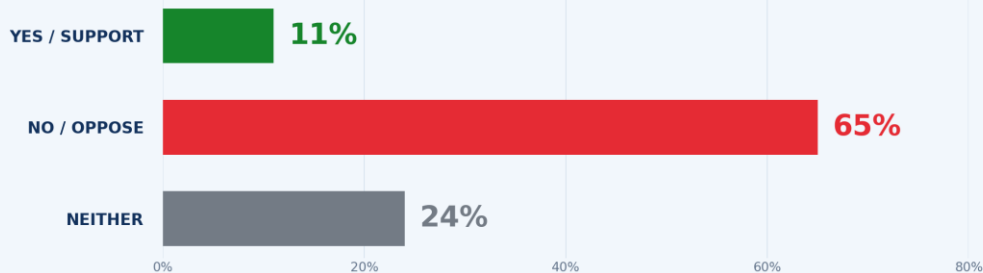
For SWI, the data center debate highlights a central tension in the AI boom: economic benefits extend far beyond the host community, while demands on electricity, water, land, and public infrastructure are concentrated locally. Communities have legitimate reasons to question these developments, even as advanced AI justifies major increases in computing infrastructure. The investment opportunity depends on addressing both needs.

Why Communities resist Data Centers

Residents near new data centers often see a massive industrial project arrive with promises of investment but little clarity about its long-term costs and benefits. Opposition generally centers on five concerns:

- **Electricity affordability and reliability.** Large campuses require additional generation, substations, and transmission capacity. Residents want protection against paying for infrastructure built to serve a corporate customer - particularly if that customer may later cancel, downsize, or leave.
- **Water availability.** Evaporative cooling can compete with residential, agricultural, and industrial demand, particularly in drought-prone regions. Water consumption varies substantially by cooling system and location; electricity generation can add an indirect water burden.
- **Noise, pollution, and land use.** Cooling equipment must run around the clock, often with significant noise. Backup generators, construction traffic, lighting, and large buildings can change a neighborhood's character and raise concerns about health and property values.
- **Uneven economic benefits.** Data center construction creates jobs, but many are temporary, while permanent staffing can be modest relative to the capital invested and land occupied. Large tax concessions to developers and owners intensify scrutiny: residents want evidence that lasting jobs, local spending, and tax revenue justify the incentives and infrastructure commitments. The public benefit should be measured after concessions and community cost - not by the headline investment figure.
- **Limited transparency and local control.** Confidential negotiations, undisclosed results, and accelerated approvals can undermine trust before construction begins. Communities want meaningful participation, transparency, and enforceable commitments. [World Resources Institute](#)

Would you support an AI data center in your local community?



NATIONWIDE RESULTS

These are not state, county, or project approval rates.

Source: supplied SWI graphic, crediting UMass Amherst Poll | Fielded August 21-26, 2026
1,000 respondents | Reported margin of error: ± 3.5 percentage points | Figures reproduced as supplied.

These concerns do not mean that every data center raises household bills or strains local water supplies. Outcomes depend on location, cooling technology, utility contract terms, and who pays for supporting infrastructure. A well-designed project can generate investment and tax revenue while limiting pressure on residents. A poorly structured project can shift costs and operating risks onto the community.

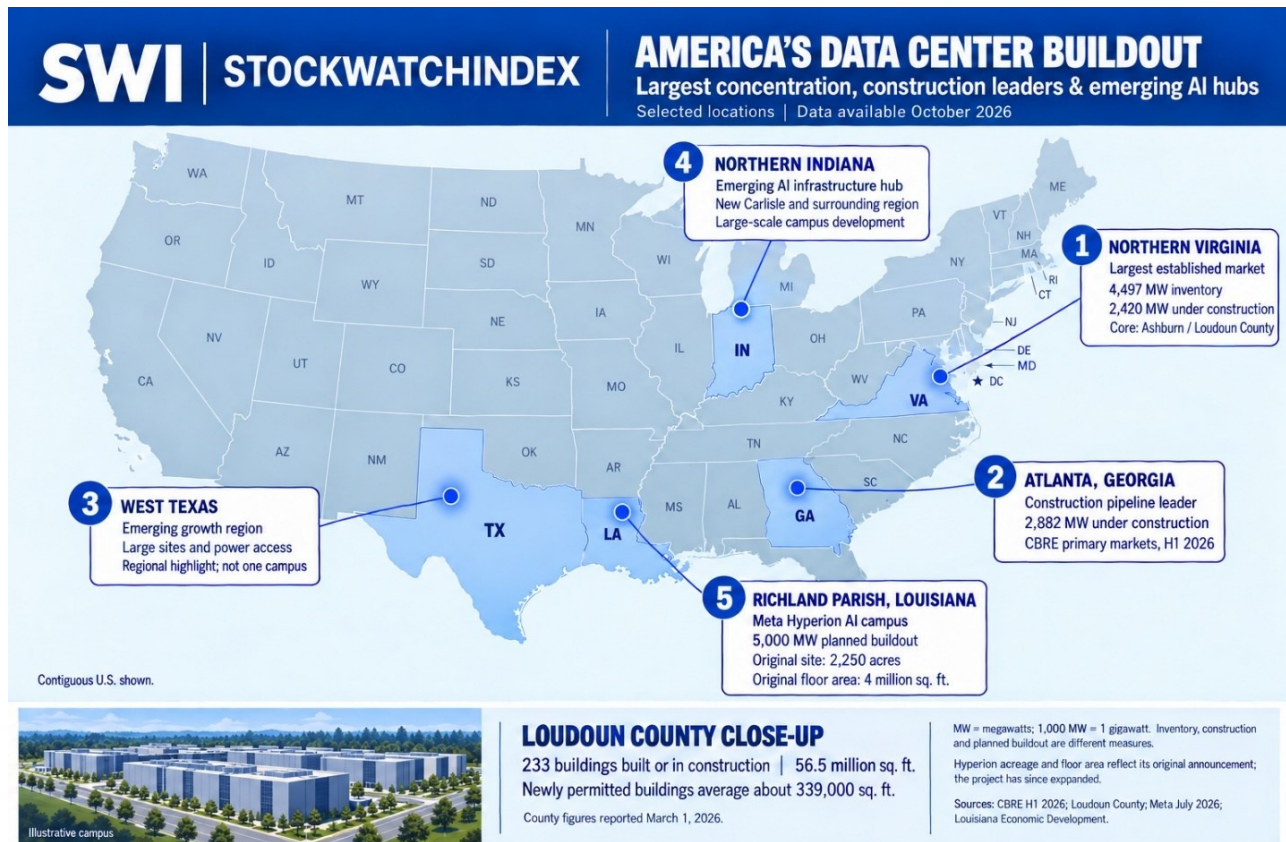
Create a sound Investment Opportunity.

SWI's position is that a sound investment case requires enforceable community discussions and agreed-upon protections before approving the project. Agreements should clearly assign responsibility for project-related electricity generation, transmission, and water infrastructure costs. Noise limits should cover both cooling equipment and backup generators. These protections can reduce uncertainty, limit disputes, and strengthen financial viability, supporting your investment decision, but they cannot eliminate investment risk.

Community benefit estimates should distinguish temporary construction jobs from permanent positions, and report expected tax revenue after subsidies and public expenses.

Approval should rest on documented commitments, public accountability, and measurable results. Communities deserve enough information to assess the trade-offs before construction begins - and enforceable remedies if developers fail to deliver.

Northern Virginia has the country's largest concentration of data centers, particularly around Ashburn in Loudoun County, known as "Data Center Alley." Atlanta, however, leads in capacity under construction, according to CBRE's first-half 2026 report. [CBRE](#)



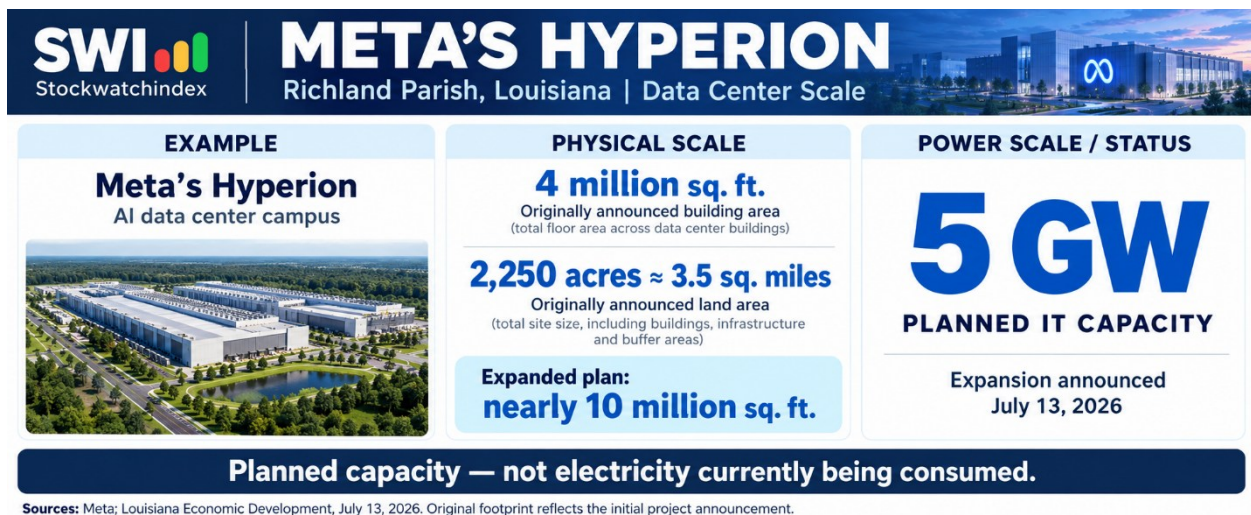
The power figures cover CBRE's tracked market inventory; Loudoun's figures count buildings and floor space. They measure different aspects of development and should not be added together. [CBRE](#)

Facility Size

Loudoun County reports that existing data center buildings average approximately **234,000 square feet**. Buildings permitted since 2023 average closer to **339,000 square feet**—roughly **six American football fields of floor area**, including end zones. A campus can contain several buildings, along with substations, cooling equipment, generators, and required setbacks. [Loudoun County, VA - Official Website](#)

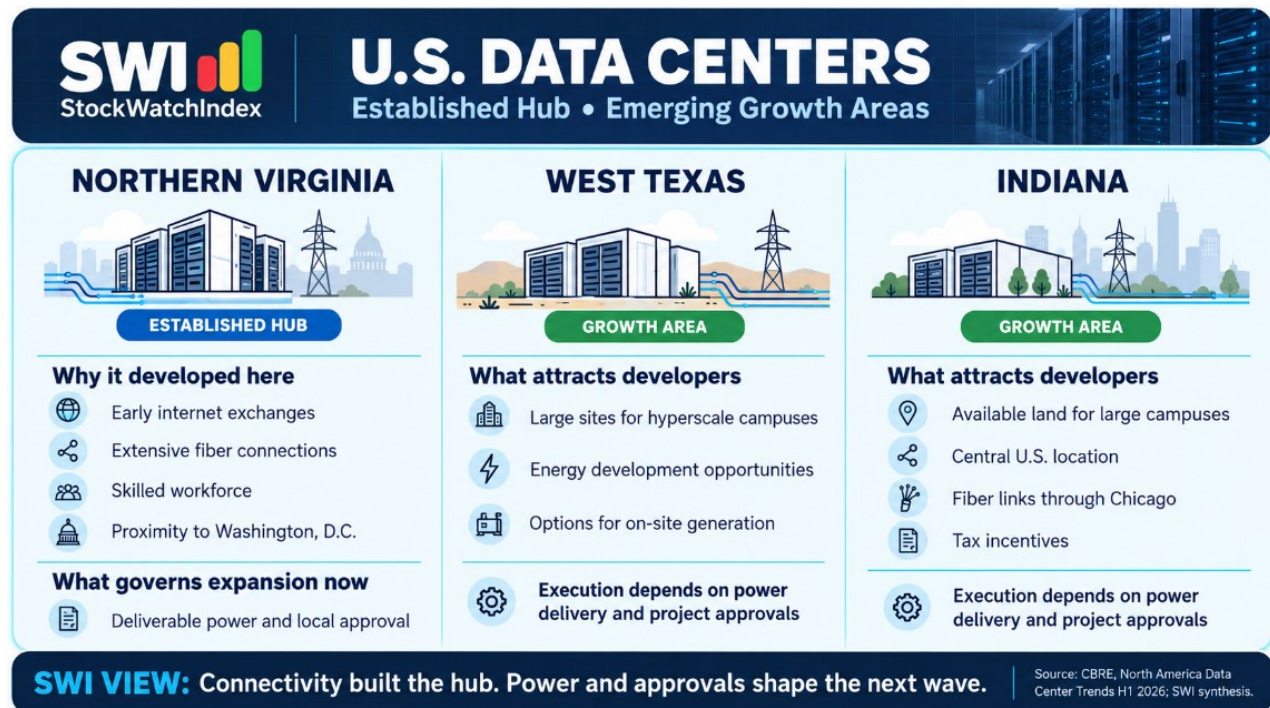
At the largest end, individual AI campuses are becoming major industrial developments:

Louisiana's economic development agency provides the original footprint for Meta's facility, one of the largest in the country; Meta provides the expanded capacity figures. [Louisiana Economic Development](#)



Electricity capacity is often the more revealing measure of size. One gigawatt equals 1,000 megawatts. A facility drawing 100 MW continuously would consume 876 million kilowatt-hours annually, before considering whether that rating includes all cooling and supporting equipment. Actual consumption depends on utilization and how capacity is defined.

Today, expansion increasingly depends on securing power and local approval. CBRE also identifies **West Texas and Indiana** as important growth areas as developers seek larger sites and deliverable electricity. [Loudoun County, VA - Official Website](#)



California Data Centers in Planning and Permitting

San José’s public records list multiple applications, while proposed developments in Inyokern and Imperial County show that interest extends beyond Silicon Valley. These projects represent potential capacity, but applications alone do not establish that facilities will be built or become operational. [City of San José](#)

California’s strongest advantage is its concentration of technology companies, AI developers, cloud customers, and network connections. That supports demand for computing infrastructure close to Silicon Valley. However, CBRE identifies limited power availability, scarce land, and lengthy development processes as constraints on expansion. [CBRE](#)

The current scale gap is substantial. In CBRE’s tracked markets, Northern Virginia had approximately **4,497 megawatts** of existing capacity in the first half of 2026, compared with **509 megawatts** in Silicon Valley—nearly nine times as much. Atlanta led construction activity with approximately **2,882 megawatts underway**.

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CALIFORNIA DATA CENTER PIPELINE

Selected proposed projects and permitting status | October 16, 2026

Location / Project	Proposed size	Planning / permitting status	Key distinction
San José 326 Charcot Avenue	514,000 sq. ft. Three stories	Special-use permit application SP26-026. Proposal would replace five existing buildings.	Application; not proof of construction
San José 5601 Great Oaks Parkway	444,436 sq. ft. On-site substation	Special-use permit application SP26-022 listed in the city’s development pipeline.	Power delivery must be verified
Inyokern, Kern County RB Inyokern Data Center	238,000 sq. ft. Approximately 50 acres	Associated backup-generation proposal under California Energy Commission review.	99 MW is emergency generation
Imperial County Aten & Clark roads	950,000 sq. ft. Approximately 74 acres 330 MW proposed capacity	Permitting disputes and litigation. County moratorium repealed October 6 under court order; other requirements still apply.	Moratorium repeal is not full approval

SWI WATCHPOINTS: Permits • Committed power delivery • Financing • Contracted customers

Selected projects; not a complete California inventory. Proposed capacity is not current electricity consumption. Applications and announced plans do not establish construction, final approval, or secured power. Sources: City of San José; California Energy Commission; City of Imperial; Imperial County.

Why data centers are crucial to AI

Data centers provide the processors, memory, networking, electricity, and cooling needed to train advanced AI models and run them for customers. Training creates the model; inference uses it. Some AI runs on phones and other devices, but large-scale AI services rely heavily on centralized computing capacity.

The IEA's updated outlook projects global data center electricity consumption rising from approximately **485 terawatt-hours in 2025 to 950 terawatt-hours in 2030**, with consumption by AI-focused facilities roughly tripling. Access to reliable power, chips, and grid connections is therefore becoming a constraint on AI expansion. [IEA](#)

Could data centers move into space?

The only verified orbital proposal is from Jeff Bezos's Blue Origin, a separate company from Amazon. An FCC public filing records Blue Origin's application for **Project Sunrise**, proposing up to **51,600 satellites** operating as a space-based data center system. An application establishes a proposed development; it does not establish deployment or commercial viability. docs.fcc.gov

Amazon's **Leo satellite network**, formerly Project Kuiper, provides internet connectivity. It should be distinguished from Blue Origin's orbital computing proposal. The sources reviewed do not establish an Amazon AWS commitment to move its terrestrial data centers into orbit. aboutamazon.com



The attraction is understandable: suitable orbits offer extensive solar exposure, while orbital computing could reduce some demands on terrestrial land, grids, and cooling water. However, launch costs, radiation, communications, maintenance, and equipment replacement present substantial obstacles. ESA identifies power, radiation tolerance, and thermal dissipation as important constraints on space-based computing. esa.int

Cold space does not provide effortless cooling. In a vacuum, equipment cannot shed heat through surrounding air; heat must reach radiators and be radiated away. Orbital infrastructure also introduces collision and debris risks. roman.gsfc.nasa.gov

SWI views orbital data centers as a possible long-term complement to terrestrial infrastructure. Its near-term investment case remains grounded in facilities with secured power, credible customers, workable community agreements, and a clear path to profitability.

Do infrastructure and community strains outweigh the benefits?

SWI assesses that well-sited, properly financed projects can deliver substantial net benefits, while poorly structured projects can leave communities worse off.

A development becomes difficult to justify when households absorb higher infrastructure costs, water supplies are already constrained, neighborhoods face persistent disruption, or generous subsidies erode the promised tax revenue.

Paying a facility's utility bills does not necessarily cover its full impact. Rapid demand growth can require expensive expansion of the wider electricity system, while canceled projects can leave other customers to absorb infrastructure costs.

Employment benefits are greatest during construction. Projects create demand for electricians, mechanical contractors, construction workers, engineers, and local suppliers. They also support nearby restaurants, lodging, and other services. Construction employment is concentrated in a temporary building phase; permanent operating jobs should be assessed separately when judging the public value of tax incentives.

About 18–24 months of construction is a reasonable planning estimate for a conventional commercial data center. For reference, JLL's 2026 research puts the global average build time for a 50-megawatt facility at 18 months. There is no single "average size," so capacity and design matter.

The full development timeline can be substantially longer. Site selection, design, permits, equipment procurement, and utility connections affect when operations actually begin. JLL reports that grid-connection waits in primary data center markets average more than four years; that wait can overlap with construction.

Once operational, facilities provide technical, maintenance, security, and management jobs, but typically employ far fewer people than during construction. Virginia's legislative research commission found that a typical 250,000-square-foot data center may employ about 50 full-time workers, including contractors, compared with roughly 1,500 workers at peak construction. These figures illustrate the difference; they are not a standard for every facility.

Tax Revenue can provide a more lasting community benefit. Loudoun County reports that data centers generated approximately **\$1.2 billion in property-related taxes in fiscal 2026**. Such revenue can support schools, emergency services, and public infrastructure, or reduce pressure on other taxpayers. However, the benefit depends on the tax concessions granted, equipment depreciation, public spending commitments, and the local industry's durability. Gross investment announcements alone do not establish a positive public return.

SWI therefore favors developments backed by enforceable commitments to fund project-related infrastructure, protect residents from abandoned-project costs, use water sustainably, control noise and emissions, and tie incentives to measurable local benefits. Training and procurement programs should give residents and local businesses practical ways to participate. These obligations should last throughout the project's life. Construction activity alone is not enough to justify a development; communities need lasting benefits after the building crews leave.

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DATA CENTERS

Growth Must Earn Community Support

WHEN BENEFITS HOLD UP	WHEN THE CASE BREAKS DOWN
 Developers fund infrastructure	 Residents absorb expansion costs
 Water use is sustainable	 Water supplies face added strain
 Noise and emissions are controlled	 Neighborhood disruption persists
 Local benefits are measurable	 Subsidies erode the tax return

 **PAYING UTILITY BILLS IS ONLY PART OF THE OBLIGATION**
Assess costs and benefits across the entire project life.

 **SWI VIEW:** Support projects that deliver durable returns and protect community quality of life.

Community acceptance is an investment factor.

Considerations

For investors, these factors sit alongside power availability, customer quality, financing, and valuation. Opposition can delay revenue, increase costs, and jeopardize approvals. Responsible planning can strengthen a project's ability to operate and expand. Orbital computing may eventually add capacity, but it offers no immediate solution to infrastructure and community pressures on Earth.

Key Takeaways

SWI's conclusion: Community protections are central to a sound investment decision because they affect a project's costs, timing, and ability to generate sustainable returns.

Reliable power, credible customer demand, and disciplined financing form the commercial foundation. Clear responsibility for infrastructure costs and enforceable water and noise protections help investors assess the full cost of development and the prospects for lasting local support.

Projects that leave these issues unresolved may face delays, litigation, unexpected costs, or operating restrictions. These risks can postpone revenue and weaken returns, even when demand for computing capacity remains strong.

Justify the Purchase Price

SWI therefore favors businesses whose projected earnings remain attractive after accounting for their infrastructure expenses and community obligations. That provides a stronger basis for smart investment decisions than relying on AI demand alone. It does not guarantee success. Valuation, execution, debt, and actual operating revenue must still justify the purchase price.