



Unlocking the Data Center *Supercycle with Trade Finance*

Key Messages

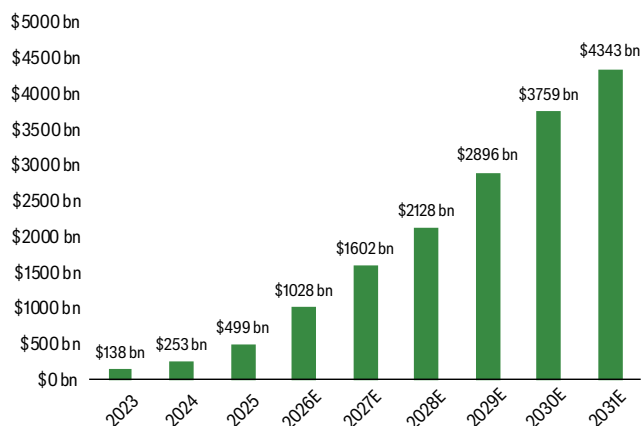
- AI-driven demand is fueling a multi-trillion-dollar data center buildout, with Citi Research forecasting **\$3.8 trillion** in AI-related capex by 2030.
- **Power access is now the industry's biggest constraint**, delaying nearly 40% of U.S. data center projects.
- **Commercial contract complexity and semiconductor shortages** are increasing costs, risk, and time-to-market.
- **Trade finance** has become a strategic enabler of data center growth, helping companies secure critical power, equipment, and infrastructure while preserving liquidity.
- **Solutions such as Standby Letters of Credit, Inventory Finance, Export Agency Finance, and Supply Chain Finance** can help reduce risk, support the acceleration of project timelines, and strengthen competitive positioning across the data center ecosystem.
- Companies that embed trade finance into their growth strategy may be better positioned to secure scarce resources and scale faster.
- Citi's experience delivering tailored trade finance solutions may offer clients an alternate source of funding that can help secure scarce power capacity, manage semiconductor supply constraints, and accelerate infrastructure buildout while preserving liquidity.

Introduction

AI, cloud computing, and the digital economy are driving an unprecedented wave of investment in data center infrastructure. Citi Research estimates AI-related capital expenditure will reach **\$3.8 trillion by 2030** (see **Figure #1**), with the majority directed toward data center development.

But demand alone does not create capacity. Power shortages, supply chain constraints, and increasingly complex commercial arrangements are slowing developments worldwide. As these bottlenecks intensify, trade finance is emerging as a strategic tool to help developers, utilities, and technology companies accelerate projects and manage risk.

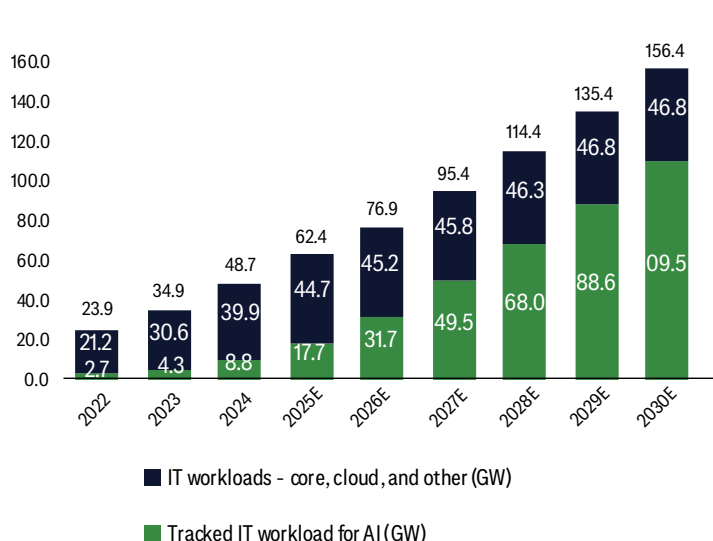
Figure 1. Global CapEx Related to AI Demand (\$Billion)



Note: Chart for illustrative purposes only and subject to change.

Source: Citi Research

Figure 2. Globally Tracked Data Center (GW)



Note: Chart for illustrative purposes only and subject to change.

Citi Research, datacenterHawk (DCH), FactSet, tomshardware.com, Schneider

Three Bottlenecks Threatening the Buildout

Power availability. Access to power has become the industry's primary constraint and limits the land suitable for data center development. Interconnection approvals can take years, and nearly 40% of U.S. projects are already experiencing delays.

Commercial contract complexity. Power purchase agreements (PPAs), semiconductor supply agreements, and capacity offtake agreements are increasingly bespoke, requiring extensive legal, financial, and operational structuring.

Semiconductor supply constraints. Strong demand for GPUs and AI hardware has created long lead times, prepayment requirements, supplier concentration risk, and inventory management challenges.

These bottlenecks are deeply interconnected. Delays in power can stall construction, delay hardware deployment, and increase project costs. Trade finance can help bridge these gaps by seeking to reduce risk, improve liquidity, and support critical commitments earlier in the project lifecycle.¹

¹ Ars Technica, Satellite and drone images reveal big delays in US data center construction, 2026

Figure 3. Data Center Buildout Challenges and Trade Finance Solutions

Key Challenge	Impact on Data Center Development	Trade Finance Solution	Benefit
Power Availability	Interconnection delays, capacity reservation risks, project postponements	SBLCs, Documentary LCs, AR Finance	Helps secure power capacity, reduce counterparty risk, accelerate utility commitments
Commercial Contract Complexity	Lengthier negotiations, collateral requirements, execution risk	SBLCs, Guarantees, Contract Monetization	Helps enhance creditworthiness and can facilitate contract execution
Semiconductor Supply Constraints	Long lead times, prepayments, supplier concentration risk	Inventory Finance, Advance Payment Guarantees, ECA Finance	Aids in securing hardware supply while preserving working capital
Construction & Infrastructure Buildout	Equipment procurement delays, contractor payment challenges	Documentary LCs, Trade Loans, Supply Chain Finance	Supports procurement, helps strengthen supplier liquidity, and limits performance risk

Note: Chart for illustrative purposes only and subject to change.

Power Purchase Agreements (PPA): Bridging the Energy Gap

The Utility Provider Perspective

The data center boom presents utilities with a major growth opportunity, but also substantial risk. Historically, roughly 75% of capacity requested through interconnection applications between 2000 and 2020 was ultimately withdrawn.² Utilities investing in transmission lines, substations, and generation assets must commit significant capital before knowing whether data center projects will proceed as planned.

Standby Letters of Credit (SBLCs) help mitigate this risk throughout the PPA lifecycle. During project evaluation, SBLCs provide assurance to grid operators that developers can meet contractual obligations and justify capacity reservations. Grid operators increasingly require them to safeguard infrastructure investments and reduce stranded-asset risk.

At financial close, performance SBLCs support power delivery obligations and sleeved PPA structures. During construction, Documentary Letters of Credit and Export Agency Finance facilitate procurement of critical equipment such as transformers and switchgear, where lead times can stretch several years. Once operations begin, Accounts Receivable Finance and Supply Chain Finance help manage payment cycles and ongoing maintenance requirements.

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² Berkeley Lab, Queued Up: 2026 Edition Characteristics of Power Plants Seeking Transmission Interconnection As of the End of 2025, 2026

The Data Center Perspective

For operators and hyperscalers, the challenge is securing long-term energy supply in a constrained market. With occupancy rates near 97%³ and power access becoming a competitive differentiator, speed and credibility are essential.

Syndicated SBLC facilities can be an effective tool. Performance and financial SBLCs issued to utilities and grid operators can secure generation and transmission capacity while preserving liquidity. Because LCs are contingent liabilities rather than funded debt, they allow operators to conserve cash for strategic investments. With utilities often requiring **\$1.5 million to \$3 million of LC support per megawatt**,⁴ demand for these facilities is substantial.

Case Study: SBLC for a Data Center Operator

Challenge: A leading U.S. hyperscaler needed significant SBLC capacity to secure critical power infrastructure for a major domestic expansion.

Solution: Citi acted as Coordinating Lead Arranger for a **\$2.5 billion syndicated revolving SBLC facility**, contributing \$300 million across an 11-bank syndicate. The structure combined performance and financial SBLCs tied to utility agreements and PPAs.

Outcome: The facility helped provide specialized liquidity, secured generating capacity, and contributed to the acceleration of campus development while supporting utility infrastructure buildout.

Case Study: SBLC for a Utility Provider

Challenge: A major U.S. power producer needed a financial guarantee to support a long-term carbon-free energy agreement with a technology company.

Solution: Citi structured a tailored Performance SBLC that satisfied the counterparty's credit requirements while qualifying for off-balance-sheet treatment.

Outcome: The client successfully executed a 20-year PPA, enabling a strategic partnership while preserving financial flexibility.

Semiconductors: Financing the Compute Foundation

The semiconductor supply chain underpins every data center and remains one of the world's most capital-intensive industries.

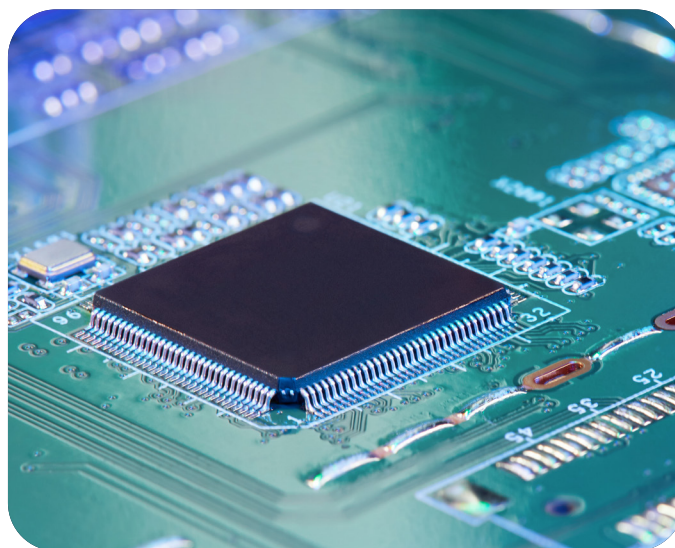
Semiconductors have become a strategic commodity, with demand extending far beyond data centers into automotive and consumer markets. **Structured inventory finance** allows buyers to secure critical equipment without locking up significant working capital.

Case Study: Inventory Finance

Challenge: A global technology company needed to secure large volumes of AI hardware while aligning deliveries with a phased data center rollout.

Solution: Citi arranged a customized inventory finance facility that allowed equipment purchases while deferring delivery over an 18-month period. The solution included an amended purchase agreement, irrevocable payment undertaking, and receivables purchase structure.

Outcome: The client gained access to high-demand AI equipment while improving working capital efficiency and supply chain flexibility.



³ JLL, 2026 Global Data Center Outlook: Navigating AI Demand, Power Constraints and Global Opportunities in 2026, 2026

⁴ Latitude Media, The Terms of Power: Inside the New Utility Rates for Data Centers, 2026

Chip designers also face long cash conversion cycles, substantial R&D investment requirements, and geopolitical concentration risk. For these firms, **Contract Monetization**, Accounts Receivable Finance, FX hedging, and **Advance Payment Guarantees** provide liquidity and supply assurance without excessive balance sheet strain.

Chip foundries face massive capital requirements and extended production cycles. **Export Credit Agency (ECA)** financing helps fund equipment purchases, while Contract Monetization converts long-term fabrication agreements into working capital. Standby letters of credit are especially valuable because they can enable purchases beyond standard allocation limits in supply-constrained markets.

Case Study: Export Agency Finance

Background: Korea's K-SURE expanded beyond traditional export support to facilitate domestic capital investment that strengthens future exports.

Challenge: A borrower in a strategically important Korean industry sought financing for capital investment.

Outcome: Citi, acting as Mandated Lead Arranger, structured a **K-SURE-backed facility exceeding \$55 million**. K-SURE provided 100% coverage, improving borrower economics and financing access.

For utilities, semiconductor companies, hyperscalers, developers, and colocation providers, the question is no longer whether trade finance matters. *The question is whether they are leveraging it to its full strategic potential.*

Real Estate and Physical Infrastructure: Building the Shell

While power and semiconductors receive most attention, constructing data centers creates its own financing challenges.

During the pre-construction phase, developers must acquire land, secure interconnection approvals, and order long-lead equipment such as chillers, switchgear, and transformers. **Bid Bonds, Performance Bonds, and Trade Loans** provide assurance and funding without exhausting available capital.

As projects advance, complexity increases. Engineering, Procurement, and Construction (EPC) contractors require payment security, while global procurement often involves cooling systems, power equipment, and compute hardware sourced internationally. **Documentary Letters of Credit** facilitate these purchases while reducing upfront cash requirements. Meanwhile, **Supply Chain Finance** programs help suppliers access liquidity faster while allowing developers to extend payment terms and preserve cash.

Conclusion

The data center supercycle is no longer a future trend; it is a present reality. Power constraints, semiconductor shortages, capital intensity, and contract complexity are actively delaying projects and increasing costs across the industry.

Trade finance is a key enabling factor for the AI economy. From SBLCs that help secure scarce power capacity, to inventory financing that provides access to critical hardware, to supply chain solutions that support semiconductor production, these tools address the unique challenges of data center development: large capital commitments, long project timelines, and contingent obligations.

By providing utilities, suppliers, and contractors with bank-backed financial guarantees, SBLCs reduce counterparty risk and enable critical power, infrastructure, and equipment commitments to be made earlier, helping accelerate project timelines and minimize development delays.

For utilities, semiconductor companies, hyperscalers, developers, and colocation providers, the question is no longer whether trade finance matters. The question is whether they are leveraging it to its full strategic potential. To explore how Citi's Trade Finance solutions can support your data center strategy, contact your Citi relationship manager.

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