

NUCLEAR POWER: A CLEAN PATH FORWARD FOR THE DATA CENTER INDUSTRY



Key Takeaways

- Data center capacity in the United States has grown significantly and is expected to continue expanding, creating an urgent need for power to meet demand driven by AI and high-performance computing (HPC).
- Nuclear energy is emerging as the preferred sustainable and scalable solution to power the future of digital infrastructure, with support from leading hyperscalers and the U.S. Government.
- Major investments and partnerships are accelerating nuclear development, primarily through the expansion of existing reactors and small modular reactor R&D, with projects totaling tens of gigawatts of planned new capacity across the U.S.
- The global data center industry is experiencing accelerated growth, with most of that growth concentrated in the Americas—particularly the continental U.S. While demand for legacy workloads such as data storage, data processing, and cloud computing continues growing incrementally, a significant portion of new demand is being driven by heavy investment in AI, machine learning and HPC.

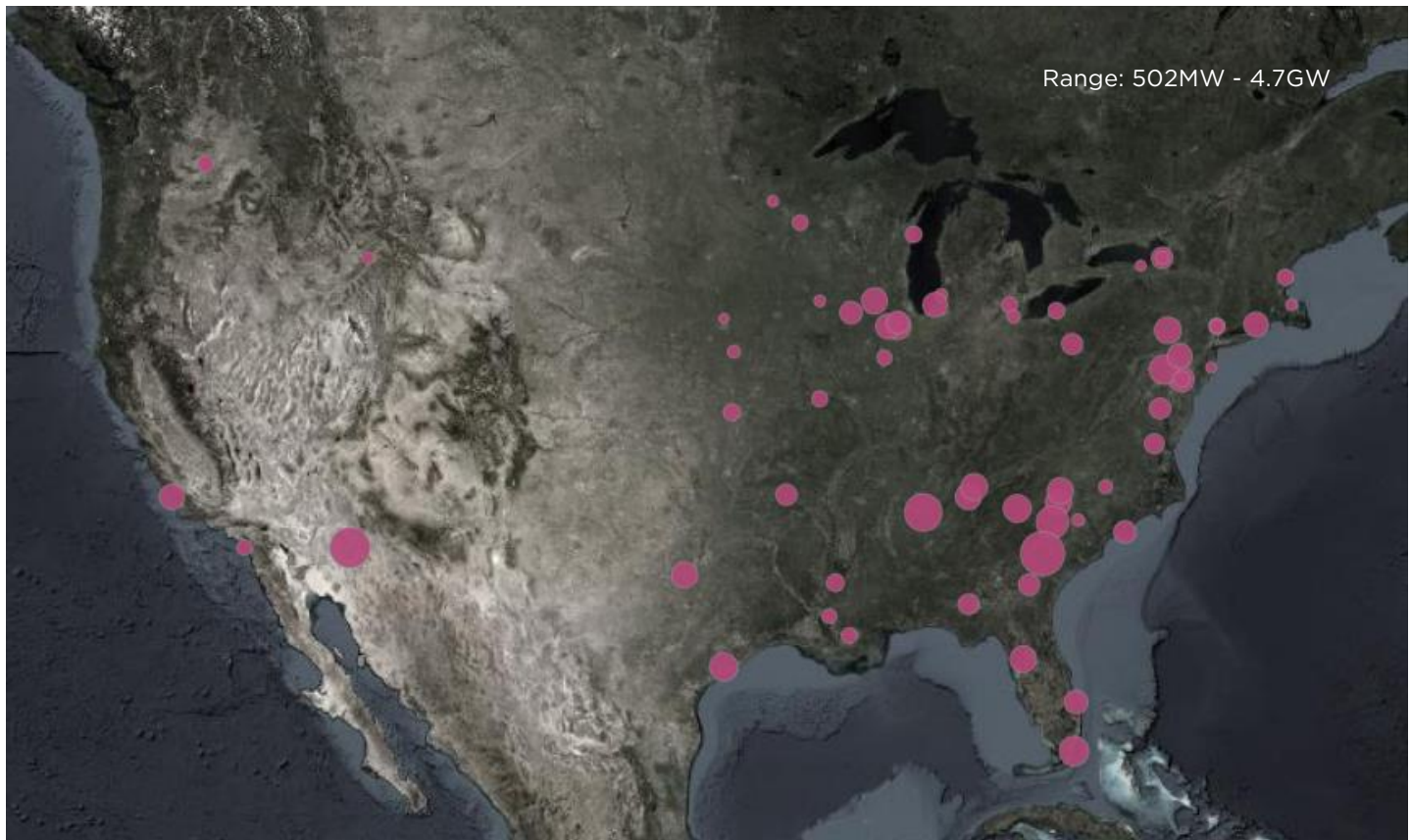
Data center capacity in the U.S. has increased dramatically over the past decade. In the fourth quarter of 2015, the market included 5GW of live capacity, 942MW under construction and 2.4GW in planning. Nearly a decade later, by mid-2025, Cushman & Wakefield research reported 24.8GW live, 11.5GW under construction and 81.4GW in planning. This marks a fivefold increase in live capacity, a twelvefold increase in capacity under construction, and a thirty-fourfold increase in the

planned pipeline. This explosive growth raises a critical question: where will the power for this development pipeline come from and how will our existing infrastructure support this explosive growth?

Power demand from data centers has surged since generative AI entered the market in late 2022. Its rapid adoption marked the beginning of widespread power constraints, congested utility queues, long-term grid upgrade plans, and state-mandated cost-sharing initiatives for infrastructure improvements—all of which are now defining challenges for the industry. With power availability cited as a top site selection criterion in [Cushman & Wakefield's 2025 Global Data Center Market Comparison](#)—and a general lack of usable power in many markets—hyperscalers and colocation developers have tapped into their creativity to find solutions. While on-site power generation, such as natural gas turbines and behind-the-meter agreements, has grown, nuclear energy is increasingly seen as the clear, carbon-free path forward for the industry.

The growing traction for nuclear energy is logical, as its advantages—sustainability, scalability, reliability and efficiency—align with the priorities of the world's largest data center operators. Federal support has further bolstered this momentum, with the current administration issuing executive orders to speed up nuclear reactor licensing, streamline reactor testing, increase domestic nuclear fuel production, and set ambitious goals: 10 new large reactors under construction by 2030 and 300GW of capacity by 2050.

Nuclear Power Generation Facilities in the United States



Source: Cushman & Wakefield's Athena Site Selection Tool

This strong federal backing has attracted significant investment from private equity, venture capital, and leading players in the nuclear energy, technology and data center industries. Below are some of the most notable recent investments in nuclear energy by the data center industry.

- Crane Clean Energy Center (formerly Three Mile Island), Pennsylvania: Constellation Energy and Microsoft are partnering to restart Unit 1 by 2027, restoring more than 800MW of nuclear energy to the grid.
- Clinton Clean Energy Center, Illinois: This facility will deliver 1,121MW of nuclear power to Meta for an initial period of 20 years.¹
- Google and Kairos Power: Under a Master Plant Development Agreement, Kairos will build and operate a series of reactor plants to power Google's data centers, totaling 500MW by 2035. The first project, in partnership with the Tennessee Valley Authority, will expand the Hermes 2 Plant in Oak Ridge, Tennessee from 28MW to 50MW by 2030.
- Amazon and X-energy: Amazon has invested \$500 million in X-energy to develop an initial four-unit, 320MW project in partnership with Energy Northwest in central Washington. The project is expected to expand to 12 units and 960MW, representing less than 20% of the 5GW of new power that Amazon and X-energy aim to bring online.³
- Elementl Power and Google: Elementl plans to bring over 10GW of nuclear power online in the U.S. by 2035. Google is providing startup capital to pre-position three project sites, each expected to generate at least 600MW of power.⁴
- U.S. Department of Energy (DoE) Reactor Pilot Program: Following an executive order, the DoE announced 11 advanced reactor projects in August 2025, aiming to achieve criticality for at least three test reactors by July 4, 2026.⁵
- Meta: In late 2024, Meta issued a request for proposals seeking up to 4GW of new nuclear generation capacity to support its AI and sustainability objectives.⁶

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- Equinix: The colocation provider—one of the largest data center developers and operators that serves hyperscale clients—recently signed agreements with several next-generation nuclear energy companies, including a 500MW procurement from Oklo’s Aurora powerhouses, a preorder for 20 Radiant Kaleidos microreactors, letter of intent with ULC-Energy for a 250MW power purchases agreement, and a 500MW pre-order agreement with Stellaria to expand its data centers across Europe.⁷

The message from the industry is clear: the global data center sector is committed to nuclear power, and the U.S. is leading the charge. Federal policies are fast-tracking reactor development, while private sector investments are driving advancements in nuclear technology, research and development, laying the foundation for a new era of nuclear energy.

This shift presents a unique opportunity for the commercial real estate industry to play a pivotal role in enabling the nuclear renaissance and the infrastructure needed to support it. As the data center industry faces unprecedented power demands, Cushman & Wakefield is strategically positioned to support this transformation through its specialized services. Our **Data Center Advisory Group** teams excel at identifying and securing optimal sites for nuclear generation and data center colocation, balancing zoning, environmental and logistical considerations. Our **Entitlements and Utility Consulting** experts streamline the complex permitting and infrastructure coordination required for nuclear integration, helping clients navigate regulatory hurdles and utility interconnection challenges. Meanwhile, our **Data Center Development Advisory and Government Services** experts bring deep expertise in siting, power procurement and infrastructure planning—capabilities that are increasingly critical as hyperscalers and government agencies explore partnerships with nuclear providers. By aligning real estate strategy with energy innovation, Cushman & Wakefield empowers clients to unlock new pathways to resilient, sustainable digital infrastructure.

¹ Constellation Energy, 2025

² Kairos Power, 2024 & 2025

³ X-energy, 2024

⁴ Element1, 2025

⁵ United States Department of Energy, 2025

⁶ Meta, 2024

⁷ Equinix, 2025