Everything is Bigger in Texas

By John Benson

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1. Introduction

OK, I was born and raised in Texas. However, after spending a couple of years in California, (SF Bay Area), in the Army, I decided I really like this place.

After I was discharged from my military service, I went back to Texas and after a few years graduated from Texas Tech University (in Lubbock) with a BSEE. As soon as I graduated, I accepted an offer from Rockwell Atomics International in Southern California. After a couple of years there, I accepted an offer from GE Nuclear to be a Facilities Engineer at the Vallecitos Nuclear Center, and settled in Livermore, where I still reside today. I'm a Siemens Retiree, and my current primary vocation is writing two to three posts (like this one) for Energy Central every week.

Now my Alma Mater and others back in Texas are going REALLY BIG into a field that was pioneered in the SF Bay Area: Artificial Intelligence (AI). I worked in the computer industry for several decades (mainly on electric utility applications), but never AI in its current embodiments.

Texas Tech University and Fermi America shared plans on June 26 to build "the world's largest advanced energy and artificial intelligence campus" in Amarillo, Texas, near the Pantex nuclear weapons plant. Fermi America is a company cofounded by former Texas governor and energy secretary Rick Perry and his son, Griffin Perry, a cofounder and past senior advisor at Grey Rock Investment Partners. The announcement—a first press release from relative newcomer Fermi America—says the company "proudly answers President Donald J. Trump's call to deliver global energy and AI dominance."[1]

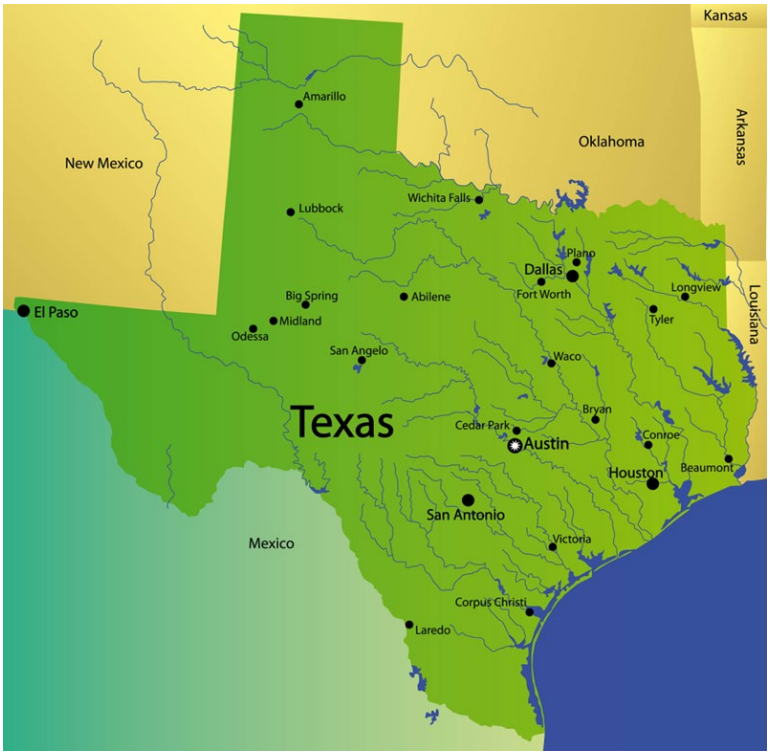
[1] Nuclear Newswire, American Nuclear Society, June 30 2025, https://www.ans.org/news/2025-06-30/article-7159/fermi-america-texas-tech-share-vision-for-massive-power-and-data-complex/

This post will be on this project, that has the same name as Section 2, below.

2. Texas Hyper-Grid

For now, only the outlines of a plan are clear—funding sources and potential end users of the project's power or data center capacity are not disclosed. But Fermi America's website hints at more details to come: "America's first nuclear-powered Hyper-Grid will be born on the 4th of July, in the heart of Texas."

Not exactly. See the Texas map below, and note that Amarillo is in the Texas Panhandle (ditto Lubbock, where Texas Tech is, a partner in this project and my alma matter) surrounded by New Mexico on the west, and Oklahoma on the east and north. I would put the heart somewhere around Austin (the state's capital).



Nuclear and more: Fermi America and Texas Tech envision a behind-the-meter "hypergrid" that would "integrate the largest nuclear power complex in America, the nation's biggest combined-cycle natural gas project, utility grid power, solar power, and battery energy storage" to provide "highly redundant power."

While the company's plans for nuclear are boldly stated, details are limited. The Washington Post has reported, however, that the company's "confidential application for construction of four 1-gigawatt reactors" specifies plans to build Westinghouse's AP1000 design. At this writing, the Nuclear Regulatory Commission's ADAMS public database does not include relevant communications.

Given the project's planned site, natural gas is close at hand. "Strategically situated at the confluence of several of the nation's largest gas pipelines and located atop one of the nation's largest known natural gas fields, the site offers a prolific, firm, clean-burning, and redundant gas supply," according to Fermi America's press release.

Texas Tech: A June 26 announcement from Texas Tech says the Advanced Energy and Intelligence Campus will "support the growing demands of artificial intelligence (AI), data innovation and sustainable energy."

2.1. Project Status and Potential

Geotechnical work has already begun on the campus which is expected to deliver a gigawatt of online power by the end of 2026.

"The Chinese are building 22 nuclear reactors today to power the future of AI," noted Rick Perry, former U.S. Energy Secretary and former Governor of Texas. "America has none. We're behind, and it's "all hands on deck." President Trump's first Executive Order addressed the energy issue and emphasized the need to continue making America energy dominant. His recent decisive action to sign four additional Executive Orders that pave the way for a nuclear power energy renaissance, demands that American innovators rise to the occasion. No one does energy better than Texas, and Fermi America and the Texas Tech University System are answering the call."

"Today's announcement of an advanced energy and intelligence campus in Amarillo marks a pivotal moment for the Texas Panhandle and for the United States," added U.S. Congressman Ronny Jackson. "This strategic investment and key innovative partnership between Fermi America and the Texas Tech University System is expected to establish the world's largest energy-driven data center, placing America firmly at the forefront of the global AI race against the Chinese Communist Party. This project signals the start of a new chapter of high-impact investment in the Texas Panhandle. I am incredibly proud that the region's unmatched energy resources and skilled workforce will power this transformative project, solidifying our role in shaping the future of energy and technology."

In addition to energy production, the partnership will significantly enhance the Texas Tech University (TTU) System and further its mission by providing academic and research opportunities, as well as workforce training and placement programs.

2.2. Project Details

With the Texas Tech University System, we will deliver global energy and AI dominance with the Advanced Energy and Intelligence campus, the only site with the potential to include safe, clean, new nuclear power, the nation's biggest combined-cycle natural gas project, utility grid power, solar power, and battery energy storage at unprecedented scale.[2]

[2] Fermi America, "World's Largest, Next-Gen HyperGrid™ Powering Next-Gen AI, https://fermiamerica.com/

Metrics:

11 GW
of power

5,769
acres, shovel-ready mega campus

18 million
square feet of artificial intelligence capacity

1 GW
expected online by the end of 2026

3. Other Major Planned US Data Center Campuses

I really need to start this section with an author's comment. You will note that none of the planned facilities below is in California, in spite of most of the firms sponsoring these builds are based in California. Why is this?

California has (1) very expensive land-prices except for the remote reaches of the state where there are virtually no people, and certainly no information technology people (except for retired people like your author that want to remain retired). (2) California has very-high electricity prices. (3) California has notoriously complex bureaucracies.

3.1. Major Data Center Projects

The demand for data centers in the United States is at an all-time high in 2025, driven by the rapid expansion of artificial intelligence (AI), cloud computing, and enterprise storage solutions. As businesses increase their reliance on digital infrastructure, the need for data centers to support these operations continues to grow. The digital transformation of industries, the rise of remote work, and the increasing adoption of AI-powered applications are pushing organizations to invest in cloud-based solutions, leading to a surge in data center construction.[3]

Major tech companies, including Microsoft, Google, Amazon, and Meta, are investing billions in large-scale projects to ensure their networks can handle the increasing data demands. The hyperscale data center market is experiencing exponential growth as companies focus on expanding their infrastructure to keep up with the unprecedented rise in data consumption. These facilities not only store vast amounts of digital information but also serve as the backbone for AI model training, real-time data processing, and global cloud services.

Additionally, the explosion of streaming services, 5G connectivity, and the Internet of Things (IoT) is accelerating the need for reliable and scalable data storage solutions. As a result, commercial real estate markets are seeing significant shifts, with data center construction reshaping traditional industrial and office spaces. Once concentrated in a few key regions like Silicon Valley and Northern Virginia, data centers are now expanding into emerging markets with available land, power infrastructure, and favorable regulatory environments.

[3] Property Manager Insider, "5 Largest Data Center Construction Projects in 2025," ©2025, https://propertymanagerinsider.com/2025-data-center-construction/

3.2. Top 2025 Data Center Construction Projects in the U.S.

Understanding the latest data center construction projects can help property managers anticipate market trends, explore investment opportunities, and address the logistical challenges that come with hosting these massive facilities. This guide provides an in-depth look at the five largest data center construction projects in the U.S. in 2025.

3.2.1. Microsoft's Data Center Campus – Mount Pleasant, Wisconsin

Microsoft is making a significant investment in the Midwest with the development of a massive data center campus in Mount Pleasant, Wisconsin. The company has acquired 315 acres of land for the project, which is estimated to cost $1 billion and is scheduled for completion by the end of 2025.

This project is part of Microsoft's broader plan to expand its cloud services and AI-driven computing capabilities. The campus will include multiple data halls designed to support high-performance computing workloads, artificial intelligence applications, and large-scale enterprise data storage. The location in Wisconsin was chosen due to its access to power infrastructure, skilled labor, and growing technology industry. The project is also expected to create hundreds of jobs in construction and operations, providing economic benefits to the surrounding area.

3.2.2. Oracle's "Stargate" Data Center Project – Texas

Oracle, in collaboration with OpenAI and SoftBank, is launching one of the most ambitious AI-focused infrastructure projects in the country. The Stargate project, located in Texas, involves an initial $100 billion investment in data centers and power generation facilities. This development is part of a larger $500 billion strategy aimed at scaling AI and cloud computing infrastructure over the next five years.

The facility is being designed to accommodate the increasing demand for AI workloads, which require significantly higher power densities and cooling solutions compared to traditional data centers. Oracle is focusing on incorporating renewable energy sources, including solar and wind power, to mitigate the environmental impact of the project.

3.2.3. Meta's Data Center Expansion – Kansas City, Missouri

Meta is expanding its data center operations with a new $800 million facility in Kansas City, Missouri. The project will focus on supporting AI-driven applications, cloud storage, and social media services.

The data center is expected to span multiple buildings, each equipped with advanced cooling and energy efficiency technologies. Meta is prioritizing sustainability in the design, with plans to power the facility using 100% renewable energy sources. The company has committed to investing in local energy infrastructure to ensure a stable supply of power.

3.2.4. Amazon Web Services Data Center Campus – Northern Virginia

Northern Virginia remains the largest data center market in the world, and AWS is further solidifying its dominance with a multi-billion-dollar expansion project [(Upwind, 2025)]【27†source】. The new data center campus will add several high-performance computing facilities, reinforcing the region's position as a global hub for cloud computing.

The AWS expansion will significantly increase the capacity of Amazon's cloud services, catering to enterprise clients, government contracts, and AI-driven applications. Northern Virginia's established network infrastructure and connectivity make it an ideal location for data center growth.

3.2.5. Google's $600 Million Data Center – Lincoln, Nebraska

Google is investing $600 million to develop a 600-acre data center in Lincoln, Nebraska, set for completion in July 2025. This facility will enhance Google's cloud computing capabilities and support AI-driven workloads, contributing to Nebraska's growing role in the data center industry.

The project is designed to support Google's long-term expansion in cloud computing, with scalable infrastructure that can accommodate future growth. Nebraska was chosen for its low electricity costs, availability of land, and supportive business environment.

4. Recent Press Releases on Texas Hyper Grid

4.1. Cornyn touts legislative wins from 'One Big Beautiful Bill' in Amarillo

U.S. Sen. John Cornyn, R-Texas, visited Amarillo on Friday to promote federal investments in … energy...[4]

Cornyn highlighted the Hyper Grid project, a public-private partnership near the Pantex Plant involving Fermi America and Texas Tech University. The AI campus is expected to create more than 500 high-tech jobs and enhance national security through advanced data infrastructure…

4.2. AI-Fueled Data Center Boom Sets New Course

The statistics seem astounding, as forecasts for artificial intelligence demand push expansion of data center and power infrastructure into hyper-blitz in the U.S., and beyond.[5]

This month, startup Fermi America, backed by former U.S. Energy Secretary Rick Perry and other investors, unveiled Hyper Grid, a planned data center and power complex on 5,800 acres in Amarillo, Texas, that is owned by Texas Tech University. According to Fermi America co-founder and investor Toby Neugebauer: "We're going to create the largest private grid in the world." The development is said to cost $300 billion and will provide 11 GW of power from natural gas, solar energy and eventually from four Westinghouse AP-1000 nuclear reactors when fully completed. Its Initial 1-GW phase is aimed to be on line in 2026, with early site engineering finished, said the firm.

A Fermi America spokeswoman said it will reveal names of nuclear energy veterans hired as experts and release procurement detail "in the near future," but she did not disclose project investors or investment totals. The reactor building plan was submitted to the U.S. Nuclear Regulatory Commission on June 17 and "accepted for review in record time," the spokeswoman said.

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[4]Michael Cuviello, Amarillo Globe-News via the Lubbock Avalanche Journal, July 25, 2025, https://fermiamerica.com/cornyn-touts-legislative-wins-from-one-big-beautiful-bill-in-amarillo/

[5] Debra K. Rubin and Johanna Knapschaefer, Engineering News Record (ENR), "Power Hungry: AI-Fueled Data Center Boom Sets Energy Delivery's New Course," July 24, 2025, https://fermiamerica.com/power-hungry-ai-fueled-data-center-boom-sets-energy-deliverys-new-course/

4.3. 600-MW Off-Grid Power for Texas Panhandle AI Campus

A power generation and off-grid project development startup co-founded by former U.S. Energy Secretary and Texas Gov. Rick Perry is partnering with Texas Tech University on ambitious plans to build an $11 billion connected natural gas and artificial intelligence (AI) data center campus in Amarillo.[6]

Fermi America is touting its plan of an "Amarillo HyperGrid" as the next generation in on-site power development to meet growing AI and cloud-based data center demand. The first phase will bring in six Siemens Energy SGT800 gas-fired turbines and one SST600 steam turbine to deliver about 478 MW of co-located and combined heat and power for the proposed AI campus in the Texas Panhandle.

Fermi America was co-founded by a team that includes American private equity investor Toby Neugebauer and Perry, who was the energy secretary in President Donald Trump's first administration and also Texas governor from 2000 to 2015. The company is named after Italian physicist Enrico Fermi, who played a significant role in the Manhattan Project to develop nuclear power during World War II.

Although gas-fired power is the initial behind-the-meter power solution for the planned Amarillo HyperGrid, Fermi America reportedly will also seek federal Nuclear Regulatory Commission (NRC) approval to build utility-scale reactor plants alongside the Amarillo AI site.

Many in the U.S. contend that AI is a national security issue and off-grid power is the best way to fuel those heavy loads. While natural gas is abundant within the nation, nuclear power can operate at consistently high-capacity factors and does not generate carbon emissions.

Behind-the-meter power is the only solution to ensure "America's AI dominance," Neugebauer said in a statement. "Without it, we're handing China the keys to AI. There will only be one winner."

In the meantime, the project's first gas-fired installation also will utilize selective catalytic reduction to reduce total emissions from the combined-cycle turbine power generation, according to the Fermi America statement. The company's second power-unit acquisition, which closed last month, will add a set of three secondary market General Electric industrial gas turbines and a paired steam turbine which previously operated to provide power for an industrial customer in New Jersey.

All of those previously used GE units will be refurbished and made operative in simple cycle mode…

[6] Rod Walton, Energy Tech, "Fermi America Promising 600-MW Off-Grid Gas Power for Texas Panhandle AI Campus," July 8, 2025, https://fermiamerica.com/fermi-america-promising-600-mw-off-grid-gas-power-for-texas-panhandle-ai-campus/