Infrastructure:

Preparing for Data Centers

December 2025

Top Line

"Data center investment brings enormous economic opportunity to the state, but also significant challenges for the electric grid, and for natural resources. Without proactive planning and an integrated policy framework for data centers, their unchecked expansion could strain Texas' infrastructure and jeopardize progress towards a reliable, sustainable and resilient energy system."

- Houston Advanced Research Center (1)

This paper outlines important things to know about data centers in Texas, and outlines policies to enable Texas to realize the benefits of data center expansion while managing the effects on our infrastructure.

1. **Background on Data Centers and their growth in Texas**
2. **The Opportunity - Data centers represent an important opportunity for Texas - economic growth, job growth, and technology leadership**
3. **The Challenge - Data centers also represent a critical challenge to Texas' already stretched infrastructure, specifically electricity and water**
4. **Texas needs to plan now for this future growth, by factoring data center growth into water and electricity planning, ensuring that the data center developers pay a fair amount of the costs, and maintaining regulatory oversight.**

Texans should not experience higher electricity bills or disruption of water or electricity supply because of data centers. To fully capture the benefits of data center growth while managing the challenges to our water and electricity infrastructure, we need proactive, future-oriented legislators.

Backup

1. Background on Data Centers and their growth in Texas

What is a Data Center? A data center is a physical facility that organizations use to house their critical applications and data. A data center's design is based on a network of computing and data storage resources that enable the delivery of shared applications and data. The key components of data center design include routers, switches, firewalls, storage systems, servers, and application-delivery controllers. (2)

How big are they? The most common industry metric is the IT electricity load a data center requires, measured in kilowatts (kW) or megawatts (MW). This directly relates to the computational power available. (3)

Data centers range widely in terms of MW of electricity, from less than 1 to over 100. Data center campuses, consisting of multiple data centers in a single location, can involve power requirements of 500 MW or more. (4) This is equivalent to the power requirements of 300,000 - 400,000 homes.

How many data centers are there in Texas? Texas currently has about 466 data centers, with another 100 or so currently under construction. (5)

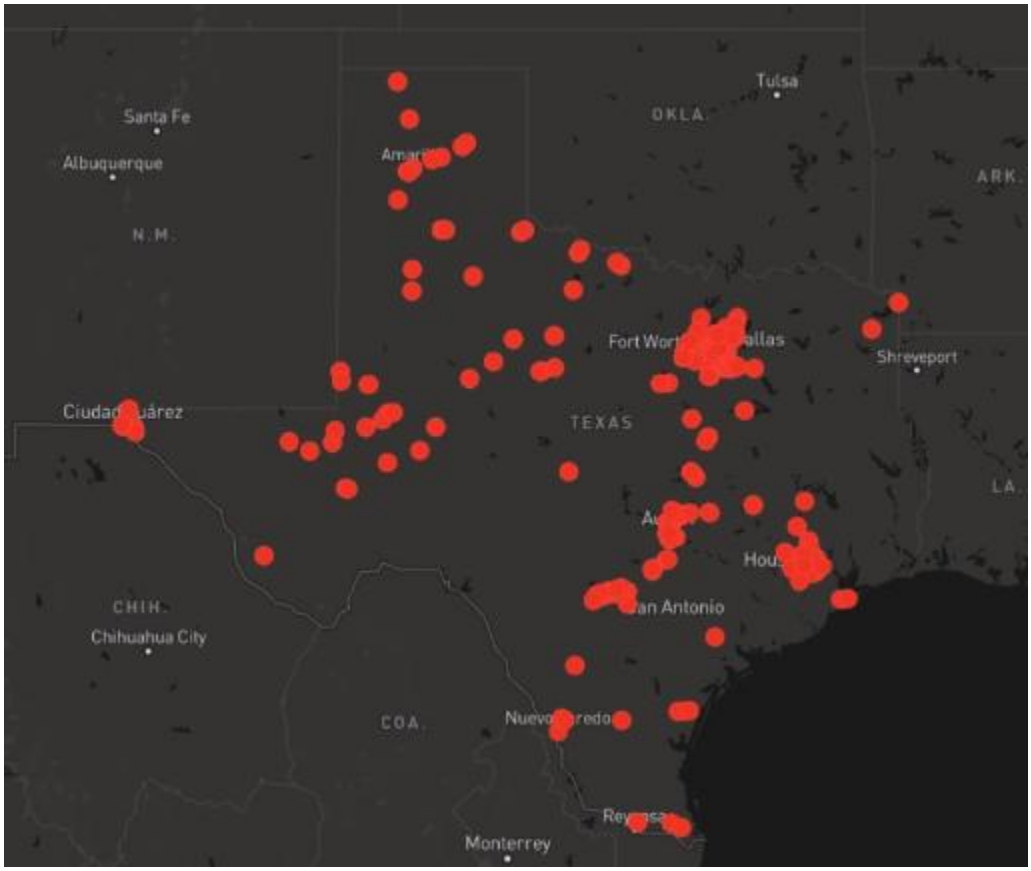
Data Centers in Texas

Region within Texas	Existing Data Centers	Under Construction	Link to Map
Dallas	207	37	https://baxtel.com/data-center/dallas
West Texas	67	25	https://baxtel.com/data-center/west-texas
San Antonio	64	13	https://baxtel.com/data-center/san-antonio
Austin	57	14	https://baxtel.com/data-center/austin
Houston	47	6	https://baxtel.com/data-center/houston
North Texas	13	5	https://baxtel.com/data-center/north-texas
El Paso	10	2	https://baxtel.com/data-center/el-paso
South Texas	1	0	https://baxtel.com/data-center/south-texas
Totals	466	102	

Source: Baxtel, https://baxtel.com/data-center/texas?lat=-7.105427357601002e-14&lng=-45.46821767369916&distance=17750786.550627116

Where are they? As the map below shows, data centers are spread throughout Texas. Dallas has the largest concentration, but many are also in less urban areas, especially in West Texas. In urban areas, data centers are typically in suburban locations where affordable space is available.

The chart above includes links to maps of each region in Texas, which shows in more detail where data centers are located.



Source - Texas Public Radio, 8/8/25, https://www.tpr.org/podcast/texas-matters/2025-08-08/texas-matters-the-future-of-ai-and-texas-water

How fast are they growing? Data Center capacity (and related resource needs) is expected to increase by as much as **10x by 2030** - and growth doesn't stop then. The explosive growth of AI, data analytics, cloud computing, and the associated requirements for data center capacity will continue to grow into the future. (6)

Why is Texas attractive for data centers? Texas is attractive because of the availability of space, relatively low energy rates, a low cost of living (which makes it easier to hire staff), and a business-friendly environment. Texas also has a strong green energy

presence, including wind and solar, which is helpful to keep energy costs down and to contribute to sustainability, which is important to many of the high-tech companies that operate data centers. (7)

2. The Opportunity - Data centers represent an important opportunity for Texas - economic growth, job growth, and technology leadership

a. **New, high paying jobs -** As of the second quarter of 2024, data centers directly employed approximately 47,856 individuals in Texas, accounting for about 10% of the nation's data center workforce. From 2018 to 2024, data center employment in Texas increased 38%. (8)

   Additionally, the indirect impact of data centers on employment is substantial. In 2023, data centers in Texas supported over 485,000 jobs and $35 billion in labor income, considering both direct and indirect employment contributions. (indirect jobs include jobs in construction, maintenance, utilities, security, and local services). (8)

   Given the potential for 10x growth in data center capacity, this could be over 400,000 jobs in data centers by 2030, supporting over 4 million indirect jobs.

b. **Increased tax revenues -** Beyond capital investment, data centers contribute significantly to local tax revenue. Real and personal property taxes on facilities and equipment provide funding for essential services like schools, emergency response, and infrastructure improvements. (8)

c. **Supports growth in the overall tech sector -** The presence of a data center can attract other technology-driven companies, creating a local "halo effect." Proximity to data infrastructure helps businesses reduce latency and improve application performance—key factors for sectors like e-commerce, finance, and AI. (8)

d. **Opportunity for rural areas and smaller cities -** Because of the need for large amounts of land, data centers are often located in rural areas, the outskirts of large urban areas, or in smaller cities. This provides potential for job creation and increased taxes.

3. The Challenge - Data centers also represent a critical challenge to Texas' already stretched infrastructure, specifically electricity and water

Offsetting these important benefits, the explosion in data center growth creates significant challenges, in particular their demand for water and electricity.

a. **Water demand – Data centers use large amounts of water to cool their equipment.** The Houston Advanced Research Center estimates that data centers in Texas currently use about 49 billion gallons of water per year. Total demand for water in Texas is about 5.5 trillion gallons, or 5,500 billion gallons, so currently data centers represent a bit less than 1% of total Texas water demand. (9)

   This may not sound like much, but there are a couple of factors that make data centers' demand for water a significant issue:

   - Their rapid growth - water demand is projected to increase to 400 billion gallons per year by 2030, or about 7% of total demand. (9)
   - The data center demand for water is not evenly distributed. Much of it is in areas of Texas that are already experiencing supply challenges and that are subject to drought, such as in much of west Texas.
   - Large data centers can create a huge challenge for local water infrastructure in the specific communities in which they are located.

   "These new data centers are enormous. I don't know where you get the water to do that in a state that's already water-stressed, not only from drought, but also rapid growth in both the population and industry."

   Robert Mace, executive director of the Meadows Center (10)

b. **Electricity demand** - Texas data centers used nearly 22 million MWh of electricity in 2023, 4.6 per cent of the state's electricity consumption. (11)

   As with water, the demand for electricity is projected to grow rapidly as data center capacity increases. ERCOT projects that **by 2031, the state grid will need to more than double its 2024 capacity**, from 85 gigawatts to up to 218 GW, largely due to the growth of data centers. (12)

In addition to the challenge to electricity generation, **transmission and distribution** will also be a significant challenge to ensure that capacity can be delivered where it will be needed.

c. **These resource demands have caused some environmental groups to oppose new data centers**
    - In December 2025 a group of over 200 environmental organizations sent a letter to the US Congress, urging a moratorium on new data centers. (20)
    - They raise legitimate concerns about the impact of data centers on electricity demand and the associated emissions from fossil fuels, and the impact on available water supplies.
    - However, it is not realistic to pretend that data center growth will not occur. If Texas blocks data centers, other states will benefit. If the US blocks data centers, they will be built in other countries. The answer is to prepare for data center growth, with effective planning and oversight, and expect data center operators to pay a fair amount for the increased infrastructure requirements.

4. Texas needs to plan now for this future growth

a. **Continue strong regulatory oversight of electricity**
    - The Texas Legislature passed SB 6 in 2025, which establishes stronger oversight and requirements for new large electricity load customers, including data centers.
    - SB 6 was passed in May 2025 with strong bipartisan support (all 31 State Senators voted in favor) and became effective immediately when Governor Abbott signed it in June 2025. (13)
    - According to an analysis by the law firm McGuireWoods, "SB 6 represents a marked policy shift in Texas by imposing increased financial and operational requirements on large loads in ERCOT and taking steps to address their possible impact on grid reliability." (14)

Bottom line, SB 6 will help to ensure that the increased loads are factored into demand planning, and that data center operators bear the associated costs.

The Texas Legislature should monitor this to ensure that these objectives are being met.

b. Encourage data centers to develop renewable energy supply.

- Because of their high electricity needs and often remote locations, sustainable energy sources such as wind and solar are often attractive. (15)
- For example, Soluna Holdings, a data center developer focused on using renewable energy, is developing a data center in Willacy County in far south Texas. They plan to use power from area windmills, which are sometimes unused because of lack of demand. (15)
- Fermi America is planning a massive $300 billion AI campus near Amarillo, Texas, called HyperGrid. If plans move forward, the 18-million-square-foot facility could generate 11 GW of IT capacity, powered by a combination of natural gas, solar, wind, and nuclear energy, making it the world's largest energy and data complex. (16)
- Data City near Laredo plans to generate 100% of its energy on site. This will include wind, solar, natural gas and eventually hydrogen power. This strategy accomplishes several things – it avoids straining existing capacity, it eliminates transmission issues, and it minimizes carbon emissions. (21)

c. Accelerate clean energy development. Texas is already a leader in clean energy development. We should build on that leadership to provide low-emissions electricity to power data centers and meet our other growing demands. The tech companies that want to build data centers should be expected to help fund this investment.

d. Include data center demand in future regional water planning. In 2025 the Texas Legislature passed SB 7, which provides significant funding for Texas water supply, and also increases the Legislature's oversight of water in Texas. Specifically, it requires that the Texas Water Development board report on the state's progress in expanding water supply and fixing aging infrastructure. (17)

Data centers should also be encouraged to reduce water requirements and to use non-treated wastewater, and should also be expected to cover the costs of increased water resources to support their operations.

SB 7 is a big step forward to ensure Texas' long term water supply. The Legislature should ensure that the impact of data center growth is explicitly factored into Texas' long range water planning.

e. **Factor water requirements into site approvals.** Data centers should only be located where water requirements can be met without putting residential water needs at risk.

f. **Invest in the workforce skills needed for employment in this field.** Lack of people with the appropriate skills, in the right locations, can be a barrier to data center expansion. By investing in accessible training programs, promoting industry partnerships, and building public awareness of data center career opportunities, Texas can ensure its workforce keeps pace with one of the state's fastest-growing industries.

   Some specific workforce proposals and programs include:

   - The Education Design Lab created the Texas Flywheel Initiative, working with industry leaders, educational institutions, and the U.S. Chamber of Commerce. The idea is to create a sustainable talent pipeline for data centers and cryptocurrency mines. (18)
   - Texas State Technical College launched a short-term (6 to 12 week) data center technician course in the Dallas area, where many data centers are concentrated. (18)
   - Community colleges and vocational schools are also well positioned to provide these kinds of programs. (19)

To fully capture the benefits of data center growth and to continue Texas' leadership in this area while managing the challenges to our water and electricity infrastructure, we need effective oversight by the Texas Legislature, providing proactive, future-oriented policies.

More Information

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2. Texas Tribune, 9/25/25, https://www.texastribune.org/2025/09/25/texas-data-center-water-use/ - more discussion of the water issue.

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