The Texas Flex

How Connect and Manage can deliver speed to power for generation and load

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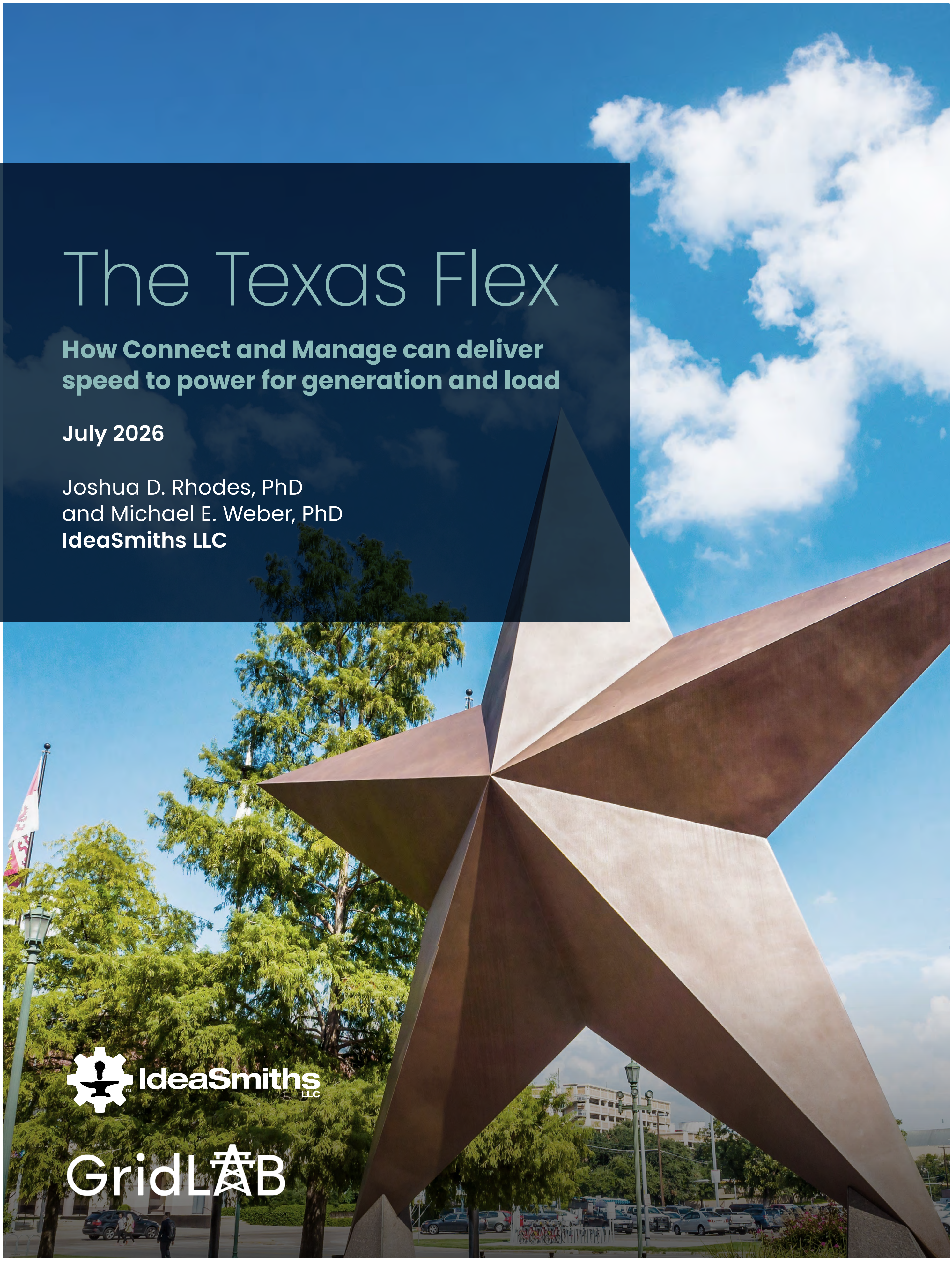

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Executive Summary

The rate at which Texas connects new power plants to the grid rivals some of the world's largest countries, and it does so by a flexible market-based management process. ERCOT's *connect and manage* framework has helped Texas integrate large amounts of new power generation by allowing resources to interconnect before all transmission upgrades needed for full deliverability are complete, with potential subsequent congestion and curtailment managed through market dispatch and prices. That successful track record is now being tested on the demand side as data centers and other large loads seek to connect at a speed and scale far beyond historical growth. Whether the supply-side success in Texas will translate to rapid integration of large loads remains to be seen. Texas is responding to this massive investment wave with a combination of transmission expansion, large-load study reforms, financial commitment requirements, and new flexible-load constructs such as Provisional Controllable Load Resources, and "Bring Your Own Generation" Self-Limiting Facilities. ERCOT is also considering potential expanded Point of Interconnection netting concepts. ERCOT does not operate a "plug and pray" system, but one that it is willing to connect, manage, and build in parallel. Other regions can learn from this approach, especially by separating physical interconnection from full deliverability. However, ERCOT's single-state governance, energy-only market, and transmission cost-allocation structure provide difficult, but not insurmountable, challenges to emulating its design.

Introduction

ERCOT's energy-only market traces back to the 1990s, beginning with wholesale competition furthered by Senate Bill 7 in 1999 which unbundled much of the investor-owned utility sector ahead of retail choice in 2002. The design reflected a market philosophy associated with policymakers such as Pat Wood at the Public Utility Commission of Texas: competitive energy prices, scarcity pricing, bilateral contracting, and open transmission access could create efficient investment signals without a separate centralized capacity market.

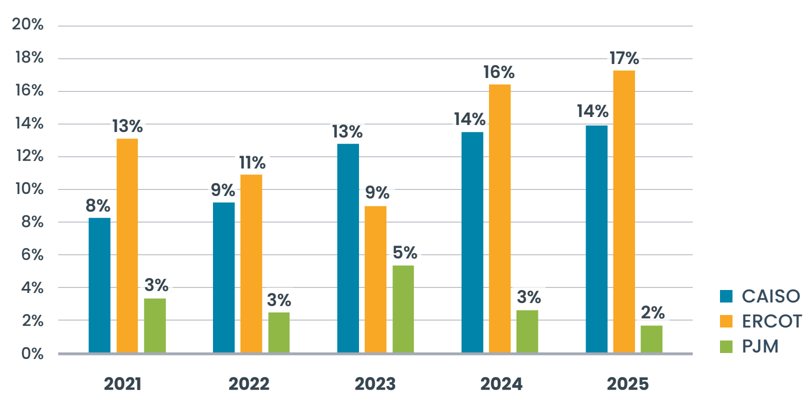
Texas is entering a new phase of electricity growth. Over the past two decades, ERCOT has rapidly expanded generation, transmission, battery storage and renewable energy deployment while operating under a market design that differs from most other U.S. regions. Its energy-only market, clearly aligned regulatory jurisdictions across generation and transmission, and connect-and-manage interconnection framework have allowed new resources to connect more quickly than in other major ISOs/RTOs, with congestion and curtailment treated as operational and economic signals rather than barriers that must always be eliminated upfront. The consequence of this combination of features is that Texas's grid build-out has occurred more quickly and more cheaply than other regions, facilitating economic growth and a diversifying fuel mix. Figure 1 shows the amount of new added generation capacity (of all types) for CAISO, ERCOT, and PJM as a percentage of each region's peak demand.

FIGURE 1.

Nameplate capacity data from EIA 860m, annual peak load data from each respective region.

Source: EIA 860, PJM, CAISO, ERCOT

ANNUAL ADDITIONS OF NEW, OPERATIONAL GENERATION FACILITIES AS A PERCENTAGE OF EACH REGION'S ANNUAL PEAK DEMAND



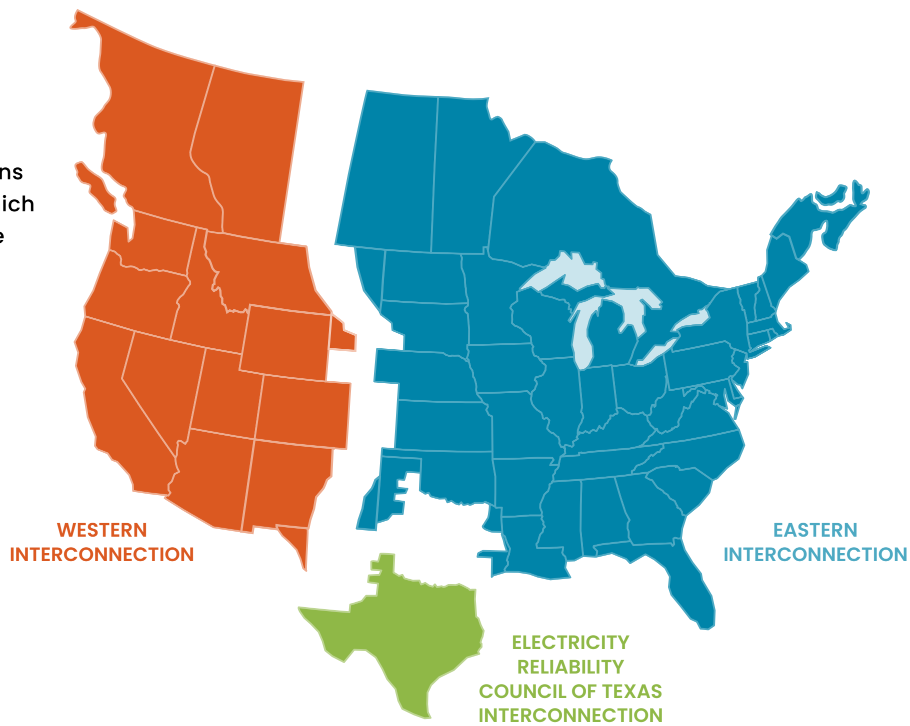
The next challenge is to determine whether those same principles can help ERCOT manage unprecedented demand growth from data centers, industrial electrification, population growth, oil and gas, and other large loads. This paper explains how ERCOT's approach works, how Texas is adapting it for large-load interconnection, why transmission expansion remains essential, and which parts of the Texas model might be useful to adopt in other electricity markets.

Texas: a case study in cost-effective growth

The Electric Reliability Council of Texas (ERCOT) is the Independent System Operator (ISO) that serves about 90% of load in the state of Texas. Figure 2 shows an exploded map of the synchronous electric interconnects in the continental US as well as parts of Canada.

FIGURE 2.

Map showing the three main electrical grid interconnections in the US, including ERCOT which is wholly contained within the state of Texas.



Because ERCOT is almost entirely contained within Texas and is not synchronously interconnected with other states except through limited DC ties, it is largely outside FERC's traditional Federal Power Act jurisdiction over interstate wholesale power markets and transmission rates. ERCOT remains subject to federal reliability oversight through NERC standards approved by FERC, and to other limited forms of federal oversight.[1]

1 https://www.ercot.com/files/docs/2024/04/22/5%20CEO%20Update.pdf

Electricity supply growth in ERCOT

ERCOT's fuel mix has changed significantly in the past 20 years as shown in Figure 3. ERCOT's total electricity generation, enumerated in TWh on the right axis, increased by about 60% from 2006 to 2025. In the same period, it diversified its generation mix significantly, and successfully incorporated new resources. For example, over the same time period, the percentage of energy served by wind and solar grew from about 2% to almost 40% and is expected to continue to grow.

ERCOT FUEL MIX FROM 2006 TO Q1 OF 2026

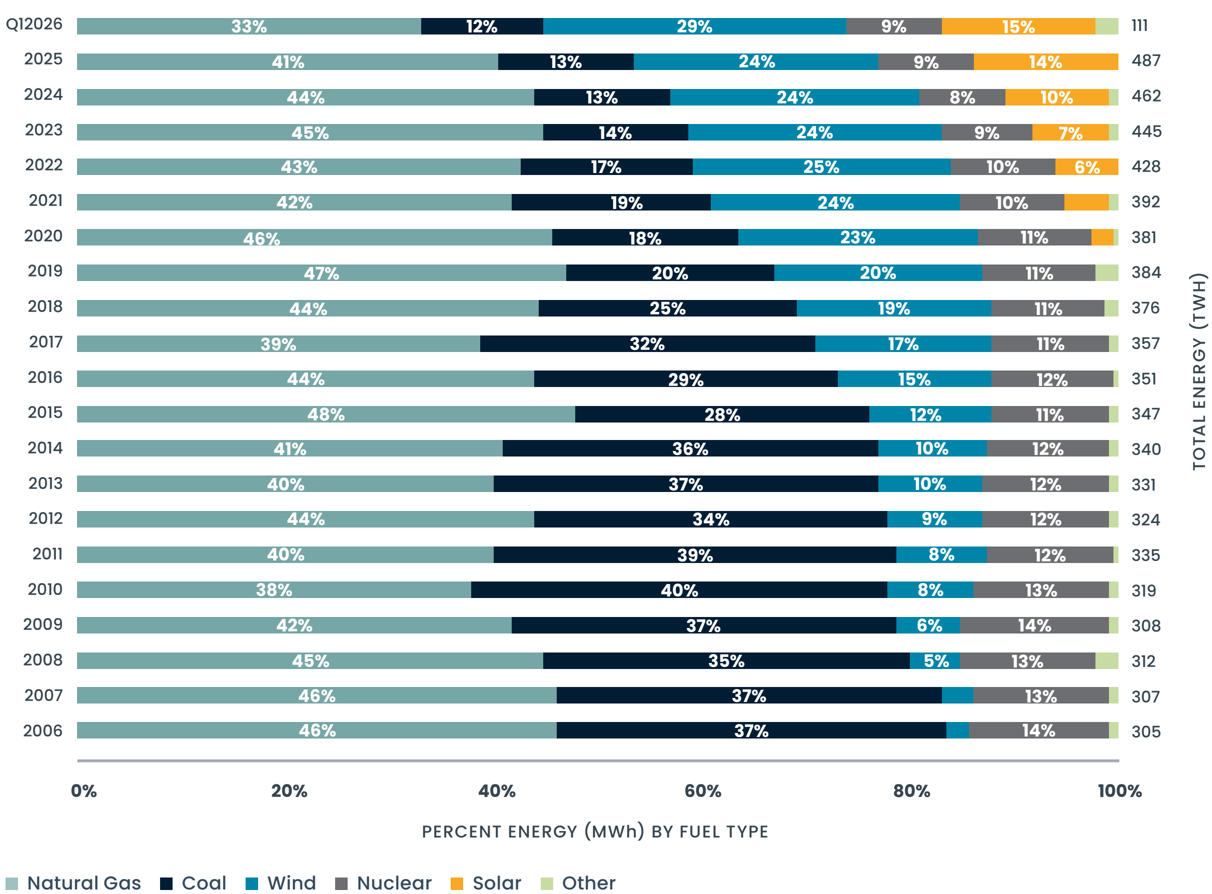


FIGURE 3. Figure showing how the fuel mix of ERCOT has changed from 2006 to Q1 of 2026.

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Figure 4 shows the deployment of wind, solar, and energy storage capacity (in GW) over the same period. For reference, ERCOT's peak demand in 2023 was 85.5 GW. The deployment of wind in ERCOT began in earnest in the mid 2000s and increased in the mid 2010s as prices declined and transmission infrastructure expanded in the state. In the late 2010s, solar Power Purchase Agreements (PPAs) generally became cheaper than wind and began to grow quickly.

WIND, SOLAR AND ENERGY STORAGE CAPACITIES IN ERCOT FROM 2006 TO Q12026

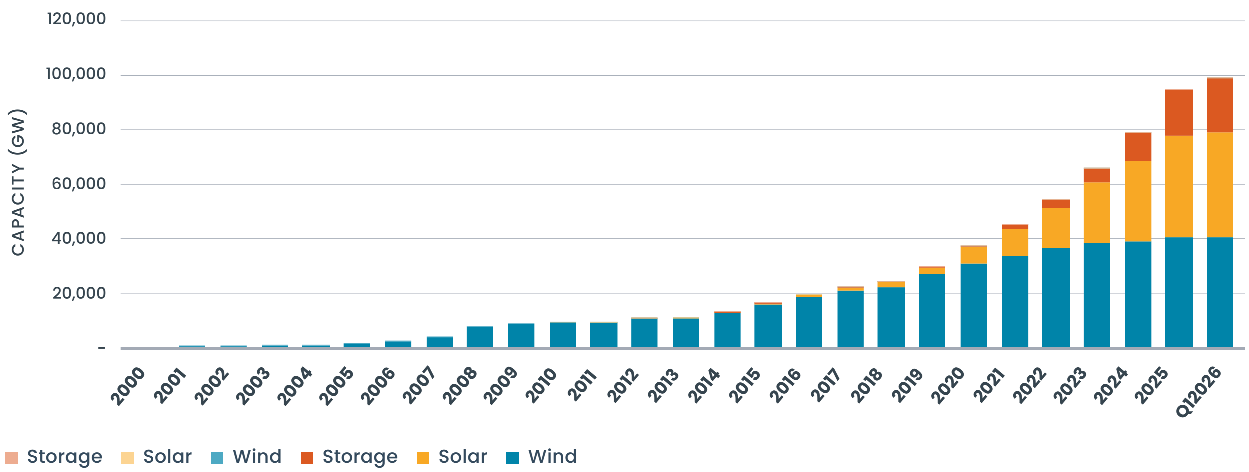

FIGURE 4. Figure showing the cumulative deployment of wind, solar, and energy storage in ERCOT from 2006 through Q1 of 2026.

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Because of complementary production profiles (the wind is generally stronger at night than during the day), solar was able to utilize much of the same transmission infrastructure that allowed the wind to connect. The early-to-mid 2020s have seen the growth of energy storage in ERCOT as prices have declined and variable renewables created opportunity for energy price arbitrage. The forward-looking ERCOT Generator Interconnection Queue indicates that in the near term, solar and storage will continue to be the dominant resource additions in ERCOT (Figure 5).

MARCH 2026 ERCOT GENERATOR INTERCONNECTION QUEUE (GW)

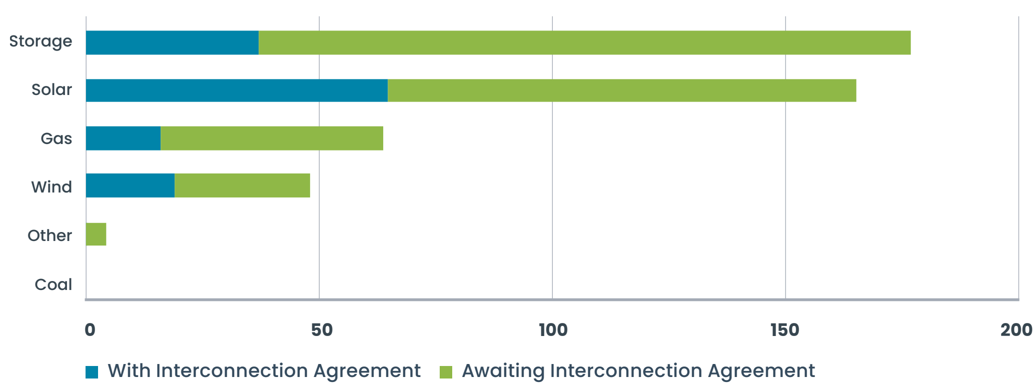

FIGURE 5. Figure showing the March 2026 ERCOT generator interconnection queue, aggregated by fuel type and interconnection agreement status. Note that not all projects in the interconnection queue are built.

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While not all projects in the generator interconnection queue get built, this inventory of prospective projects provides a useful benchmark that reveals what the market sees as valuable. In Figure 5, the capacity in the queue is broken out by projects that have interconnection agreements signed (darker parts of the bars) and projects that do not. In general, once a project has a signed interconnection agreement, it is much more likely to get built. While there are almost 180 GW of energy storage projects in the queue, about 38 GW have signed interconnection agreements; over 60 GW of the 160 GW of solar have signed interconnection agreements.

All in all, the growth and diversification of electricity generation sources in ERCOT has resulted in some of the lowest electricity prices in the US, as shown in Figure 6.

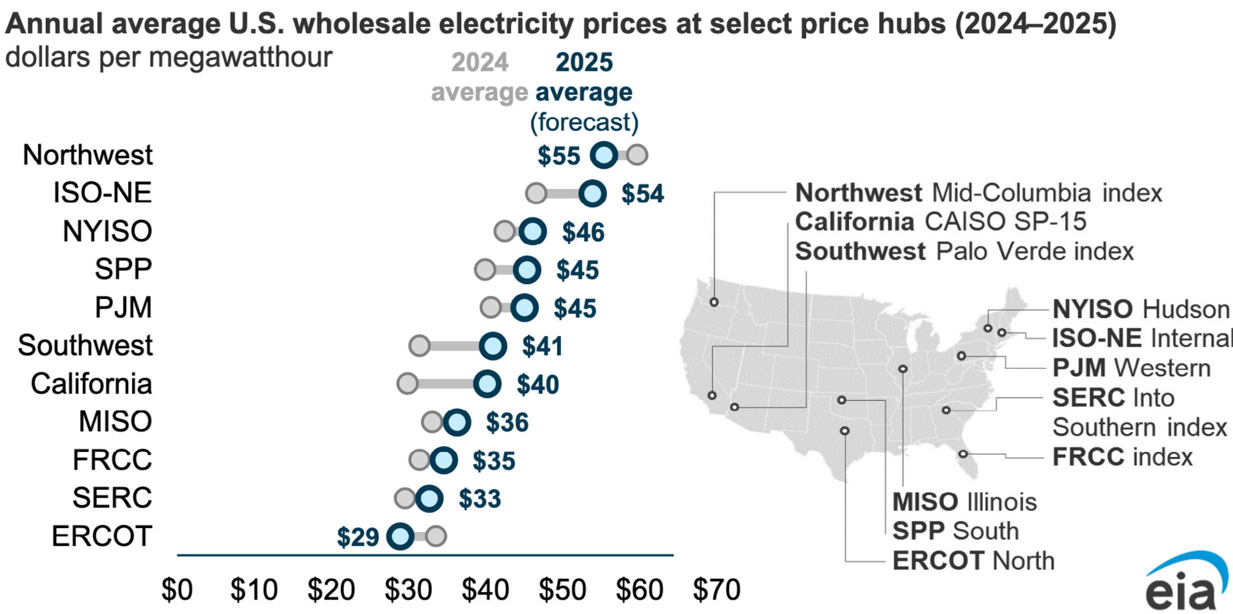

FIGURE 6. Figure from the US EIA showing ERCOT with some of the lowest wholesale electricity rates in the US.[2]

Electricity demand growth in ERCOT

The projected demand growth in ERCOT over the next five to six years is unprecedented in both speed and scale. Increasing demand, driven by what is often called Large Load Growth, has the potential to push the grid further and faster than in the last few decades. Figure 7 shows both historical (2020-2025) peak demand (GW) growth as well as multiple possible future growth scenarios.

2 https://www.eia.gov/electricity/reports.php#/T194_

ERCOT HISTORICAL PEAK DEMAND, CURRENT ADJUSTED, AND TSP-PROVIDED FORECASTS

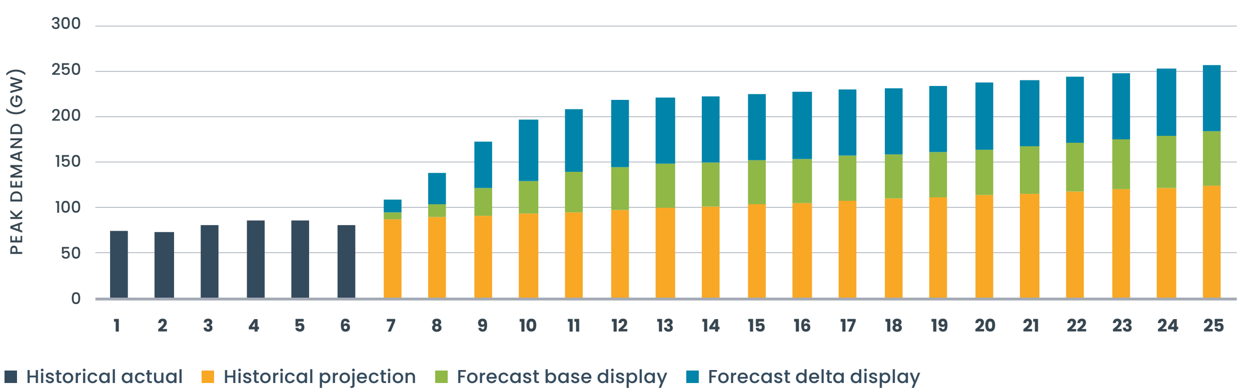

FIGURE 7. Bar chart showing historical (2020-2025) ERCOT peak demand, a linear projection forecast of historical peak demand, ERCOT's adjusted peak demand forecast from TSP provided data, and the full peak demand forecast from TSP provided data.[3]

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In Figure 7, the dark green bars show actual historical peak demand values for ERCOT from 2020 to 2025. The light green bars (the lower portion of the stacked bars starting in 2026) show what peak demand would look like if recent (2020-2025) trends continued. The darker orange (middle) portion of the stacked bars represents ERCOT's adjusted peak demand forecast accounting for the new influx of large loads and the light orange (top) portion of the stacked bars represent the additional peak demand if all the Transmission Service Provider (TSP) provided data are considered.

3 https://www.ercot.com/gridinfo/load/forecast

Load growth forecasts based on historical trends suggest that by 2030 ERCOT will have a peak demand of about 100 GW. However, given new large load growth, ERCOT's adjusted 2030 peak demand forecast is 139 GW, 40% higher than recent historical trends, and the full TSP provided data shows about 208 GW or about 110% higher than recent historical trends. Figure 8 shows the same historical and possible future trends for total annual energy (TWh) consumption in ERCOT.

ERCOT HISTORICAL ENERGY, CURRENT ADJUSTED, AND TSP-PROVIDED FORECASTS

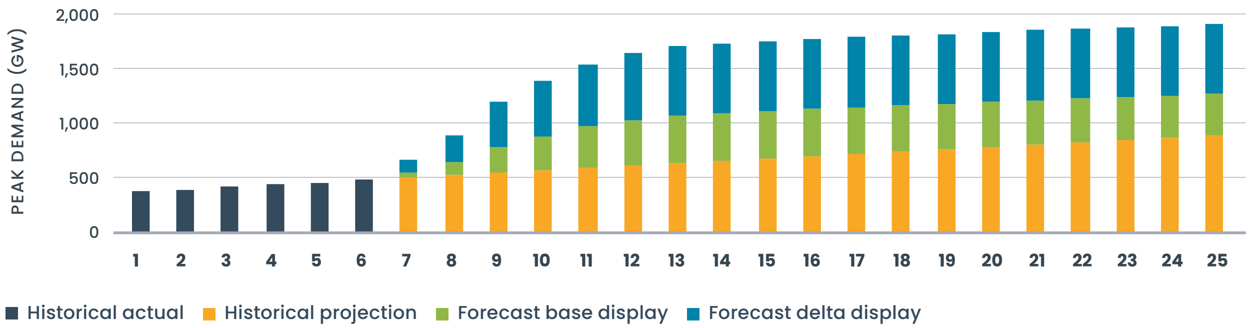

FIGURE 8. Historical (2020-2025) ERCOT annual energy consumption, a linear projection forecast of historical annual energy consumption, ERCOT's adjusted annual energy consumption forecast from TSP provided data, and the full annual energy consumption forecast from TSP provided data.[4]

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Projecting historical total annual energy consumption data into the future indicates that ERCOT will consume about 750 TWh by 2038, whereas the ERCOT adjusted forecast exceeds that milestone in 2028 and the TSP forecast exceeds that value in 2027.

It is worth noting that by 2031, these forecasts show peak demand and annual energy consumption growth rates fall back to levels closer to recent historical values. Some of the return to typical rates of growth is because the future is harder to predict the further out one looks.

Drivers of projected electricity growth in ERCOT

Unlike some parts of the US, Texas has always experienced a growing electricity sector due to factors such as population growth and its robust economy. However, projecting demand growth in ERCOT has become much harder because of the sudden surge in demand for AI model training and inference compute loads. While not all demand growth potential in ERCOT is due to data centers, currently most of it is. Figure 9 shows the latest (April 2026) data from the ERCOT Large Load Working Group (LLWG) indicating almost 446 GW of large loads under consideration for energization by 2033.[5]

4 https://www.ercot.com/gridinfo/load/forecast
5 https://www.ercot.com/calendar/04242026-LLWG-Meeting (Large Load Interconnection Status Update, April 24, 2026)

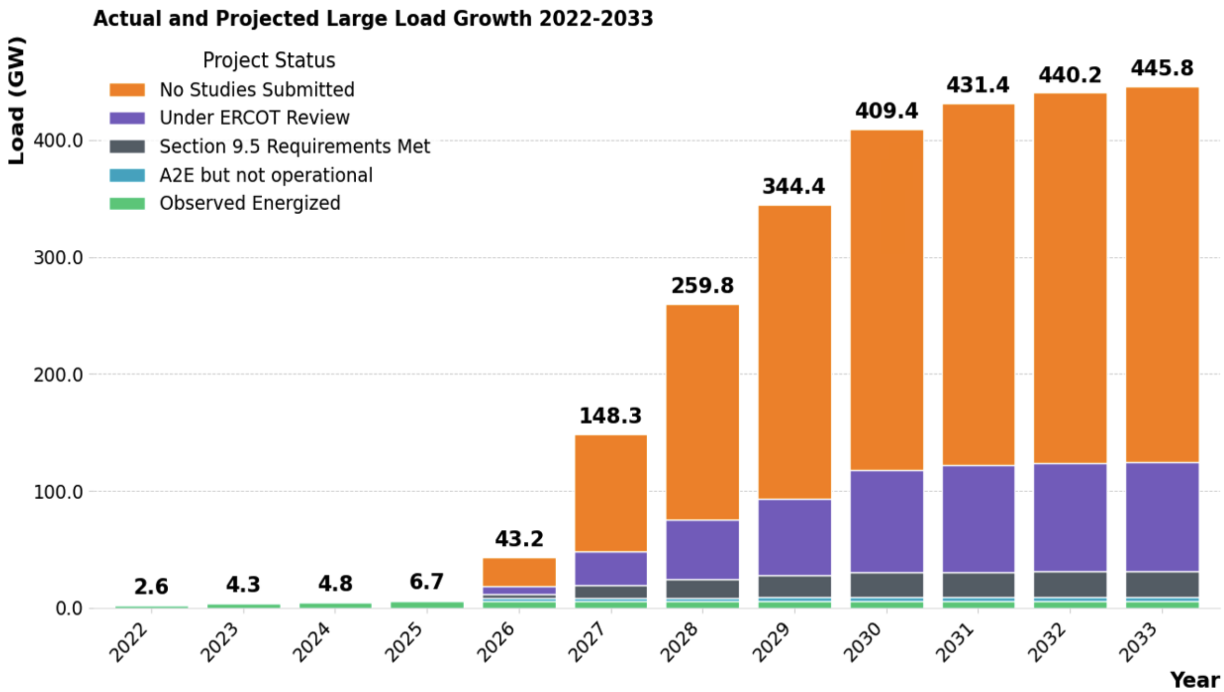


FIGURE 9. ERCOT figure showing historical and projected large loads, segmented by status.

Note that due to the current very rapid pace of change, the values in Figure 9, differ from the ERCOT projections shown in Figure 7 because ERCOT's official long-term load projections are only updated about once per year. Figure 9 was presented at the April 2026 ERCOT Large Load Working Group (LLWG), but the same chart presented just two months prior to the same LLWG only showed 238 GW of large loads in 2030. As a reminder, as of Q1 2026, ERCOT's peak demand record is about 85.5 GW. Figure 10 shows a breakdown of the large load, by type.

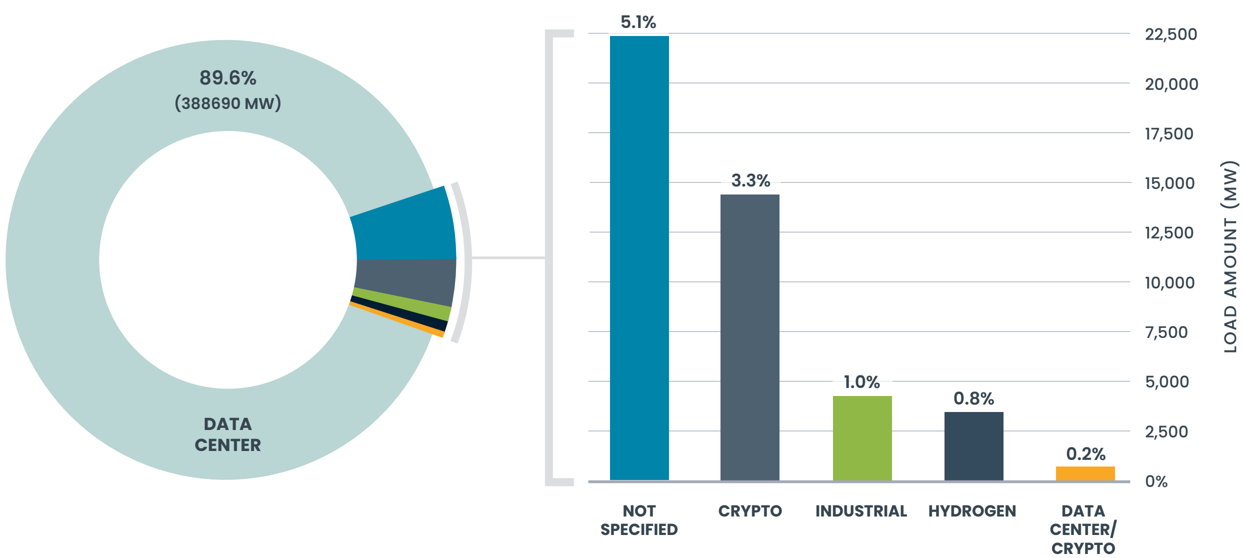


FIGURE 10. ERCOT figure showing the breakdown of large loads by type indicating that almost 90% of new large loads are data centers.

Note that Figure 10 is from the same LLWG presentation as Figure 9 and shows that almost 90% of the new large loads looking to connect to the ERCOT are data centers. And while not all data centers are AI data centers, the timing of the interconnection requests with the proliferation of AI tools, AI usage, and extremely high levels of capital spending announcements by AI companies suggests that a substantial share of the data-center demand is likely AI-related, although ERCOT's large load data do not by themselves distinguish AI data centers from other data-center uses.

It is important to note that even though these large loads are in the ERCOT's large-load tracking data, it is not likely that ERCOT will be able to connect them all. According to EIA 860M data, the entire US on average added about 42 GW per year of power plants between 2020 and 2025.[6] So to power all these new large loads, all US power plant development in the US would need to move to Texas and deploy roughly twice as fast.

6 https://www.eia.gov/electricity/data/eia860m/

Connect and manage in ERCOT

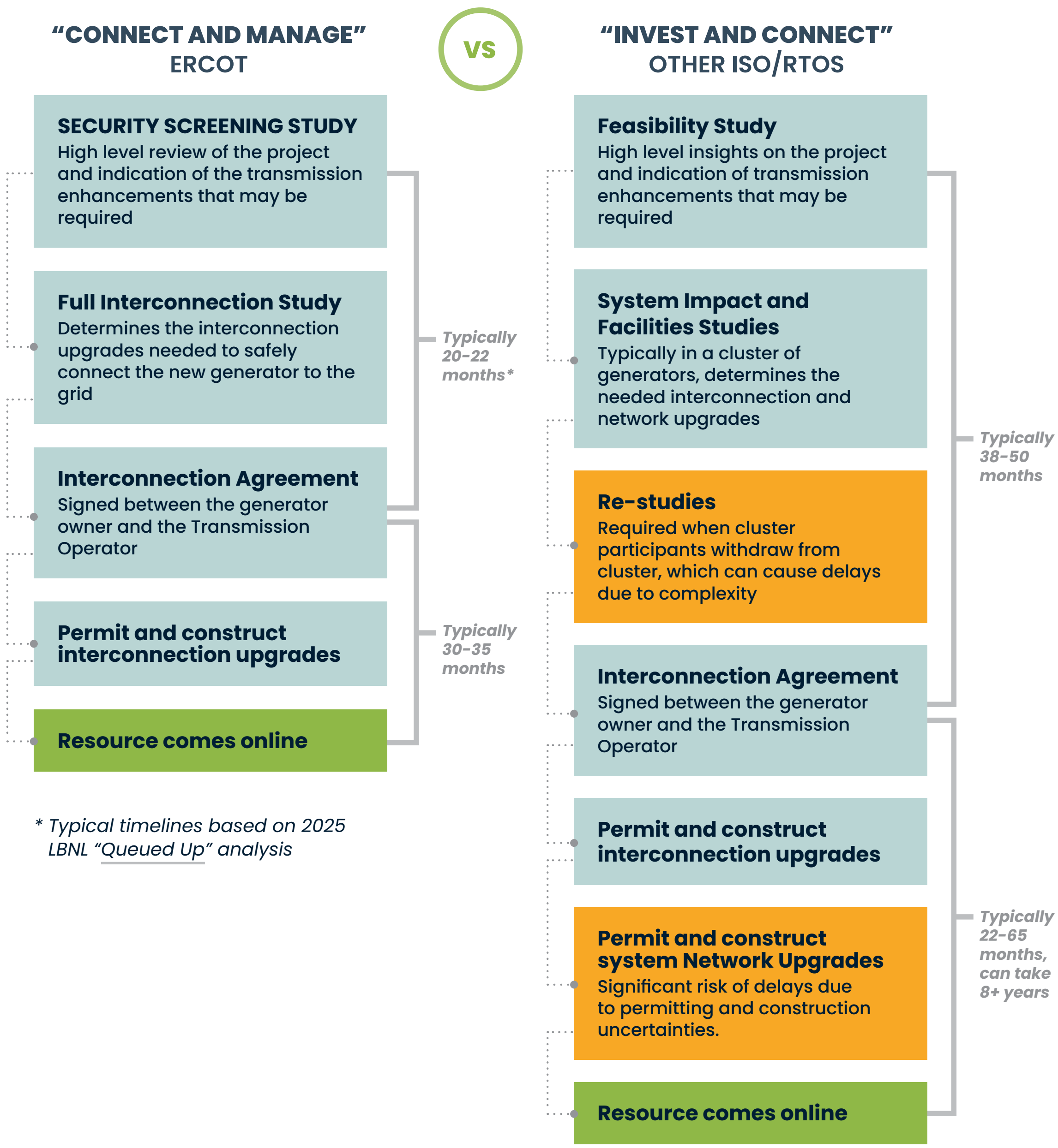
The ERCOT system utilizes a generator interconnection framework known as *connect and manage*, which allows for expeditious connection to the grid in exchange for operator management of resource curtailment. This is in contrast to the traditional *invest and connect* approach in other markets[7,8], in which generation must wait for construction of transmission network upgrades identified by the grid planner to be needed for 24/7, 365 uptime. Under invest and connect, the grid operator studies a proposed generation asset, or group of assets, under peak load and a range of highly stressed conditions to determine whether, with the unit operating at full output, "the aggregate of generation in the local area can be delivered to the aggregate of load, consistent with reliability criteria and procedures" (also called generator deliverability in some markets).[9] This requirement[10] effectively mandates that each new generator be capable of serving as a capacity resource, even if its Effective Load Carrying Capacity (ELCC) is low, as is often the case for renewable resources. These studies can be time consuming, and they frequently identify significant network upgrade requirements. When the associated upgrade costs are assigned to the project, even though the benefits of the upgrades often extend to loads and other generators, they can render it economically unviable.

Most if not all grid operators offer some version of a more flexible interconnection option[11] that allows generators to connect without guaranteeing full deliverability during periods of high system stress. Under this approach, generators are typically responsible only for local upgrades, and are not eligible for capacity payments since full deliverability is not assured. In practice, however, some regions structure this "relaxed" pathway in a way that differs little from the full interconnection process, meaning that long study timelines and substantial upgrade costs may still be imposed on generators seeking this option.[12]

Because ERCOT operates an energy-only market without capacity payments, full deliverability is not tied to a centralized capacity-payment qualification in the same way it is in many other

7 https://nicholasinstitute.duke.edu/sites/default/files/publications/beyond-ferc-order-2023-considerations-deep-interconnection-reform.pdf
8 https://www.ercot.com/files/docs/2024/10/30/0940-AM-ERCOT-Interconnection-Process-Generation-Entity-Winter-Weather-Preparedness-Fernandes.pdf
9 https://www.govinfo.gov/content/pkg/FR-2022-07-05/pdf/2022-13470.pdf
10 Generally known as the Network Resource Interconnection Service (NRIS).
11 Generally known as the Energy Resource Interconnection Service (ERIS).
12 https://nicholasinstitute.duke.edu/sites/default/files/publications/beyond-ferc-order-2023-considerations-deep-interconnection-reform.pdf

regions. As a result, ERCOT's *connect and manage* approach allows generators to interconnect without first completing every network upgrade that would be needed for full deliverability under stressed conditions. It is worth noting that despite this flexibility, ERCOT still applies reliability and minimum-deliverability criteria through its separate transmission planning process. The tradeoff is that generators can interconnect more quickly, but their output may be curtailed occasionally.



* *Typical timelines based on 2025 LBNL "Queued Up" analysis*

Every grid operator manages transmission constraints operationally through its Security Constrained Economic Dispatch (SCED) algorithm, curtailing generation when necessary to avoid violating system limits.[13] In each five-minute real-time dispatch interval, ERCOT's SCED uses resource offers, resource operating limits, ramp-rate limits, system conditions, and modeled transmission constraints to determine dispatch base points (output levels) for generators and other dispatchable resources. When a transmission constraint would otherwise be violated, SCED redispatches the system by lowering output from resources that aggravate the constraint and increasing output from resources that help relieve it, subject to resource availability and ramping capability. The resulting dispatch is intended to serve load at least cost while respecting the modeled system limits. When the constrained dispatch requires higher-cost resources to run in one location and lower-cost resources to back down elsewhere, locational marginal prices (LMPs) separate and congestion appears in the market price. Because most organized markets already use security-constrained dispatch and locational pricing, the main barrier to adopting a connect-and-manage approach is usually not the dispatch algorithm itself, but the market rules that define interconnection rights, deliverability, capacity accreditation, and cost allocation.

The *connect and manage* framework has allowed ERCOT to integrate high levels of new generation, about 14 GW in 2024 and 14.7 GW in 2025. New generation resources procured through markets lead to decreases in the cost of electricity, but can also introduce curtailment for other resources. In 2025, approximately 4.7% of wind generation and 5.7% of solar generation were curtailed due to transmission constraints.[14] While curtailment can increase over time, the risk of

13 In this framework, grid-enhancing technologies such as Dynamic Line Rating (DLR), which adjust system limits based on real-time conditions, can provide additional value and further reduce costs.

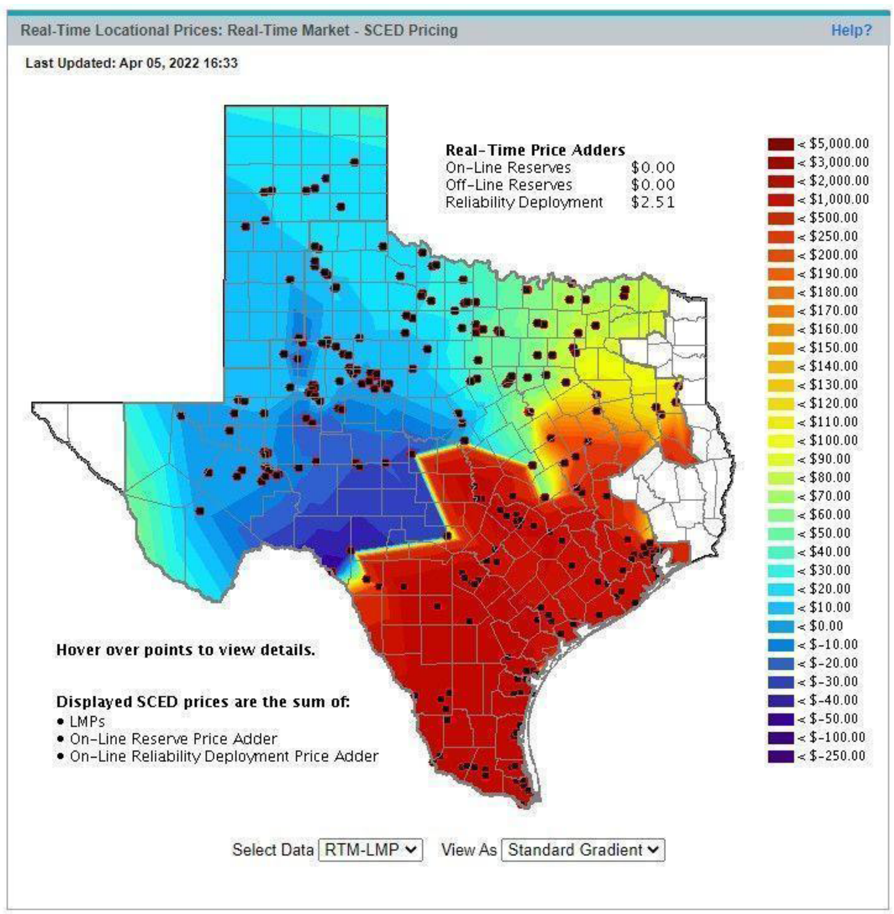
14 https://www.spglobal.com/market-intelligence/en/news-insights/research/2026/05/renewable-energy-curtailment-offers-a-surplus-opportunity-for-texas-data-centers

curtailment is borne by the generator and is an important consideration in pre-interconnection siting decisions, although financial hedging strategies can help mitigate this risk.

Overall, ERCOT's *connect and manage* approach, by tolerating congestion and occasional curtailment as operational features, has enabled faster, lower-cost market entry and more efficient use of limited transmission capacity compared to *invest and connect* approaches that require extensive upfront upgrades.[15] An additional advantage of allowing congestion to occur is that it provides clear signals for where transmission investment is most valuable, as these benefits can be quantified through price differences across network nodes. In that way, the *connect and manage* approach also provides more certainty for transmission investment. Figure 11 illustrates an example of congestion-driven price differentials in ERCOT, highlighting areas where transmission expansion might be beneficial.

FIGURE 11.

Map showing temporary, but very visible, price differentials in ERCOT locational marginal prices (LMPs) indicating high levels of congestion on the ERCOT transmission system. Congestion can also be driven by generator and transmission outages which is likely the reason in this figure given that it is from early April when many generation and transmission resources take outages between the winter and summer peak seasons.



15 https://nicholasinstitute.duke.edu/sites/default/files/publications/beyond-ferc-order-2023-considerations-deep-interconnection-reform.pdf

How transmission is built in ERCOT without *invest and connect*

There are three main ways that transmission is built in ERCOT: 1) reliability projects, 2) economic projects, and 3) system-level transmission expansion tranches.

Reliability transmission projects

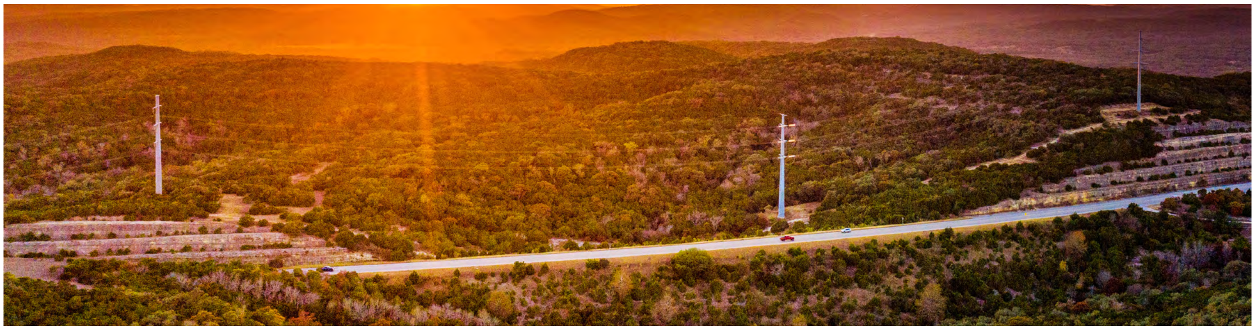
Reliability projects are built to maintain system reliability, i.e., to ensure the grid can operate safely under normal and contingency conditions (like line or generator outages). These types of projects are often driven by load growth and identified through planning studies that test whether the system meets reliability standards. If violations are found (overloads, voltage issues, instability), transmission upgrades are required and generally must be built regardless of cost. Most transmission projects in ERCOT, outside of the large system-level tranches discussed below, are built as reliability projects. However, because the transmission network operates as a system, grid upgrades, even those built nominally for system reliability, often see benefits accrue to both load and generation[16], such as relieving system congestion and curtailment.

Said differently, ERCOT's transmission reliability planning focuses on ensuring that all load has round-the-clock reliable transmission to access generation from some source, but not every source. Conversely, most regions study generation under Network Integrated Transmission Service (NRIS) requirements, which focuses on ensuring that all generators have round-the-clock reliable transmission to the marketplace of loads. Both strategies identify grid risks and design mitigations, but ERCOT's model prioritizes robust delivery networks to loads while other regions prioritize minimizing curtailment of generation.

Economic transmission projects

ERCOT also has a formal pathway for economic transmission projects that would often directly benefit generators, but in practice it is a relatively narrow one. Unlike reliability projects, which are required to resolve violations of reliability criteria, economic projects must show that their quantifiable annual benefits are at least as large as the project's annual revenue requirement. ERCOT evaluates these benefits using an 8,760-hour chronological simulation of the ERCOT system with and without the proposed upgrade. There are two economic transmission

16 https://rmi.org/insight/high-voltage-high-reward-transmission/



expansion pathways that could be used to relieve congestion/curtailment: the production-cost test and the congestion-cost test. Under the production-cost savings test, the levelized annual production-cost benefit must be greater than or equal to the project's first-year annual revenue requirement. Under the congestion-cost savings test, the levelized annual congestion-related consumer benefit must be greater than or equal to the average annual revenue requirement for the project's first three years.[17]

For the 2025 Regional Transmission Plan (RTP), ERCOT used 13.0% of estimated project cost for the production-cost-savings test and 12.7% for the congestion-cost-savings test; ERCOT's 2026 RTP assumptions update kept the production-cost threshold at 13.0% and increased the congestion-cost threshold to 12.8%.[18] Put differently, a $100 million transmission project would need to demonstrate roughly $13 million per year of production-cost savings, or roughly $12.8 million per year of congestion-cost savings, to pass the relevant screen. This requirement is a high near-term hurdle for an asset that may provide value over several decades. Thus, many transmission projects in ERCOT are advanced through reliability planning or broader system-level transmission expansion rather than through the economic-project test alone. In the 2025 RTP, ERCOT evaluated 12 candidate economic transmission projects and identified three as potentially meeting the economic planning criteria based on generic cost estimates, subject to detailed TSP cost estimates.[19]

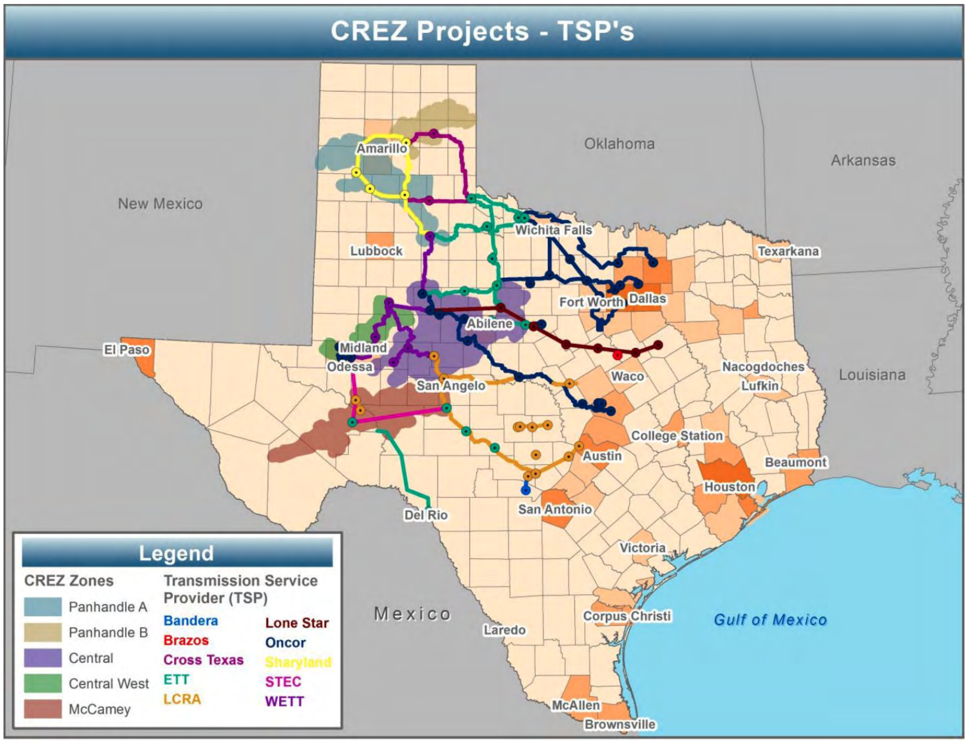
System-level transmission expansion

Texas policy makers have twice pushed for and approved large tranches of transmission buildouts across the state. The first major coordinated transmission buildout was the Competitive Renewable Energy Zone (CREZ) program, which built about 3,600 miles (~18,000 MW-miles) of 345 kV high voltage power lines from the wind-rich regions of West Texas to the load centers in the central and eastern parts of the state. The concept for these lines was approved by the Texas legislature in 2005, finalized by the PUCT in 2008, and considered fully in service by 2014. Figure 10 shows a diagram of the completed CREZ lines.

17 https://www.ercot.com/files/docs/2025/02/03/Congestion_Cost_Savings_Test_Evaluation_Guideline.pdf
18 https://www.ercot.com/files/docs/2026/04/13/Financial-Assumptions-Update-for-ERCOT-Economic-Planning-Criteria_2026RTP_v3.0.pdf
19 https://www.ercot.com/mp/data-products/data-product-details?id=pg7-048-m

FIGURE 12.

The Competitive Renewable Energy Zones (CREZ) lines that were built in ERCOT and completed in 2014.



It is important to understand the CREZ project in its historical context: the lines were conceived as a way to bring economic benefits to the state from unlocking new, lower-cost generation sources to mitigate the impact of high natural gas prices. In 2005, when the Texas Legislature directed the PUCT to implement the CREZ project, natural gas prices were three to four times higher than they have been in the recent past and official government projections from that era saw natural gas prices staying high and the electricity sector building coal plants through the 2020s and beyond.[20] As shown in Figure 3, natural gas has constituted the largest share of Texas electricity production for over 20 years. Thus, Texas electricity prices were and are still sensitive to natural gas prices. This tranche of transmission infrastructure was not built just to benefit the electricity sector, but to benefit the entire region's economy with significant cost-savings to consumers.[21]

The CREZ lines helped fuel the concept of the "Texas Miracle," which refers to the outsized growth that the Texas economy has experienced relative to other states in the US in the past decade:

"The state has led the U.S. in job growth, GDP growth and population growth. Labor force growth has outpaced the nation, driven by domestic and international in-migration. Household income in Texas has risen consistently, growing faster than inflation."[22]

20 https://www.eia.gov/outlooks/archive/aeo04/pdf/0383(2004).pdf

21 https://static1.squarespace.com/static/652f1dc02732e6621adb2a3a/t/654c1889d23c9b5e380aa6bf/1699485834626/Impact-of-Renewables-in-ERCOT_FINAL.pdf

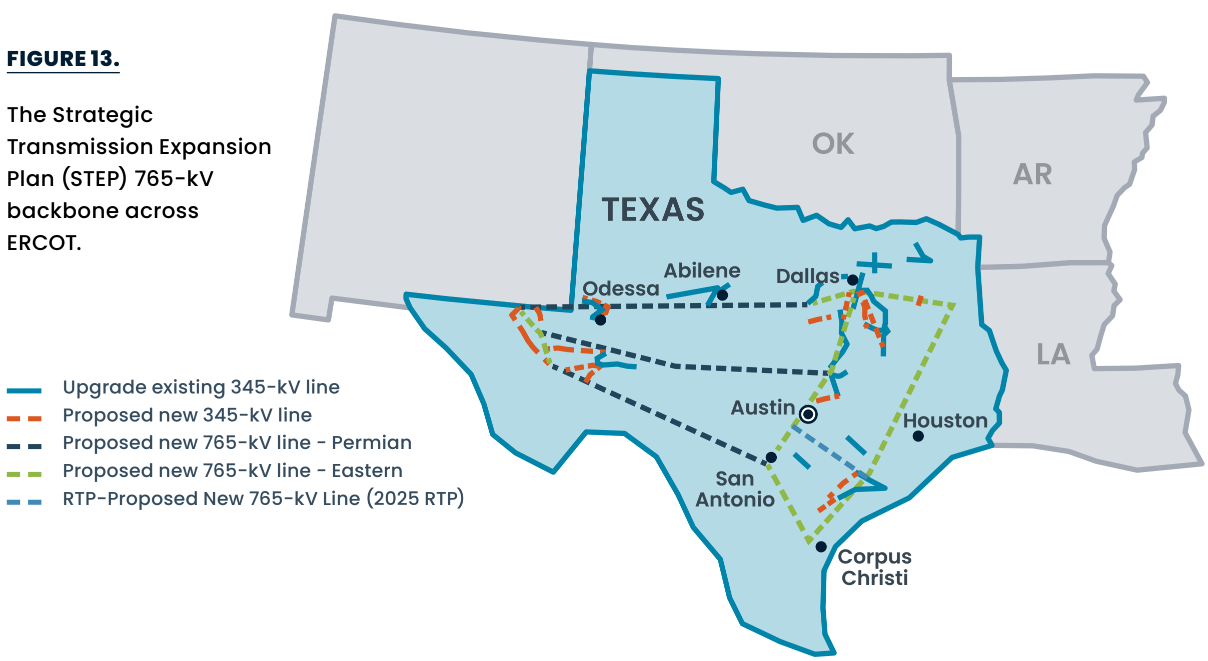
22 https://www.dallasfed.org/research/economics/2025/0325

A large and often underappreciated foundation of that economic growth has been the rapid scaling of the Texas energy sector to meet the demands of the state's economy. The Texas economy is the most energy consumptive of all US states[23] and thus directly benefits from cheap sources of energy, especially electricity. The CREZ lines benefitted the entire economy, including the oil and gas sector by lowering the costs of extraction, making them more competitive. While the CREZ lines were nominally built to move electricity from resource-rich West Texas to the load centers of the central and eastern parts of the state, the build out and supporting infrastructure allowed the oil and gas sector to electrify operations, thereby reducing emissions and cutting costs.[24] The reduced operational complexity and lowered costs has led to a drive to electrify operations in the Permian basin, which accounted for almost half of US oil output in 2025.[25] Such is the demand to electrify operations that the region is in the process of quadrupling electricity demand.[26]

However, the electricity transmission network in the far west part of the state is one of the weakest. Thus, in 2022, ERCOT started planning for an even larger buildout of transmission into the region, eventually settling on building the new tranche of lines at a higher voltage of 765 kV. The Strategic Transmission Expansion Plan (STEP) lines roughly consist of a western group to reach into the Permian and an eastern loop to complete the new backbone, shown in Figure 13.

FIGURE 13.

The Strategic Transmission Expansion Plan (STEP) 765-kV backbone across ERCOT.



23 https://www.eia.gov/states/TX/overview

24 https://atwell.com/news-and-insights/electrification-of-assets-reduces-emissions-and-provides-profit-opportunities-for-oil-and-gas-industry/

25 https://pboilandgasmagazine.com/powerhouse-permian-accounts-for-48-percent-of-record-u-s-oil-output-in-2025/

26 https://www.ercot.com/files/docs/2023/03/17/Presentation%20to%20ERCOT%20planning.pdf

As of Spring 2026, the exact routes of some of the new lines are still being sited, but it is expected that the full system will get built and energized in the early to mid 2030s. Like the CREZ lines, it is expected that the STEP lines will benefit not just oil and gas, but the broader economy, including all the new demands from large loads and data centers. So, while the CREZ lines were nominally built to connect new supply[27] and ended up spurring new demand, the STEP lines are nominally being built to meet new demand, but are likely to spur new supply, particularly solar PV as the STEP lines are pushing transmission lines into the best solar regions of the state.[28]

All in all, transmission expansion in ERCOT is more focused on connecting load than generation. Because generation is not saddled with the cost of transmission, it takes less money, and more importantly less time, to build in ERCOT. The tradeoff is that, since deep network upgrades aren't often built in tandem with new generation, ERCOT sometimes curtails generators. However, it is pretty clear that the Texas approach has resulted in more favorable conditions for development. An added benefit is that the congestion identified in this market provides a strong signal of where new transmission should be built. ERCOT's method contrasts with other regions that rely on before-the-fact studies and place greater onus on generators to bear the costs of transmission system buildout, often slowing development.

27 New supply from an entire region or class of generators, the CREZ lines were not built to benefit any one specific project.
28 https://www.nlr.gov/docs/libraries/gis/high-res-images/solar-annual-ghi-2018-usa-scale-01.jpg?sfvrsn=135d48b6_1

Resource adequacy in ERCOT

ERCOT manages resource adequacy through its energy-only market rather than a mandatory capacity market. Generators earn most of their market revenue from the energy market, ancillary services markets, bilateral contracts, and scarcity revenues. The economic theory behind the market structure is that if reserves become scarce, prices should rise enough to reward availability, encourage performance, and support investment in resources that can serve load when the system is tight. To make this theory more concrete, ERCOT implemented the Operating Reserve Demand Curve (ORDC), which adds scarcity value to real-time prices as available operating reserves decline. Because the ORDC price adder shows up in the real-time electricity price, it not only sends a signal for how much capacity is needed, but also the length of time that the capacity is needed for. For example, many short duration price spikes would send a market signal for a resource such as an energy storage system, whereas longer duration events might indicate that baseload resources are needed.

Even though ERCOT's reserve margin target is not physically binding through a capacity mechanism, ERCOT still plans around it. ERCOT publishes long-term and seasonal assessments, including Capacity, Demand and Reserves (CDR) reports and Monthly Outlooks for Resource Adequacy (MORA), and it also performs shorter-term operational assessments through the outage and commitment processes. These reports monitor reserve margins and expected supply-demand conditions. **NERC's 2026 Summer Reliability Assessment recently calculated ERCOT's reserve margin to be about 67.9%, which is well above its target of 13.75%.**[29]

The PUCT's reliability standard rule for ERCOT requires a triennial reliability assessment using probabilistic modeling, including a loss-of-load expectation criterion and additional duration and magnitude criteria. Project No. 58777 is the 2026 implementation of that process.[30] The docket is focused on the assumptions that will drive the assessment: load forecasts, weather-year weighting, outage modeling, fuel prices, generation portfolios, large-load treatment, zonal reliability, and the Cost of New Entry (CONE). The major aspects of this ongoing assessment are the CONE, which is higher due to inflation and the load forecast, which is inflated due to all the large loads looking to connect to the system. These assumptions will impact whether ERCOT appears to have enough resources under the new standard and, if not, what market design changes may be considered.

29 https://www.nerc.com/globalassets/our-work/assessments/nerc_sra_2026.pdf
30 https://interchange.puc.texas.gov/Search/Filings?ControlNumber=58777

Large load policy in Texas

Even in a place like Texas that has seen moderate electricity load growth in recent years, the projected pace is beyond what existing policy can support. While there has been a long standing and well-developed structure and queue process for connecting power plants, it is only recently that a similar structure has been put into place for large loads.[31] Historically, large loads were infrequent enough that connecting them could just be handled by the load developer and the TSP to which the load was requesting connection. Large loads put a unique point location strain on the grid and thus require power flow studies to make sure that they will not introduce new instabilities to the grid and/or identify grid upgrades that would mitigate those challenges. When the rate of large load additions is slow enough, this process works well enough such that, by the time that the next large load wants to connect, the previous large load connection becomes part of the background system. However, when multiple (or hundreds of) new large loads want to connect at the same time, studying them one at a time becomes intractable as the study for Large Load A is invalidated by the next addition of Large Load B and so forth.

Texas Senate Bill 6

In 2025 the Texas Legislature passed SB 6 which set in motion how the state would manage the new large loads looking to connect to the system. The law seeks to let the new loads connect, but requires that they be transparent, financially committed, and operationally useful during grid stress. The statute directs the PUCT to set ERCOT-region standards that support business development while reducing stranded infrastructure costs and maintaining reliability, specifically: "*The commission by rule shall establish standards for interconnecting large load customers in the ERCOT power region in a manner designed to support business development in this state while minimizing the potential for stranded infrastructure costs and maintaining system reliability.*"[32]

While the PUCT implementation is still underway, the law generally targets new or expanded single site loads above 75 MW, facilities large enough to materially affect transmission planning. At a high level, the law requires 1) higher upfront cost responsibility, 2) higher initial transmission study fees, 3) uniform financial-commitment rules for transmission infrastructure needed to serve the large loads, 4) mandatory disclosure of if the customer is pursuing a substantially similar request elsewhere in the state, and 5) the disclosure of on-site backup generation to

31 It should be noted that, as of the time of the writing of this report, the structure of a large load interconnection queue is still being developed at the PUCT and through the ERCOT stakeholder process.

32 https://capitol.texas.gov/tlodocs/89R/billtext/html/SB00006F.htm

ERCOT. The law also gives the PUCT veto power and/or conditional authority over any “behind the meter” deals between power plants and data centers that might adversely impact the grid.

SB 6 also requires PUCT to have ERCOT develop a reliability service that competitively procures demand reductions from large-load customers. The most contentious piece of SB 6 was the requirement that utilities serving certain new transmission-voltage customers to have protocols and equipment in place so the load can be curtailed during or just before firm load shed, sometimes referred to as the “kill switch”.

SB 6 also requires the PUCT to evaluate by the end of 2026 whether Texas’s existing 4CP transmission-cost methodology still fairly assigns costs. The PUCT must evaluate alternatives and what portion of transmission costs should be firmly required.

In response, ERCOT is developing the Batch Zero process as an operational/study-process counterpart to SB 6’s large-load reforms and is initiating a process to consider alternatives to 4CP, such as 12CP pricing designs.

Batch Zero process

The previous large-load interconnection process was not a grid-wide program, but a single, case-by-case study process that recently became overwhelmed. Large loads were getting stuck in a forever restudy cycle because there was no real “transmission capacity reservation” mechanism to keep the process valid. As of the writing of this report, ERCOT is almost done formalizing a transitional mechanism for triaging and studying the current backlog of large-load projects in a structured, system-wide way. The process has five main pieces: 1) inclusion criteria, 2) a Batch Zero system-wide study, 3) a commitment gate, 4) a refinement study, and 5) a transmission implementation plan. Figure 14 shows the current framework of the Batch Zero process.

BATCH ZERO PGRR145 BUILDING BLOCKS

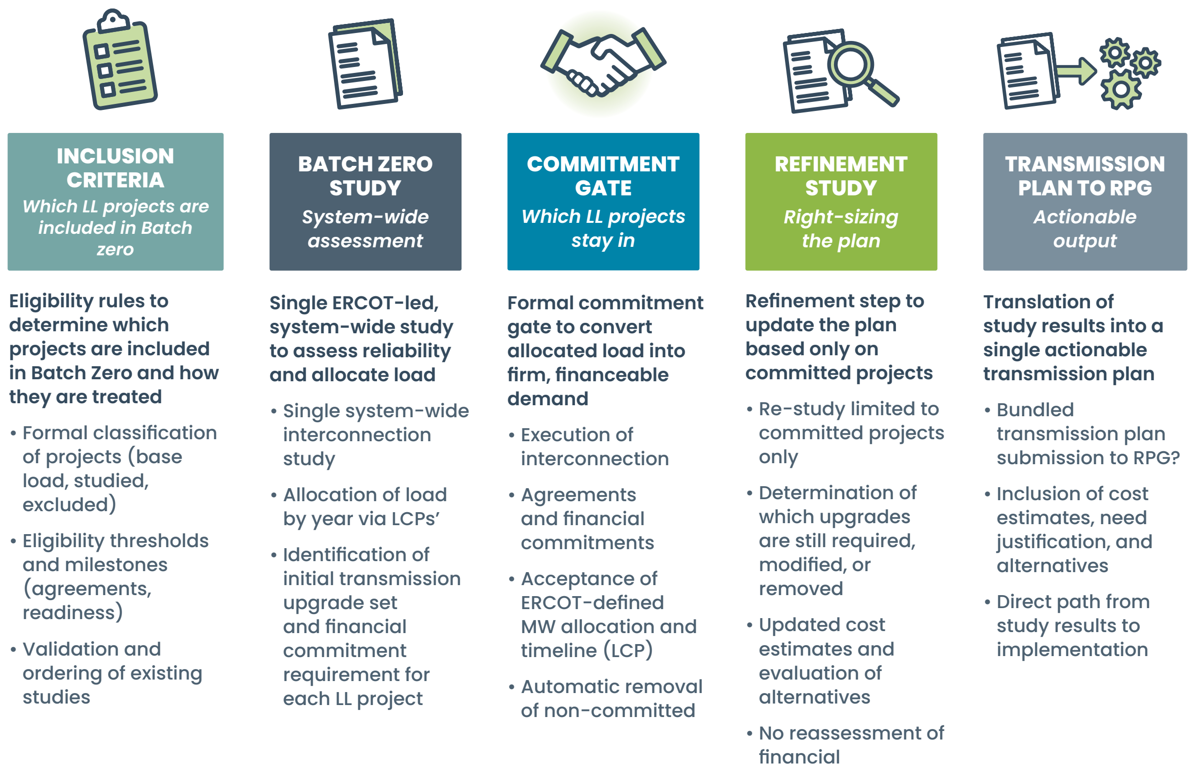


FIGURE 14. ERCOT figure showing the current Batch Zero process for new large loads in ERCOT.[33]

The inclusion criteria of the Batch Zero process place a much higher priority on project maturity versus just being in the queue with "readiness becoming a gating issue".[34] It is possible that through the Batch Zero process, projects might receive a year-by-year MW allocation, rather than immediate approval for the full requested load. The Batch Zero process is being positioned as a stopgap measure to attempt to clear the current large backlog and make way for some form of a future recurring batch-study process.

Connect and manage for load

As mentioned before, ERCOT employs the concept of *connect and manage* for generators such that deliverability of power is not guaranteed and curtailment is a risk borne by the developer. In practice this method allows for the deployment of more generation than the transmission network can handle at certain times, which physically allows for more capacity of generation to get built faster. Now that more load wants to connect than the transmission network can currently handle, the concept of *connect and manage* is being assessed for load.

33 https://www.ercot.com/files/docs/2026/04/13/9.1-Batch-Study-Update.pdf
34 https://www.seyfarth.com/news-insights/ercots-batch-zero-proposal-and-what-it-means-for-large-load-projects-in-texas.html

However, while the operational concepts behind *connect and manage* for load might be similar to those for generation, the economic implications can be very different. When a generation resource is curtailed, it foregoes the wholesale value of the electricity at its injection node[35], but when a load is curtailed, it foregoes the value of the product or service that the electricity enables. Wholesale prices for electricity are often in the tens of dollars per MWh but can sometimes spike to the thousands of dollars per MWh. Electricity markets often set wholesale market price caps ($5,000/MWh in ERCOT) based on the value of lost load. Thus, in theory, while the value of curtailed electricity for a generator can be low, the value of curtailed electricity for load (lost load) is always high. The value of lost load (VOLL) also varies by customer class with recent studies indicating some customers in ERCOT valuing VOLL as high as ~$667,000/MWh, or over 130 times the ERCOT market cap.[36] Other studies have found that the capacity value of some of the largest GW-scale data centers to be valued in the billions of dollars per year.[37] However, given the current rate of CAPEX investment by data center and AI companies, it is possible that the value of certain types of delayed load is perceived to be even higher. Thus, the financial implications for *connect and manage* for load are different than for generation.

But even so, the electricity grid has physical limits to its current ability to supply the desired new load and limits to how fast it can expand to accommodate more of it. Large loads put localized stress on the grid and, until the infrastructure can be updated to provide firm service, the loads might have to be, or be seen by the grid as, flexible. The following sections describe the current and proposed pathways for connecting large loads in ERCOT that might, at least initially, require flexibility.

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35 As well as any power purchase agreement prices, tax credits, etc.

36 https://www.brattle.com/wp-content/uploads/2024/09/Value-of-Lost-Load-Study-for-the-ERCOT-Region.pdf

37 https://www.camus.energy/flexible-data-center-report

INTERCONNECTION PATHWAY	CORE CONCEPT	MARKET PARTICIPATION	SIMULTANEOUS OPERATION OF LOAD AND GENERATION	FIRMNESS & CURTAILMENT RISK	BATCH ZERO STATUS
Controllable Load Resource (CLR)	A large load dispatched by ERCOT's Security Constrained Economic Dispatch (SCED) every 5 minutes, functionally treating load reduction like power generation.	Eligible to participate in both energy and ancillary services markets.	(Focused strictly on demand-side participation).	The load is non-firm and fully subject to ERCOT dispatch and service obligations.	An existing framework that serves as the baseline for designing new speed-to-power pathways.
Provisional Controllable Load Resource (PCLR)	A hybrid model where a portion of the load is treated as firm, while the remainder is flexible and dispatched by SCED.	Eligible to participate in the energy market, but not eligible for ancillary services markets.	(Focused strictly on demand-side participation).	The non-firm portion assumes delivery risk and is curtailable on an interim basis until full transmission upgrades are built.	Currently proposed to allow large loads faster energization prior to full transmission build-out.
BYOG Batch Self-Limiting Facility (SLF)	A large load co-located with generation behind a single Point of Interconnection (POI), subject to an ERCOT-assigned grid import/export cap.	Either the supply-side resource or the demand-side CLR may participate at a given time.	ERCOT transmission planning does not assume simultaneous full load and full generation.	Takes on the operational risk of self-supply and load curtailment if internal equipment fails or the POI limit is reached.	Currently being considered as a speed-to-power pathway for data centers and other large loads.
Netted Network	Combines PCLR and SLF features, allowing load, generation, and storage behind one POI with a net injection/withdrawal cap.	Eligible to participate in both energy and ancillary services markets.	Both the demand side and supply side are permitted to participate simultaneously.	Interconnection risk is managed around a net limit. Developers rely on onsite supply and demand flexibility.	Not feasible for current Batch Zero as it requires deep system changes, but popular for potential future inclusion.

Controllable Load Resource (CLR)

A Controllable Load Resource (CLR) is a large load that can be dispatched by ERCOT's Security Constrained Economic Dispatch (SCED) program the same way that power plants are dispatched every 5-minutes. The concept of the CLR is that, all else equal, turning down a load is functionally equivalent to turning up a power plant. The current CLR program is mainly about operations and market participation: the load registers through a Resource Entity and QSE, provides telemetry, passes qualification requirements, and follows ERCOT dispatch or service obligations. CLRs can participate in both the energy and ancillary services markets, like power plants.

Provisional Controllable Load Resource (PCLR)

In conjunction with the Batch Zero process, ERCOT has borrowed from the CLR concept to create the Provisional Controllable Load Resource (PCLR). Planning for new load as firm-only (e.g. inflexible load) can delay projects until transmission upgrades are built, but a flexible path can allow private developers to assume delivery risk on an interim basis, which is a risk that generation developers have long accepted in ERCOT. This pathway is potentially faster, which is of interest to many new load developers.

ERCOT describes the concept as follows: a large load would have a portion of load treated as firm through its Load Commissioning Plan (LCP) while the remaining load would be flexible and subject to ERCOT dispatch.[38] The PCLR framework would allow a load to consume more energy in unconstrained hours before full transmission build-out, with the non-firm MW managed through SCED, like a traditional CLR. However, while CLRs can participate in Ancillary Services markets, the draft language indicates that PCLRs are not eligible to do so. The full requested load would still be studied in Batch Zero, with transmission upgrades identified to transition the PCLR to firm service over time.

BYOG Batch Self-Limiting Facility (SLF)

ERCOT is also currently considering a second speed-to-power pathway to energize large loads before the system can provide full firm transmission service, the Bring Your Own Generation Batch Self-Limiting Facility (BYOG SLF).[39] As the PCLR concept borrows from the CLR class, the BYOG SLF is structured like ERCOT's current Private Use Network (PUN) class typical of large refineries and petrochemical facilities, but with a Self-Limiting Feature (SLF).

At a high level, a data center or other large load would co-locate generation behind the same point of interconnection (POI), but ERCOT would cap how much the combined site can withdraw from, or inject into, the transmission grid. Under this scenario, the site can serve a much larger internal load using its own generation, but the grid must plan around the net amount at the interconnection point. Thus, the project gets more control over its energization path, but it takes on the operational risk of self-supply and load curtailment.

The load and generation owners must coordinate operations so that grid imports never exceed the assigned limit, and transmission upgrades might still be required if the batch study identifies reliability needs. The site must also be modeled to be compliant with its POI cap based on its own largest internal contingency, which will depend on its configuration.[40] ERCOT also says transmission planning does not assume simultaneous full load and full generation at the POI; either the supply-side resource or the demand-side CLR may participate at a given time. A third concept, called a "Netted Network" would allow both load and generation to participate

38 https://www.ercot.com/files/docs/2026/04/13/9.1-Batch-Study-Update.pdf

39 https://www.ercot.com/files/docs/2026/03/13/Agentic-Infrastructure-LLWG-CLR-BYOG-3.12.26.pdf

40 If the facilities generators share a common step-up transformer, transformer loss may be most limiting event; if generators are electrically independent, individual G-1 may apply.

at the same time, but it is *not being considered* for the current Batch Zero process.

Netted network

The Netted Network concept would essentially take pieces of both the PCLR and BYOG SLF to allow large load, generation, and potentially storage behind one point of interconnection, with the site still subject to a net injection/withdrawal cap at that POI. The big difference from the BYOG Self-Limiting Facility is that the load side and the generation/storage side would be allowed to participate simultaneously in ERCOT markets, both on the demand side and the supply side, while staying within the POI limit. ERCOT/LLWG materials describe it as physically like an SLF, but with simultaneous supply-side and demand-side market participation, including Energy and Ancillary Services markets.

This concept is commercially attractive because it could let a data center serve itself, hedge power supply, earn market revenues from generation and/or storage, offer demand flexibility, and manage the interconnection around a net limit rather than the full size of the internal load and generation.

The LLWG materials state that the Netted Network concept would give developers greater flexibility and could simplify the scope of Batch Zero rule changes, but also state that this approach is not feasible at this time because just reusing existing system constructs (CLR/PCLR, PUN/BYOG SLF) would not be sufficient, rather it would require new market features and trigger a System Change Request (SCR).

The Batch Zero process is meant to be a near-term transitional study process to fix the immediate large load backlog, not a full redesign of ERCOT's market systems. A Netted Network would likely require deeper changes to ERCOT dispatch, settlement, metering, telemetry, ancillary-service qualification, and POI-limit enforcement systems. However, the concept is popular among some market participants and could be included in the future.

Transmission cost allocation: 4CP and beyond

Because ERCOT builds transmission primarily to serve load, load pays for transmission. The ERCOT market relies on a coincident peak-based cost allocation mechanism, known as 4CP (Four Coincident Peak), to allocate the cost of the transmission system to the loads that it serves. Under this structure, transmission system related costs for the next year are allocated based on the load's contribution to the system's highest 15-minute load interval during the months of June through September. However, this mechanism also encourages load-serving entities and large customers to reduce demand during anticipated peak periods because reducing demand for this specified single summed hour can drastically reduce next year's costs, sometimes over 30%.

As a cost allocation mechanism, this method worked well when load flexibility was limited. However, today's large flexible loads, such as crypto mining, data centers, new industrial processes, and behind the meter storage can more easily alter their load in the short term without actually providing the grid benefit that is being incentivized with this program. Thus, flexible loads can reduce their 4CP obligation and shift transmission costs onto less flexible loads, such as residential and small commercial consumers.

In addition, the large amount of solar deployed on the ERCOT grid over the past five years has divorced peak demand from peak prices, which is also a new paradigm for the grid. The increasing penetration of solar has shifted the nature of system stress from purely peak-demand-driven events (4-5pm) to periods of net load scarcity, generally when the sun has set and the wind hasn't yet picked up for the night (7-9pm). In this context, 4CP may no longer align with system needs. Because 4CP incentivizes avoidance of a small number of semi-forecastable peak intervals, it can drive behavior that reduces demand during system peak hours while doing little to address actual scarcity periods. In some cases, it may even encourage inefficient outcomes, such as shifting load in ways that do not improve, and might worsen, system reliability or economic efficiency.

Thus, SB 6 also called for the current 4CP methodology to be studied to see if it was still fit for purpose. The PUCT's recent staff draft recommendations in Project No. 58484 include considering a shift away from 4CP toward a methodology using more (12) coincident peaks, lengthening the peak measurement interval (30 minutes), and potential large-load-specific cost responsibility such as minimum demand charges based on contracted peak demand. Like Batch Zero, the process is still underway.

Implications and discussion

Connect and manage as a framework for large load

The ERCOT experience of *connect and manage* is not the Wild West of electricity, nor does ERCOT simply allow resources to connect and hope that the system works, sometimes called “plug and pray.” Rather, ERCOT separates physical interconnection from full deliverability, assigns congestion and curtailment risk to market participants, manages constraints through dispatch and prices, and uses persistent congestion as information about where additional transmission would create system value. The concept allows transmission constraints to be managed operationally and economically rather than treated as barriers that must be fully eliminated before new resources can connect.

Connect and manage is central to how Texas has been able to add large amounts of new generation to its grid. In many regions, generator interconnection is closely tied to deliverability. A project might need to demonstrate that its output can be delivered to load under stressed system conditions before it can move forward. ERCOT’s energy-only market does not require that same linkage. As a result, ERCOT can allow a generator to interconnect even if the transmission system cannot accommodate full output in every hour. The generator receives faster market access but accepts the risk that it might be curtailed when local or regional constraints bind.

Congestion and curtailment are not failures in ERCOT. Some level of congestion is evidence that the network is being used intensively. ERCOT’s market allows the system to discover transmission needs through actual operating conditions, rather than relying exclusively on ex ante studies that attempt to predict every future network condition before a project connects. Some other regions, like Virginia, are beginning to require that utilities prove that infrastructure is highly utilized before the utility can build more[41], but Texas’ system shows this automatically. Other regions could look to Texas as evidence that flexible interconnection of generation is a means of increasing grid utilization and expediting construction of new energy resources. However, there remain region-specific barriers that limit the adoption of a full *connect and manage* paradigm, which merit further investigation.

For now, the challenge in Texas is whether the same logic can be adapted to load. When a large load is curtailed, the consequence may be interrupted compute, an industrial-process

41 https://lis.virginia.gov/bill-details/20261/HB434

disruption, reduced hydrogen production, curtailed oilfield operations, or other business impacts. For that reason, a load-side version of *connect and manage* cannot simply assume that loads are flexible because they say they are. Flexibility must be defined, measured, visible to ERCOT, dispatchable under clear conditions, and enforceable if the load fails to perform.

Texas's emerging large-load framework is best understood as an attempt to connect as much load as possible even if it departs from the historical paradigm that load service should always be firm. A fully firm large load should be studied and served as firm demand, with any necessary transmission upgrades identified through the planning process even if that means that the load cannot connect as quickly as it would like to. A flexible load, by contrast, might be able to energize more quickly if it accepts limits on when and how much it can consume. A load with onsite generation, storage, or both might be able to reduce its net impact at the point of interconnection and thus also connect more quickly, but only if ERCOT and the relevant transmission service provider can rely on the site to remain within its assigned operating limits. Creating these differentiations in the interconnection process is sending the market signals to large load developers that if they want to connect quickly, they must be operationally flexible and/or bring some level of self-sufficiency. In this way, Texas is working toward the market framework to let the developers of these large loads determine their own pathway to interconnection without overwhelming the grid or outright turning down requests.

The concept of Point of Interconnection (POI) netting is especially important in the road that ERCOT is taking for speed to power. A large campus with onsite generation and storage may have a much smaller net impact on the grid than its gross load, potentially allowing for an earlier energization date. However, ERCOT still wants to understand the gross load, the gross onsite generation, the storage configuration, the largest internal contingency, the likely ramping behavior, and the consequences of losing onsite supply. A 1 GW data center with a 200 MW point-of-interconnection limit is different than an ordinary 200 MW load. If onsite generation trips, fuel supply is unavailable, or internal equipment fails, the facility must remain within its grid-facing limit or automatically curtail load. Otherwise, the apparent benefits of netting could turn into reliability risk.

The importance of fast transmission development

Regardless of new large load interconnection pathways, transmission expansion remains essential. *Connect and manage* is not a substitute for building wires. ERCOT's history shows both are needed. Texas has historically planned transmission around 1) reliably serving load, 2) an economic test for reducing system costs, and 3) building massive tranches of transmission that are beyond what a single generator or load could justify. CREZ helped unlock wind-rich regions of the state and created broader economic benefits beyond the individual generators that used the lines. STEP is likely to play a similar role for the next phase of growth, including oil and gas electrification, large industrial load, data centers, and new solar development in high-quality resource areas. The Texas model works in part because the state has from time to time been willing to build large transmission backbones for system-wide and economy-wide reasons, but it is the congestion signals and reliability constraints, partially derived from *connect and manage*, that provide the insight for where and when those expansions would be useful.

The transferability of the Texas model

Perhaps the most transferable part of the Texas model is not ERCOT's exact market design, but its willingness to separate rights and obligations that are often bundled together elsewhere: physical interconnection, firm deliverability, capacity/resource-adequacy value, and firm transmission service. That separation reflects a different planning philosophy. ERCOT views transmission as shared economic infrastructure, congestion as a useful market signal, and resource adequacy as something supported through energy-market prices, ancillary services, bilateral contracting, and operational backstops rather than a centralized capacity market. Other regions do not need to fully abandon their own governance structures or capacity constructs to learn from ERCOT, but they could adapt some of ERCOT's guiding principles. Multi-state RTOs face more complex stakeholder processes[42], FERC-jurisdictional tariff changes, and cost-allocation disputes; capacity-market[43] regions also tie deliverability to accreditation and revenue in ways that make connect-and-manage harder to wholesale import directly.

Still, it is possible to adapt: create interconnection products that distinguish physical connection from full deliverability, use provisional or limited service categories, allow large loads to choose among firm, partially firm, interruptible, self-supplied, or dispatchable service levels[44], require flexible load to be visible and enforceable, use congestion and curtailment outcomes to guide transmission planning, and allocate the cost of broad backbone transmission to broad beneficiaries rather than only to the next project in the queue. For its part, ERCOT is still actively adapting its structure to meet the demands of today and will likely continue to iterate and improve on current constructs to meet the demands of tomorrow.

42 However, a discussion of the benefits of a smaller governance structure are starting to surface with FERC Chairman Laura Swett saying that the PJM Interconnection may be "too big to function" and has an "unacceptable" governance structure. https://www.utilitydive.com/news/pjm-ferc-swett-capacity-governance-data-center/820085/

43 However, under pressure to do something, PJM has released a policy paper that includes a possible pathway of deemphasizing their capacity market, which could ease this constraint. https://www.pjm.com/-/media/DotCom/library/reports-notices/special-reports/2026/20260506-powering-reliability-through-market-design.pdf

44 Other regions, such as PJM, are also exploring such options. https://www.pjm.com/-/media/DotCom/library/reports-notices/special-reports/2026/20260506-powering-reliability-through-market-design.pdf

Conclusions

Other regions do not need to become ERCOT to learn from ERCOT. They can separate physical interconnection from full deliverability, create provisional or flexible service options, require stronger readiness and financial commitments from large loads, use batch studies for clustered requests, and plan regional transmission backbones around broad economic value rather than only individual interconnection requests. But they cannot simply copy Texas's outcomes without also addressing market design, capacity accreditation, cost allocation, transmission siting, and governance.

For Texas, the near-term objective is to connect, manage, and build in parallel. Flexible loads can reduce the need for immediate full upgrades, but they cannot eliminate the need for transmission. POI netting of various forms can accelerate energization, but it cannot hide the reliability implications of large gross loads, and given the current backlog and desire to build, the batch study process has the potential to reduce process chaos. The most durable version of *connect and manage* for load will likely be one that gives large customers a faster path to power in exchange for clear obligations, while protecting existing customers from stranded or poorly allocated system costs and preserving ERCOT's ability to operate the system reliably.

ERCOT's advantage is not only its market design, but its institutional muscle memory. Texas has spent two decades connecting large amounts of new generation, managing congestion through markets, and building transmission infrastructure to support broader economic growth. That experience gives ERCOT a head start in adapting similar concepts to large-load growth. The next step is to make sure that the load-side version of *connect and manage* is as disciplined as the generation-side version.

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IdeaSmiths LLC

IdeaSmiths has a deep and broad understanding of energy systems. With access to an industry-leading partner team and an extended bench of energy expertise, we provide rigorous analysis, technical due diligence, prototyping, communications, strategic advisory support, and expert witness work. IdeaSmiths has been operating since 2013 and has since grown to include a network of collaborators and experts who provide us with expanded technical expertise and bandwidth to take on a variety of projects.

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