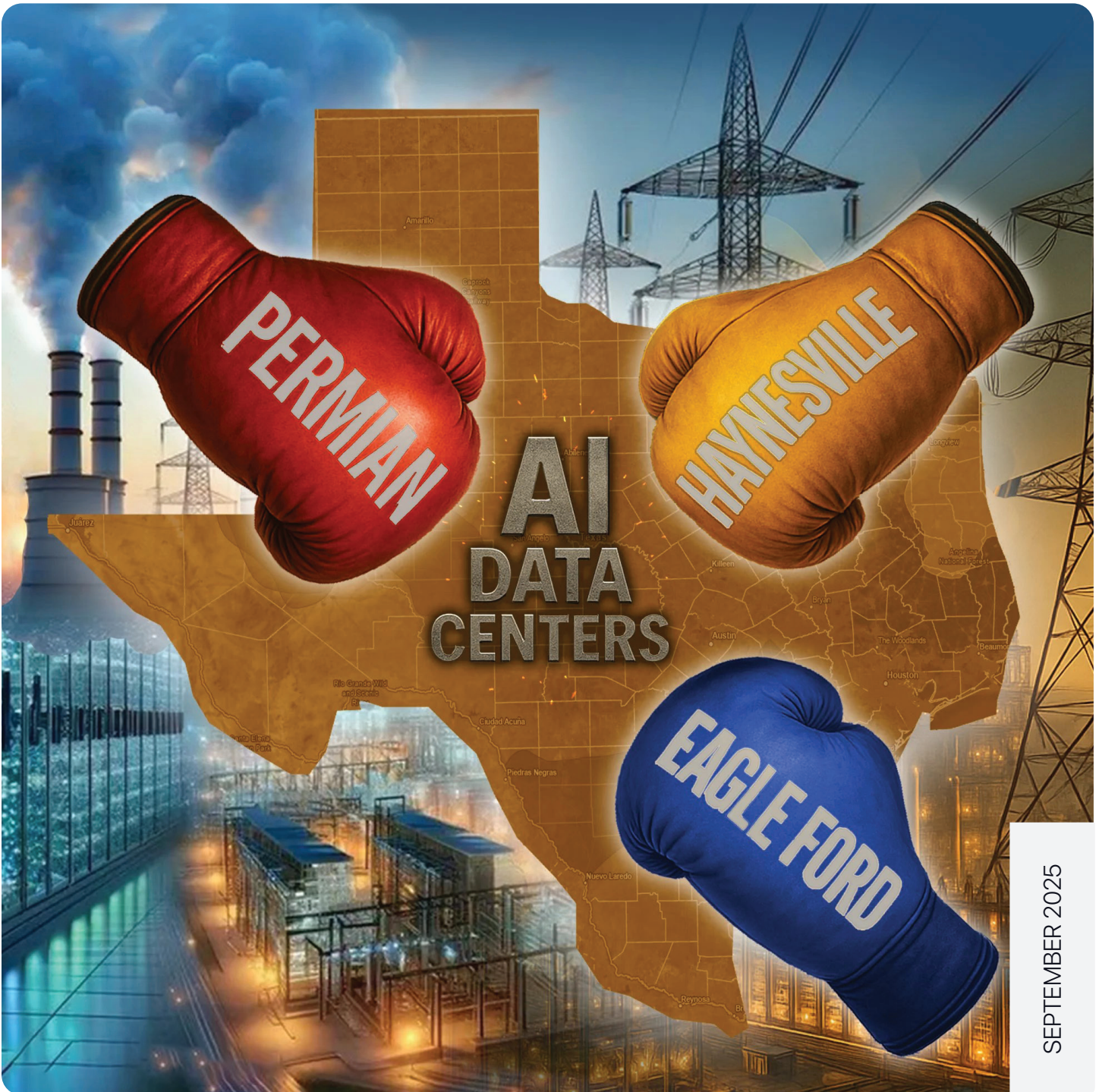




FrontierGen

# BARRELS TO MEGAWATTS

Which Texas Basin Will Power The Ai Data Center Boom?



SEPTEMBER 2025

# Table of Contents

## 1. Executive Summary

## 2. Introduction

- 2.1 **AI's Power Surge:** And the Grid Crunch
- 2.2 **The Achilles' Heel:** Long-Haul Transmission
- 2.3 **Texas and ERCOT:** A Blueprint for Speed
- 2.4 **Natural Gas:** The Decade-Long Bridge Fuel
- 2.5 **Next Question:** Which Texas Basin Wins?

## 3. Grid Foundations: Transmission, Generation, and Load Dynamics by Basin

- 3.1 **Permian Basin:** Energy Giant, Grid Bottleneck
- 3.2 **Eagle Ford:** Balanced Load, Firm Backbone
- 3.3 **Haynesville:** Quiet Grid, Ready to Scale

## 4. Texas Gas: Bridge Fuel to Digital Superhighway

- 4.1 **Permian Basin:** Cheap Gas, Growing Demand
- 4.2 **Eagle Ford:** Midstream Density with a Low-Carbon Regulatory Hedge
- 4.3

## 5. Fiber Infrastructure: Connecting Energy to Industry

- 5.1 **Permian Basin:** Long-Haul Resilience from the West
- 5.2 **Eagle Ford:** Gateway to Latin America
- 5.3 **Haynesville:** Fast Track to the Southeast Cloud

## 6. Infrastructure Meets IP: Patent Risk in the Shale

- 6.1 **Permian:** Energy Scale Meets Legal Friction
- 6.2 **Eagle Ford:** Balanced Infrastructure, Minimal IP Disruption
- 6.3 **Haynesville:** Plaintiff Magnet of the Eastern District

## 7. Conclusion

Texas at the Crossroads of the AI Century



# Executive Summary

AI is triggering the steepest acceleration in U.S. electricity demand since the modern grid was built. Data center load is set to quadruple from 147 TWh in 2023 to 606 TWh by 2030, about 12% of total U.S. consumption. The main bottleneck isn't turbines or transformers, but multi-state transmission governance. This constraint is steering hyperscale developers toward ERCOT, where single-jurisdiction oversight and "connect-and-manage" market rules have enabled roughly 45 GW of new capacity since 2021 and materially faster interconnection timelines than other grids.

Texas's near-term bridge to AI-scale and firm power is natural gas. The Permian, Eagle Ford, and Haynesville basins collectively produce ~46 Bcf/d—more than 40% of U.S. dry gas and feed the densest pipeline network in North America (350,000+ miles). Policy tailwinds, such as Texas SB 6, prioritize interconnection for large loads able to self-supply a significant share of their demand, further reinforcing gas-fired solutions. Developers may secure firm supply rapidly and redundantly on the state's intrastate gas "superhighway,"

This paper compares the three basins across five site-specific vectors: transmission infrastructure, surplus power, natural gas capacity, fiber optic connectivity, and patent-venue risk—and ranks them using specific criteria. These criteria and rankings are shown as a Basin Scorecard in Figure 7 of this paper.

## Eagle Ford — "First to Value" (21/25)

**Key Advantages:** Robust 345-kV backbone with upgrades coming (San Miguel—target 2027); proximity to the 2.7-GW South Texas Nuclear Facility and an 8+-GW gas fleet; deep gas midstream liquidity at Agua Dulce; developing carbon capture overlays (Oxy King Ranch, BKV South Texas); fully meshed fiber with diverse inland/coastal paths and 144-strand cross-border trunks; SDTX Federal Judicial District (lower-intensity patent venue).

**Key Disadvantages:** Limited high-voltage redundancy; finite local gas base may require supplemental molecules for multiple large builds.

## Haynesville — Stable Grid, Legal Overhang (16/25)

**Key Advantages:** Meshed 345-kV network with light queues and pricing near ERCOT averages; dry, high-BTU gas linked to Henry Hub; strong ties to Gulf LNG and ERCOT hubs; inland I-20 Dallas Atlanta fiber corridor with low-latency, hurricane-resilient routes.

**Key Disadvantages:** Within EDTX, a high-activity plaintiff-friendly patent venue; farther from major AI metros, which can add lateral cost and latency.

## Permian — Fuel King, Grid Bottleneck (15/25)

**Key Advantages:** Cheapest, most abundant associated gas (Waha often sub-Henry Hub) and ~10 GW of co-located wind/solar.

**Key Disadvantages:** Severe transmission headroom limits as crypto and oilfield electrification compete for capacity. ERCOT's \$13-\$15B Permian Reliability Plan—including Texas's first 765-kV corridors—targets relief around ~2030; until then, best-fit strategies are behind-the-fence or dedicated gas generation sized to local constraints. Patent-venue exposure in WDTX.

Against this backdrop, this paper compares the three basins across four siting vectors -power infrastructure, gas supply, fiber, and patent-venue risk - and draws three key conclusions:

## **Eagle Ford – “First to Value” (Score: 21/25)**

### **Advantages**

Balanced grid with robust 345/138 kV upgrades, the upcoming San Miguel–Marion 345 kV line (2027), proximity to the 2.7 GW South Texas Project nuclear plant, and an 8+ GW gas fleet for reliability. The Agua Dulce gas hub offers dense midstream connectivity and pricing liquidity; nearby CCS/DAC projects (e.g., Oxy King Ranch, BKV South Texas) enable turnkey net-zero hedges. On fiber, Eagle Ford sits within a fully meshed D-A-S-H backbone, with diverse inland/coastal north–south routes and 144-strand cross-border trunks - making it a prime U.S. edge for LatAm traffic. Legally, most of the basin falls in SDTX, a randomized, lower-intensity patent venue.

### **Drawbacks**

Limited high-voltage redundancy and a finite local gas base may require supplemental supply for multiple large builds.

## **Haynesville – Stable Grid, Legal Overhang (Score: 16/25)**

### **Advantages**

Meshed 345 kV network with light queues, few constraints, and pricing close to ERCOT averages. Gas is dry, high-BTU, with Henry Hub-linked stability and strong connectivity to Gulf LNG and ERCOT hubs. Fiber follows the inland I-20 Dallas ↔ Atlanta corridor, marketed as low-latency and above the hurricane zone.

### **Drawbacks**

Sits within EDTX, one of the most active and plaintiff-friendly patent venues; also farther from AI metros, which can increase telecom lateral costs and latency.

## **Permian – Fuel King, Grid Bottleneck (Score: 15/25)**

### **Advantages**

Unmatched volume and low cost of associated gas (Waha often clears well below Henry Hub) and ~10 GW of co-located wind/solar.

### **Drawbacks**

Severe transmission headroom limits as crypto and oilfield electrification compete for capacity. ERCOT’s \$13–\$15B Permian Reliability Plan—including Texas’s first 765 kV corridors—aims to unlock scalability by ~2030. Until then, optimal strategies involve behind-the-fence or dedicated gas generation sized to local. Patent-venue risk in WDTX (Midland and Austin divisions) is non-trivial.



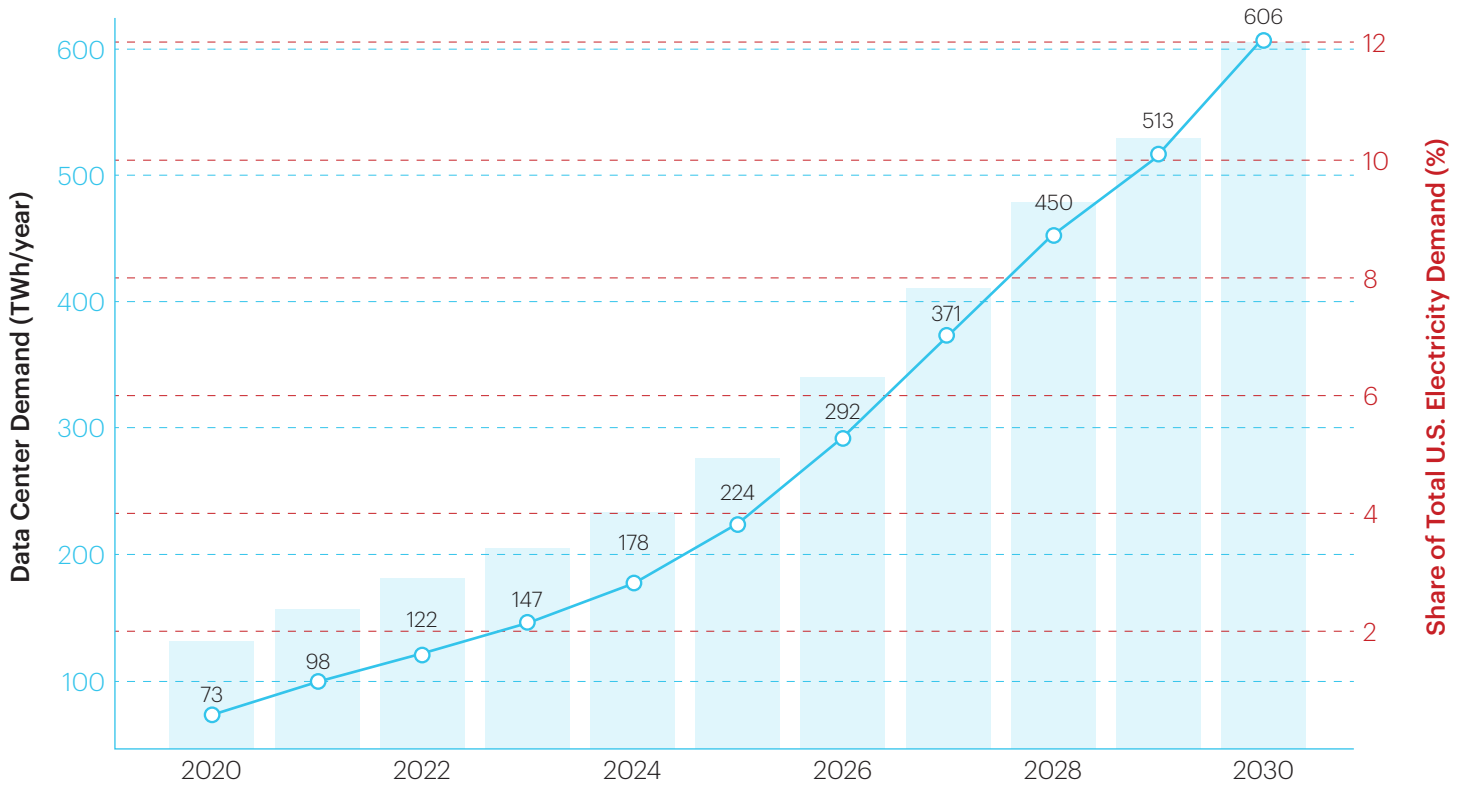
# Introduction



## 2.1 AI's Power Surge: And the Grid Crunch

Generative AI is driving the fastest acceleration in electricity demand since the rise of the modern industrial grid. U.S. data center load is projected to quadruple from 147TWh in 2023 to 606TWh by 2030 - rising to a staggering 12% of total national electricity consumption.<sup>[1]</sup> As depicted in Figure 1, AI and cloud infrastructure alone will require over 400TWh of new generation by the end of the decade. This is the equivalent of connecting the country of France to our electric grid.

**Figure 1: Data Center Electricity & Share of U.S. Grid Load (2020-30)**



Sources: McKinsey & Co. "AI's Power Binge" (Nov 2024); EIA STEO (July 2025); U.S. Electric Power Annual (2023); Assumes McKinsey-implied U.S. total demand reaches ~5,050 TWh by 2030.

## 2.2 The Achilles' Heel: Long Haul Transmission

Across much of the U.S., the biggest barrier to meeting this surging demand isn't the construction of large-scale power plants, high-voltage lines, or substations—it's governance. Multi-state transmission projects face sequential layers of approval: federal oversight by FERC; RTO planning and market processes (where regional transmission organizations coordinate multi-state grid planning); and separate state regulatory reviews in every jurisdiction they cross.

In PJM—the nation's largest RTO, serving about 65 million people across 13 states—a single transmission project can trigger a dozen or more agency approvals, each with its own timelines, procedures, and political dynamics. The result: permitting timelines that can stretch beyond a decade before construction even begins.

With data center growth accelerating, federal policymakers now view the transmission infrastructure build-out as critical to national security. Early actions include:



### DOE's "Supercharging the Electric Grid"

Bundled financing and streamlined federal reviews for high-priority corridors.

### FERC Order 2023

Firm study deadlines, standardized cluster processing, and penalties to unclog interconnection queues.

Even if these reforms succeed, multi-state coordination will remain the primary bottleneck. The AI build-out won't wait—pushing many developers toward Texas and its state-run ERCOT grid, where single-regulator oversight and a "connect-and-manage" market design allow projects to advance at a pace the rest of the country struggles to match.

## 2.3 Texas and ERCOT: A Blueprint for Speed

The ERCOT Grid, operating independently from the rest of the U.S. and largely outside FERC jurisdiction, has become a national model for speed, scalability, and developer-driven growth. Its "connect-and-manage" philosophy lets projects interconnect first and manage congestion through market dispatch, dramatically shortening deployment timelines.

▶ New capacity of 45 GW (2021-24), more than 2.5x PJM additions over the same period<sup>[2][3]</sup>

▶ Average interconnection timelines of ~3.5 years from application to commercial operation compared to 6–8 years in other major grids<sup>[4]</sup>

▶ Low curtailment despite rapid build-out: ~5% of wind and ~9% of solar output curtailed in 2022.<sup>[5]</sup>

Beyond sheer speed, ERCOT has demonstrated an uncommon ability to scale transmission with purpose. Its \$6.9 billion Competitive Renewable Energy Zones (CREZ) initiative built more than 3,600 miles of 345-kV backbone lines<sup>[6]</sup>, linking some of Texas's most wind-rich and remote areas in West and South Texas directly to major load centers.

The payoff was clear: Texas became the nation's top wind producer not only because of its world-class resource base, but because it invested in the infrastructure to unlock it. Just as significantly, CREZ created permanent high-voltage hubs in sparsely populated regions like the Permian Basin and the Eagle Ford of South Texas—corridors that can now anchor both large-scale generation and the next wave of high-load demand, from energy-intensive industry to hyperscale AI data centers.

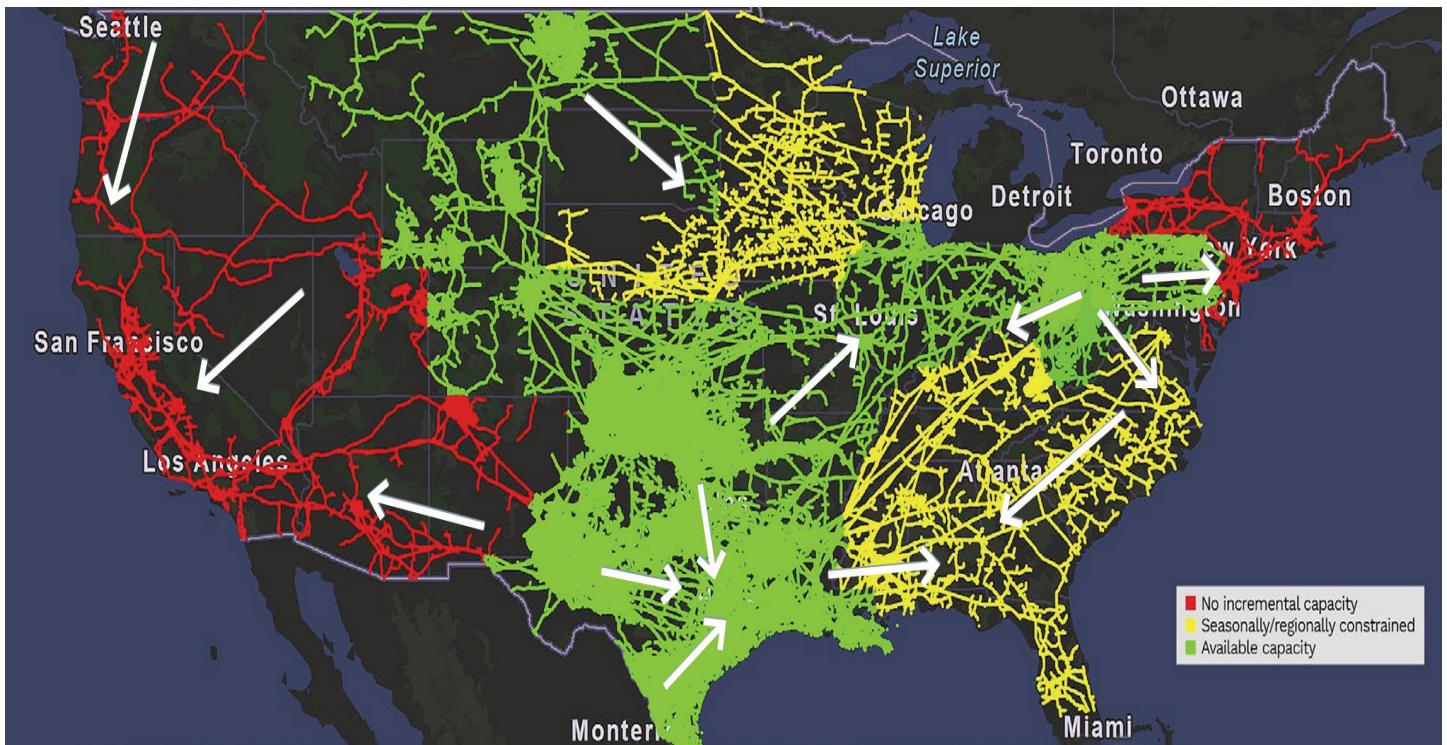
## 2.4 Natural Gas: The Decade Long Bridge Fuel

The shale revolution has funneled nearly a trillion dollars of capital into three powerhouse basins—the Permian, Haynesville, and Eagle Ford—cementing Texas as the hub of North America's oil and gas aggregation and distribution. In 2023, Texas alone produced roughly 31.6 Bcf/d of marketed natural gas, about 28% of total U.S. supply. Including cross-border volumes from New Mexico and Louisiana, these basins collectively deliver around 46 Bcf/d of dry gas—more than 40% of national output.<sup>[7][8]</sup>

Supporting this scale is the densest gas pipeline network in the country. Texas hosts 350,000+ miles of gas pipelines,<sup>[9]</sup> giving data center developers access to multiple high-pressure transmission lines and short, redundant laterals enabling firm, low-cost supply and direct hub access at Waha, Katy, Agua Dulce, and Carthage.



**Figure 2: U.S. Gas Pipeline Capacity: Texas vs. the Rest**



Source: *Kimmeridge Research; Evolution of the APES: AI, Power, and Energy Supply*

Figure 2 shows that much of the U.S. interstate pipeline network (outside Texas) is already operating at or near full capacity. With greenfield expansions facing long and uncertain permitting, demand centers such as Northern Virginia, the Southeast, and the Desert Southwest must compete for limited transport capacity, widening basis differentials.

By building in-basin inside Texas, developers sidestep these constraints. The state’s dense intrastate networks, short redundant laterals, and liquid hubs allow firm supply to be secured on far shorter timelines, delivering a competitive advantage in both cost

### **Policy Trends: Gas is the Near-Term Backbone of Digital Infrastructure**

Right now, policy is steering data center developers toward natural gas. The 2025 “One Big Beautiful Bill Act” moves up the deadline for federal tax credits on new wind and solar projects, ending them for any project not online by 2027. Texas Senate Bill 6 goes further by giving large power users advantaged interconnection should back-up generation be established. While many see nuclear as the long-term solution, even optimistic projections put small modular reactors into commercial operation no earlier than 2030. Until then, gas remains the most practical option. For hyperscale developers with AI-driven growth, abundant local gas and ERCOT’s speed provide a powerful edge—avoiding interconnection delays and ensuring steady, dispatchable power in a single-jurisdiction market. <sup>[10] [11]</sup>



## 2.5 Next Question: Which Texas Basin Wins?

With ERCOT's framework in place and gas as the dominant near-term fuel, hyperscale developers are asking: Where in Texas should we build?

This paper compares the state's three major shale basins—Permian, Eagle Ford, and Haynesville—across four dimensions most critical to AI-scale infrastructure:



### Transmission Infrastructure & Electric Capacity

Availability of high-voltage corridors, substations, and grid stability.



### Natural Gas Supply & Pipeline Availability

Basin production scale, takeaway capacity, and redundancy of midstream



### Fiber Connectivity, Latency, Capacity & Redundancy

Long-haul routes, diversity, and direct cloud on-ramps.

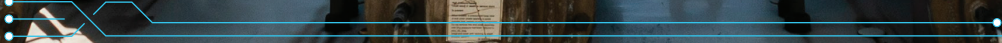


### Legal & Regulatory Exposure

Patent venue risk, permitting environment, and policy outlook.



# Grid Foundations: Transmission, Generation, and Load Dynamics by Basin

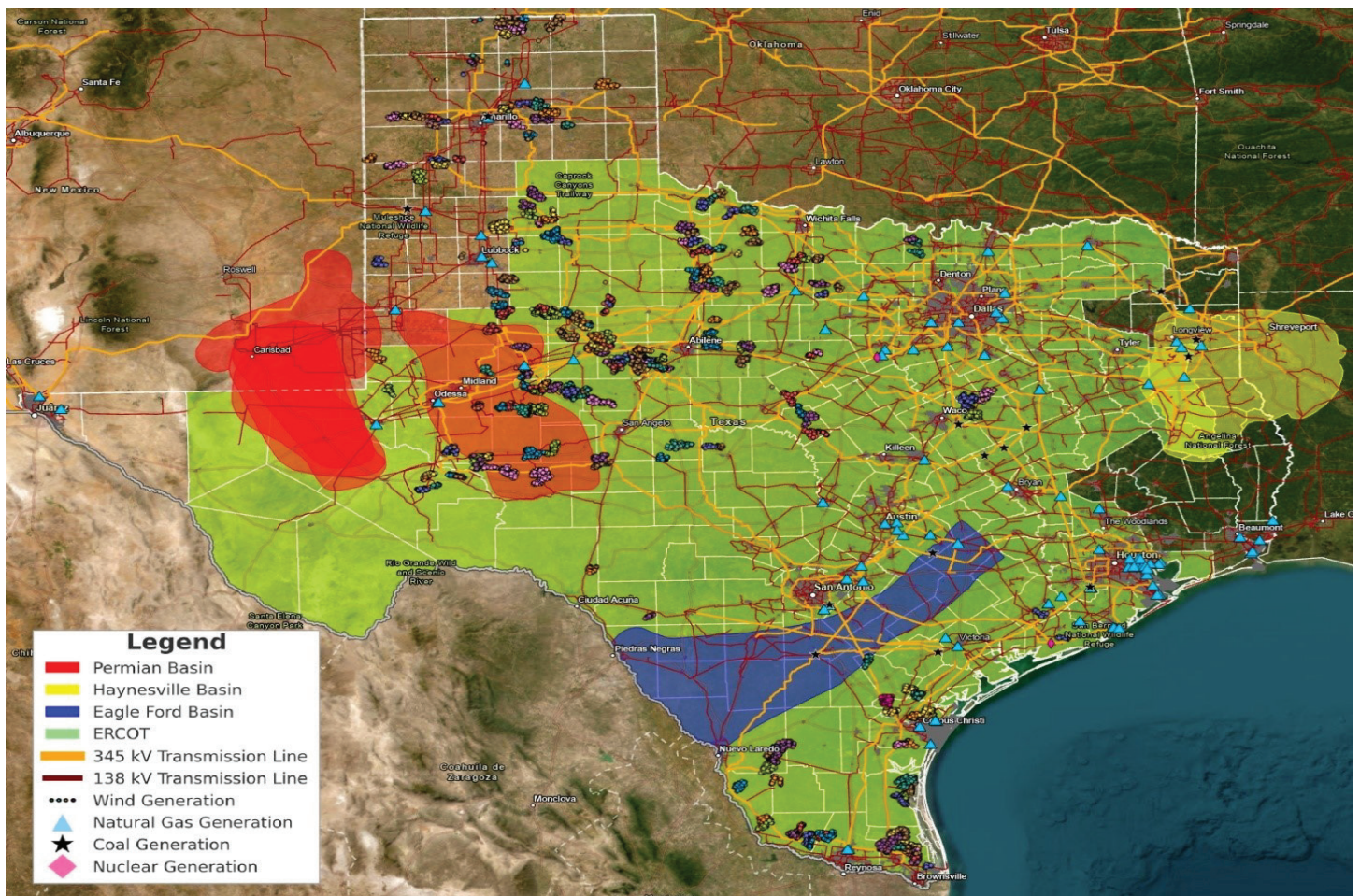


Texas is undergoing a historic wave of industrial electrification—driven by AI data centers, bitcoin mining, and next-generation oilfield infrastructure. In this shift, the state’s major shale basins are emerging not only as world-class energy producers, but as critical hubs for digital infrastructure. The Permian Basin, Eagle Ford, and Texas Haynesville each offer distinct power profiles shaped by legacy oilfield development, renewable penetration, and ERCOT’s evolving transmission strategy.

At the heart of this transformation is Texas’s 345kV high-voltage backbone, which links its premier wind zones to the state’s largest industrial corridors. As illustrated in Figure 3, the ERCOT grid connects wind-rich West and South Texas to major load centers in Dallas, Houston, and San Antonio, thus enabling a rare convergence of low-cost energy, abundant natural gas, and scalable transmission capacity. This level of high-voltage infrastructure, and the substation clustering that surrounds it, take years to develop and is one reason why the Stargate Project, one of the world’s largest data center campuses, is sited in Abilene. Per Figure 3, Abilene is a key infrastructure nexus where generation and high-voltage lines converge.

While each basin shares Texas’s broad energy advantage, they differ sharply in the maturity of high-voltage transmission infrastructure, interconnection queue competition and the depth of local generation surpluses. Understanding these dynamics is essential for operators, investors, and site selectors seeking long-term, cost-effective, and scalable power in an ERCOT market defined by rapid growth and regional divergence.

**Figure 3: Texas Energy Backbone—ERCOT, Basins & High-Voltage Transmission**



*Esri World Imagery; U.S. Energy Information Administration (EIA); Electric Power Transmission Lines & Substations; ERCOT/PUCT service territory. Map created with ArcGIS*



## Permian Basin: Energy Giant, Grid Bottleneck

The Permian is arguably the most compelling location in North America for natural gas generation—making it a strategic bridge to ERCOT’s 2030 reliability and expansion goals. Yet its immense potential is matched by strain: limited electric transmission headroom and an increasingly competitive load environment where multiple high-growth sectors chase finite capacity.

ERCOT identifies two main drivers of explosive West Texas demand: bitcoin mining and oilfield electrification. Miners exploit ultra-low-cost wind, solar, and gas to run high-density, flexible operations, while S&P Global forecasts show Permian oil-and-gas electrification alone adding ~1.5 GW/year as compressors, rigs, and water systems swap diesel and field gas for electric drives.

These new loads push the grid to its limits today but also build long-term upside. Miners provide interruptible demand that can curtail during peaks, helping ERCOT absorb renewable oversupply. Electrified oilfields add steady baseload demand—ideal for anchoring on-site gas-fired generation to monetize stranded associated gas.

Realizing that potential depends on infrastructure catching up. ERCOT’s \$13–15 B Permian Basin Reliability Plan,<sup>[12]</sup> including Texas’s first 765 kV corridors, aims to unlock scalability and stability by 2030. If successful, the Permian could shift from a bottleneck to one of North America’s most strategically advantaged power hubs—aligning low-cost renewables, abundant gas,

### Key Advantages

- **Ultra-cheap renewable + gas synergy:** ~10 GW co-located wind/solar plus stranded gas potential.
- **Regulatory commitment to upgrades:** \$13–15 B in 765 kV transmission build-out, phased 2027–30.

### Key Disadvantages

- **Severe load strain:** Regional demand set to quadruple by 2032; risk of curtailments and volatility until upgrades arrive.
- **Crowded queue:** West zone interconnection saturated with crypto, O&G, and large-load projects.

## Eagle Ford: Balanced Load, Firm Backbone

South Texas delivers more of a “Goldilocks” power profile—firmer than West Texas yet less congested than ERCOT’s urban hubs. More than \$330 million in shale-era 345/138 kV upgrades, plus the \$259 million San Miguel–Marion 345 kV line (due 2027), have created a stout north–south spine moving Gulf wind and solar toward San Antonio/Austin while allowing firm coastal imports. Proximity to the 2.7 GW South Texas Project nuclear plant further stabilizes pricing, while the region’s 8+ GW gas fleet provides reliable backup when its wind fleet falters or storms loom. <sup>[13][14]</sup>

The main structural challenge: is that most imports ride a handful of 345 kV corridors, which can bind during summer peaks or storm contingencies. Still, for operators seeking predictable pricing, moderate queue competition, and ready access to renewables and firm capacity, Eagle Ford is the balanced middle ground in ERCOT’s high-growth frontier.



### Key Advantages

- **Robust transmission backbone:** Robust shale-era upgrades plus new 345 kV capacity.
- **Deep dispatchable capacity:** Anchored by STP nuclear and large gas fleet.
- **Moderate queue pressure:** Faster studies and fewer upgrade triggers vs. West Texas.

### Key Disadvantages

- **Limited high-voltage redundancy:** Power imports rely on a small number of 345kV corridors, especially into San Antonio.
- **Moderate renewable base:** Achieving >70% green supply requires off-site renewable energy credits.

## Haynesville: Quiet Grid, Ready to Scale

Northeast Texas offers one of ERCOT's most underutilized, stable, and scalable grid environments. A meshed 345 kV network connects directly to Dallas–Fort Worth, Houston, and Shreveport, providing multiple high-capacity pathways with minimal congestion, no chronic thermal constraints, and pricing aligned with ERCOT averages.

Unlike West Texas, Haynesville has avoided the crush of crypto miners, AI clusters, and mega-industrial projects—keeping its queue light and upgrade needs modest. Renewables are limited locally, but its central location enables easy import from stronger wind and solar zones. A reliable base of gas generation further supports firm capacity.

By 2030, the planned Southern Spirit high-voltage DC interconnection to the Eastern Interconnect should add bidirectional flows, resilience, and capacity hedging—making the region even more strategic.

### Key Advantages

- **Best-in-class reliability:** Meshed transmission, light queues, and few constraints.
- **Stable pricing:** Minimal congestion premiums, no negative pricing events.

### Key Disadvantages

- **Weak local renewables:** Must source green power via renewable energy credits.
- **No deep discount arbitrage:** Lacks the price dips seen in West Texas.



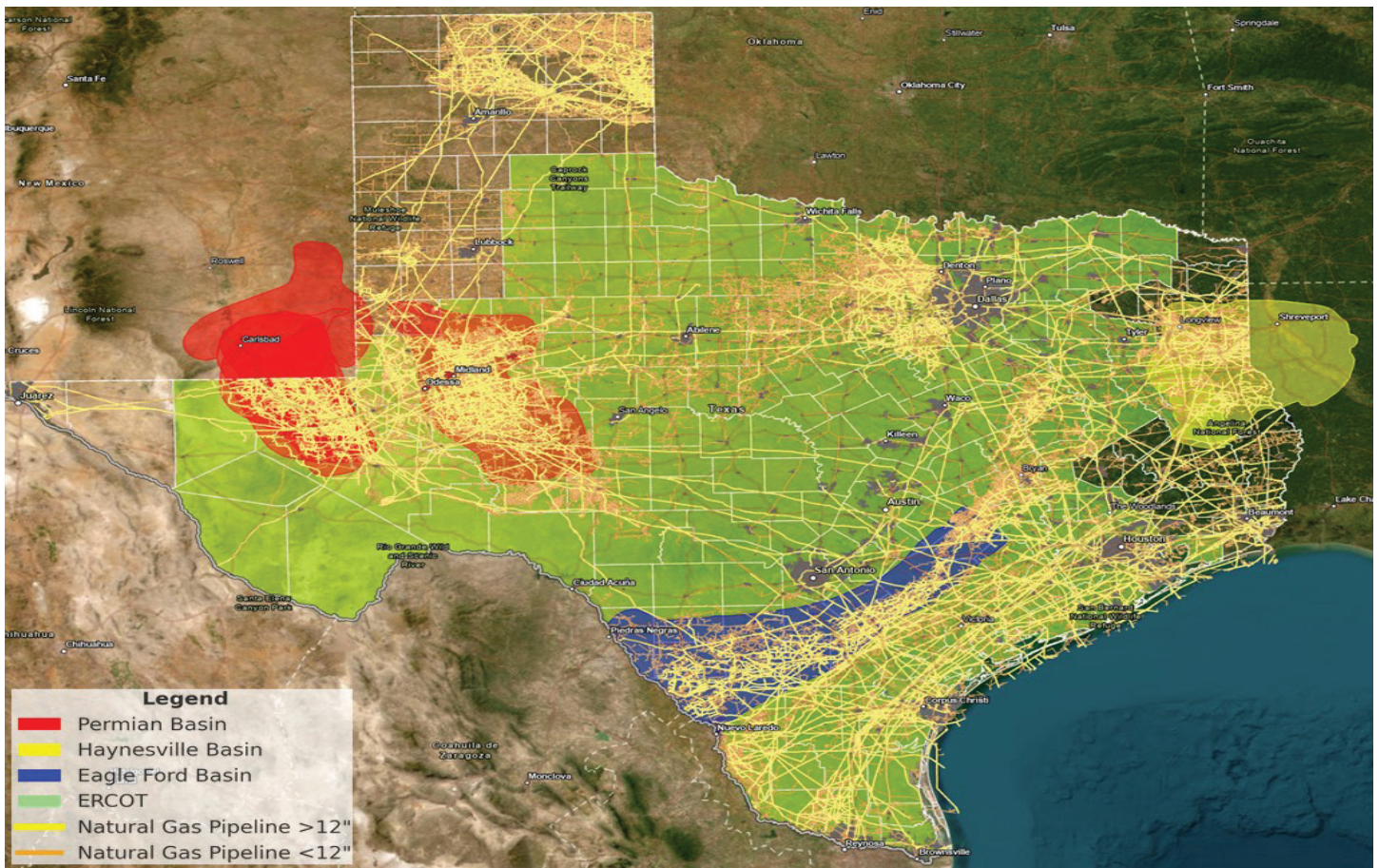
# Texas Gas: Bridge Fuel to Digital Superhighway



When hyperscale and AI data centers look for a bridge fuel to power exponential growth, Texas isn't just supporting infrastructure - it is the bridge. Anchored by three world-class shale basins the Permian, Haynesville, and Eagle Ford, these plays collectively produce approximately 46 billion Bcf/d of dry natural gas, accounting for more than 40% of total U.S. dry gas output.

This prolific supply is matched by the most expansive natural gas pipeline network in North America. Texas is home to more than 350,000 miles of gas-only infrastructure, including approximately 153,000 miles of gathering pipelines, 34,000 miles of high-pressure transmission lines, and 169,000 miles of utility distribution networks. This dense and redundant grid enables rapid, reliable delivery from wellhead to burner tip which is critical for powering on-site generation at scale. Billions of dollars in new takeaway capacity are coming online or are under construction, reinforcing Texas's strategic position as the lowest-friction, highest-throughput corridor for digital infrastructure growth.

**Figure 4: Where the Gas Flows -Texas Basins and Natural Gas Pipelines**



Sources: Esri World Imagery; Railroad Commission of Texas (Pipeline GIS, accessed Aug 2025). Map created with ArcGIS Pro.

For developers, this infrastructure translates directly into firm, dispatchable, low-cost power. Texas gas routinely clears below Henry Hub pricing thanks to basin bottlenecks that create localized discounts. With abundant supply and “steel in the ground,” developers can fast-track power solutions, on-site or via dedicated plants, without waiting years for grid upgrades.

Just as importantly, the Texas grid favors self-generation and fast interconnection, a major edge over more regulated markets. While long-duration storage and advanced nuclear remain years away, Texas stands today as the global leader for natural gas, a position it is likely to hold well into the next decade.



## Permian Basin: Cheap Gas, Growing Demand

The Permian is the energy engine of the Western Hemisphere, delivering ~26 Bcf/d of natural gas alongside world-leading oil production. The region's ultra-low Waha basis, abundant co-located wind and solar, and accelerating takeaway buildout make it a prime candidate for AI-scale generation. But massive load growth driven by crypto mining and oilfield electrification is colliding with a sparse 345 kV backbone and severe transmission constraints. <sup>[15]</sup>

### Key Advantages

- **Massive associated gas supply:** Durable even in low-price cycles.
- **Ultra-cheap fuel:** Waha Hub often \$1–\$2/MMBtu below Henry Hub; deeper discounts in constrained periods.
- **Midstream growth:** Permian Highway, Whistler, Matterhorn, and Energy Transfer's "Hugh Brinson" add >5 Bcf/d of egress.
- **Stranded gas monetization:** Behind-the-fence generation reduces flaring.
- **Permitting ease:** Low population density, ERCOT jurisdiction, pro-industry regulators.

### Key Disadvantages

- **Soaring local load:** Crypto and O&G electrification straining capacity. <sup>[15]</sup>
- **Sparse HV backbone:** 3,000 miles of new high-voltage lines (including 765 kV) needed. <sup>[16]</sup>
- **Basis volatility:** Spread may narrow as new egress comes online.
- **Water stress:** Low rainfall; cooling likely requires dry or recycled water solutions. <sup>[17]</sup>

## Eagle Ford: Midstream Density with a Low-Carbon Regulatory Hedge

The Eagle Ford offers a rare combination of production scale, grid stability, and geographic advantage. Producing 6–7 Bcf/d, it sits in close proximity to Corpus Christi LNG, the Gulf Coast industrial corridor, and the Agua Dulce gas hub—one of the most interconnected and liquid natural gas pricing points in North America. Located in ERCOT South, the basin benefits from comparatively light grid congestion, while legacy oilfield infrastructure and a dense midstream network enable low-cost, quick-start gas-fired generation.

Another key advantage is the basin's direct proximity to major carbon capture and storage (CCS) hubs. Notable projects include Oxy's King Ranch DAC & sequestration complex—one of the world's largest planned carbon sinks, spanning 165 mi<sup>2</sup> with an estimated 3 Gt of CO<sub>2</sub> storage—and BKV's South Texas CCS facility near Freer. For hyperscale developers, these local CO<sub>2</sub> sinks offer a turnkey path to meeting corporate net-zero commitments while providing a regulatory hedge against potential new

### Key Advantages

- **Midstream convergence:** Kinder Morgan, Energy Transfer, Enterprise, and Gulf South all interconnect at Agua Dulce, creating high liquidity and routing flexibility.
- **Stable basis pricing:** Trades at or below Henry Hub, supported by steady daily flows of ~6–7 Bcf.

### Key Disadvantages

- **Finite resource base:** Very large projects could strain local supply without supplemental Permian imports.
- **Mature production phase:** Sustaining output requires continuous drilling and capital investment.
- **Pipeline competition:** LNG exports and Mexican demand can tighten capacity and firm prices in constrained markets.



## Haynesville: Pipeline-Ready Dry Gas with Henry Hub Stability

The Haynesville delivers 14–15 Bcf/d of high-BTU dry gas and is projected to rebound toward 17 Bcf/d as LNG-driven demand lifts activity. On the Texas side, proximity to Carthage gas hub and location within ERCOT create a regulatory and logistical sweet spot for large-load development. The basin’s robust midstream network—including LEAP, Gulf Run, and Texas Eastern—connects directly to every Gulf Coast LNG terminal and major ERCOT gas hubs, ensuring multiple delivery pathways and strong price liquidity.

### Key Advantages

- **High-quality gas, minimal basis risk:** Henry Hub-linked pricing provides stability for long-term contracts and PPAs.
- **Extensive pipeline connectivity:** Direct links to LNG facilities and ERCOT generation hubs support both export and domestic markets.
- **ERCOT-side siting:** Streamlined permitting and fewer inter-RTO complexities compared to Louisiana-side projects.

### Key Disadvantages

- **Peripheral to AI hubs:** 200–300 miles from DFW and Austin increases telecom build costs and adds latency considerations.
- **Price-sensitive drilling:** Sub-\$2/MMBtu gas prices can quickly curtail rig activity, affecting local supply growth.
- **LNG market competition:** Gulf Coast export demand could tighten pipeline capacity and raise basis during peak cycles.

No single basin offers a perfect profile. Developers must balance fuel cost vs. grid upgrade risk, time to energization vs. future LNG competition, and water availability vs. cooling needs. A diversified siting strategy—e.g., placing compute near load centers on Eagle Ford gas while backstopping peaks with Permian behind-the-fence generation—can hedge these trade-offs and keep AI workloads running smoothly through the transition to long-term low-carbon options.



**Permian** delivers the cheapest fuel and unmatched volumes but requires solutions for transmission congestion and water scarcity.



**Eagle Ford** offers the most balanced mix of infrastructure, proximity, and regulatory ease, though its



**Haynesville** brings pipeline-ready dry gas and Henry Hub pricing stability, but distance from AI hubs and inter-RTO hurdles add complexity.

## Bottom line

Texas sits on one of the deepest, most connected natural gas portfolios in the world—over 40% of U.S. dry gas production flows from its three premier shale basins. This unmatched supply, delivered through the nation’s densest midstream network, forms a tremendous bridge between today’s carbon-intensive grid and tomorrow’s low-carbon AI infrastructure.

The Permian offers unmatched volumes and cost advantages; the Eagle Ford pairs midstream density with built-in carbon capture pathways; and the Haynesville locks in price stability through Henry Hub-linked dry gas. Together, they give hyperscale developers a unique ability to deploy reliable, low-cost, and increasingly decarbonized power at scale—years ahead of regions still struggling to build the wires or fuel supply to match AI-driven demand.

Texas doesn’t just supply the gas—it delivers the digital on-ramp to the next generation of compute.



# Fiber Infrastructure: Connecting Energy to Industry



Texas’s energy basins are no longer just hydrocarbon producers—they’ve become strategic network corridors powering hyperscale cloud and AI infrastructure. The Permian, Eagle Ford, and Haynesville regions now sit atop some of the most valuable fiber routes in North America. Originally deployed to support oilfield digitalization, these networks have evolved to meet hyperscaler demands for scale, low latency, and redundancy. Recent upgrades by Tier-1 and regional carriers—most notably Zayo’s completion of a North American 400G core, FiberLight’s announced 800G services, and AT&T’s 1.6 Tb/s single-carrier wavelength trial—put 400G firmly in the market and show a clear path toward 800G+ on major backbones. [20] [21]

While distance from the D-A-S-H metro fiber corridor (Dallas–Austin–San Antonio–Houston) still matters, ongoing long-haul builds are closing the gap. Middle-mile projects and new ring/mesh designs by Tier-1 and regional carriers—Zayo, FiberLight, Cogent, AT&T, and Lumen—are extending capacity deep into the basins. These routes arrive DWDM-ready (dense wavelength division multiplexing–capable, engineered to carry dozens of high-capacity optical channels over a single fiber pair). They also offer abundant dark fiber that customers can lease or own and “light” for dedicated, controllable capacity. Finally, they provide fast on-ramps to major hubs (Dallas, Houston, Atlanta), the U.S.–Mexico gateways, and key Internet Exchange points where

## Permian Basin: Long-Haul Resilience from the West

Although it sits far from the core D-A-S-H metros, the Permian Basin is steadily becoming a critical segment of the national digital backbone. Anchoring this shift is a U.S. Department of Commerce’s National (NTIA) funded, ~644-mile Dallas–El Paso middle-mile build which is a fully underground long-haul fiber route designed to expand capacity along the I-20 corridor. This route ties directly into multi-carrier backbones that are now 400G-enabled across core Texas corridors.[23] While most peering and interconnection still concentrates in Dallas and Houston Internet Exchange hubs, the Permian’s improving long-haul diversity gives hyperscalers and carriers a west-Texas foothold for disaster recovery, geographic redundancy, and east-west workload balancing.

### Key Advantages

- **I-20 long-haul build (Dallas–El Paso):** New ~644-mile route delivers 400G service today, with 800G demonstrated in trials on major backbones.
- **Geographic route diversity:** Separate I-10 and I-40 corridors improve reliability and support disaster recovery.
- **Dark-fiber availability:** Carriers such as Zayo and FiberLight offer long-term structured options, enabling customers to light their own capacity and scale on demand while maintaining full routing control.

### Key Disadvantages

- **Limited Internet exchange infrastructure in Midland/Odessa:** Most peering still routed to Dallas or Houston.
- **No subsea or international gateways:** Traffic must hairpin through Tier-1 metro hubs.
- **Sparse ROW and remote geography:** Make dual-cut repairs slower; resilience hinges on ring architecture.



## Eagle Ford: Gateway to Latin America

South Texas—home to the Eagle Ford—has quietly become the nation's most strategic fiber crossroads for North–South traffic. Sitting at the intersection of the DASH metros and the South Texas Triangle, the region now offers direct, low-latency routes to Mexico and Latin America, backed by 144-strand cross-border trunks and multiple physically diverse long-haul corridors. For hyperscalers, Eagle Ford isn't just a strong edge—it's a global gateway, combining robust domestic connectivity with resilient international reach.

### Key Advantages

- **Low-Latency DASH & South Texas via “Texas Express” routes:**<sup>[24]</sup> A fully meshed fiber network connects the DASH metros to the emerging South Texas data triangles (San Antonio, Corpus Christi, Laredo, McAllen). This mesh provides fast, reliable connectivity from Tier-1 cloud hubs to the southern edge of the U.S. digital backbone.
- **LatAm Gateway via the South Texas Triangles:** The Eagle Ford region connects South Texas to Latin America through dense fiber and carrier-neutral facilities. With MDC's 144-strand crossing at Laredo (400G in service today and 800G in trials) and direct access to D-A-S-H metros, the triangle functions as the U.S. cloud edge for hyperscalers expanding into Latin America.<sup>[25]</sup>
- **North–south diversity:** Multiple inland (e.g., I-35) and coastal (I-69/I-37) arcs, plus new Arelion Texas rings tying Austin ↔ Dallas ↔ Houston (with overbuild toward El Paso), enable resilient routing between DASH and the border.

### Key Disadvantages

- **Gulf coast storm risk:** Coastal fiber on I-69 sits in the hurricane zone; a major storm can force pre-emptive shutdowns, shifting traffic inland.
- **AI-era upgrades:** 100G/400G spans can saturate under sudden growth; ongoing 400G expansions and 800G trials are underway but remain provider-specific.
- **Simultaneous inland/coastal outages:** Dual cuts may force long detours; multi-path designs with separate carriers and routes mitigate risk.

## Haynesville: Inland Dallas ↔ Atlanta Express

The Haynesville corridor follows I-20 and stays well inland of Gulf storm zones, making it a high-resilience east-west path between Dallas and Atlanta. Zayo markets its DAL ↔ ATL route as “the most direct, lowest-latency route above the hurricane impact zone”, built with brand-new, fully underground, high-count fiber to maximize performance. Uniti also offers a lit Dallas–Atlanta long-haul with 100G and 400G wavelength services and varied physical ingress points for resilience.<sup>[25]</sup>



### Key Advantages

- **Rapid hand-off into Tier-1 hubs:** I-20 provides straightforward branching between Dallas and Houston-bound rings before heading to the Southeast/East Coast.
- **Inland diversity:** Marketed by Zayo as “above the hurricane impact zone.”
- **Carrier presence in key I-20 metros (Shreveport):** Supports diverse failover designs.

### Key Disadvantages

- **Transit-heavy design:** Fewer enterprise off-takers along the long-haul, may require laterals/anchors for new builds.
- **Redundancy planning:** typically pairs I-20 with alternative inland or Gulf-arc routes for full three-path diversity.

## Tri-Basin Digital Backbone

Texas’s three corridors function as a complementary mesh:



### Eagle Ford/South Texas

The most robust land-based on-ramp to Mexico/LatAm, now with MDC’s triple-conduit, 144-strand Laredo crossing and an additional El Paso crossing, plus diverse inland + coastal long-haul linking back to D-A-S-H.



### Permian

A reinforced east-west spine via the Dallas-El Paso NTIA build, tying West Texas into national routes with modern PoPs.



### Haynesville/I-20

the inland Dallas ↔ Atlanta bridge marketed as lowest-latency above the hurricane zone by Zayo, with 100% underground dark-fiber overbuilds (Zayo) and parallel lit options (Uniti).

Taken together, leveraging all three lanes—South Texas border paths, Permian’s I-20 reinforcement, and the inland I-20 Dallas ↔ Atlanta express—yields multi-directional path diversity (north-south, east-west, and cross-border) with 400G in service today and 800G demonstrated/trialed.



# Infrastructure Meets IP: Patent Risk in the Shale

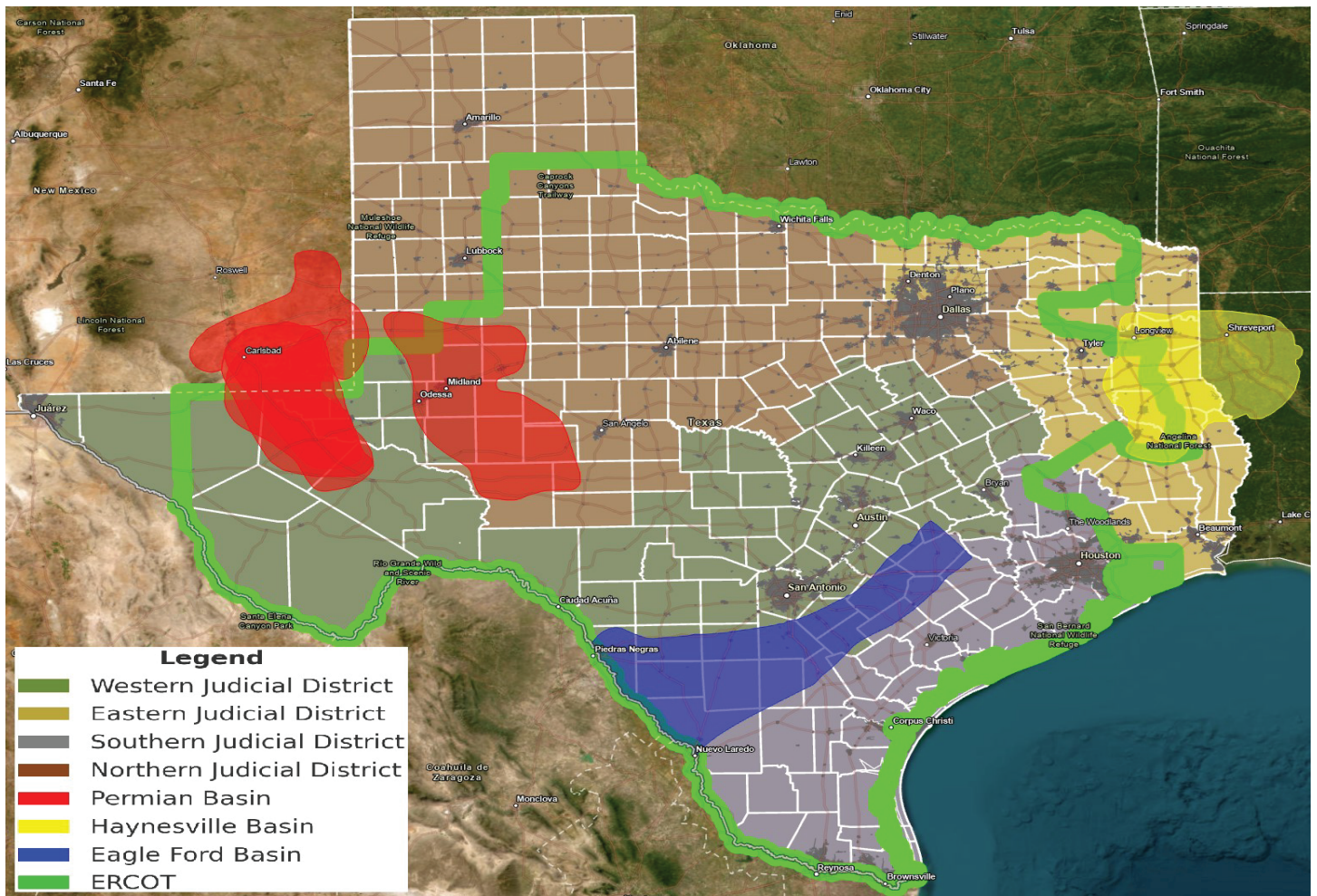


Site selection for data center development in Texas typically focuses on infrastructure, cost, and power availability. Yet one factor often overlooked is federal patent litigation venue risk. Under 35 U.S.C. § 1400(b), a company may be sued for infringement in any district where it has a “regular and established place of business.” For a hyperscale data center, that means once the facility is operational, it creates a permanent legal presence—allowing patent holders to bring suits in that district, even if the underlying technology was designed, manufactured, or deployed elsewhere.

The risk is significant. Modern campuses integrate some of the densest portfolios of patented technology in existence—from AI accelerator chips to silicon photonics networks to the AI-generated content flowing through their servers.

Texas is divided into four Federal Judicial Districts (Figure 5), each carrying its own distinct litigation profile. As shown in Figure 6, the Eastern and Western Districts have earned reputations as two of the nation’s busiest patent venues - drawing a disproportionate share of cases from non-practicing entities (NPEs). These are companies that hold patents but produce no goods or services, instead generating revenue through licensing demands or litigation. In high-volume districts, NPEs often file multiple suits against any company with a physical footprint there—regardless of where the underlying technology was designed or built. For hyperscale operators, this makes geography as much a legal calculation as it is an engineering or

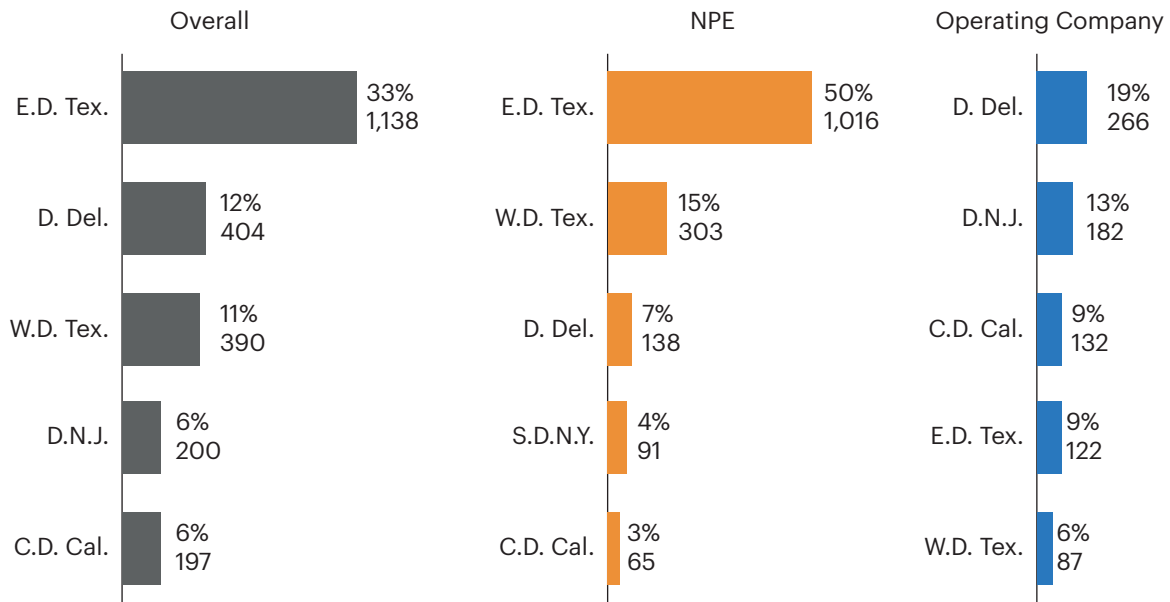
**Figure 5: Texas Federal Judicial Districts (Patent Venue Map)**



Sources: Esri World Imagery; Texas Almanac. Map created with ArcGIS Pro.



**Figure 6: Top Patent Litigation Districts in 2024 (Defendants Added & % of**



Source: RPX Corporation

What follows is a basin-by-basin breakdown of venue risk across Texas’s three primary data center corridors.

### Permian: Energy Scale Meets Legal Friction

The Permian Basin falls within the Western District of Texas (WDTX), a jurisdiction that has seen significant attention in recent years due to its prominence in U.S. patent litigation. Starting in 2018, WDTX’s Waco Division experienced a sharp rise in case volume, at one point accounting for more than 20% of all U.S. patent filings.<sup>[26]</sup> While subsequent reforms introduced randomized case assignments in Waco to reduce concentration, patent plaintiffs have increasingly filed in the Midland-Odessa Division, which remains a single-judge division.

In Midland, Judge David Counts has developed procedures that streamline patent case timelines. As of Q1 2025, Judge Counts was presiding over approximately 6% of all new U.S. patent cases,<sup>[26]</sup> making the Midland courtroom one of the busiest for patent matters nationwide. The consistency and pace of proceedings in this division have contributed to its rising profile among high-volume filers.

Compounding this trend, Judge Alan Albright—formerly of Waco—relocated to the Austin Division in 2024, adding another patent-capable venue within WDTX<sup>[27]</sup>. With both Midland and Austin now offering structured, technology-literate dockets, there is an emerging possibility of parallel venue risk within the same district. For example, patent plaintiffs may pursue a dual-track strategy—filing hardware-based claims in Midland and software or method-based claims in Austin—effectively widening the scope of discovery and potential exposure.

Additionally, Austin’s role as a major hub for technology companies—including Apple, Google, Meta, and AMD—adds a layer of complexity. Companies with data center subsidiaries in the Permian region may, by virtue of their corporate structure, find themselves exposed to litigation not only in Midland but also in Austin, increasing the likelihood of being anchored in a WDTX venue.



### Implications

- The Western District of Texas remains one of the most active patent litigation venues in the U.S., with a growing share of filings now concentrated in the Midland-Odessa Division under Judge Counts.
- As a single-judge division, Midland offers predictable assignment and streamlined procedures, making it an increasingly favored venue for high-volume plaintiffs.
- The addition of Judge Albright in Austin introduces the possibility of dual-track exposure within WDTX, particularly for companies with operations or affiliates in both regions.
- Data center operators in the Permian may face elevated venue risk, especially if linked to parent entities or assets located in Austin, increasing the likelihood of parallel litigation or broadened discovery.
- While WDTX offers deep judicial experience in patent matters, companies operating in West Texas should consider venue-aware structuring and risk mitigation strategies early in project development.

## Eagle Ford: Balanced Infrastructure, Minimal IP Disruption

The Eagle Ford region falls primarily within the Southern District of Texas (SDTX), which includes seven divisions: Houston, Galveston, Victoria, Corpus Christi, Brownsville, McAllen, and Laredo. Patent cases filed in this district are assigned randomly among multiple judges, particularly in larger divisions such as Houston, which reduces the potential for concentrated case assignments to a single judge.

SDTX does not operate on an expedited “rocket docket” for patent cases, and the district has historically recorded lower levels of filings from NPEs compared to the Eastern and Western Districts of Texas. Available docket data indicates that most patent cases in SDTX involve commercial disputes between operating companies rather than NPE-driven assertions. Median time-to-trial in civil cases is longer than in some historically high-volume patent venues, which can influence litigation dynamics and timing.

For organizations that are sensitive to venue-related litigation exposure, the SDTX profile reflects a more evenly distributed case

### Implications

- The Southern District of Texas provides a more stable, balanced litigation environment, with randomized case assignments and no history of single-judge patent dockets.
- NPE activity in SDTX remains extremely limited, with most patent cases involving genuine commercial disputes rather than assertion-based filings.
- Procedural safeguards, such as motions to dismiss and venue transfers, are more regularly granted. A longer time-to-trial tends to reduce settlement pressure.

## Haynesville: Plaintiff Magnet of the Eastern District

The Eastern District of Texas, which covers divisions such as Marshall, Tyler, and Texarkana, has been a notable location for U.S. patent cases for nearly two decades. Beginning in the mid-2000s, the court gained a reputation for handling complex technology disputes through dedicated patent case procedures and active docket management. By 2015, it accounted for more than one-third of all U.S. patent filings.

In 2017, the U.S. Supreme Court's TC Heartland decision limited venue in patent cases to districts where a defendant is incorporated or has a "regular and established place of business." This ruling reduced the number of filings<sup>[28]</sup> in EDTX as some cases shifted to other districts, such as Delaware.

From 2018 to 2021, more filings moved to the Western District of Texas, particularly in Waco. However, a 2022 change in case-assignment rules in Waco dispersed new filings among more judges, and by 2024 EDTX had returned to the top of national filing statistics for certain types of cases, especially those brought by NPEs.<sup>[29]</sup>

Today, EDTX remains active in patent litigation.<sup>[30]</sup> The court uses Local Patent Rules to set clear timelines, and its judges have extensive experience in managing technical cases. Median time to trial is competitive with other busy patent venues, and the

### Implications

- The Eastern District of Texas (EDTX) remains one of the most active and plaintiff-preferred patent venues in the country, with a long history of high NPE filing volumes and sizable jury verdicts.<sup>[30]</sup>
- Single-judge divisions and fast-tracked case schedules limit defendants' ability to transfer or delay proceedings, often increasing litigation pressure early in the case lifecycle.
- EDTX courts are less likely to stay cases for Patent Office review and more inclined to move disputes quickly to trial, heightening risk for companies operating within the district.
- For data center developers, establishing a physical presence in EDTX materially increases exposure to high-cost, high-velocity patent litigation.

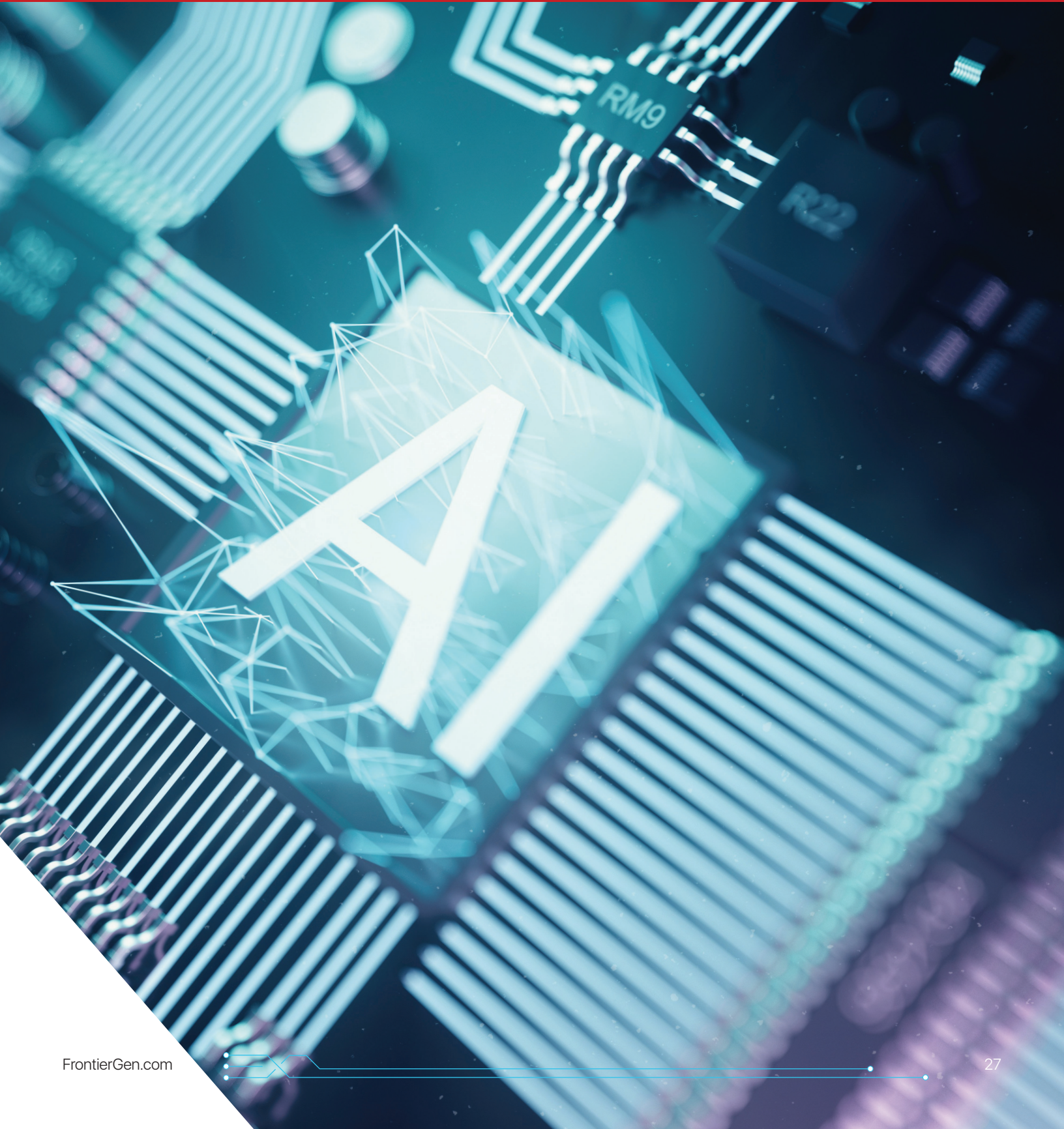
## Conc

As AI workloads accelerate and data centers become more IP-intensive, the legal environment surrounding site selection has become as strategic as power, fiber, and water. The Eagle Ford region stands out for its neutral litigation profile—with no single-judge divisions, fast-track dockets, or meaningful NPE activity.

Meanwhile, the Permian and Haynesville basins offer undeniable advantages in energy infrastructure and scalability, which may outweigh legal considerations depending on project priorities. In those regions, developers should remain mindful of venue-related litigation trends and explore structuring, operational, and legal strategies that align risk with opportunity.

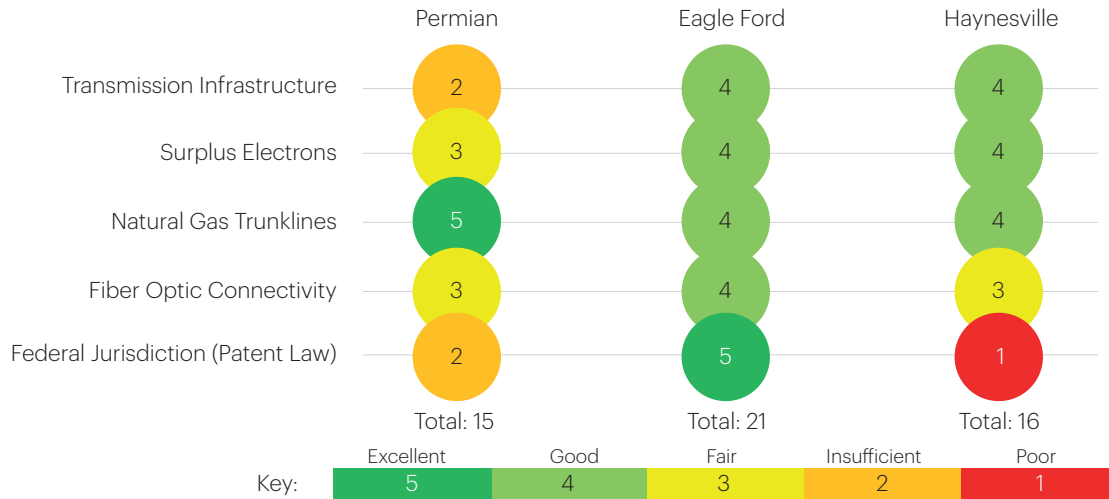
Ultimately, informed site selection—grounded in both infrastructure fundamentals and judicial landscape—offers the clearest path to long-term resilience and success.

# Texas at the Crossroads of the AI Century



AI is reshaping the global energy and digital landscape at breakneck speed—and Texas sits at its epicenter. As demand for compute accelerates, the infrastructure choices made this decade will determine which regions lead in the next. No other geography offers Texas’s convergence of globally competitive gas, renewables at scale, rapid interconnection, dense pipeline networks, hardened fiber backbones, and a regulatory regime built for speed.

But scale alone is no longer enough. In the AI era, success demands multi-dimensional site selection—optimizing power procurement, fiber latency, gas reliability, and legal exposure together. Each of Texas’s major basins has its own mix of advantages and disadvantages, and all three will likely see significant development over the next decade.



**Eagle Ford: First to Value (21/25)**

Balanced 4s on transmission, surplus electrons, trunklines, and fiber, plus the strongest litigation posture (SDTX). Predictable energization timelines, North-South/DASH fiber diversity, and proximity to CCS make



**Haynesville: Stable Grid, Legal Drag (16/25)**

Reliable 4s on transmission and gas; fiber is serviceable, (3) but EDTX venue risk (1) is a clear headwind. Best suited for latency-tolerant capacity serving the Southeast—paired with venue mitigation and resilient



**Permian: Fuel King, Grid Bottleneck (15/25)**

Unmatched gas (5) and renewable synergy, but transmission headroom (2) and venue risk (2) weigh on the score. Until the 345/765-kV buildout arrives, focus on behind-the-fence or dedicated gas generation sized

Texas is no longer just the energy capital of the world—it is the foundational layer of the AI economy, where electrons, photons, and patents converge. The winners will build where speed meets optionality, where infrastructure meets intelligence, and where risk is engineered—not inherited.

**The race for AI scale is on. In Texas, the infrastructure is already waiting.**



# About the Authors

Jason Jennaro is a seasoned executive and entrepreneur with a proven track record of building and scaling logistics, industrial, and infrastructure businesses. He is the Co-Founder and CEO of FrontierGen, a development platform focused on infrastructure for next-generation industrial campuses.

Previously, Jason was CEO of Breakwater Energy Partners, one of the leading providers of integrated water management and recycling infrastructure in the oilfield. Under his leadership, Breakwater developed and permitted the largest commercial produced water recycling facility in the Permian Basin. Breakwater was acquired by Select Water Solutions, Inc. (WTTR), where Jason went on to serve as Executive Vice President of the Water Infrastructure Division.

Prior to Breakwater, Jason co-founded the shale-focused logistics division at Twin Eagle Resource Management, known as Twin Eagle Sand Logistics (TESL), which grew to become one of the largest rail-to-shale logistics providers in the United States.

Earlier in his career, he served as Vice President in the Commodity Principal Investment Group at Lehman Brothers in New York City, where he led M&A and financing transactions in the energy and natural resources sectors.

Jason holds master's degrees from Harvard University's Kennedy School of Government and Georgetown University's McDonough School of Business. He earned bachelor's degrees from the University of Oregon.

In addition to his professional endeavors, Jason serves as Chairman of the Board of Make-A-Wish Texas Gulf Coast & Louisiana. He lives in Houston, Texas with his wife and two sons.

## Jason Jennaro, Co-Founder & Chief Executive Officer

### AI Research Assistant (GPT-5 Thinking)

GPT-5 Thinking is a large language model developed by OpenAI. For this paper it was used to accelerate literature review, synthesize public sources, propose outlines, draft language options, and generate visual concepts. GPT-5 did not conduct original research or make independent judgments. All analysis, conclusions, and responsibility for accuracy remain with the human author.



# Disclosures

This white paper is for informational purposes only to support investment and site-selection diligence. It is not investment, legal, tax, engineering, or permitting advice, and should not be relied on as the sole basis for any decision. Readers should conduct independent analysis and consult qualified advisors.

The paper includes data and statements derived from third-party sources (e.g., public agencies, grid operators, carriers, research providers). While believed reliable, FrontierGen has not independently verified all information and makes no representation or warranty—express or implied—as to accuracy, completeness, or timeliness. FrontierGen disclaims liability for errors or omissions and has no obligation to update the content.

This paper may contain forward-looking statements (e.g., on interconnection timelines, capacity, costs, policy outcomes). Actual results may differ materially due to regulatory, market, technical, and environmental risks.

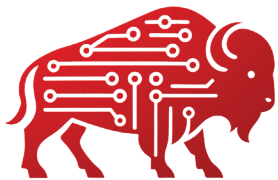
Maps and schematics are conceptual, not to scale, and not for design or excavation. All trademarks belong to their respective owners. © 2025 FrontierGen. All rights reserved.



# Endnotes

- [1] <https://www.mckinsey.com/featured-insights/sustainable-inclusive-growth/charts/ais-power-binge>
- [2] <https://www.ercot.com/files/docs/2025/03/14/ERCOT-2024-State-of-the-Grid.pdf>
- [3] [https://www.ferc.gov/sites/default/files/2024-01/2023\\_Common\\_Metrics\\_Report.pdf](https://www.ferc.gov/sites/default/files/2024-01/2023_Common_Metrics_Report.pdf)
- [4] <https://www.utilitydive.com/news/connect-and-manage-grid-interconnection-ferc-ercot-transmission-planning/698949>
- [5] <https://www.eia.gov/todayinenergy/detail.php?id=57100>
- [6] [https://www.energy.gov/sites/prod/files/2014/08/f18/c\\_lasher\\_qer\\_santafe\\_presentation.pdf](https://www.energy.gov/sites/prod/files/2014/08/f18/c_lasher_qer_santafe_presentation.pdf)
- [7] <https://www.eia.gov/todayinenergy/detail.php?id=63964>; <https://pboilandgasmagazine.com/texas-produced-28-percent-of-u-s-marketed-natural-gas-in-2023>
- [8] <https://enerknol.com/u-s-natural-gas-production-hit-record-high-in-2023-eia>
- [9] <https://www.rrc.texas.gov/pipeline-safety/reports/texas-pipeline-system-mileage>; <https://www.rrc.state.tx.us/media/zmkhwksj/strategic-plan-2021-2025.pdf>
- [10] <https://www.jw.com/news/insights-clean-energy-tax-credit-obbba>
- [11] <https://www.expressnews.com/business/article/texas-grid-ercot-sb6-data-centers-puc-20374678.php>
- [12] <https://www.spglobal.com/commodity-insights/en/news-research/latest-news/electric-power/091224-texas-stakeholders-seek-timeline-certainty-on-permian-basin-transmission-plan>
- [13] [https://www.ercot.com/files/docs/2013/12/30/2013\\_constraints\\_and\\_needs\\_report.pdf](https://www.ercot.com/files/docs/2013/12/30/2013_constraints_and_needs_report.pdf)
- [14] <https://www.ercot.com/files/docs/2023/11/13/EIR%20-%20BEC%20-%20San%20Miguel%20to%20Marion%20345%20kV%20Project%20Scope.pdf>
- [15] <https://www.ercot.com/files/docs/2024/06/28/Reliability-Plan-For-The-Permian-Basin-Region.pdf>
- [16] <https://www.houstonchronicle.com/business/energy/article/texas-transmission-crypto-data-centers-20023584.php>
- [17] [https://texashistory.unt.edu/ark%3A67531/metaph542095/m2/1/high\\_res\\_d/txcs-0790.pdf](https://texashistory.unt.edu/ark%3A67531/metaph542095/m2/1/high_res_d/txcs-0790.pdf)
- [18] <https://www.oxy.com/news/news-releases/occidental-and-adnocs-xrg-agree-to-evaluate-joint-venture-to-develop-south-texas-direct-air-capture-hub>
- [19] <https://www.bkv.com/news/bkv-announces-fid-on-carbon-capture-project-with-leading-midstream-operator>
- [20] <https://finance.yahoo.com/news/1finity-fiberlight-meet-ai-hyperscaler-124500695.html>
- [21] <https://www.ciena.com/about/newsroom/press-releases/at-and-t-breaks-speed-barriers-successfully-tests-1.6-tbps-data-transport-on-its-commercial-long-distance-fiber-network>
- [22] <https://www.zayo.com/newsroom/zayo-awarded-92-9m-from-ntia-to-extend-middle-mile-connectivity/>
- [23] <https://www.zayo.com/newsroom/zayo-levels-up-its-ai-ready-infrastructure-with-new-routes-and-100-400g-enablement/>
- [24] <https://www.fiberlight.com/resources/news/fiberlight-completes-high-capacity-fiber-texas-express-routes>
- [25] <https://cdn.nwe.io/files/x/40/69/5d4f2b2a28b7aab7e0caf1895d9f.pdf>
- [26] <https://www.rpxcorp.com/data-byte/west-texas-judge-climbs-the-rankings-using-judge-albrights-playbook/>
- [27] <https://www.rpxcorp.com/data-byte/delaware-npe-filings-dropped-further-in-q2-as-second-place-west-texas-hung-on/>
- [28] [https://www.mckoolsmith.com/assets/htmldocuments/TC%20Heartland%20Anniversary%20EDTX%20Patent%20Filings%20Plummet%20NDTX%20Benefits%20\\_%20The%20TexasLawbook.pdf](https://www.mckoolsmith.com/assets/htmldocuments/TC%20Heartland%20Anniversary%20EDTX%20Patent%20Filings%20Plummet%20NDTX%20Benefits%20_%20The%20TexasLawbook.pdf)
- [29] <https://www.fbm.com/publications/edtxs-resurgence-as-the-top-patent-hot-spot/>
- [30] <https://www.rpxcorp.com/wp-content/uploads/sites/6/2025/01/RPX-Q4-in-Review-January-2025.pdf>
- [31] <https://www.eia.gov/todayinenergy/detail.php?id=45037>
- [32] <https://www.globenewswire.com/news-release/2025/06/03/3093136/0/en/Lex-Machina-Releases-2025-Patent-Litigation-Report.html>
- [33] <https://www.bakerbotts.com/thought-leadership/publications/2025/july/texas-senate-bill-6-understanding-the-impacts-to-large-loads-and-co-located-generation>  
[https://ftp.puc.texas.gov/public/puct-info/agency/om/58317\\_July21\\_Workshop\\_Agenda.pdf](https://ftp.puc.texas.gov/public/puct-info/agency/om/58317_July21_Workshop_Agenda.pdf)
- [34] <https://www.energy.gov/gdo/transmission-facilitation-program-selections>
- [35] <https://ir.kindermorgan.com/news/news-details/2022/Permian-Highway-Pipeline-Announces-Final-Investment-Decision-for-Expansion-Project/default.aspx>  
<https://whitewatermidstream.com/news>  
<https://www.eia.gov/todayinenergy/detail.php?id=63044>  
<https://ir.energytransfer.com/news-releases/news-release-details/energy-transfer-announces-pipeline-project-connecting-permian>
- [36] <https://www.ercot.com/gridinfo/resource> <https://www.eia.gov/petroleum/drilling>  
<https://www.eia.gov/todayinenergy/detail.php?id=64984>
- [37] <https://www.reuters.com/business/energy/dash-data-centers-creates-revenue-risks-power-developers-2025-07-01/>; <https://www.reuters.com/technology/despite-industry-headwinds-bitcoin-mining-booms-texas-2023-03-23>
- [38] <https://assets.rte-france.com/prod/public/2024-05/Bilan-electrique-2023-synthese-mai-2024.pdf>





**FrontierGen**

✉ [info@frontiergen.com](mailto:info@frontiergen.com)

📍 Houston, Texas, USA