

ENERGY

# AI Data Centers Are Taking Texas Resources. Residents Without Reliable Water Are Sounding the Alarm.

The massive facilities in the state are projected to consume 49 billion gallons of water this year alone.

By Jack Herrera

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The Rio Grande in Laredo on September 8, 2025.

Photographs by Jordan Vonderhaar

In the yard behind her home, to the south of Laredo, Luz Castillo keeps a '93 Chevy pickup in a tin-roofed shed. The truck has one job, and one job only: It hauls water. The pickup bed is filled with a five-hundred-gallon tank that Castillo refills once a week (or twice, when her kids visit), which is the only way she gets water to her house. Like almost all of her neighbors, Castillo has gone decades without running water. In the shed next to the truck is a pump system she and her husband built to pull water out of the tank and into their home's pipes. As Castillo grabbed the inflow hose to show me how it worked, she gestured with her chin to a fence line at the end of her yard. "My neighbors have it worse," she said. "They don't have electricity." I wiped my forehead; it was a September day in Laredo, over a hundred degrees. Castillo lives in a community known as La Presa, a neighborhood other South Texans call a colonia. While there's no one good definition for colonias, they're generally distinguished by what they don't have: They lack reliable or universal running water, sewage, electricity, or trash pickup. About 500,000 Texans live in communities like this all along the border. In Webb County, home of La Presa, some 15,000 residents live in colonias.

A community like La Presa rewards self-sufficiency. Castillo and her husband built their handsome, high-ceilinged house with their own hands. But the colonia also has a strong culture of neighboring—residents help one another put up roofs or lay drainage. They're also politically organized, thanks to neighbors like Castillo. It took Castillo more than a decade to get electricity in her house, and today, she's still fighting Webb County and the state to get electric hookups for her neighbors. She collects signatures on petitions and shows up to county meetings. Local commissioners know her by name.



Luz Castillo filling up the water tank in her truck in La Presa.

Photographs by Jordan Vonderhaar

As Castillo and her neighbors fight for every foot of pipe and inch of wire, data centers designed to power AI systems are being built at a stunning pace across Texas. One Houston-based company says it plans to build the world's **largest green-powered data center** in Webb County, not far from Castillo's house. This new "Data City," from the firm Energy Abundance, would be a 50,000-acre server farm so powerful that it would eventually need five gigawatts of electricity to run—that's enough electricity to power the entire city of Miami. In its press releases, Energy Abundance has announced plans to begin construction next year, and it will initially use Texas natural gas to power its first tranche of computers. The plan is to eventually build a cutting-edge hydrogen salt dome storage facility next to the data center, to fuel it with 100 percent renewable energy. If the center gets built, it would be an incredible technological achievement: a hyperfuturistic hydrogen-powered robot brain.

And Data City is just one megaproject. Some of the **largest data centers in the country** are being built in Texas at this very moment—thanks in part to the enormous tax breaks and other incentives the state is offering. The massive, \$500 billion "**Stargate**" data center network is already partially up

and running in Abilene. And last month Google announced a \$40 billion investment in new Texas data centers in the Panhandle. OpenAI is working with SB Energy, a subsidiary of SoftBank, to build entire new solar power plants just to power the Stargate project, and OpenAI's new facility in Shackelford County will be powered by **hundreds of its own natural gas generators.**

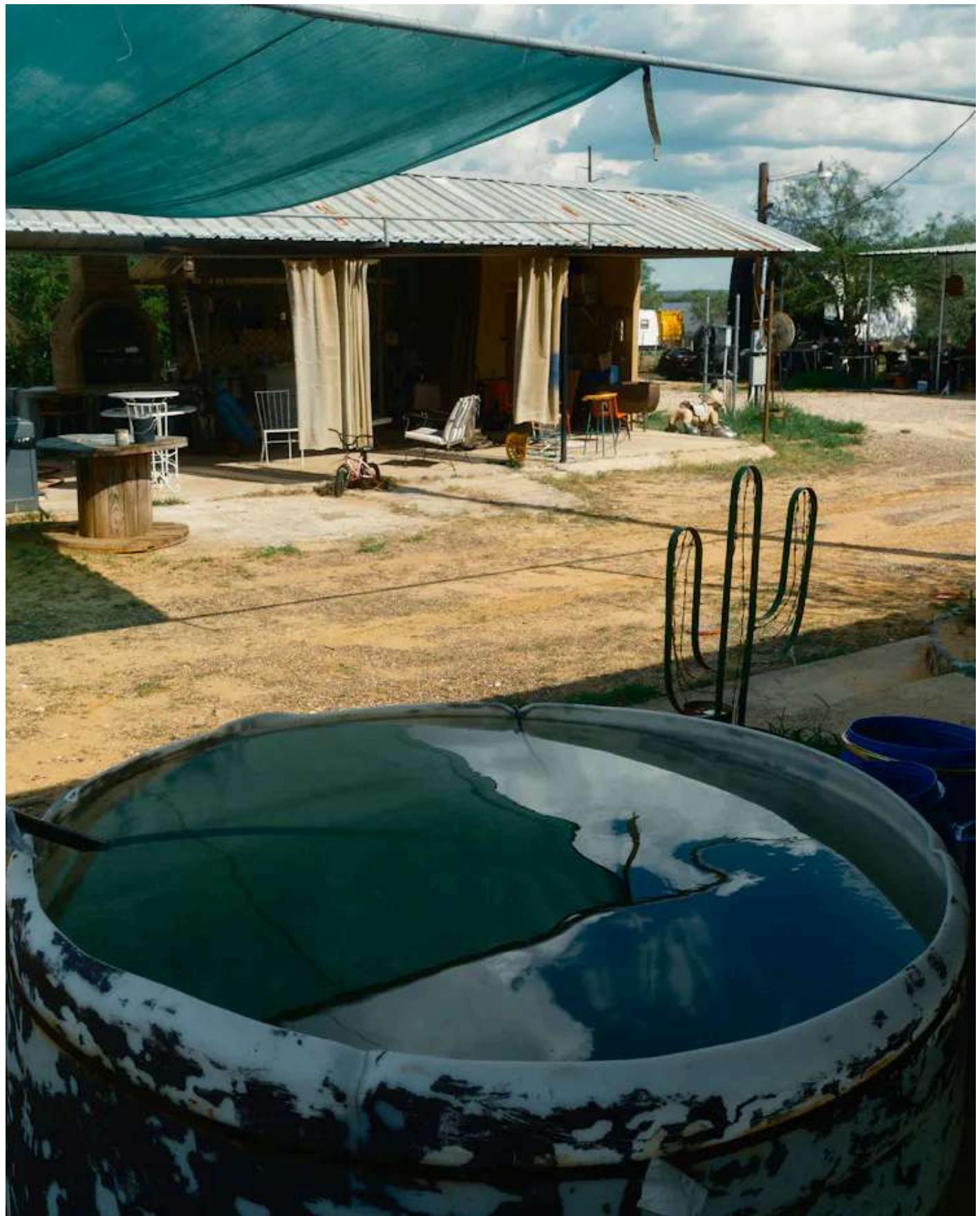
Data centers aren't just thirsty for electricity; they're thirsty for water. High-end chips run hot, and they require liquid cooling; the largest state-of-the art data centers require millions of gallons of water to keep their electronics happy. In a place like Webb County, every drop of this water is precious. In her yard, as Castillo pulled the pump out of her truck's water tank, she told me her mother does things the old-fashioned way at her own home in La Presa. "She uses a bucket to haul all her water," Castillo said. While Castillo and other colonia residents experience a greater degree of water insecurity than most, pretty much everyone in Webb County is at risk of running out of water. Based on current population trends (which don't even account for the ongoing drought), the city of Laredo is set to run out of water **by 2044.** If the proposed Data City does become a reality, where will it get its water?

Energy Abundance's CEO, Brian Maxwell, did not respond to multiple requests for an interview, but he shared a statement over email, emphasizing that the Data City project would produce all its own electricity and strive for efficiency. "Energy Abundance has optimized this project to use the most efficient closed-loop cooling methods in existence, meaning we'll use minimal water compared to other projects," Maxwell wrote. "We're using mostly behind the meter energy and adding resources to the grid to help make ERCOT more resilient. This project is an opportunity for Webb County to increase skilled jobs, tax revenue, and bring the type of growth that improves communities."

Data-center developers are active in Laredo; at dinner at a restaurant downtown, the day after I visited Castillo, I heard a group of businesspeople discussing the opportunities to build in Webb, with its wealth of cheap land and labor. But not every proposed data center will be built, and Data City

might only ever be a proposal. It does seem improbably ambitious: *The New York Times* reported that when OpenAI executives proposed the company's own five-gigawatt data center in Japan, a Japanese official laughed in their faces. When I asked Maxwell whether he could confirm plans for construction crews to break ground for Data City or whether the company was still securing funding, he replied via email, "We'd love to share our groundbreaking date, but we're under NDA as to when we start construction and the details of our customers. More details will be announced soon."

The fact that such projects are even being proposed in places like Webb County throws our state's growing infrastructure inequality into sharp relief. When I talked with Castillo about how quickly new data centers are getting built, her analysis was blunt: "Money moves mountains."



A water-collection tank used to do outdoor laundry at Luz Castillo's house, in La Presa.  
Photographs by Jordan Vonderhaar



**Castillo gathers drinking water from the humidity in the air.**

**Photographs by Jordan Vonderhaar**

Castillo and her husband spent most of their careers working in fields, living in Texas but spending the summers in Minnesota to harvest vegetables, eventually rising up the ranks to manage entire teams. In the 1990s, a local rancher in Webb County began subdividing his land and selling plots to families as ranchettes. Castillo and her husband saw their opportunity to own their own home and get out of downtown Laredo, where robberies were common at the time. Castillo said that when they bought their plot, the rancher told them he had gotten approval from the county and would be constructing water, sewage, and electric lines to the new housing tract. Soon, he assured them, it would be a thriving, modern suburb.

Castillo told me it wasn't until her ninth month living in La Presa that she realized it was a lie.

This is the origin story for dozens of colonias across South Texas: extralegal—or, more charitably, “irregular”—subdivisions of farm- and ranchland where large landowners took advantage of working-class homebuyers, many of them farmworkers. “We buy what we can afford,” Castillo said. In the 1990s, buying a plot in the exurbs of Laredo was cheaper, and seemed to offer far better value, than buying a house downtown.

Thousands of workers in South Texas had the same experience as Castillo as a result of one of the major failures of Texas public policy in the twentieth century: the collapse of the “Magic Valley.” It’s a complex story, but Francisco Guajardo, a historian and the CEO of the Museum of South Texas History, in Edinburg, told me it basically follows this contour: In the early twentieth century, developers began marketing the floodplain of the Rio Grande delta as a “magic valley” where farmers could plant abundantly year-round in a temperate climate, with constant water from the river. Some ads called it a “Twentieth Century Garden of Eden.” When thousands of farmers and workers arrived, they discovered that there was, in fact, no valley, but the name stuck nonetheless—we still call the delta region the Rio Grande Valley. Speculators began investing in vast swaths of mesquite and brushland, hoping to turn South Texas into one of the major citrus-growing regions in the world. But the biggest fib the developers told wasn’t calling the

region a valley—it was asserting that the Rio Grande provided reliable, constant water. Large-scale growers soon realized how mercurial the river was—prone to both long-term drought and severe flooding. By the 1960s, it had become clear that the region couldn't support a citrus industry even remotely on the scale speculators had hoped, and large-scale landowners began scrambling to sell off their investments before the value of the land cratered. One strategy was selling subdivided plots to the migrant farmworkers who had arrived, chasing the same supposed promise of the Magic Valley. Those plots became what we now call colonias.

When I asked Guajardo—who himself grew up in a colonia near Edinburg—how he felt about the futuristic new data centers in South Texas, his answer began three hundred years in the past: “When Escandón came as the great colonizer in the 1750s, some of his scribes wrote back to Spain: ‘This is not a place for large-scale agriculture, because we don’t have the kind of water that we would need,’” Guajardo said. Land speculators would ignore that warning in the twentieth century, and they paid the price. Today, Guajardo suspects that the same failed development model that drove the “Magic Valley” bubble could repeat itself with data centers: political and business leaders, chasing the promise of short-term profit, might be investing too heavily in an unproven industry, without regard to limited local resources. “A big center that is going to be so thirsty for water is really not paying attention to history. I think it is a big setup,” Guajardo said. “It’s going to cost a lot of money, and that will continue to hurt local communities.”

As of October 2024, the City of Laredo had issued eight boil-water notices in just five years, and Castillo says she and other residents in La Presa have gotten sick from drinking the water they haul from a central distribution tap; she doesn’t trust it anymore and only drinks bottled or filtered water. The county has also dealt with serious, ongoing drought. In 2024, Laredo entered stage three of its drought contingency plan—residents were only permitted to water their yards once a week, either before 8 a.m or after 8 p.m, and were not allowed to fill pools or wash cars on nondesignated days. To the north, San Antonio spent much of 2024 under stage-four drought rules.

But during that same time period, just two data centers in the city—run by Microsoft and the Army Corps—used 463 million gallons of water, all on their own. That's enough water for seven thousand average Texan homes.



A water filling station in La Presa.  
Photographs by Jordan Vonderhaar

According to a recent report from the watchdog organization Good Jobs First, Texas is forgoing more than \$1 billion in potential tax revenue annually by offering tax breaks and subsidies to data centers. Both the Biden and Trump administrations have funneled tens of billions more into AI tech. Governor Greg Abbott has made attracting AI projects to Texas a priority. Last month, he sat proudly next to Alphabet's CEO as the Google parent company announced a \$40 billion investment in data centers in Texas. When Abilene's main Stargate center reaches full capacity, it will require more than a gigawatt of electricity—enough to power every single household in Webb County, the Rio Grande Valley, and more.

Electricity isn't unlimited, and new demand from data centers could already be driving up household electric prices in Texas. The state utility, ERCOT,

predicts that new data-center construction will mean that Texas will have to double its 2024 energy production by 2031. Data centers are also projected to consume 49 billion gallons of water this year—that's more water than the residents of Austin use in the same time period.

Part of the reason Castillo and her neighbors have struggled to obtain utility services is because state law requires a septic system before a house gets connected to electricity and gas. It's hard for a resident of La Presa to raise the cash or access credit to invest in this sort of construction. But companies like OpenAI haven't had that problem. This year, OpenAI reported an expected \$20 billion in annualized revenue (a record year for the company)—yet it has committed more than *\$1 trillion* to data-center builds. Of course, the company hasn't struggled to find loans and cash, including from major federal contracts.

By the end of 2024, Castillo had come close to giving up on ever seeing running water come to her community—she and other neighborhood leaders had spent more than a decade petitioning and filing for water connection and had been rebuffed. But in 2024, the county commissioners realized they could use federal dollars from the American Rescue Plan Act—the Biden-era COVID-19 response—to help fund a water line out to La Presa. The \$10 million project broke ground in December of that year, and construction is slowly getting closer to the community. When I first met with Castillo, in September, she was pessimistic, almost as though she wasn't letting herself get her hopes up after seeing them denied for so long. She wondered out loud how she and her husband would afford to connect the line to their house and how they would pay for the necessary septic tank. When we caught up this month, she had happy news: The county had put aside a fund to help some landowners pay for plumbing and septic work. It will take months of construction, but for the first time in three decades, Castillo might have running water. As we spoke, I thought about how many millions of gallons of water Texas data centers will use each month that Castillo waits for city water to finally come out of her tap.