

Testimony of Mr. Pablo Vegas  
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Before the United States House of Representatives  
Committee on Energy and Commerce  
Subcommittee on Energy

“Keeping the Lights On: Examining the State of Regional Grid Reliability”

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## Summary of Statement

- Texas is experiencing unprecedented economic and population growth, leading to record-breaking electricity demand.
- In 2023, ERCOT set a summer peak demand record of 85,508 MW and, last month, a winter peak demand record of 80,525 MW—a demand level typically seen in summer.
- Broad industrial growth, including semiconductor plants, data centers, and large-scale electrification in the Permian Basin, is a major driver of rising demand.
- Wind and solar now make up 42% of ERCOT’s installed generation capacity, the largest in the U.S., with continued expansion.
- Battery storage is playing a growing role, particularly in balancing supply and demand during tight conditions, but current technology is generally limited to 1-2 hours of duration.
- Dispatchable generation (natural gas, coal, nuclear) still provides 65% of ERCOT’s delivered energy, ensuring grid reliability.
- The Texas Energy Fund and an uptick in natural gas project proposals signal investment in dispatchable generation.
- Since 2021, ERCOT has conducted 3,362 inspections of generation resources and transmission facilities to enforce weatherization standards.
- Programs like the Firm Fuel Supply Service provide backup fuel options to improve winter reliability.
- These measures have improved ERCOT’s winter performance, ensuring consistent reliability in recent seasons.
- Maintaining a balanced generation mix is essential, leveraging renewables, storage, and dispatchable resources.
- Flexible demand solutions will play a critical role in managing continued demand growth.
- Expanding and modernizing transmission infrastructure and incorporating new grid technologies are priorities.
- Grid security and resilience must remain a key focus.

## **Testimony of Mr. Pablo Vegas**

Chairman Latta, Ranking Member Castor, Chairman Guthrie, Ranking Member Pallone and Members of the Subcommittee. It is an honor to be here representing the Electric Reliability Council of Texas (ERCOT), where we manage the flow of electricity to over 27 million Texans.

Texas continues to experience unprecedented economic and population growth, driving electricity demand to record-breaking levels.

At the same time, the energy mix that powers Texas is evolving rapidly, with intermittent Resources and battery storage playing an ever-increasing role in system operations. This transition presents opportunities—but also real challenges—that require planning and investments to ensure system reliability.

Today, I want to share how ERCOT is managing this shift while keeping reliability at the forefront, what lessons we've learned from recent weather events, and why ensuring a balanced and resilient power supply remains essential for the future.

In the summer of 2023, ERCOT set a new all-time peak demand record of 85,508 MW. Last month, we set a new Winter Peak Demand record of 80,525 MW, a demand level normally experienced in the summer.

This isn't just about a growing population. Texas has become a magnet for industries that require increasing amounts of electricity, from semiconductor plants to data centers, broad industrial growth and large-scale industrial electrification in the Permian Basin.

Today, wind and solar make up 42% of our installed generation capacity, both representing the most installed capacity in the US, with thousands of megawatts being added each year. Battery storage, which was just emerging a few years ago, is playing a critical role in balancing supply and demand during tight grid conditions, acting as a growing bridge-asset during those hours.

From an operations perspective, solar generation helps meet peak afternoon demand, and batteries provide rapid responses to system fluctuations with their growing presence in the Ancillary Services market.

Wind and solar power are variable by nature, meaning that their output isn't always available when it's needed most. Batteries help, but current storage technology is still limited in duration, in our market typically 1 to 2 hours, meaning it can't fully replace the need for traditional long duration dispatchable generation.

Natural gas, coal, and nuclear power still supplied 65% of the *delivered* energy on the ERCOT grid in 2024. These long duration dispatchable resources remain the backbone of reliability, providing critical generation around the clock.

We are seeing an uptick in the generation interconnection queue from gas generation, and efforts spearheaded by the Texas Legislature, such as the Texas Energy Fund, are providing incentives for dispatchable power plant development.

We cannot lose sight of a fundamental reality: a reliable grid must have a balanced mix of generation resources, especially with the “all of the above” approach we see in the ERCOT power region.

Additionally, flexible demand is becoming a more critical component of reliable operations, and we are exploring ways to best leverage that potential in the face of the significant forecasted demand growth ahead.

Now, after Winter Storm Uri, the Texas Legislature put in place a set of Weatherization Standards during the 2021 Legislative Session, and to-date ERCOT has conducted 3,362 inspections of generation resources and transmission facilities. The weatherization program inspects facilities for various preparation measures intended to reasonably ensure sustained operation at weather zone-specific cold and hot conditions, and new programs such as the *Firm Fuel Supply Service* are available to ensure reliability during winter events in the event of fuel curtailments for gas generation resources.

This combination of efforts has shown to be beneficial over the last several winter seasons, where the performance held to the standard that Texans have come to expect from their grid.

As we look to the future, ERCOT remains focused on ensuring that Texas has a grid capable of supporting its continued growth and economic success. That means:

- **Encouraging investment in dispatchable generation**
- **Expanding and modernizing transmission infrastructure**
- **Leveraging demand-side solutions and new technologies**
- **Enhancing grid security and resilience**

The ERCOT grid is not alone in being at an inflection point. We are balancing record-breaking demand growth with a rapidly evolving generation mix, all while ensuring that we are focused on reliability for millions of Texans.

It's a challenge, but it's also an opportunity—to build a smarter, stronger, and more resilient grid that can continue to support Texas and the United States for generations to come. I appreciate the opportunity to testify today, and I look forward to your questions.