

# Navigating the Future of Energy in Texas

## Microgrid Solutions and New Incentives From the Texas Energy Fund

With a winning combination of low corporate taxes, a pro-business regulatory environment and other incentives, it's not surprising that well-known brands such as corporations Tenet Healthcare, American Airlines, JCPenney, Sysco and Kimberly-Clark have all set up shop in Texas.

Individuals seeking a strong job market, no state income taxes, and sunny weather continue to flock to the Lone Star State, which are among the reasons that Texas is one of the fastest-growing populations in the U.S.

### ERCOT's Heavy Load

The Electric Reliability Council of Texas (ERCOT) recently projected a staggering increase in energy demand by 2030, shining an even brighter spotlight on the Lone Star State.

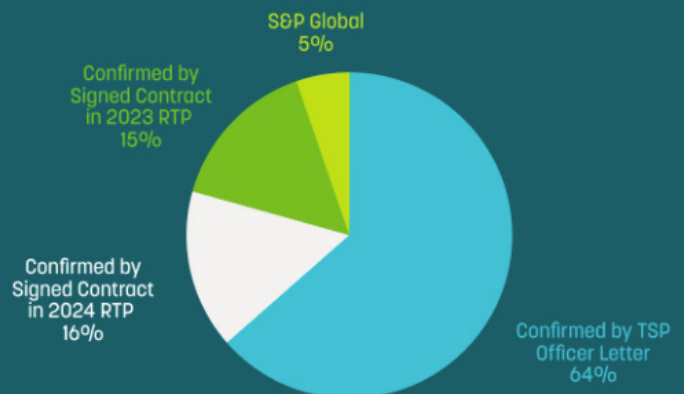
With an expected surge of 62 gigawatts, equivalent to a 72% jump from current levels, Texas can no longer rely on traditional solutions to solve this emerging, complex energy challenge. As a result, ERCOT is adapting and entering a new era of planning to address long-term challenges and highlight future opportunities.

This new view shows unprecedented and rapid load growth (approximately 40 GW greater than last year's forecast), which is creating new challenges and opportunities for the ERCOT system.

The forecasted load growth pace could exceed the pace at which transmission capacity can be built to support it, especially when considering additional new interconnection requests for solar, wind, gas, and more.

### 2024 RTP Load Review Results - 2030

Approximately 62 GW of additional load will be added on top of the 2024 RTP bounded load level for study year 2030 with the breakdown as follows



Source: 

A new era of transmission system planning is necessary to manage the large amount of prospective load submitted by the TSP. Ultimately, the PUC will have the final decision in approving these recommended projects, including their costs and impacts on consumers.

## The Biggest Energy Challenges for Texas Businesses

When it comes to climate change and the current energy crisis, Texas businesses – including industrial companies – now, ironically, are positioned to lead innovative and sustainable energy strategies because it's necessary for businesses to continue to thrive.

The three most complex challenges businesses, the public utility, the Texas government and other organizations are working to address are:

### 1. Grid Reliability and Resiliency

While the entire nation has had its share of extreme weather events, Texans have been hit especially hard. Consider recent severe weather events, such as the winter storm in February 2021, which exposed major vulnerabilities in the state's energy infrastructure.

These events can – and have – led to widespread power outages, underscoring the need for a more resilient grid. The impact on long-term power outages on businesses can range from millions of dollars in product damage to lost productivity due to downtime to customer loss.

For businesses that rely on robotics, such as some large grocery store retailers, even a blip in power can cause robots to reboot, which can take hours and lead to food spoilage.

Inclement weather isn't the only challenge to grid resiliency. The aging infrastructure in Texas is in dire need of modernization to handle current demands, much less future ones. This includes the need to improve transmission lines and upgrade power plants.

As Texas increases its reliance on renewable energy sources like wind and solar, the intermittency of these resources poses a challenge. Ensuring a reliable energy supply requires significant investments in grid management and energy storage solutions to integrate renewables effectively.

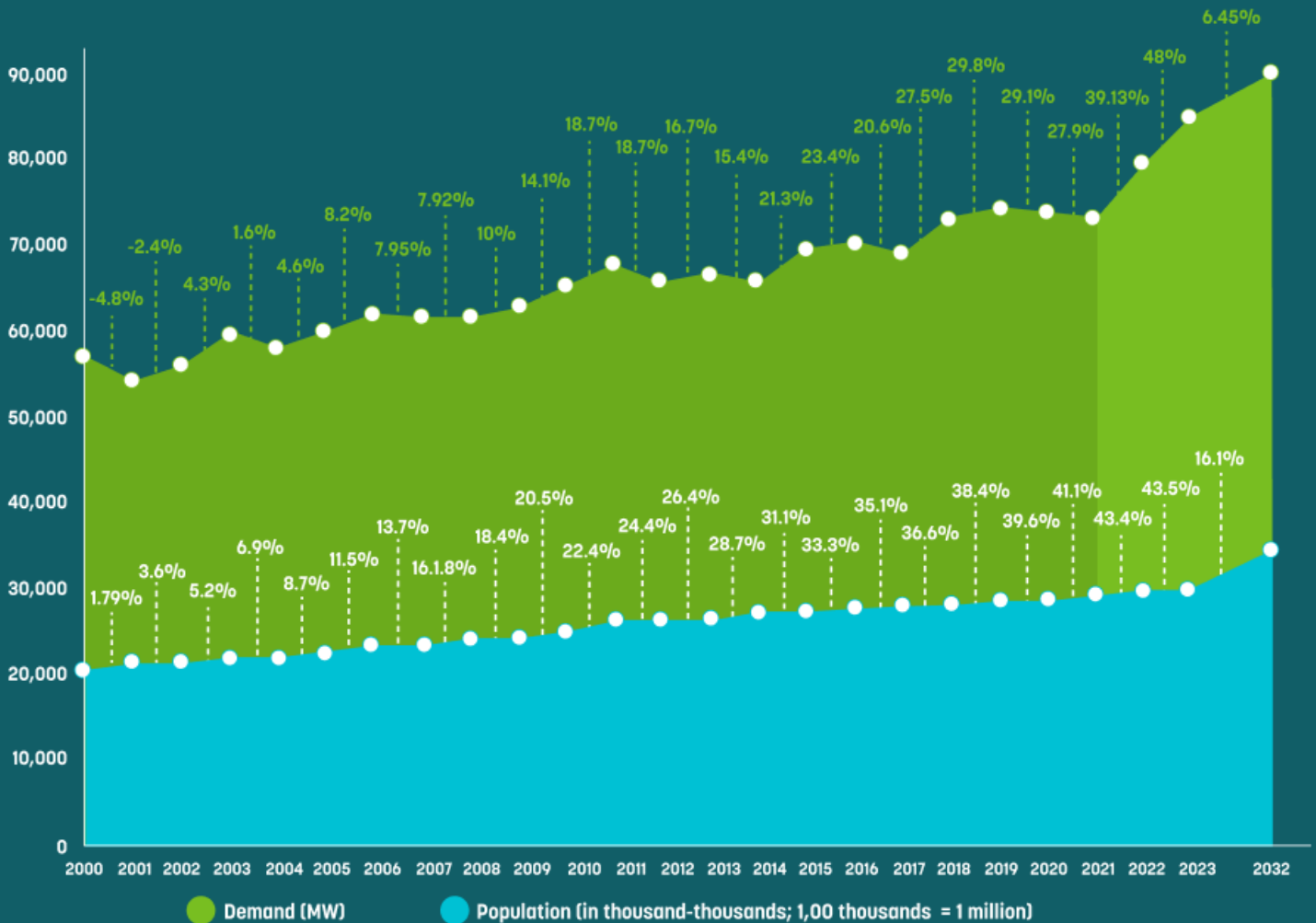


## 2. Growing Energy Demand

The state's continuously increasing population and economic growth is also one its biggest energy challenges, as this creates increased energy demands, further straining the existing energy infrastructure. While industrial expansion has fueled economic growth in Texas, particularly in areas such as petrochemicals, manufacturing, and technology, these industries demand substantial amounts of reliable energy.

The rise in electric vehicles (EVs) and the broader push towards electrification in various sectors further increase the demand for electricity.

### Snapshot of ERCOT Peak Demand & Texas Population Growth



Source:



### 3. Energy Equity and Affordability

In a Texas Energy and Power Newsletter podcast featuring State Senator Nathan Johnson, some of the main talking points included the cost of energy efficiency and the challenges of energy distribution in Texas, which tie into energy equity and affordability.

Increased energy efficiency leads to lower utility bills, but special attention needs to be paid to ensure low-income households benefit as well, particularly regarding smart meters and insulation in homes.

Cost distribution is another factor: high energy costs disproportionately affect vulnerable populations. Not all communities have equal access to energy efficiency programs. Ensuring that low-income and marginalized communities benefit from energy efficiency initiatives is crucial.

Robust policies and regulations can support both the development of new energy technologies and the protection of consumers, ensuring that energy remains affordable and accessible to all Texans.

Just as important, energy is the most important factor for economic development in Texas. Reliable, affordable energy is critical to the production of goods, services, and the advancement of the labor market in the digital economy.



**“Our only shot is through renewable power, battery storage, transmission, and demand-side resources, including both energy efficiency and demand response.”**

— Texas Energy and Power Newsletter



## 4. Incentives for Texas Businesses

The Baker Report, produced by the Baker Institute for Public Policy at Rice University, focuses on critical issues affecting the Texas energy situation and emphasizes the urgent need for sustainable energy solutions. It also underscores the importance of public and private sector collaboration in fostering energy efficiency, resilience, and equity.

Texas businesses stand to benefit significantly from various state and federal incentives designed to support these goals. Below are some key incentives available to businesses in Texas, aimed at promoting investment in renewable energy, energy efficiency, and innovative technologies:

### Prop 7: The Texas Backup Power Package

The passage of Proposition 7 allowed the creation of the Texas Energy Fund, administered by the Public Utilities Commission. The Texas state legislature is now authorized to allocate funds to modernize electric-generating facilities.

There is currently \$1.8 billion available in grants and low-interest loans for microgrids. Some of the requirements to secure Prop 7 funding include:

For more information, visit the [Public Utility Commission of Texas website](#).

Resource Addition Target	Maximum Funds Available	Award Types	Eligibility Stipulations
ERCOT Resources (New Generation or Upgrades to Existing Generation)	Up to \$7.2 billion to Support up to 10,000 MW in capacity additions	<ul style="list-style-type: none"> <li>20-year loans at 3%</li> <li>Project completion grants</li> </ul>	<ul style="list-style-type: none"> <li>“Dispatchable” resources only (no renewable resources)</li> <li>No utility owned resources</li> <li>No industrial related generation</li> <li>Selected projects must add a minimum of 100 MW of generation and be interconnected by June, 1 2029</li> </ul>
Non-ERCOT Resources (Transmission and Distribution Infrastructure or Generation Upgrades)	Up to \$1 billion	<ul style="list-style-type: none"> <li>Project completion grants</li> </ul>	<ul style="list-style-type: none"> <li>Grid resiliency projects including weatherization, modernization, and vegetation management</li> </ul>
Backup Power (All Regions)	Up to \$1.8 billion	<ul style="list-style-type: none"> <li>Project completion grants</li> </ul>	<ul style="list-style-type: none"> <li>“Stand-alone, behind the meter, multiday backup power source that can be used for islanding”</li> <li>Excludes grants to for-profit entities that does not “directly serve public safety and human health”</li> </ul>

## Investment Reduction Act (IRA)

The 2022 Inflation Reduction Act (IRA) promotes clean energy investments and provides substantial financial incentives to reduce greenhouse gas emissions.

Under the IRA, qualifying microgrid systems that begin construction before January 1, 2025 are eligible for tax credits up to 30% of the cost of installation. In addition, the IRA provides bonus tax credits of up to 10% for projects located in 'Energy Communities.' (Clean Electricity Investment Tax Credit – 26 U.S. Code § 48E).

## Investment Tax Credit (ITC)

An ITC is a federal income tax credit that falls under Section 48E of the Internal Revenue Code. This credit for microgrid controller projects can reduce a business's tax liability on a dollar-for-dollar basis.

## Under the Investment Reduction Act (IRA)



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*(Clean Electricity Investment Tax Credit – 26 U.S. Code § 48E)*

## Other Incentives Under the IRA

- **Production Tax Credit (PTC):** The IRA also reinstates and extends the PTC for renewable energy production, providing financial incentives based on the amount of energy produced by qualifying renewable sources.
- **Incentives for Energy Efficiency:** The IRA provides tax deductions for energy efficiency improvements in commercial buildings. Businesses can receive up to \$5 per square foot for energy-efficient enhancements, reducing operating costs and promoting sustainability (Foley & Lardner LLP).
- **Support for Emerging Technologies:** This includes incentives for emerging clean energy technologies like hydrogen production, carbon capture and storage (CCS), and advanced nuclear energy. These incentives aim to accelerate the development and deployment of innovative energy solutions (IRS.gov).
- **Electric Vehicle (EV) Incentives:** Businesses investing in electric vehicle fleets can benefit from substantial tax credits for purchasing EVs and installing charging infrastructure. This supports the transition to electric mobility and reduces transportation-related emissions.
- **Manufacturing and Supply Chain Investments:** The IRA provides financial support for domestic manufacturing of clean energy components, such as solar panels, wind turbines, and batteries. This boosts the U.S. clean energy supply chain and reduces dependence on foreign imports (IRS.gov).
- **Incentives for Low-Income and Disadvantaged Communities:** The IRA includes provisions to ensure that low-income and disadvantaged communities benefit from the clean energy transition. This includes bonus tax credits for projects located in energy communities or those that meet specific labor requirements (Foley & Lardner LLP).

## Is Your Company Eligible?

Texas businesses can check the Department of Energy's Energy Communities website, which provides comprehensive details on the eligibility requirements and benefits of the ITC, including an [eligibility map](#).

DSIRE, another resource that is operated by the NC Clean Energy corporation, provides [comprehensive, state-specific information](#) regarding incentives and policies related to renewable energy.

# 5. Grid 3.0: The Next (and Necessary) Phase of Energy Revolution

Businesses must transition to 'Grid 3.0' – or continue to lose hundreds of thousands – even millions – of dollars in downtime, product loss, and more.

Think of Grid 3.0 as a new dominion where energy is efficient, autonomous and clean. A critical rebalance of transmission and distribution networks that goes beyond the Texas Backup Power Package, Grid 3.0 solves for the lack of supply and the increased variability of renewable inputs.

Luckily, there are innovative solutions that will help accommodate the escalating demand in Texas while maintaining affordability, increasing energy reliability, and potentially decreasing carbon output through renewable energy integration.

Key players to solutions to problems of the current grid situation – Grid 2.0 – were discussed in the interview with State Senator Johnson:

- Distributed energy resources (DERs), such as rooftop solar
- Battery energy storage systems (BESS)
- Renewable energy
- Thermal generation


These resources will enable ERCOT to improve resiliency, handle the increased load demands, and reduce transmission losses. For environmental advocates, this is a win-win because it also promotes clean energy.

# 3. The Key to Grid 3.0 Is a Fully-Integrated Turnkey Solution

The challenge with having so many parts to the solution is integration. Renewable energy is not always available and reliable, batteries have safety and environmental considerations, and incorporating the smaller components of DERs effectively – such as smart meters and sensors – is crucial to the effectiveness of having one's own energy source.

While the Texas Battery Backup Package is a great start, a holistic, sustainable solution is a turnkey microgrid that enables integration with renewables and the grid, resulting in energy autonomy and decreased grid load.

## Cost Comparison

	Standard Generator	 R3Di
Product Cost / kw installed <sup>1</sup>	\$1,378	\$2,475
IRA / ITC Tax Credit 40%	-	\$792
1st yr. Acc. Dep. 60% at 21% tax rate	-	\$312
Avg. Cost / kw After Taxes	\$1,378	\$1,371
Interconnection cost if added 2-3 yrs <sup>2</sup>	\$200	-
<b>Total Cost</b>	<b>\$1,578</b>	<b>\$1,371</b>

1. U.S. Energy Information Administration – Cost Data for Electric Generators

2. Lawrence Berkely National Labs – Generator Interconnection Costs

Typical project costs based on national rates, qualifying tax credits, and average interconnection costs.

## 4 Reasons to Implement Turnkey Microgrid Solutions in Texas

1. Investment tax credits are available based on the Inflation Reduction Act (IRA) and Financial Incentives for Microgrid Systems (See section). <https://programs.dsireusa.org/system/program/tx>

2. Time to install is relatively short – an average 9-12 months – instead of waiting for an interconnection agreement that could take years.

3. Includes 24/7 monitoring, giving you complete energy autonomy.

A lower carbon footprint, which has socioeconomic benefits and environmental impact, including a more positive brand image.



# Meet Virtual Utility® : The Logical Choice for Companies and the Grid



[Virtual Power Plants \(VPPs\)](#) – on-site distributed energy resources (DERs) – made their official debut when the Department of Energy released its special report touting the benefits, which include reducing the reliance on fossil fuel, increased SROI, reduced energy cost, and reduced load on the grid, among others.

Virtual Utility® offers all of the above and more, but it takes the idea of a VPP several steps further by placing the customer firmly in the driver's seat.

With Virtual Utility®, customers gain an independent energy position with the option to have expert monitoring through Grove365. The eyes and brains for Virtual Utility, Grove365 enables the customer to have complete control over their energy needs, including input modes, optimal availability, and maximum visibility to drive efficiency. This results in increased flexibility, reliability and cost savings for the end-user.

### Key Benefits of Virtual Utility®:

- Enables customers to get the lowest total cost per kilowatt-hour, uninterrupted on-site resiliency, and reliability to protect your products, prevent downtime, and provide reliable service to your customers.
- Instantaneous full-load pick-up when dispatched, offering grid stability for intermittent renewables, capacity reserve, frequency response, and voltage response
- IContinuous sync with the grid without relying on it for power.
- IControl over when to use renewables versus the grid, depending on market conditions and what makes the most sense for your company at the time.



## How Virtual Utility® Works

Virtual Utility® is like having your own utility on site. It can serve as a primary source of power or a backup. You have that choice. There are two primary components:

### 1. R3Di® System

The heart of Virtual Utility®, R3Di sees the powerful combination of a lithium iron phosphate battery (LiFePO4), low-emissions, natural gas Cummins® engine, enabling it to sustain long-term outages:

- Integrates with solar, wind, and future renewables such as hydrogen in one package
- Saves 39,273 tons of emissions over its lifetime compared to diesel generators
- Offers a net present value of \$7,209,874 with an average societal return on investment (SROI) of approximately 300%
- Optimizes the grid for efficiency and reliability
- Integration with EV charging for energy cost reduction

The R3Di® system saves 39,273 tons of emissions over its lifetime compared to diesel generators, a net present value of \$7,209,874 with an average SROI of approximately 300% (third-party verified).

*Note: Businesses can opt for the battery only, pairing it with their choice of generator and renewable, such as solar.*

### 2. Grove

The Eyes of Virtual Utility® and operational hub for distributed assets, offering:

- 24/7/365 monitoring for CO2 emissions, asset health, and utility market price
- Real-time data, ensuring seamless resiliency and grid response optimization
- Compliance and Certification
- NFPA, UL, ISO8528-5, and environmental permitting compliance
- Clean, conditioned power on-site for reliability

By choosing Virtual Utility®, you're getting more than a power solution: You're gaining a strategic partner in energy management.

## Don't Get Left in the Cold: Get R3Di® for the Energy Future

Companies that will survive and thrive are those who stay on the edge of innovation. Now is the time for Texas companies to take charge of their energy future with a system that improves reliability and resiliency while supporting the move to Grid 3.0.

The first step in future-proofing your energy strategies is knowledge.

Learn how much you can save with Virtual Utility® and see if you qualify for investment tax credits and new government funding for backup power generation.

[Request a Quote](#)

