

THE SUN: Part Problem, Part Solution

Incentives and challenges impacting utility scale solar energy in Texas.

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By the time this article is published, we will hopefully be enjoying crisp, fall temperatures in Texas, and the oppressive heat of a record-breaking summer will be a distant scorching memory. At the time of writing this article, however, the state is expected to continue to endure triple-digit temperatures well past the unofficial end of summer, Labor Day.

The sun, which is the culprit for the blistering temperatures, can also serve as a significant source of energy generation. This article discusses the contributions solar energy is making to the state's increasing energy demand and summarizes some of the challenges and incentives solar energy faces.

Let's start with the statistics of the 2023 Texas summer. Through the first week of September, the Electric Reliability Council of Texas, or ERCOT, which operates the electric grid for more than 26 million Texas customers (representing roughly 90% of the state's electric load), set 10 new all-time peak electricity demand records; issued numerous voluntary conservation notices; and issued an energy emergency alert (level 2) on September 6.¹

To help prevent power outages, ERCOT begins emergency operations using three levels of energy emergency alerts when reserves on the electric grid are low. The energy emergency alert level 2, which ERCOT issued on September 6, is issued when ERCOT's operating reserves have dropped below 1,750 megawatts (one megawatt of electric generation is enough to power about 200 Texas homes during peak demand) and are not expected to recover within 30 minutes.² Controlled power outages only become necessary if demand isn't lowered or additional supply cannot be added from power generators during these types of conditions. Fortunately, ERCOT was able to avoid power outages, allowing us all to continue running our air conditioners to combat the heat.

It's no secret that Texas' population is growing. It's also no secret that us Texans love our air conditioners, especially when the heat index reaches numbers that resemble the scores of a basketball game. Combine the two and it becomes apparent that Texas needs a lot of electricity. To put the state's growing demand for electricity in perspective, on July 20, 2022, ERCOT set a peak demand record of 80,148



megawatts. This summer, on August 10, 2023, ERCOT set an all-time peak demand record of 85,435 megawatts, over 5,000 megawatts more than the record from the summer of 2022.³

With the state hitting record demand for electricity this summer, it was critical for the grid to have as much generation, from all available sources, to meet such demand. Solar power certainly contributed its share to help meet the state's demand this summer. In fact, on August 9, 2023, ERCOT set a record for production from renewable energy sources, including solar, at 31,585 megawatts.⁴ During some afternoons in the summer, solar was responsible for nearly 20% of the total generation in ERCOT.⁵

Although Texas was the nation's second-largest producer of solar power in 2022, second only to California, the future of utility scale solar generation in Texas faces some challenges, both at the state and federal level.

STATE LEVEL

The 2023 Texas legislative session proved an active one for the energy industry, including renewable energy. Although the legislation that was forecasted to have the most detrimental impact on the proliferation of utility scale solar power in Texas did not pass, several bills that were enacted into law are likely to impact future utility scale solar projects in Texas.

The bill that was projected to have a significant impact on utility scale solar generation in Texas was Senate Bill 624, which passed the Senate but not the House, and would have required the Texas Public Utility Commission to establish a permitting process for any solar project with a capacity of 10 megawatts or more and require that such projects pay annual environmental impact fees.⁶ The permit application requirements were very extensive.⁷ Additionally, the legislation would have applied retroactively to any solar facility interconnected before September 1, 2023, if certain relatively minor modifications were made to the existing facility.⁸

A bill that was signed into law by the governor, House

Bill 5, created a new property tax incentive program granting companies discounts on school property taxes for certain qualifying projects.⁹ The new property tax incentive program replaced the expired Texas Economic Development Act, generally referred to as Chapter 313, which expired on December 31, 2022. Projects eligible for the tax incentive program expressly exclude projects to construct or expand a new or existing “non-dispatchable” electric generation facility, which is generally understood to include wind or solar power generation facilities.¹⁰ The prior version of the tax incentive program, Chapter 313, did not exclude non-dispatchable electric generation facilities and provided significant cost savings for numerous solar projects throughout the state.

Another bill that was signed into law by the governor, HB 1500, requires generation facilities, including solar facilities, that sign an interconnection agreement after January 1, 2027, to demonstrate that the facility can maintain a certain amount of electric output during certain periods of high demand.¹¹ This new requirement is expected to add costs to solar projects, which are an intermittent energy source, as they will need to satisfy the requirement through some method, likely by adding a battery energy storage system to the solar facility.¹² The bill also establishes an allowance for the cost of building new transmission lines to connect power generators, including solar power generators, to the grid and requires such power generators to cover the transmission costs above such allowance.¹³ This cost structure is expected to have a significant impact on utility scale solar projects, which are often sited in remote regions of the state because of the low costs of land in such regions.

FEDERAL LEVEL

At the federal level, utility scale solar projects face a mixed bag of incentives and potential hurdles. For example, on August 18, 2023, the U.S. Department of Commerce issued a final determination that certain Chinese solar manufacturers are shipping their solar products through certain Southeast Asian countries for minor processing in order to avoid paying tariffs applicable to solar products manufactured in China.¹⁴ The result of the Department of Commerce’s determination is that certain solar products used to make solar panels imported from the affected Southeast Asian countries will be subject to the additional tariffs, which can be as high as 254%.¹⁵

To mitigate the uncertainty the Department of Commerce’s solar tariff investigation—that lasted nearly a year and a half—was creating in the U.S. solar industry, President Joe Biden issued a presidential proclamation on June 6, 2022, suspending the collection of tariffs from the affected Southeast Asian countries for a period of 24 months from the date of the proclamation (i.e. until June 6, 2024).¹⁶

Utility scale solar projects did, however, continue to receive a significant boost from the passage of the Inflation Reduction Act, or IRA, which was signed into law and included myriad tax credits, grants, and loan programs aimed at accelerating the transition to clean energy. For example, the IRA extended the current framework of the investment tax credit, or ITC, for solar projects that begin construction prior to 2025 created a new base credit, and increased credit

structure.¹⁷ The base ITC credit is 6% with an increased credit of 24% (30% total) if certain conditions are met.¹⁸ Solar projects that are placed in service after 2022 and that meet certain requirements are eligible for two separate 10% credit bonuses (above the 30%).¹⁹

Additionally, the IRA reinstated the production tax credit, or PTC, for energy produced from solar projects.²⁰ The PTC for solar energy production was last available for solar facilities placed in service prior to 2006. The IRA extended the current framework of the PTC for solar projects that begin construction prior to 2025, and like with the ITC, creates a new base credit and increased credit structure.²¹ Also like the ITC structure, solar projects that are placed in service after 2022 and that meet certain requirements are eligible for two separate 10% credit bonuses.²²

Lastly, the IRA created a direct pay option for certain entities, including tax-exempt entities, that allows such eligible entities to receive a direct payment equal to the amount of the applicable tax credit in lieu of a tax credit.²³

FORECAST

Texas will need a lot of electricity to meet the demands of an increasing population and increasing temperatures. The primary source of the problem also happens to be a significant source for the solution. The state will need to rely on solar, along with other renewable and fossil fuel energy generation sources, to meet the increasing demand for electricity. **TBJ**

Notes

1. See <http://www.ercot.com>.
2. *Id.*
3. *Id.*
4. *Id.*
5. *Id.*
6. See Tex. S.B. 624, 88th Leg., R.S. (2023).
7. *Id.*
8. *Id.*
9. See Tex. H.B. 5, 88th Leg., R.S. (2023).
10. *Id.*
11. See Tex. H.B. 1500, 88th Leg., R.S. (2023).
12. *Id.*
13. *Id.*
14. *Department of Commerce Issues Final Determination of Circumvention Inquiries of Solar Cells and Modules from China*, U.S. Department of Commerce (Aug. 18, 2023), <https://www.commerce.gov/news/press-releases/2023/08/department-commerce-issues-final-determination-circumvention-inquiries>.
15. Jennifer A. Dlouhy and Michelle Ma, *Chinese Solar Makers Face New Tariffs After US Says They Dodging Duties*, Bloomberg, August 18, 2023, <https://www.bloomberg.com/news/articles/2023-08-18/chinese-solar-makers-face-new-tariffs-after-us-says-they-re-dodging-duties#xj4y7vzkg>.
16. *Declaration of Emergency and Authorization for Temporary Extensions of Time and Duty-Free Importation of Solar Cells and Modules from Southeast Asia*, The White House (June 6, 2022), <https://www.whitehouse.gov/briefing-room/statements-releases/2022/06/06/declaration-of-emergency-and-authorization-for-temporary-extensions-of-time-and-duty-free-importation-of-solar-cells-and-modules-from-southeast-asia/>.
17. See H.R. 5376 (117th Congress)(2021-2023).
18. *Id.*
19. *Id.*
20. *Id.*
21. *Id.*
22. *Id.*
23. *Id.*



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