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Don't Mess With Texas Solar: PV Growth Continues Despite COVID-19

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DON'T MESS WITH TEXAS SOLAR: PV GROWTH CONTINUES DESPITE COVID-19

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I. INTRODUCTION

2020 was the year of the unexpected, but one constant in the energy industry remained the exponential growth of solar generation in Texas, which largely continued its expansion as predicted. Electric Reliability Council of Texas's ("ERCOT") 2019 State of the Grid Report noted that installed solar generation capacity in ERCOT stood at 2,281 megawatts (MW) at year-end 2019, with over 67,000 MW of further solar capacity under study, exceeding even the amount of wind generation capacity under study.[1] By July 2020, installed capacity of solar generation increased by almost 1 gigawatt (GW) to a total of

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1. *2019 State of the Grid*, ERCOT 1,9 (Apr. 20, 2020), http://www.ercot.com/content/wcm/lists/197391/2019_ERCOT_State_of_the_Grid_Report.pdf [perma.cc/A2ZQ-6DVT].

3,275 MW, representing approximately 2.2% of generating capacity in ERCOT.[2] Solar accounted for 43% of new installed capacity in 2020, the largest share among generation types.[3] The Solar Energy Industries Association ("SEIA") ranked Texas fifth among the states in installed solar generation capacity in 2019,[4] but based on its high growth rate, Texas is projected to be second only to California within the next five years.[5] Abundant land and consistent sun make Texas an obvious candidate for significant solar generation investment, but ERCOT's energy-only market makes solar generation with its non-existent fuel costs especially competitive. Adjustments to the Operating Reserve Demand Curve in 2019 by the Public Utility Commission of Texas[6] have also increased scarcity pricing and made returns more lucrative for a resource that is at its apex when demand is highest on hot, sunny summer afternoons.[7] As this Article was being finalized for publication, the ramifications to the electric power industry in Texas of Winter Storm Uri are not yet clear.[8] However, a preliminary assessment by Pecan Street highlighted the benefits of solar generation in a such a crisis and may spur further interest both at the generation side and behind-the-meter.[9]

2. *Fact Sheet August 2020*, ERCOT 1 (Aug. 2020), http://www.ercot.com/content/wcm/lists/197391/ERCOT_Fact_Sheet_8.11.20.pdf [perma.cc/4T4Z-AECF].

3. Joe Bebon, *U.S. Solar Industry Comes 'Roaring Back', Breaks Multiple Records in 2020*, PV Magazine (Mar. 16, 2021).

4. *The Texas Solar Industry*, TSPA 2 (Mar. 19, 2019), http://txsolarpower.org/wp-content/uploads/2019/03/TSPA-Texas-solar-overview-3-19-19.pdf [perma.cc/Z58K-EDCD].

5. *See State Solar Spotlight*: *Texas*, SEIA 1 (Mar. 2020), https://www.seia.org/sites/default/files/2020-03/Texas.pdf [perma.cc/9KS5-8HQ8]; s*ee also State Solar Spotlight*: *California* SEIA 1 (Mar. 2020), https://www.seia.org/sites/default/files/2020-03/California.pdf [perma.cc/3DCU-QJ3V].

6. *See Review of Summer 2018 ERCOT Market Performance,* PUC Project No. 48551, Memorandum from Chairman DeAnn T.Walker to Arthur C. D'Andrea & Shelly Botkin, Comm'rs at 1-2 (Jan. 17, 2019).

7. 7X Energy, *The Value of Solar in Texas Has Surged Even More Than Its Growth*, UTILITY DIVE (Oct. 6, 2020), https://www.utilitydive.com/spons/the-value-of-solar-in-texas-has-surged-even-more-than-its-growth/586337/ [https://perma.cc/6WP2-9R7E].

8. *See e.g.*, Mitchell Ferman and Patrick Svitek, *Texas lawmakers plan slate of bills in response to power outages, but experts skeptical there will be meaningful change*, TEX. TRIB. (Mar. 8, 2021), https://www.texastribune.org/2021/03/08/texas-dade-phelan-power-outage/ [https://perma.cc/2KM2-MGA5].

9. *See* Scott Hinson, *How Did Texas Solar Perform in a Snowstorm?*, Pecan Street (Feb. 26, 2021) https://www.pecanstreet.org/2021/02/solarstorm/ [https://perma.cc/Q29V-87TB].

Much of the reason for the continued growth of this resource, even in such a tumultuous environment, was the rush to qualify for the Investment Tax Credit ("ITC"), which is a major financing consideration for solar development and is being phased down. This was tempered somewhat by the countervailing effects of tariffs on key components and pandemic-related labor delays and equipment shortages. This Article will examine these competing forces, their impact on development in 2020, and considerations for continued solar generation growth in the Texas market in 2021 and beyond.

II. ITC EXTENSION

The federal solar Investment Tax Credit ("ITC") has been a significant driver of solar project growth nationwide. Since its enactment in 2006, it has contributed to a 52% average annual increase in solar installations.[10] The ITC initially permitted a tax deduction for 30% of the solar generation system's installation costs and was scheduled to be phased out with a drop to a 26% credit in 2020 and further decreases to 22% in 2021 and a 10% credit starting in 2022. However, because of supply chain disruptions and development delays brought on by the impacts of the COVID-19 pandemic, on May 27, 2020, the IRS issued Notice No. 2020-41, which extended two key safe harbor provisions of the ITC: a one-year extension to the Continuity Safe Harbor provision for projects that began construction in 2016 and 2017 and a three and a half month extension to the construction-start provision for projects that paid for equipment or services after September 15, 2019.[11] The continuity provision of the ITC requires that projects be completed within four years of the beginning of construction to qualify for the full amount of the tax credit. With the one-year extension, those projects that began construction in 2016 and 2017 will now have until the end of 2021 or 2022 respectively to begin commercial operations and still qualify for the full amount of the tax credit. The three and a half month extension in turn affirms that projects that started construction in 2019 by incurring project costs of 5% or more with the reasonable expectation of receiving services or equipment within three and a half months will still be considered to have begun construction in 2019 so long as the equipment or services paid for are received by October 15, 2020.

10. *Solar ITC 101: What is the Solar Investment Tax Credit?*, SEIA (Jan. 1, 2020), https://www.seia.org/sites/default/files/2020-01/SEIA-ITC-Factsheet-2020-Jan_1.pdf [https://perma.cc/L5XF-M63H].

11. I.R.S. Notice 2020-41.

On December 21, 2020, Congress provided a two-year extension of the ITC phase down as part of the COVID-19 relief measures package in the Consolidated Appropriations Act, 2021.[12] The 26% credit will remain available for projects that begin construction in 2021 and 2022, with the step down to 22% delayed to 2023 and finally down to 10% in 2024 for commercial projects.

III. PANDEMIC-RELATED DELAYS AND SHORTAGES

Pandemic-related labor shortages and equipment delays in 2020 did not spare the power sector despite near universal designation as an essential service. The U.S. Energy Information Administration ("EIA") reports that approximately 20% of the generation projects scheduled to come online in the next twelve months experienced some delay.[13] Of these projects, solar development was the most impacted form of generation with fifty-three projects, representing a total of 1.3 GW of capacity, experiencing a pandemic-related delay.[14] Projects in the construction phase were the most likely to be impacted by delays due to COVID-19.[15] EIA attributed these delays to limitations in personnel travel, altered company finances, and component manufacturer shutdowns.[16]

Despite such construction delays, in Texas, ERCOT implemented measures to speed the interconnection process for solar projects in the planning and permitting phases, namely by forming a resource integration group combining staff from operations, planning, and grid coordination functions.[17] Using new tools to process generation interconnection requests, ERCOT completed full interconnection

12. *See* Consolidated Appropriations Act, 2021.

13. Whitney Jarrett & Ray Chen, *COVID-19 mitigation has delayed construction of some electric generators*, U.S. EIA (July 15, 2020), https://www.eia.gov/todayinenergy/detail.php?id=44376 [https://perma.cc/CS6A-MX2U].

14. *Id.*

15. *Id.*

16. *Id.*; *see also* Steven Mufson & Dino Grandoni, *Coronavirus Crisis Hits Solar and Wind Energy Industry*, WASH. POST (May 4, 2020, 5:00 AM), https://www.washingtonpost.com/climate-environment/2020/05/04/coronavirus-crisis-hits-solar-wind-energy-industry/ [https://perma.cc/H8HU-Y49C].

17. William Driscoll, *Texas Approves 12 GW of Solar Projects in Seven Months*, PV MAGAZINE (Aug. 10, 2020), https://www.pv-magazine.com/2020/08/10/texas-approves-12-gw-of-solar-projects-in-seven-months/ [https://perma.cc/M6XK-UY3E].

studies for fifty-eight solar projects in the first seven months of 2020, almost double the solar capacity processed in all of 2019.[18]

IV. TARIFFS ON SOLAR PANEL IMPORTS

Changes in tariffs on imported solar photovoltaic modules, or panels, have had some impacts. In February 2018, the Trump administration imposed a 30% tariff on imported solar cells and modules, which was scheduled to decrease by 5% over the subsequent four years.[19] In 2019, 94% of total solar panel shipments consisted of imports.[20] The U.S. Trade Representative ultimately granted an exemption from the tariff for all bifacial panels beginning in June 2019.[21] Use of bifacial solar panels was not common previously, but manufacturers are projected to quickly ramp up production of such panels.[22] The U.S. Trade Representative promptly attempted to withdraw the exemption for bifacial panels in October 2019[23] and again in January 2020[24] but was enjoined from doing so by the U.S. Court of International Trade.[25] On October 10, 2020, the Trump administration issued a proclamation to repeal the exemption from tariffs for bifacial solar panels and to reverse the scheduled tariff decrease in 2021 from 15% to 18%.[26] Wood Mackenzie found that prices for U.S. solar systems are 45% greater than systems in Europe and Australia due to these tariff impacts.[27]

18. *Id.*

19. Proclamation No. 9693, 83 Fed. Reg. 3541 (Jan. 23, 2018).

20. Lolita Jamison, *U.S. Shipments of Photovoltaic Modules Increase As Prices Continue to Fall*, U.S. EIA (Aug. 19, 2020), https://www.eia.gov/todayinenergy/detail.php?id=44816 [https://perma.cc/6KXF-SBHG].

21. Exclusion of Particular Products from the Solar Products Safeguard Measure, 84 Fed. Reg. 27684-02, 27685 (June 13, 2019).

22. Cormac Gilligan, *Emerging Markets and Innovation: The Twin Pillars of Future Growth of the Solar Tracker Market*, IHS MARKIT (July 17, 2020), https://ihsmarkit.com/research-analysis/the-twin-pillars-of-future-growth-of-the-solar-tracker-market.html [https://perma.cc/73NC-RFYR].

23. Withdrawal of Bifacial Solar Panels Exclusion to Solar Products Safeguard Measure, 84 Fed. Reg. 54,244 (Oct. 9, 2019).

24. Procedures to Consider Retention or Withdrawal of the Exclusion of Bifacial Solar Panels from the Safeguard Measure on Solar Products, 85 Fed. Reg. 4756 (Jan. 27, 2020).

25. Invenergy Renewables LLC v. United States, 450 F. Supp. 3d 1347, 1351 (Ct. Int'l Trade 2020).

26. Proclamation No. 10101, 85 Fed. Reg. 65,639, 65,640 (Oct. 10, 2020).

27. *See* Xiaojing Sun, Lindsay Cherry & Molly Cox, *Foresight 20/20: Solar Supply Chain, Systems and Technology* 6 (Feb. 5, 2020), https://www.woodmac.com/our-expertise/focus/Power—Renewables/solar-

The Biden administration has continued to defend this tariff policy, with the Department of Justice filing a motion to dismiss SEIA's complaint against the tariff on bifacial solar panels.[28] In February 2021, CEOs of 17 of the largest solar development companies signed a letter to President Biden urging that these tariffs be rescinded and pressure is likely to continue for the Biden administration to avoid hindering development of a key renewable resource.[29]

V. SOLAR OUTLOOK IN 2021

Expected to grow regardless of the party in power, the 2020 election is already proving to have a significant impact on the level of renewable generation development and is providing a boost at a crucial time for the solar industry as it becomes increasingly cost competitive with other forms of generation. With the extension of the ITC and the expectation that the Biden administration will make renewable generation central to its pending infrastructure investment proposals, most expect exponential growth ahead for solar development. As highlighted by the administration's continued adherence to tariffs on solar panels though, friction may continue between the desire to promote increased solar generation capacity and efforts to bolster a domestic solar manufacturing industry to compete with China.[30]

At the State level, former ERCOT CEO Bill Magness noted some hesitation in a presentation to an interim charge of the Texas Senate Business and Commerce Committee, stating that most of the 9.4 GW of utility-scale solar development with signed interconnection agreements would be operational by summer 2021.[31] By December 2020, ERCOT's Capacity, Demand, and Reserves Report forecasted a 15.5% reserve margin for summer 2021 despite continued increases to peak demand, with a significant portion of this increased capacity

systech-foresight-2020/ [https://perma.cc/8H3B-9HHG].

28. Solar Energy Industries Association et al. v. United States et al., Case No. 1:20-CV-03941, Motion to Dismiss (Mar. 1, 2021) (Ct. Int'l Trade).

29. Solar CEO Letter to Presiden Biden Regarding Section 201 Tariffs, SEIA https://www.seia.org/research-resources/solar-ceo-letter-president-biden-regarding-section-201-tariffs [https://perma.cc/AZE8-JGKB].

30. *See e.g.,* Miranda Wilson, *Biden's 'Buy America' Plan May Hit a Solar Wall*, E&E News (Mar. 1, 2021), https://www.eenews.net/stories/1063726219 [https://perma.cc/5W8X-J4FM].

31. Bill Magness, *Senate Business & Commerce Testimony*, ERCOT 7 (Feb. 6, 2020), http://www.ercot.com/content/wcm/lists/200201/Senate_B_C_2_6_20_FINAL.PDF [https://perma.cc/8XBR-RJ5R].

projected to be provided by solar generation.[32] Significant changes to electric policy in Texas were not initially expected prior to Winter Storm Uri, given the limitations on Texas's 87th Legislative Session presented by COVID-19 and the more pressing budgetary and redistricting concerns.[33] Although electric generation is now squarely within the Legislature's priorities, bills filed to date have not focused on solar generation specifically. Legislation requiring winter weatherization standards is expected, although this may allow for variability between generation types and be more focused on thermal and wind generation than on solar.[34]

Changes in technology and corporate preferences appear primed to ensure that solar capacity will continue to grow in Texas for the foreseeable future. Dennis Wamsted, an analyst with the Institute for Energy Economics and Financial Analysis ("IEEFA"), notes the impact of solar on continued improvements in battery storage technology and price: "By enabling companies to store solar-generated power if it is not needed during the daytime, battery storage will allow firms to use that power during higher demand periods[.]"[35] Corporate demand for renewable generation has also been a major driver of solar development, accounting for 1,280 MW of new commercial solar capacity in 2019.[36] This is largely driven by cost reductions—with a 30% decline over the past five years alone—and increasingly ambitious corporate climate goals.[37] Wood Mackenzie

32. *See* ERCOT Report Shows Increasing Reserves in Coming Years, ERCOT (Dec. 16, 2020), http://www.ercot.com/news/releases/show/219347 ("Based on preliminary data from generation owners, planned resources expected to be available by summer 2021 have a summer-rated capacity of 5,620 MW. This includes 816 MW of gas-fired resources, 1,765 MW of wind resources and 3,039 MW of utility-scale solar resources. An additional 9,273 MW of summer-rated solar capacity is expected to be added by June 2022.")

33. *See generally* Cassandra Pollock, *The Texas Legislature Meets in Less Than 100 Days. Nobody Knows How the Session Will Look.*, TEX. TRIB. (Oct. 6, 2020, 5:00 AM), https://www.texastribune.org/2020/10/06/texas-legislature-coronavirus/ [https://perma.cc/9MSD-PAPM].

34. *See e.g.* Tex. H.B. 11, 87th Leg., R.S. (2021) (requiring the Public Utility Commission to implement rules requiring extreme weather preparedness by power generators).

35. Kelsey Misbrener, *New Report Finds Texas Utility-Scale Solar Growth May Push Remaining Coal Plants into Retirement*, SOLAR POWER WORLD (July 13, 2020), https://www.solarpowerworldonline.com/2020/07/new-report-finds-texas-utility-scale-solar-growth-may-push-remaining-coal-plants-into-retirement/ [https://perma.cc/XCC4-BZYL].

36. *Id.*

37. *Solar Means Business: Tracking Solar Adoption by America's Top Brands*, SEIA 6 (Oct. 2020), https://www.seia.org/sites/default/files/2020-10/SEIA-SMB-

projects an additional 10-25% reduction in solar costs over the next 10 years.[38] SEIA expects investments in off-site corporate solar capacity to more than double in the next three years, projecting 5 GW of additional capacity from this segment of the market.[39] With such strong underlying fundamentals and high levels of corporate demand, the future looks bright for solar generation in the Lone Star State.

2019-FINAL_0.pdf [https://perma.cc/P9TS-99W2].

38. *How Solar Is Central To The Energy Transition,* Forbes (Mar. 18, 2021)

39. *See Solar Means Business: Tracking Solar Adoption by America's Top Brands*, SEIA 6 (Oct. 2020), https://www.seia.org/sites/default/files/2020-10/SEIA-SMB-2019-FINAL_0.pdf [https://perma.cc/P9TS-99W2].