



How Extreme Weather Events Have Bankrupted Utility Players and Changed the Electric Grid

Climate risk is difficult for large corporations to mitigate and is increasingly a C-suite agenda item. In this article, experts from FTI Consulting's Power, Renewables & Energy Transition ("PRET") practice draw upon their experience in climate risk-related bankruptcy, dispute advisory, restructuring and resource strategies to summarize the regulatory, operational and financial impacts of recent extreme weather events on electric utilities. This article will discuss the implications of strengthening physical and financial asset performance in a rapidly evolving electric grid.

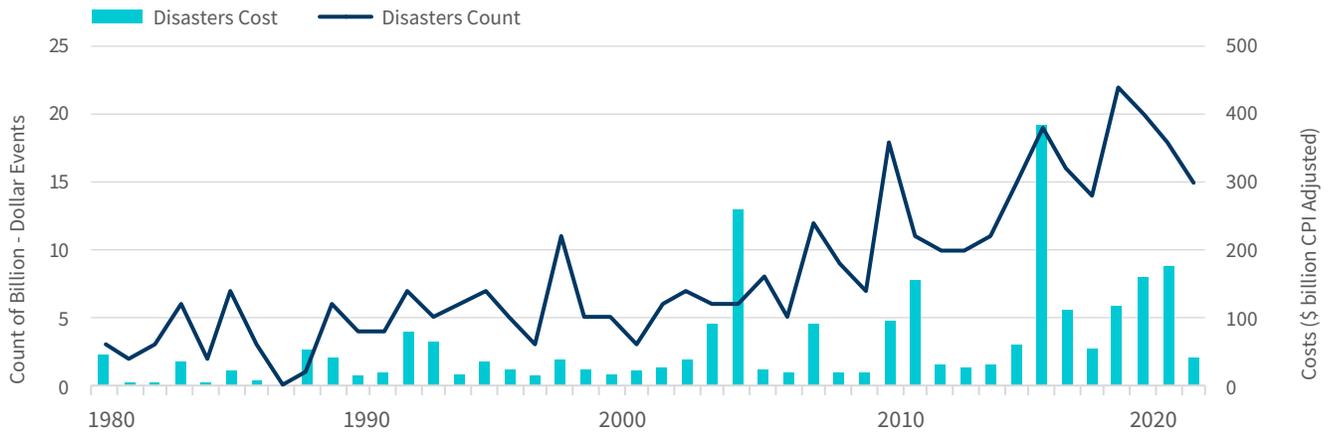
Increasing Occurrence of Bankruptcies Associated with Extreme Climate Events

Recent years have seen an increasing number of energy sector bankruptcies associated with high-cost climate disasters, including PREPA's restructuring before and after Hurricanes Irma and Maria destroyed most of the Puerto Rican grid,^{1,2} PG&E's bankruptcy after the deadly Camp Fire,³ various post-Winter Storm Uri bankruptcies in the Electric Reliability Council of Texas ("ERCOT") grid region,^{4,5,6} and Lincoln Power's bankruptcy after Winter Storm Elliott gravely impacted the PJM grid.⁷ Most recently, after deadly wildfires devastated the island of Maui in August 2023, Hawaiian Electric Industries, Inc. ("HEI") and its electric utilities, which

supply 95% of Hawaii's electricity, are facing increasing scrutiny amid mounting financial and legal pressure.

Observed Increases in Frequency and Magnitude of Extreme Weather Events

According to the National Oceanic and Atmospheric Administration's National Centers for Environmental Information, the United States has sustained 363 weather and climate disasters since 1980, each causing over one billion dollars in damage (adjusted for inflation).⁸ The total cost of these extreme weather events exceeded \$2.59 trillion. More than 40% of these incidents, costing over one trillion dollars in total, occurred in the last decade (2014-2023).⁹

Figure 1 - U.S. Billion-Dollar Weather and Climate Disasters

Source: NOAA National Centers for Environmental Information

The observed increases in frequency and magnitude of extreme weather events pose elevated risks and unprecedented challenges to customers, utilities, independent power producers and the power grid itself. Market participants must initiate new strategies to strengthen the physical and financial performance of energy assets around the clock, and load-serving entities must revamp their plans to keep performance resilient and rates affordable under tremendous upward cost pressure driven by winter storm or wildfire-related securitization,¹⁰ supply chain disruption and inflation.

In this article, the authors draw on FTI Consulting’s experience as advisor to the Unsecured Creditors Committee (“UCC”) for the Brazos Electric Power Cooperative, Inc. (“Brazos”) bankruptcy and as advisor to the UCC for the Pacific Gas and Electric Company (“PG&E”) bankruptcy to discuss the potential financial impact of severe weather events, as well as a series of grid reforms in Texas and California that aim to enhance asset performance and grid resiliency under this new climate paradigm.

Brazos Bankruptcy

On March 1, 2021, facing a disputed claim of \$1.9 billion by ERCOT for electricity and ancillary services purchased during Winter Storm Uri, Brazos filed for bankruptcy protection.

Situation

In February 2021, Winter Storm Uri caused power blackouts throughout Texas. After ERCOT declared its highest state of emergency and issued load-shedding instructions on February 15, ERCOT informed the Public Utility Commission

of Texas (“PUCT”) that energy prices were clearing below the system-wide offer cap of \$9,000 per megawatt-hour (“MWh”).¹¹ The PUCT directed ERCOT to account for load shedding in its scarcity pricing signals.^{12,13} ERCOT implemented manual workarounds to effectively peg prices at or near \$9,000/MWh for an 83-hour period.

Following the storm, Brazos, the oldest and largest generation and transmission electric cooperative in Texas, filed for Chapter 11 bankruptcy on March 1, 2021. Brazos, in an adversary proceeding, sought to reduce ERCOT’s \$1.9 billion claim for the cooperative’s wholesale power purchases during the storm by more than \$1.1 billion — the amount of the claim attributable to ERCOT’s adjustment to wholesale market prices. The trial, followed by mediation, culminated in Brazos filing a plan of reorganization.

On November 14, 2022, the U.S. Bankruptcy Court for the Southern District of Texas confirmed Brazos’s plan of reorganization. Brazos successfully emerged from bankruptcy with a full resolution of ERCOT’s claim after 22 months in Chapter 11 proceedings. Brazos agreed to exit its generation business to become a transmission and distribution cooperative and create a \$140 million ratepayer hardship fund for low-income ratepayers to help offset surcharges from the securitization associated with Winter Storm Uri.

Grid Reform

Following Winter Storm Uri, ERCOT implemented a series of market reforms which aim to improve reliability and mitigate the risk of customers paying scarcity prices for a prolonged period during future grid emergencies.

In January 2022, ERCOT adjusted its scarcity pricing mechanism, the operating reserve demand curve, by increasing the minimum contingency level from 2 to 3 gigawatts (“GW”) and decreasing the value of lost load from¹⁴ \$9,000 to \$5,000 per MWh. This change allows for an earlier trigger of price signals under tight reserve conditions and lowers the maximum price that consumers pay. In addition, generators, transmission resources and gas supply facilities designated as critical infrastructure are required to winterize. Other reforms include firm fuel supply service (“FFSS”),¹⁵ which compensates generation resources for meeting a higher level of resiliency and reliability.

Finally, in January 2023, the PUCT proposed a performance credit mechanism (“PCM”) construct, which would compensate generators that commit in advance to provide power during hours of high reliability risk. If implemented, the PCM would constitute a de facto departure from ERCOT’s history of energy-only market design, which only compensates power producers for electricity already generated.

Policy Response

House Bill (“HB”) 1500, effective September 2023, institutes requirements for generation facilities that execute a generation interconnection agreement from 2027 onward to annually meet certain performance standards and serve peak demand.¹⁶ On- or off-site resources can participate. These measures aim to strengthen the generators’ capability to serve load under irregular weather patterns that impact grid supply and demand.

Senate Bill (“SB”) 2627 seeks to further enhance grid resiliency by providing \$10 billion in loans and grants to support new dispatchable generation and microgrids in ERCOT as well as to enhance generation, transmission and distribution infrastructures outside of ERCOT in Texas.¹⁷ SB 2627’s funding will require Texans to vote on a constitutional amendment this fall.

These market reforms and policy responses will have long-lasting impacts on ERCOT’s resource mix, asset economics, pace and type of infrastructure development, as well as affordability to ratepayers. Grid performance will be stressed in real time by the prolonged summer heat, including above 100-degree temperatures recently, freezing winter temperatures, seasonal and diurnal resource variability.

PG&E Bankruptcy

Facing potential liabilities of \$30 billion from catastrophic wildfires in Northern California, PG&E, California’s largest utility company, filed for bankruptcy on January 29, 2019.

Situation

In November 2018, the Camp Fire in Northern California claimed 86 lives and destroyed thousands of acres of property. Faced with legal, safety and financial challenges, and approximately \$30 billion in claims due to wildfires in California in 2017 and 2018, PG&E filed for Chapter 11 bankruptcy.

Governor Gavin Newsom was a vocal participant in the bankruptcy process and advocated for transformed governance and higher regulatory scrutiny. PG&E’s plan of reorganization included provisions such as financing PG&E’s costs through securitization, electing new safety officers, granting the California Public Utilities Commission (“CPUC”) greater oversight, monitoring PG&E’s safety goals with an independent observer, and dividing PG&E’s service territory into five regions to increase responsiveness and local accountability.¹⁸

PG&E emerged from its contentious bankruptcy on July 1, 2020, after the CPUC and the Bankruptcy Court approved the \$58 billion plan, which included more than \$25 billion to resolve victim claims.¹⁹ Outside of the bankruptcy proceeding, the CPUC found PG&E culpable for several ongoing safety violations and levied an additional \$1.9 billion penalty.²⁰

Grid Reform

Both PG&E and the grid operator, the California Independent System Operator (“CAISO”), have made technical improvements to reinforce the grid. As part of its 2022 Wildfire Mitigation Plan, PG&E introduced drones and detection cameras to improve monitoring capabilities and started a multiyear process of undergrounding overhead power lines in high-wildfire-risk areas. In parallel, CAISO released its 2022-2023 Transmission Plan, which identifies 46 transmission projects to upgrade over the next 20 years to provide 40 GW of renewable power to consumers.²¹ PG&E and CAISO are also offering incentives to developers of community microgrids so that disadvantaged and at-risk communities have a backup power source in case of an emergency.²² Such distributed supply options reduce the reliance on bulk power systems.

CAISO, like ERCOT, is instituting market reforms to benefit from outside generation resources. CAISO's new subscriber participating transmission owner model enables new transmission lines outside CAISO to be financed through the FERC-approved subscriber process and outside the revenue requirement of the CAISO's transmission access charge.²³ This allows California to import out-of-state clean energy resources to meet its zero-carbon goals and enhance reliability while reducing the financial burden associated with new transmission buildout.

Policy Response

In early 2019, Assembly Bill ("AB") 1054 established a \$21 billion Wildfire Fund financed by revenue from ratepayers. PG&E's plan of reorganization allowed the utility to use this unique mechanism to recover costs. In 2022, to further California's existing zero-carbon target, SB 1020 mandated that renewable and zero-carbon resources account for 90 percent of statewide electricity sales by 2030, and 95 percent by 2035.²⁴ New clean energy resources or imports will diversify the renewable supply profiles for enhanced reliability.

In March 2023, pursuant to SB 846, the California Energy Commission approved a \$1 billion Clean Energy Reliability Investment Plan to accelerate the deployment of clean energy resources, support demand response, and increase reliability. In 2023-2024 alone, the plan earmarks \$33 million for "extreme events."²⁵

Summary

With increasing weather irregularities, market participants must take measures to avoid preventable damages and mitigate inevitable risks. With energy demand and supply both correlated with weather patterns, planning reliability contingencies to address imbalances due to increasing demand and constrained supply becomes paramount. HEI must chart its course to rebuild grid infrastructure while keeping pace with Hawaii's commitment to net-zero carbon emissions by 2045. For Hawaii and Puerto Rico, building resiliency in an island environment presents unique challenges, as the two regions are especially vulnerable to climate disasters and isolated from the mainland's electric grid.

California and Texas have shown that transformative grid reforms can occur in both regulated and deregulated markets. In California, public sentiment and state legislation led to a high degree of regulatory oversight. In Texas, ERCOT is beginning to move away from a long history of energy-only market design; generators are now required to be reinforced

for cold fronts; and mandatory firming requirements and incentives will be instituted to build redundancy and make asset performance more reliable and accountable.

These measures are costly upfront. Texas' winterization, PCM and resource firming requirements, and the CAISO and PG&E's efforts towards undergrounding, vegetation management, transmission upgrades and microgrid development, represent significant investments. However, these efforts will make generators, utilities and other energy market participants less vulnerable to climate events and mitigate the risk of catastrophic destruction and costs in the future. Investors, shareholders and ratepayers expect transparency with regard to the climate risks that energy market players face and demand concrete mitigation strategies. As demonstrated in the aftermath of the Maui wildfires, every stakeholder faces its own unique set of climate, operational, regulatory and financial risks, and investment decisions made today will affect performance and assets values for years to come.

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Endnotes

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- ⁹ Id.
- ¹⁰ Winter storm or wildfire-related securitization allows the payment of costs by issuing bonds repaid over a longer term. It minimizes the immediate financial impacts of a winter storm or wildfire to ratepayers.
- ¹¹ “Order Directing ERCOT to Take Action and Granting Exception to Commission Rules,” Public Utility Commission of Texas PUC Project No. 51617 (February 15, 2021). [Link](#).
- ¹² Id.
- ¹³ “Second Order Directing ERCOT to Take Action and Granting Exception to Commission Rules,” Public Utility Commission of Texas PUC Project No. 51617 (February 16, 2021). [Link](#).
- ¹⁴ The value of lost load represents a customer’s willingness to pay for reliable electricity service.
- ¹⁵ ERCOT procures FFSS resources in advance of the winter season to maintain resource availability during a potential fuel supply disruption.
- ¹⁶ Texas Legislature, House, HB 1500, 88th Legislative Session, introduced in House March 1, 2023. [Link](#).
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