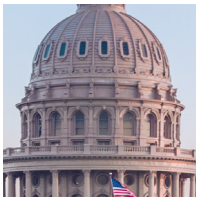


TEXAS PUBLIC POLICY FOUNDATION

Testimony

March 25, 2021

SB 3

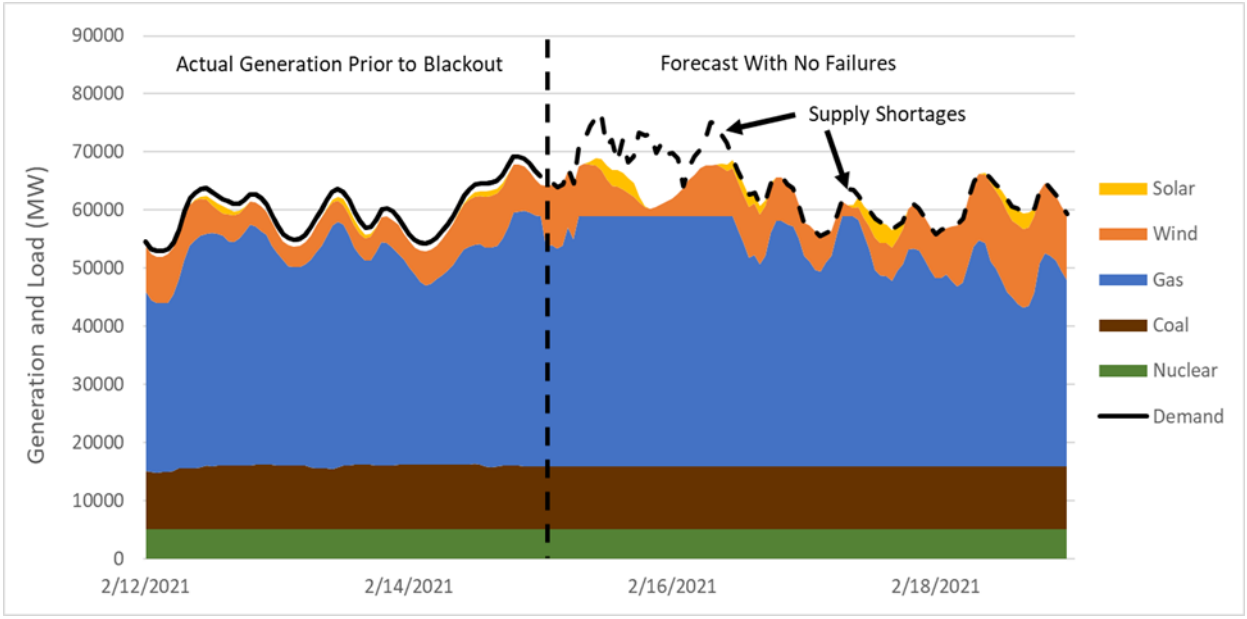
Testimony Before the Texas Senate Jurisprudence Committee

by Brent Bennett, PhD, Policy Director, Life:Powered

Chairman Huffman and Members of the Committee:

Thank you for the opportunity to testify in support of SB 3 today. The Life:Powered team and the Texas Public Policy Foundation appreciate the committee's thoughtful work on this bill as the Legislature converges on a set of solutions to prevent another crisis like the one that befell our electric grid last month. While this bill addresses many factors that precipitated that tragedy, we believe one factor needs to receive more attention: the diminishing quantity of reliable generating capacity in our grid and our increasing reliance on wind and solar generation without an appropriate reliability standard.

Weatherization and a more reliable gas supply are important areas to address; these fixes alone will not solve this problem. **Even if *every* generator that was online the night of February 14 had continued operating throughout the event, we still would have had widespread and lasting outages**. Based on ERCOT's demand forecast, the outages would have still lasted more than 24 hours and reached up to 10 GW in this optimal operating scenario. We should not expect to weather an event of this magnitude without any outages, but we must do better than this.



Source: EIA Hourly Grid Monitor

With that point in mind, we want to focus our testimony on Section 18 of this bill, which addresses a reliability standard for wind and solar generators. Over the past 5 years, nearly 8 GW of gas and coal capacity was retired prematurely in the ERCOT market, with a net loss of almost 4 GW, and there is barely a GW of planned additions over the next 5 years. Texas has relied entirely on nearly 20 GW of new wind and solar generation to cover this loss and meet its demand growth, while failing to properly account for the reliability costs these generators impose on the rest of the grid. **The primary cause of the outages last month is the failure to appropriately account for these reliability costs.**

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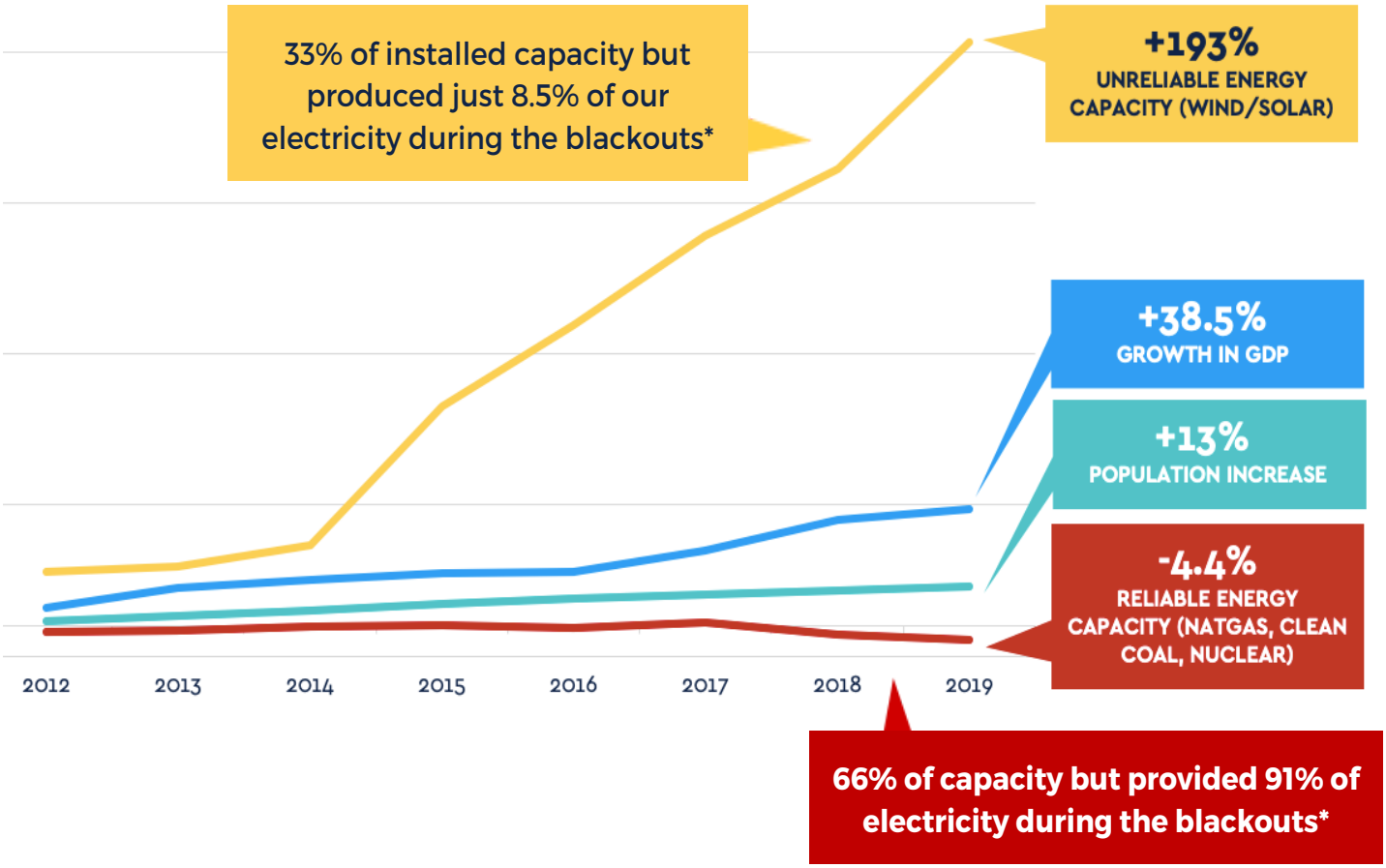
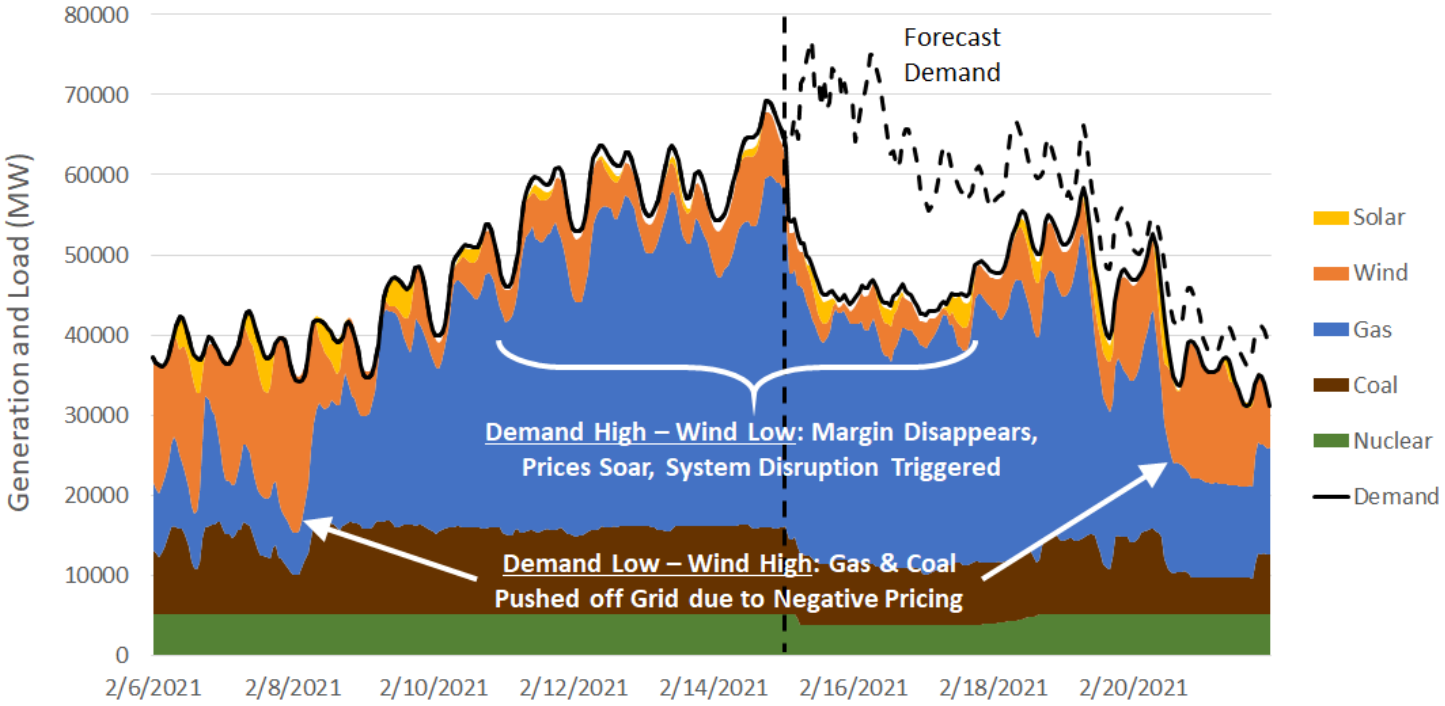


*EIA data from February 15-18, 2021

Electricity is a service that delivers energy when we demand it, that is, energy *and* reliability. In Texas, we have adopted an energy-only market and attempted to address reliability through scarcity pricing. Thermal generation brings an inherent level of on-demand availability that enables these pricing mechanisms to function. This is not the case with wind and solar, which not only fail to produce on demand but also, especially in the case of wind, usually generate the least when demand is highest. The problem is further exacerbated by subsidies, in particular the federal production tax credit, which enable wind generators to bid wholesale prices below marginal operating costs and even negative.

We saw this happen last month as wind generation was over 10 GW prior to the cold snap, pushing prices down near zero, fell off as temperatures dropped, and then recovered as temperatures returned, pushing prices deep into negative territory just 2 days after the blackouts ended. **The low output of wind and solar generation during the event last month was not a result of generator outages. It was entirely expected based on the typical weather following a cold front.** Furthermore, the levels of demand that were forecast are normal during the summer, and we have narrowly avoided rolling outages during each of the last three summers. **If we pretend that this event was an anomaly and fail to enact meaningful reforms, we can be sure that it will happen again.**

As the Legislature deliberates the various policy proposals in this bill, there must be a robust discussion of how much more reliable generation we need and how we



Source: EIA Hourly Grid Monitor

should pay for it. Section 18 of this bill is an excellent starting point for that discussion. **We agree with the proposal that wind and solar be required to pay for some of the reliability and delivery costs that they impose on the system.** Our regulations require coal and gas generators to pay for pollution control equipment to reduce their emissions, and wind and solar should be required to pay to bring their own reliability closer to that of gas and coal generators. This reliability requirement is necessary to create a properly functioning market that values our various needs and provides the resources to meet those needs. Subsidizing zero-emissions but unreliable energy while failing to properly price reliability will inevitably lead to disaster.

Our team has been exploring the possibility of creating a firming ancillary service for wind and solar since last year, and we stand ready to help the Legislature in this endeavor, along with enhanced weatherization and fuel resilience measures. We hope the committee retains and improves upon Section 18 of this bill because it is the most critical reform for ensuring that Texas has a reliable electric grid for years to come.

ABOUT THE AUTHOR

Brent Bennett, PhD, is the policy director for Life:Powered, an initiative of the Texas Public Policy Foundation that reframes the national discussion on energy and the environment. As part of the Life:Powered team, Bennett regularly speaks with policymakers, energy experts, and industry associations across the country. He is responsible for fact-checking the team's work and spearheading many of the team's policy and regulatory initiatives. He has written extensively on how America has improved its environment while growing its energy use and on the physical limitations of renewable energy and energy storage.

Prior to joining the Foundation, Bennett worked for a startup company selling carbon nanotubes to battery manufacturers, and he continues to provide technology consulting to energy storage companies. His early years were spent in the oil country of Midland, Texas—the heart of the oil patch—where he has been a student of energy his entire life.

Bennett has an MSE and PhD in materials science and engineering from the University of Texas at Austin and a BS in physics from the University of Tulsa. His graduate research focused on advanced chemistries for utility-scale energy storage systems.

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901 Congress Avenue | Austin, Texas 78701 | (512) 472-2700 | www.TexasPolicy.com