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Unreliable Renewable Energy Supplies

To Whom It May Concern:

For Docket #: 19-BSTD-03 Project Title: 2022 Energy Code Pre-Rulemaking

The power grid is becoming less reliable due to America's growing dependence on wind and solar, which, on their own, can't provide power 24 hours a day, seven days a week, or even when outdoor temperatures change. Coupled with planned reductions in backup generation capacity, elimination of coal plants, and the shuttering of nuclear power plants, America is becoming a third-world country, at least in terms of energy supply. And a continuous, non-interruptible supply of electricity is basic to the running of a civil society.

Please repeal the 2019 Building Code making all-electric residential construction a mandate. Furthermore, all-electric mandates should not be made jointly with all-electric automobile (EV) mandates in order to force nighttime charging just to maintain the state's electric grid. Therefore, mandatory battery backup systems should not be included in the proposed 2022 Building Code.

Resiliency, choice, flexibility, and safety are best served by allowing residents to enjoy the services of natural gas, gasoline, and electric. The attached May 3, 2021 submission reflects some of the reasons to repeal the EV mandate, forestall any natural gas bans, and exclude mandates for both all-electric construction and proposed residential battery systems " Unreliable Renewable Energy Supplies_RKK_May 2021.

Thank you for your consideration,
Rob

Additional submitted attachment is included below.

Unreliable, Intermittent Renewable Energy Supplies

“Blades of some Texas wind turbines did freeze in place, but wind power is estimated to make up only 7% or so of the state’s total capacity this time of year in part because utilities lower their expectations for wind generation in the winter in general, [making the electric grid less reliable in winter and whenever the winds calm].”

- Blaming Renewables, Dionne Searcey, *New York Times*, Feb 18, 2021

RKK note: Wind typically provides Texas with up to 25% of its electric supply.

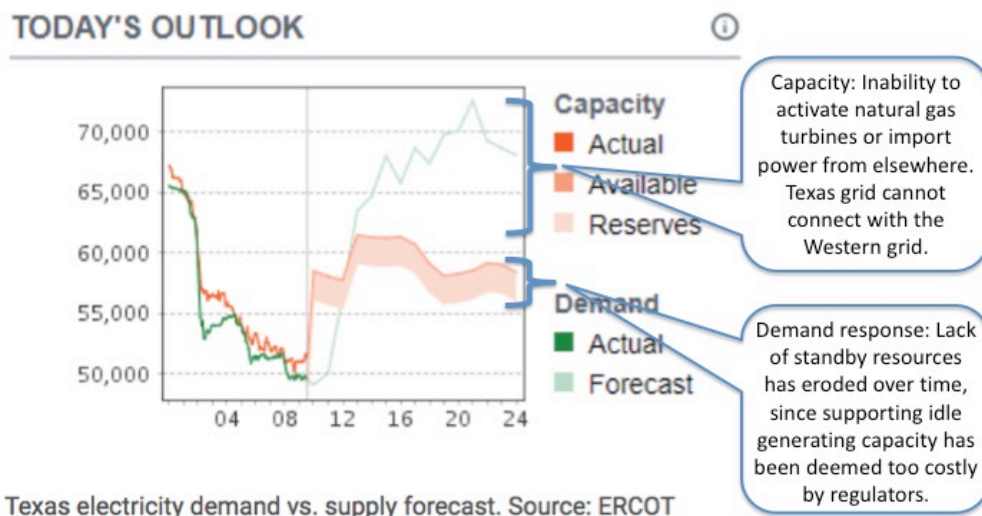
"But, after the lights went out, gas stoves allowed residents to boil water and cook food while electric appliances were useless."

- Texas freeze raises questions about risks of electrifying buildings, Peter Fabris, Contributing Editor, *Codes and Standards*, March 3, 2021

The power grid is becoming less reliable due to America’s growing dependence on wind and solar, which, on their own, can’t provide power 24 hours a day, seven days a week, or even when outdoor temperatures change. Coupled with planned reductions in backup generation capacity, elimination of coal plants, and the shuttering of nuclear power plants, America is becoming a third-world country, at least in terms of energy supply. And a continuous, non-interruptible supply of electricity is basic to the running of a civil society.

The latest disaster appeared in Texas as President’s Day weekend came to an end. It was reportedly triggered by “frozen” turbine blades no longer able to efficiently spin on wind farms that normally provide up to 25 percent of that State’s electric supply [1]. With no backup available, rotating blackouts began . . .

The Trigger: Frozen Wind Turbines – February 15, 2021



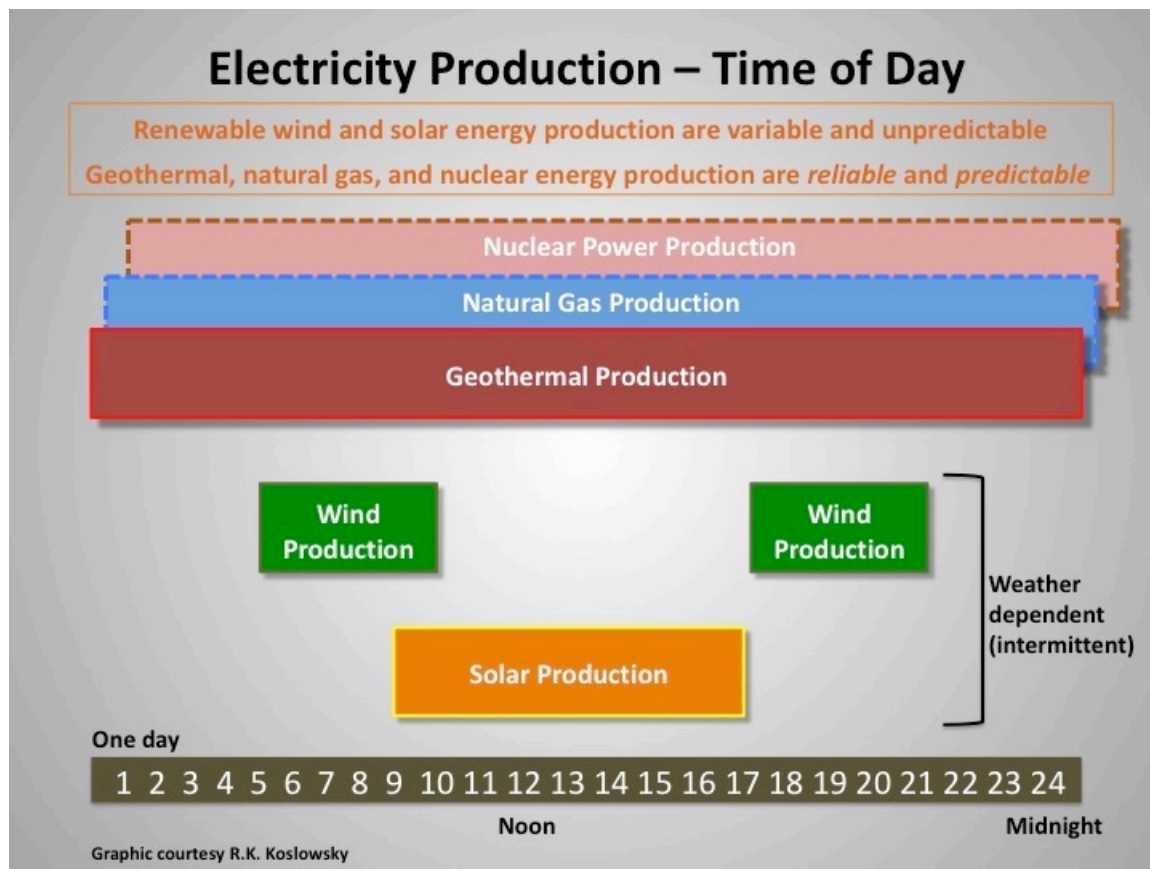
Customers Suffer Because of Bad Public Policy – Unpredictable Capacity and Lack of Backup Power

Graphic courtesy R.K. Koslowsky

The extreme *cold* appears to have caught *Texas's* highly decentralized electricity market by surprise. This is a replay of the story out west this past summer: Simply replace the words *cold* with *heat* and *Texas* with *California* and you have the same horrific story experienced during mid-2020 [2] in the Golden State. America is becoming that dreaded third world country because of its obsession with renewable energy and bad public policy, which excludes a balanced energy portfolio with integrated backup and capital investment to modernize the distribution grid.

As Michael Shellenberger recently testified in Congress and wrote in *Forbes* on April 20, 2021, "California would have avoided its blackouts had it not shut down a large nuclear plant and several natural gas power plants over the last decade. Texas may have avoided the blackouts had state regulators simply required, or compensated, natural gas suppliers to winterize their equipment while verifying that work had been completed."

While Texas has come to an over-reliance on wind energy, California has come to an over-reliance on solar energy. Both technologies are part-time providers of electricity. They are also intermittent and unpredictable, making it easy for changes in the weather to create chaos on the electric grid.



Intermittency of wind and solar can lead to power outages.

Heat Pumps Need Electric Strips to Work in Cold Weather

Texas has a relatively large installed base of electric heat pumps to keep them warm when temperatures dip below 40 degrees Fahrenheit [3]. Unlike California, Texas hasn't mandated the use of heat pumps. However, their use for space heating (or cooling in the summer) is compromised [4] whenever the backup electric heating strip is activated as temperatures approach freezing. Heat pumps use a lot of power in frigid weather because of these heating strips. So, in Texas, while wind turbines were freezing and natural gas supplies were limited [5], demand for more electric power was surging. Rotating blackouts began, which soon led to multi-day-long power outages and no heat for residents experiencing single digit temperatures. Unfortunately, too many died in Texas trying to stay warm.

Natural gas heating (fireplaces) would've kept these residents warm. It seems that at the Federal and California state levels, plans "to banish fossil fuels is a greater existential threat to Americans than climate change." Furthermore, I support energy diversity and making living spaces more resilient. Natural gas is another example of clean energy, while possessing the benefits of operating predictably and being able to be stored for use when demand rises. The byproducts of combusting natural gas for space heating is carbon dioxide and water, neither of which is a pollutant in any way, shape, or form. Plants use carbon dioxide to survive and we exhale it as a byproduct of living too.

Problems only arise, as happened last summer in California and this winter in Texas, when pressure to eliminate all carbon-based fuels and nuclear power wins over common sense.

Let's keep the lights on and the heat blowing, even if the wind turbines aren't spinning or the sun isn't shining.

"Every time we have challenges with the grid, whether it's in California this past summer or Texas right now, people try to weaponize this for their pet project, which is [intermittent renewable energy]," said Leah Stokes, an assistant professor of political science at UC Santa Barbara. "Our infrastructure cannot handle extreme weather events, which these [intermittent renewable energy sources] are ironically causing."

- Blaming Renewables, Dionne Searcey, *New York Times*, Feb 18, 2021

Full disclosure: In the above quote, I simply replaced *fossil fuels* with *intermittent renewable energy sources* and then Stokes' comment makes more sense. Besides, why would a *New York Times* reporter quote a political scientist instead of an engineer or grid operator?

"The underlying story of what happened in Texas [is that the state] chose not to provide power companies with incentives to install reserve capacity to deal with possible emergencies. This made power cheaper in normal times, but left the system vulnerable when things went wrong."

- Paul Krugman, *New York Times*, February 21, 2021

[RKK: A very similar situation exists in California: little reserve capacity and an over-reliance on solar, which is intermittent, unreliable, and contributes to many brownouts. In terms of the electric grid, it's even worse in the summer when Californian also experience blackouts and in the fall, PSPSS.]

“Wealth spent on weather-dependent renewables is wealth not spent making the grid more reliant or resilient by maintaining and weatherizing reliable nuclear or natural gas plants. Money that could have gone to making electrical grids more reliable thus instead went to pay for the equipment that made them more fragile.”

- Michael Shellenberger, *Forbes*, April 20, 2021

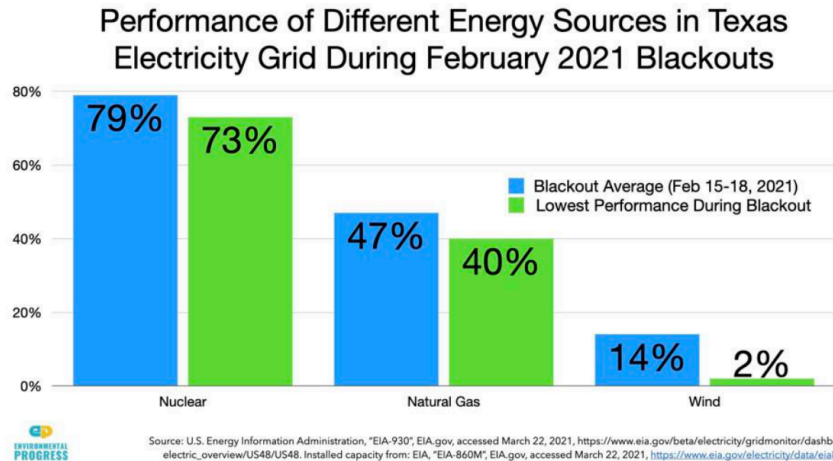
[1] The accumulation of ice on wind turbine blades can distort their aerodynamics, causing them to generate much less power: “Turbines in colder places are typically equipped with de-icing and other tools, such as built-in heating. In Texas, where the weather is almost never this cold, they usually are not. ‘Cold weather kits can keep [wind turbines] operating when temperatures plunge. This is the norm in colder states and in Europe,’ said Samuel Brock, a spokesman for the American Clean Power Association. ‘Historically in Texas, given the warm climate, it hasn’t been necessary.’” [Why Wind Turbines In Cold Climates Don’t Freeze: De-Icing And Carbon Fiber](#), Scott Carpenter, *Forbes*, February 16, 2021.

[2] According to Susan Shelley, California “can’t run on just sunshine and breezes.” She adds, “A few days before the lights went out in Texas, the California Public Utilities Commission quietly authorized the state’s largest investor-owned utilities to purchase more power over the next few months to avoid rolling blackouts this summer. Last August, more than 800,000 people were left without electricity during a heat wave. We’re courting disaster in California, shutting down steady and reliable sources of electricity such as nuclear plants, decommissioning coal-burning plants and making frown-y faces at natural gas and hydroelectric power. Utilities have been mandated by state law to purchase an ever-greater share of solar and wind power. And just when demand for power peaks, the sun goes down.” Source: *The Press Democrat*, February 22, 2021, p.A10.

[3] The price of electricity in Texas is almost half the price of electricity paid by Californians, and this was before the latest, almost 10 percent, increase for Sonoma Clean Power customers: <https://www.thebalancesmb.com/most-expensive-and-cheapest-electricity-by-state-417753>. This is one reason, besides the warmer climate, for some users of electricity in Texas and the South, in general, to use heat-pumps for heating instead of gas furnaces.

[4] Assuming there is a backup electric heating strip installed in a home’s heat pump, the amount of power drawn defeats the purpose of energy efficiency. The heating strips feature resistive coils, the same ones banned for use in California stovetop appliances in favor of induction ovens or induction cooktops. Furthermore, if the optional heating strip is not equipped during installation, the living space will not heat up during those cold days. The question remains, “How many of those Texas heat pumps are equipped with heating strips?”

[5] “ERCOT said the supply of natural gas to power plants is being limited and some wind turbines are frozen. So, keeping up with the amount of power being used across Texas is even more difficult.” – ABC News, Dallas, February 17, 2021
However, both natural gas and nuclear power plants outperformed their wind counterparts:



“Some energy experts noted that Texas regulators had not expected to rely upon wind energy to provide much electricity during the cold snap,” Michael Shellenberger writes, “but the implication of this observation was left unsaid, which is that weather-dependent energy sources are uniquely ill-suited to power societies during extreme weather events.” He adds, “Not everybody is equally vulnerable to blackouts, extreme weather, and extreme electricity prices. The investors who develop solar and wind supplies can only do so because the state and federal laws allow them to socialize the risks of unreliability.”