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In the Dark: The Scapegoating of Renewables After Grid Failures

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IN THE DARK: THE SCAPEGOATING OF RENEWABLES AFTER GRID FAILURES

ABSTRACT

Renewable energy is increasingly scapegoated as the primary cause of weather-related power outages and other grid failures, despite substantial evidence to the contrary. Disinformation campaigns framing renewables as unreliable are driven by two factors: the increasing frequency of power outages and the growing pressures facing fossil fuel energy stakeholders. Over the past decade, power outages in the United States have doubled, primarily due to increased extreme weather, aging energy infrastructure, and a rapidly changing resource mix. At the same time, the energy transition is placing unprecedented competitive pressure on the coal and gas industry and on the nation's utilities. These factors are driving fossil fuel stakeholders and their allies to increasingly make renewables the scapegoat for large-scale blackouts and other grid-related challenges. As the scapegoating after recent power outages in Texas and California shows, such disinformation campaigns can shift blame for grid failures away from responsible parties, bolster policies that perpetuate the nation's reliance on carbon-heavy energy sources and justify unwarranted investments in outdated energy infrastructure. This article highlights this trend and its adverse impacts and suggests several potential strategies for addressing it, including government-sponsored information campaigns and the possibility of creating a new federal agency focused on promoting accuracy and transparency in energy-related messaging.

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INTRODUCTION

In February of 2021, a polar vortex blanketed Texas, devastating residents with state-wide, week-long power outages.[1] An estimated 700 people died, as many were without electricity for heat and water for days.[2] As the disaster unfolded, a question arose: *why* did Texas's electricity system experience such catastrophic failures? A dominant narrative soon emerged, led by Texas Governor Greg Abbott: overreliance on wind power in Texas had been detrimental to the grid's reliability. Over the next forty-eight hours, Fox News blamed renewable energy for the blackouts 128 times,[3] stating that "millions of Americans, in the cold and dark, say the lack of power is because of green energy policies and the vilification of oil, gas, and coal—the stuff that really keeps you warm."[4]

In reality, the widespread assertions that renewable energy was the primary cause of the Texas power outages were not true. The blackouts were largely caused by roughly half of the state's generating capacity going offline—primarily due to failures in natural gas infrastructure—just as electricity demand peaked.[5] The false and misleading narratives following the Texas blackouts reflect a broader trend in which renewables are characterized as inherently unreliable and scapegoated for large-scale power outages and other problems, despite substantial evidence to the contrary.

Between 2015 and 2020, power outages in the United States doubled.[6] This dramatic increase resulted primarily from increasingly extreme weather events at least partly attributable to climate change, reliance on an outdated and aging grid, and delayed adjustments to the rapid integration of renewables within the nation's electricity system.[7] In 2021, the International Energy Association (IEA) predicted that renewables would account for nearly 95% of the new power capacity added through 2026 globally.[8] In contrast, traditional resources such as coal, natural gas, and nuclear energy face increasing market threats. These unprecedented changes

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1. *See* Veronica Penney, *How Texas' Power Generation Failed During the Storm, in Charts*, N.Y. TIMES (Feb. 19, 2021), https://www.nytimes.com/interactive/2021/02/19/climate/texas-storm-power-generation-charts.html.

2. *See* Peter Aldhous et al., *The Texas Winter Storm and Power Outages Killed Hundreds More People than the State Says*, BUZZFEED NEWS (May 26, 2021, 4:09 PM), https://perma.cc/N3MY-GX6V.

3. Rob Savillo, *Fox News and Fox Business Falsely Blamed Renewable Energy for Texas Blackouts 128 Times Over Two Days*, MEDIA MATTERS (Feb. 18, 2021, 11:29 AM), https://perma.cc/HH5R-MFMB.

4. Aristos Georgiou, *Fact Check: Is Green Energy to Blame for Texas' Power Outages?*, NEWSWEEK (Feb. 17, 2021, 11:30 AM), https://perma.cc/F8NU-8VLJ.

5. *See* Penney, *supra* note 1. Generating capacity is the amount of electricity that a power plant can supply at a specific time. *What Is Generation Capacity*?, DEP'T ENERGY: OFF. NUCLEAR ENERGY (May 1, 2020), https://perma.cc/9P2J-EDGH.

6. Christopher Flavelle, *A New, Deadly Risk for Cities in Summer: Power Failures During Heat Waves*, N.Y. TIMES, https://www.nytimes.com/2021/05/03/climate/heat-climate-health-risks.html (July 2, 2021).

7. *See generally* Katherine Blunt, *America's Power Grid Is Increasingly Unreliable*, WALL ST. J. (Feb. 18, 2022, 10:06 AM), https://perma.cc/B9QA-8KPB.

8. Press Release, Int'l Energy Assoc., Renewable Electricity Growth is Accelerating Faster than Ever Worldwide, Supporting the Emergence of the New Global Energy Economy (Dec. 1, 2021).

have made renewables the target of growing disinformation campaigns as stakeholders with vested interests in the status quo struggle to adapt.[9]

Framing renewable energy as inherently unreliable and scapegoating renewables as the cause of weather-related grid failures shifts blame away from government actors and private entities responsible for grid reliability. It also justifies policies designed to impede renewable energy growth or favor continued reliance on traditional energy sources. These misleading narratives can have damaging policy impacts, delaying the nation's transition to a lower-carbon electricity system capable of mitigating climate change and its potentially catastrophic effects.[10]

As climate change worsens and renewables comprise an ever-greater proportion of the United States energy mix, the frequency and severity of extreme weather events and the economic pressure on incumbent generators and utilities will also grow. These factors are likely to fuel even more scapegoating of renewables. This Article spotlights the growing disinformation and scapegoating problems surrounding renewable energy and highlights the potentially adverse impacts of this trend on the sustainable energy transition. Part I of this Article describes how the historic increase in large-scale blackouts and the implications of the energy transition for incumbent stakeholders drive disinformation about renewable energy. Part II outlines specific instances of renewables being characterized as unreliable and scapegoated as the cause of power outages and emphasizes the existing and potential future effects of this narrative on energy policy. Part III identifies some possible strategies for confronting this disinformation, including the potential creation of a new federal agency specifically aimed at addressing renewable disinformation and scapegoating.

I. POWER OUTAGES, THE ENERGY TRANSITION, AND DISINFORMATION

In recent years, the United States has suffered a historic increase in severe weather- related power outages while also undertaking a massive overhaul of its electricity system. As the following sections describe, these dramatic shifts create significant motivations for government officials and fossil fuel stakeholders to try to cast renewable energy as a scapegoat when major blackouts occur.

A. Increasing Power Outages

The U.S. electricity system has grown increasingly unreliable in recent years. In 2017, the American Society of Civil Engineers gave the U.S. electricity system a "D+" rating, concluding that without greater attention to the aging energy infrastructure and the effects of climate change, "Americans will likely experience longer and more frequent power interruptions."[11] Three main factors are driving the

9. *See* Josiah Neeley, *Unreliable Arguments Against Renewables*, 184 R ST. POL'Y STUDY 1, 1 (2019).

10. *See* Rebecca Pearson & Douglas K. Bardsley, *Applying Complex Adaptive Systems and Risk Society Theory to Understand Energy Transitions*, 42 ENV'T INNOVATIONS & SOCIETAL TRANSITIONS 74, 75 (2022).

11. AM. SOC'Y CIV. ENG'RS, 2017 INFRASTRUCTURE REPORT CARD: ENERGY 1 (2017) [hereinafter 2017 INFRASTRUCTURE REPORT]. In 2021, the score rose slightly to a C-, largely due to an increase in annual spending on improvements to transmission and distribution systems. *See* AM. SOC'Y CIV. ENG'RS, 2021 INFRASTRUCTURE REPORT CARD: ENERGY 49 (2021) [hereinafter 2021 INFRASTRUCTURE REPORT].

recent increases in power outages: increasingly severe weather, outdated and neglected infrastructure, and a changing resource mix.

1. More Severe Weather

Severe weather is a growing threat to the U.S. energy system.[12] Climate change is causing an increase in the frequency and magnitude of extreme weather events;[13] these events can result in significant infrastructure damage and heightened heating or cooling demand spikes.[14] In fact, power interruptions related to major weather events, such as snowstorms, wildfires, and hurricanes, were responsible for the entire 100% increase in blackouts between 2015 and 2020.[15]

Illustrative of this phenomenon, warmer ocean temperatures are causing hurricanes to become more powerful by providing additional energy that can intensify storms.[16] In 2020, Louisiana experienced the most active storm season in the state's history and the average customer suffered 60 hours of power loss.[17] A year later, Hurricane Ida cut power to almost a million customers in the state when winds exceeding 140 mph hit infrastructure that was equipped to withstand only 110 mph.[18] Rising sea levels also mean that flood damage caused by hurricanes is more severe, particularly for generators that rely on traditional resources, many of which are intentionally sited near shorelines.[19]

Collectively, heat, drought, and aging energy infrastructure have contributed to increased wildfire risks in some regions of the country, threatening grid reliability. In 2019, California's largest utility deliberately cut power to nearly 800,000 households to reduce wildfire risk during high winds;[20] the following year, outages caused by a combination of strong winds, high temperatures, and wildfires

12. *See* Jonathan Schneider & Jonathon Trotta, *What We Talk About When We Talk About Resilience*, 39 ENERGY L. J. 353, 371 (2018) (quoting DEP'T ENERGY, QUADRENNIAL ENERGY REVIEW, SECOND INSTALLMENT 4-2 (Jan. 2017)) ("[t]he leading cause of power outages in the United States is extreme weather.").

13. *See, e.g.*, Judah Cohen et al., *Warm Arctic Episodes Linked with Increased Frequency of Extreme Winter Weather in the United States*, 9 NATURE COMMC'NS 869, 869 (2018) (finding that Artic warming correlates with more severe winter weather in the eastern U.S.); Hosmay Lopez et al., *Early Emergence of Anthropogenically Forced Heat Waves in the Western United States and Great Lakes*, 8 NATURE CLIMATE CHANGE 414, 417 (2018) (finding that climate change is a dominant factor driving extreme heat waves in the western U.S. and the Great Lakes region).

14. *See generally* Schneider & Trotta, *supra* note 12 (describing various impacts of extreme weather on the grid).

15. Press Release, Energy Info. Admin., U.S. Electricity Customers Experienced Eight Hours of Power Interruptions in 2020 (Nov. 10, 2021) [hereinafter EIA, Nov. 2021].

16. *See* Veronica Penney, *What We Know About Climate Change and Hurricanes*, N.Y. TIMES, https://www.nytimes.com/2021/08/29/climate/climate-change-hurricanes.html (Aug. 31, 2021).

17. EIA, Nov. 2021, *supra* note 15.

18. Jason Plautz, *Southeast Utilities Confront Extreme Weather, New Peak Demand Patterns to Avoid Texas-Style Blackouts*, UTIL. DIVE (Nov. 8, 2021), https://perma.cc/Z7ZK-V3ZR.

19. *See* Penney, *supra* note 16; 2021 INFRASTRUCTURE REPORT, *supra* note 11, at 50.

20. Richard Gonzales, *California Can Expect Blackouts for a Decade, Says PG&E CEO*, NPR (Oct. 18, 2019, 10:38 PM), https://perma.cc/QSR5-US7C.

affected over 1 million residents across seven states.[21] Increasing heat and drought pose a unique threat to nuclear generators, which require copious amounts of water for cooling and must shut off or ramp down production if their cooling water sources become too warm.[22] In essence, the U.S. electricity system was not built to withstand such frequent and severe weather events, which increasingly exceed the worst-case scenarios planned for by grid operators.[23]

2. The Aging Grid

The outdated and declining condition of much of the U.S. electricity system makes it even more vulnerable to climate-related disruptions. The U.S. electricity system can be categorized into three general stages: generation, transmission, and distribution.[24] At the generation stage, energy in a primary source, like natural gas or solar radiation, is converted into electrical power.[25] The electricity is then transmitted from generating facilities to load centers via high voltage transmission lines.[26] Ultimately, the electricity is distributed to end-consumers via distribution networks comprised of low-voltage power lines.[27] Together, electricity transmission and interconnected distribution systems for a region constitute the "grid."[28] Three primary electric grids exist in the contiguous 48 states: the Eastern Interconnection, the Western Interconnection, and the Electric Reliability Council of Texas (ERCOT).[29] The condition of an electric grid influences both "reliability"—the grid's ability to provide electricity in response to demand—and "resilience"—the grid's ability to withstand and recover from disruptions like extreme weather events.[30]

Most of the nation's energy infrastructure is either past its intended retirement date or well into the second half of its lifespan, with some components

21. *See* Garrett Hering et al., *Fierce Winds, Heat, Wildfires Trigger Blackouts Across Western US Power Grid*, S&P GLOB. MKT. INTEL. (Sept. 8, 2020), https://perma.cc/5KPV-TJXW.

22. Between 2008 and 2018, the number of nuclear plants ramping down due to high temperatures sharply increased, commensurate with rising average temperatures. Alan Neuhauser, *Nuclear Power, Once Seen as Impervious to Climate Change, Threatened by Heat Waves*, U.S. NEWS (July 1, 2019), https://www.usnews.com/news/national-news/articles/2019-07-01/nuclear-power-once-seen-as-impervious-to-climate-change-threatened-by-heat-waves.

23. *See* Vincent Acovino, *The Biggest Problem Facing the U.S. Electric Grid Isn't Demand. It's Climate Change*, NPR (Nov. 24, 2021, 5:00 AM), https://perma.cc/3W7B-QXAH.

24. Each type of infrastructure (generation, transmission, and distribution) is owned by either an investor utility, a public utility, an independent power generator, or a governmental entity. 2021 INFRASTRUCTURE REPORT, *supra* note 13, at 45.

25. *Id.*

26. *Id.*

27. *Id.*

28. *Delivery to Customers*, ENERGY INFO. ADMIN.: ELEC. EXPLAINED, https://perma.cc/HJ4T-ZLLC (Aug. 11, 2022).

29. *U.S. Electric System Is Made Up of Interconnections and Balancing Authorities*, ENERGY INFO. ADMIN. (July 20, 2016), https://perma.cc/KC2R-EV2W [hereinafter *Interconnections*].

30. *See* Shanti Gamper-Rabindran, *Markets, States and the Federal Government in the Transition to Wind Energy: Many Steps Forward, and Recent Steps Backwards*, 33 J. LAND USE & ENVT'L L. 355, 360 (2018). *See also* Schneider & Trotta, *supra* note 12, at 360–64 (explaining the substantial conceptual overlap between "reliability" and "resilience").

over a century old.[31] Failures in the distribution system account for 92% of U.S. power interruptions, commensurate with deteriorating poles, wires, and transformers, many of which need repair or replacement.[32] Growing electricity demand is also increasing grid congestion, leading to bottlenecks that can adversely impact both reliability and cost of service.[33]

Utility companies often have inadequate incentives to repair aging electricity infrastructure. Most Americans are served by distribution systems managed by investor-owned utilities, which are beholden to both their customers and their shareholders.[34] Although customers may prioritize reliability (even if it requires a rate increase), shareholders are interested in profit.[35] Moreover, utilities are generally organized to generate profits by expanding infrastructure, not by increasing safety inspections or facilitating new distributed generation.[36] Regulators are also often reluctant to push for major grid improvements because solutions are expensive and may increase retail electricity prices.[37] In 2020, state regulators approved only about $3.4 billion in grid improvements out of $15.7 billion under consideration.[38] In sum, the nation's neglected grid infrastructure is a subject of rising concern and improvements are key to its reliability and resilience.

3. Changing Resources

The pace and magnitude of the energy transition from carbon-based resources to renewable power is impacting grid management by requiring grid planners to update practices that were created for nonrenewable, centralized energy sources such as coal and natural gas-fired plants.[39] The following subparts describe how renewable energy resources are changing traditional grid reliability planning and how arguments centered on the "intermittency" of some renewables are often used in claims that renewable energy sources are inherently unreliable.

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31. 2017 INFRASTRUCTURE REPORT, *supra* note 11, at 1.

32. *Id.* at 7.

33. *Id.* at 2. In 2017, the 600,000 miles of transmission lines in the contiguous 48 states were at-capacity, yet additional generation continues to come online each year. *Id.* at 1.

34. *Id*; *see also* Ula Chrobak, *The US Has More Power Outages than Any Other Developed Country. Here's Why.*, POPULAR SCI. (Aug. 17, 2020, 10:00 PM), https://perma.cc/U24C-5F3U.

35. *See id.* (explaining utilities' incentive to expand the lifespan of equipment and delay maintenance to increase profits).

36. *See* Stephanie Tsao & Richard Martin, *Overpowered: Why a US gas-building spree continues despite electricity glut*, S&P GLOB. MKT. INTEL. (Dec. 2, 2019), https://perma.cc/8ERE-E2GE.

37. *See* Daniel Moore, *Power Grid Upgrade Costs to Handle Extreme Weather Divide States*, BLOOMBERG L. (Feb. 16, 2022, 12:13 PM), https://perma.cc/W9KB-3GCK (discussing conflict among stakeholders over who will foot the bill for grid improvements). Additionally, public utility commissions can be highly influenced by lobbying by private electricity providers. *See* Chrobak, *supra* note 34.

38. Douglas MacMillan & Will Englund, *Longer, more frequent outages afflict the U.S. power grid as states fail to prepare for climate change*, WASH. POST (Oct. 24, 2021, 11:04 AM), https://perma.cc/D6SN-3NK7.

39. *See generally* Neeley, *supra* note 9.

a. Renewable Energy's Intermittency and Dispatchability Challenges

The increased proportion of renewable resources in the U.S. energy mix inevitably impacts grid planning because the traditional planning paradigm was created for a grid powered by large, nonrenewable generators.[40] Under the traditional paradigm, grid operators designated certain "baseload" generating units, which ran continuously to supply some or all of the minimum demand.[41] The operators typically selected certain resources, like nuclear and coal plants, to serve as baseload units because their fuel costs were low, and they could not respond quickly to changes in demand.[42]

However, that planning paradigm is rapidly changing because typical baseload resources are increasingly costly compared to more flexible options that support grid reliability.[43] For example, operators often prefer to provide power via natural gas-fired generators coupled with demand-responsive electricity because they can quickly ramp supply up or down.[44] Batteries are also increasingly used during periods of high demand, as they have zero start-up time, and experience less price volatility than natural gas.[45] Operators also rely on distributed generation and "microgrids" to promote resilience during major events by reducing dependence on a small number of large generators, thus decreasing the impact of any one generator failing.[46] Regulators likewise increasingly promote greater interconnectivity between grid systems, which allows for electricity to come from a larger pool of suppliers and creates multiple transmission routes.[47] And modern reliability planning

40. *See* JUDY W. CHANG ET AL., ADVANCING PAST "BASELOAD" TO A FLEXIBLE GRID: HOW GRID PLANNERS AND POWER MARKETS ARE BETTER DEFINING SYSTEM NEEDS TO ACHIEVE A COST–EFFECTIVE AND RELIABLE SUPPLY MIX 1 (2017).

41. *See id.* at 1–2.

42. *See id.*

43. *See id.* at 7–9 (discussing the changing economics and value of traditional baseload resources). Flexibility refers to generators' ability to supply electricity quickly to meet changing demand—either by ramping generation up or down or via energy storage. *See* M.J. BRADLEY & ASSOC., POWERING INTO THE FUTURE: RENEWABLE ENERGY AND GRID RELIABILITY 17 (2017) [hereinafter POWERING INTO THE FUTURE].

44. *See* CHANG ET AL., *supra* note 40, at 12.

45. Natalie Filatoff, *Battery Storage 30% Cheaper Than Gas Peaker Plants for Firming Renewables*, PV MAG. (Apr. 12, 2021), https://perma.cc/GBK2-FRKU. Additionally, battery storage may support grid resilience during cold weather in a way that stockpiles of traditional fuels cannot, as equipment freezes, and generators are unable to use the stored resources. *See* NAT'L RENEWABLE ENERGY LAB'Y, BATTERY STORAGE FOR RESILIENCE 3 (2021).

46. *See generally* Basudev Das & Bimal C. Deka, *Impact of Distributed Generation on Reliability of Distribution System*, 8 IOSR J. ELEC. & ELECTRONICS ENG'G 42 (2013). "[A]ny system that can island off from the grid is a microgrid, a miniature, semi-independent grid of its own." David Roberts, *Wildfires and Blackouts Mean Californians Need Solar Panels and Microgrids*, VOX (Oct. 28, 2019, 10:00 AM), https://perma.cc/2Y9A-662T. Because microgrids operate independently of the main system, they can provide valuable emergency support. *Id.* Additionally, such distributed systems are managed by smart grid networks, which can identify reliability issues before outages occur. David Blackmon, *Modernizing America's Energy Infrastructure Must Become a National Priority*, FORBES (July 12, 2019, 3:04 AM), https://perma.cc/GZJ4-UXDM.

47. The Eastern and Western Interconnections are linked with the Canadian power grid. *Interconnections*, *supra* note 29.

is more focused on demand-side strategies than the traditional paradigm, allowing electricity customers themselves to provide important reliability services through flexible demand response, which often uses real-time pricing mechanisms to reduce demand at times of peak usage.[48]

Like many in the energy sector, grid planners are having to quickly adapt to a rapidly changing system. The energy transition has introduced new challenges related to reliability planning because integrating high proportions of renewable energy quickly requires substantially changing how the system is managed.[49] When planners fail to account for the transitioning resource mix, power outages may occur if demand outpaces supply.[50]

b. Intermittent Resources and Reliability

Some renewable energy critics argue that increased power outages caused by planning failures are the direct and inevitable result of an inherent quality of renewable resources: intermittent generation. Wind and solar energy systems are "intermittent" energy sources because these systems only generate electricity when their primary energy source—kinetic wind energy or solar radiation—is naturally available.[51] Unless paired with energy storage facilities, such sources are "non-dispatchable," meaning they cannot freely increase electricity production in response to increases in demand. Critics of renewable power often cite the intermittency of renewables when arguing that wind and solar are not dependable energy sources because they cannot stockpile fuel and therefore cannot produce energy on demand.[52] Thus, they posit that an electricity system that relies on a high proportion of renewables is inherently less reliable.[53] Arguments against renewables based on their intermittency may have logical appeal, but they often ignore the availability of ancillary technologies and strategies that can prevent intermittency problems from affecting reliability.[54] For example, large-scale battery storage allows renewable generators to harvest free energy when it is available and supply it to the grid as needed.[55] Over the last three decades, the price of lithium-ion batteries has decreased

48. *See* DEP'T OF ENERGY, BENEFITS OF DEMAND RESPONSE IN ELECTRICITY MARKETS AND RECOMMENDATIONS FOR ACHIEVING THEM 28 (2006) (describing the reliability benefits of demand response).

49. *See* Siavash Asiaban et al., *Wind and Solar Intermittency and the Associated Integration Challenges: A Comprehensive Review Including the Status in the Belgian Power System*, 14 ENERGIES 1, 32 (2021) (discussing the challenges of integrating renewable energy into power systems while ensuring reliability).

50. *See* Catherine Morehouse, *California releases final root cause analysis of August rolling blackouts*, UTIL. DIVE (Jan. 15, 2021), https://perma.cc/5LDW-HMZD (describing how the failure of resource planning targets to adapt to the evolving resource mix led to rolling blackouts in California in 2020).

51. Abdulhakim Khalaf Alsaif, *Challenges and Benefits of Integrating the Renewable Energy Technologies into the AC Power System Grid*, 6 AM. J. ENG'G RSCH. 95, 96 (2017).

52. *See* Neeley, *supra* note 9, at 2.

53. *See id.*

54. *See* Emma Penrod, *Developers Increasingly Pair Batteries with Utility-Scale Solar to Combat Declining Value in Crowded Markets*, UTIL. DIVE (Oct. 13, 2021), https://perma.cc/RAJ4-7THY.

55. Press Release, Dep't Energy, DOE Releases Solar Futures Study Providing the Blueprint for a Zero-Carbon Grid, (Sept. 8, 2021) [hereinafter DOE, Sept. 2021].

by 97%.[56] This technology is also readily available and increasingly affordable; the U.S. energy storage market has seen unprecedented growth in recent years, installing a recording-breaking amount of new storage.[57]

Criticisms of wind and solar energy based on their intermittency also ignore the fact that nearly every major fuel type is vulnerable to comparable disturbances that can impact reliability.[58] The North American Electric Reliability Corporation (NERC) has noted, for instance, that generators powered by natural gas and coal routinely experience reliability issues during extreme weather due to supply constraints.[59] Additionally, extreme heat and drought conditions threaten traditional generators' access to water and disrupt required maintenance, causing such plants to reduce output or shut off entirely.[60] By contrast, wind power can often enhance grid resiliency during extreme cold- or hot-weather events,[61] and solar projects provide important reliability services during periods of high temperature and drought when conventional resources may struggle.[62] During a Texas heatwave in May 2022, multiple fossil fuel-powered generators unexpectedly shut down for days, leaving ERCOT without nearly 20% of its coal-fired plants, while demand for electricity soared.[63] In contrast, wind and solar generation remained online, producing nearly 40% of the total supply in ERCOT during peak hours.[64] Renewable energy's ability to withstand extreme weather events is significant given that the nation's sharp increase in power outages in recent years is almost entirely due to weather-related blackouts.[65]

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56. Micah S. Ziegler & Jessika E. Trancik, *Re-examining Rates of Lithium-ion Battery Technology Improvement and Cost Decline*, 14 ENERGY & ENV'T SCI. 1635, 1635 (2021).

57. Kavya Balaraman, *US Storage Market Breaks Records with 3.5 GWh of New Deployments in Q3*, UTIL. DIVE (Dec. 9, 2021), https://perma.cc/J9VG-DN3Y. The amount of energy storage capacity coming online increased by 182% between the third and fourth quarters of 2020 and continued to rise in 2021. *Id.*

58. *See* Neeley, *supra* note 9, at 2 ("[N]o power plant can provide electricity with 100% reliability. Even plants that are designed to run 24/7 may not be able to generate during critical periods due to maintenance or other issues.").

59. N. AM. ELEC. RELIABILITY CORP., 2014–2015 WINTER RELIABILITY ASSESSMENT 4–6 (2014) (laying out multiple instances in which traditional generators experienced unplanned interruptions due to a lack of fuel supply).

60. Catherine Morehouse, *Spiking Temperatures Could Cause More Blackouts this Summer. They Won't Be the Last.*, POLITICO (May 31, 2022, 10:39 AM), https://perma.cc/X9SA-XH52. Natural gas, coal, and nuclear plants all require cold water to create the steam necessary to make power. Margaret A. Cook et al., *Assessing the Impacts of Droughts and Heat Waves at Thermoelectric Power Plants in the United States Using Integrated Regression, Thermodynamic, and Climate Models*, 1 ENERGY REP. 193, 193 (2015). Thus, warming temperatures erode plant efficiency (while increasing demand) and drought conditions limit necessary water supplies. *See id.*

61. Gamper-Rabindran, *supra* note 30, at 360. In the summer of 2011, high temperatures and drought decreased the ability of nuclear, coal, and gas fired plants in Texas to generate adequate electricity; that winter, a cold snap caused coal and gas fired plants to shut down. *Id.* at 361. In both instances, Texas relied on wind energy resources to meet an increased proportion of its energy needs. *Id.*

62. *See* Sonal Patel, *Intense Summer Heatwaves Rattle World's Power Plants*, POWER MAG. (Oct. 1, 2018), https://perma.cc/Y9LZ-2QW7.

63. Dennis Wamsted & Seth Feaster, *May Heat Wave Exposes Myth of Fossil Fuel Reliability as Texas Coal- and Gas-Fired Generators Fail Early Season Performance Test*, INST. ENERGY ECON. & FIN. ANAL. (June 27, 2022), https://perma.cc/W9CM-YF6B.

64. *Id.*

65. *See* EIA, Nov. 2021, *supra* note 15.

In sum, although the intermittent nature of wind and solar inevitably impacts grid planning, increased power outages are caused by planning failures—some of which are related to the rapid transition to sustainable energy—and not by an inherent quality of renewable resources.[66] In fact, a 2022 Stanford University study, which analyzed grid stability under multiple scenarios, concluded that an electricity system running entirely on wind, water, solar (WWS) and storage, would *lessen* power outages and lower consumer costs, largely because WWS plus storage results in lower end-use energy demand, less load shedding, and reduced storage costs.[67]

B. Mounting Pressures from the Energy Transition

The evolution of grid reliability planning in recent years is emblematic of a broader revolution in the energy sector propelled by climate goals, scarce resources, and the increasing market competitiveness of renewable energy technologies. The IEA projects that expansion rate of U.S. renewable capacity between 2021 and 2026 will be 65% greater than that of the previous five years.[68] The energy transition is inherently complicated, in part because political–economic systems tend to be resistant to change when dominant power relations are upset.[69] Put differently, as the country advances toward a sustainable energy system, many incumbent energy stakeholders face various unprecedented challenges—including competition from renewable resources and sharply declining investment—and are struggling to adapt.

1. The Growth of Renewables

The proportion of U.S. electricity generated by renewable resources grew exponentially over the past decade, driven by increased recognition that greenhouse gas emissions from fossil fuel-fired power plants are a key driver of climate change.[70] In 2020, renewable resources became the second-greatest contributing electricity source in the United States, generating about 21% of the nation's electricity and surpassed only by natural gas.[71] The growth of wind and solar generation dwarfs that of any

66. *See* Neeley, *supra* note 9, at 2 (describing the intermittency argument against renewables as relying on the "fallacy of composition," which falsely assumes that a feature of a whole system (e.g., a continuous supply of energy) must be a feature of each of the system's parts).

67. *See* Mark Z. Jacobson et al., *Zero Air Pollution and Zero Carbon from All Energy at Low Cost and Without Blackouts in Variable Weather Throughout the U.S. with 100% Wind-Water-Solar and Storage*, 184 RENEWABLE ENERGY 430, 440 (2022).

68. INT'L ENERGY AGENCY, RENEWABLES 2021: ANALYSIS AND FORECAST TO 2026 37 (2021). Renewable capacity in the U.S. is projected to increase from 336.1 GW in 2020 to 553.9 GW in 2026. Int'l Energy Agency, *Renewables 2021 Data Explorer*, IEA, https://perma.cc/Q37C-MN5T (Oct. 3, 2022).

69. Pearson & Bardsley, *supra* note 10, at 75.

70. *World Energy Outlook 2018*, IEA (Nov. 2018), https://perma.cc/Z3RZ-2HCK.

71. Press Release, Mickey Francis, Renewables Became the Second-Most Prevalent U.S. Electricity Source in 2020, EIA (Dec. 23, 2021) [hereinafter EIA, Dec. 2021]. Renewable energy is generally defined as energy from a source that is not depleted when used, such as solar radiation or kinetic energy from wind or ocean waves. *Renewable Energy Explained*, ENERGY INFO. ADMIN. (Dec. 23, 2021), https://perma.cc/QQN2-VTMD. Debates have arisen over whether certain resources qualify as "renewable" under relevant regulatory definitions. For a discussion of policies attempting to distinguish

other renewable resource: between 2011 and 2020, the proportion of electricity generated by solar and wind nearly quadrupled.[72] Technological advancements in turbines, panels, and ancillary technologies, such as battery storage, have lowered the capital costs of renewables, enabling exponential growth in renewable energy development.[73] In just a few years, renewable energy projects have become cost competitive with traditional generators across much of the country.[74]

A favorable policy environment in the United States has further encouraged the nation's private sector to leverage the advantages of renewable resources[75]—inexhaustible energy supplies and very low carbon emissions.[76] The increased economic attractiveness of wind and solar technology and growing concerns about climate change have likewise motivated many investors in the energy industry to exit the fossil fuel space in favor of renewable energy projects and ancillary technologies, further contributing to the dramatic growth of renewables,[77] which is expected to continue for decades to come.[78]

2. Movement Away from Nonrenewable Energy Sources

While renewable energy development has accelerated in recent years, the demand for most nonrenewable energy resources has decreased or plateaued. For example, after peaking in 2007, coal-generated electricity has experienced a particularly remarkable decline.[79] Nearly a third of currently operating U.S. coal plants are slated to retire by 2035 and as of late 2021 there were no plans to develop new coal-fired power plants in the country.[80] Nuclear power's share of the national

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renewable resources from nonrenewable ones, see TROY RULE, RENEWABLE ENERGY: LAW, POLICY AND PRACTICE 3–5 (2nd ed. 2022).

72. SARAH NICK ET AL., ENV'T AM. RSCH. & POL'Y CTR., RENEWABLES ON THE RISE 2021 1 (2021).

73. *See* John E.T. Bistline & David T. Young, *Economic Drivers of Wind and Solar Penetration in the US*, 14 ENV'T RSCH. LETTERS 1, 1 (2019) (finding that the decreasing capital costs of wind and solar are driving the increase in renewable energy penetration in the U.S.).

74. Press Release, Int'l Energy Agency, Low-Carbon Generation is Becoming Cost Competitive, NEA and IEA Say in New Report (Dec. 9, 2020).

75. *State Renewable Portfolio Standards and Goals*, NAT'L CONF. STATE LEGISLATURES (Aug. 13, 2021), https://perma.cc/PR9Y-KCSA (describing state renewable portfolio standards and goals); Sunjoo Park, The Influence of State-Level Renewable Energy Policy Instruments On Electricity Generation In The United States: A Cross-Sectional Time Series Analysis (2013) (Ph.D. dissertation, Cleveland State University) (finding that state-level renewable energy policies have significantly impacted the proportion of electricity generated by renewable systems). *See* ELIZABETH NOLL & DAVID HART, INFO. TECH. & INNOVATION FOUND., LESS CERTAIN THAN DEATH: USING TAX INCENTIVES TO DRIVE CLEAN ENERGY INNOVATION 10–11 (2019) (discussing various federal tax incentives and their impact on renewable energy growth in the U.S.).

76. *See* POWERING INTO THE FUTURE, *supra* note 43, at 15 (describing the economic benefits of reliance on resources that naturally replenish across time); *see also* Bistline & Young, *supra* note 73, at 1 (noting the health benefits of renewables due to reduced emissions).

77. *See* Matt Egan, *Energy Stocks Are the Biggest Losers of 2019—And the Decade*, CNN BUS., https://perma.cc/2DEU-KN6T (Dec. 29, 2019, 5:48 PM).

78. A 2021 DOE study indicates that solar power could provide 40% of the nation's electricity by 2035. DOE, Sept. 2021, *supra* note 55.

79. EIA, Dec. 2021, *supra* note 71 (noting that between 2019 and 2020, coal-powered generation in the United States declined 20%).

80. Press Release, U.S. Energy Info. Admin., Of the Operating U.S. Coal-Fired Plants, 28% Plan to Retire by 2035 (Dec. 15, 2021).

energy mix is also declining.[81] Only one new U.S. nuclear reactor has come online since 1996 and the nation's nuclear generating capacity is projected to gradually decrease over the next several decades.[82]

The declines in U.S. coal and nuclear generation are largely due to increased competition from natural gas and renewables.[83] Gas-fired power has become more cost-effective over the past decade due to the advent of hydraulic fracturing, which increased domestic supplies and lowered prices.[84] Natural gas plants are also more flexible than coal or nuclear plants, and thus favored by utilities and grid planners because of their ability to more quickly respond to demand fluctuations.[85] However, even the natural gas industry is now facing increased pressure from cost competitive renewables, public concerns about climate change, reduced investment, and volatile prices.[86] In 2020, Exxon Mobil dropped off the Dow after 92 years.[87] In 2021, U.S. natural gas generation declined,[88] and the EIA projects that this trend will continue in 2022.[89] In early 2022, Russia's invasion of Ukraine caused the price of natural gas to hit record highs, leading analysts to predict that new gas projects will face increasing scrutiny by regulators.[90]

3. Financial Pressure on Incumbent Stakeholders

The growth of renewable energy, declines in fossil fuel investment, and concerns about climate change are all placing immense pressure on incumbent stakeholders within the country's energy sector.[91] For example, as reliance on non-renewable resources declines, some fossil fuel companies are likely to encounter stranded cost problems as they are unable to recoup large capital investments in

81. *See* Jeremy Hsu, *Nuclear Power Looks to Regain Its Footing 10 Years After Fukushima*, SCI. AM. (Mar. 9, 2021), https://perma.cc/4CVE-ETHA (describing how the decreasing cost competitiveness of nuclear power has led to the industry's recent decline); Jim Ostroff, *Entergy to Shut 849 MW FitzPatrick Nuclear Power Plant as Soon as 2017*, S&P GLOB. COMMODITY INSIGHTS (Nov. 2, 2015), https://perma.cc/M9F8-JA2P (describing Entergy's decision to shut down a nuclear unit due to its "continued deteriorating economics").

82. *Nuclear Explained*, U.S. ENERGY INFO. ADMIN., https://perma.cc/TRX7-QD4C (Apr. 18, 2022).

83. *See* Alison Silverstein, *Silverstein: If I'd Written the DOE Grid Study Recommendations*, UTIL. DIVE (Oct. 2, 2017), https://perma.cc/SEG8-CPXX (explaining that the increased retirements of coal and nuclear plants is driven by competition from natural gas and describing renewable generation as an "exacerbating factor").

84. Press Release, U.S. Energy Info. Admin., In 2020, U.S. Coal Production Fell to its Lowest Level Since 1965 (July 14, 2021) ("Lower natural gas prices made coal less competitive for power generation.").

85. *See* Silverstein, *supra* note 83.

86. *See* INT'L ENERGY AGENCY, THE OIL AND GAS INDUSTRY IN ENERGY TRANSITION 34, 89 (2020) (describing recent pressures on the natural gas industry).

87. Marcy de Luna, *Exxon Mobil Dropped from the Dow After 92 Years, Replaced by a Software Stock*, CHRON., https://perma.cc/M9LJ-LVUJ (Aug. 25, 2020, 12:54 PM).

88. Press Release, U.S. Energy Info. Admin., U.S. Natural Gas Generation in 2021 Sees its First Year-Over-Year Decline in Three Years (May 24, 2021).

89. *Short-Term Energy Outlook: Electricity*, U.S. ENERGY INFO. ADMIN., https://perma.cc/HYH6-WT88 (last visited Jan. 2, 2023).

90. *See* Miranda Willson, *What the Russia Crisis Means for the U.S. Electricity Mix*, E&E NEWS (Mar. 1, 2022, 7:10 AM), https://perma.cc/XPZ7-2ADL.

91. *See* Andrew Askland, *Breaking Up Is Hard to Do: American Exceptionalism and the Transition to a Renewable Energy Future*, 27 NOTRE DAME J.L. ETHICS & PUB. POL'Y 105 (2013).

pipelines or other costly infrastructure.[92] Many electric utilities face similar challenges due to the growing popularity of rooftop solar and other distributed energy technologies.[93]

Fossil fuel-reliant generators are also experiencing increasing supply-side pressures as growing resource scarcity, supply chain issues, and government restrictions gradually raise the costs of extracting and processing coal, oil, and gas. Unlike the planet's supplies of solar radiation or wind energy, fossil fuel supplies are effectively fixed in quantity. Although innovators have developed techniques to extract previously unrecoverable resources, the nation's reserves of these resources are limited,[94] and remaining supplies will be increasingly costly to recover.[95] Accordingly, even without pressure from the renewable energy sector and climate change, a shift away from fossil fuels is inevitable.[96] Nuclear power is experiencing similar supply challenges because uranium is a finite resource that requires continuous mining,[97] and a significant proportion of the nation's supplies have historically come from Russia and thus may not be as available in the coming years.[98] As a result of these supply issues, many investors are beginning to perceive nonrenewable energy sources as riskier investments than renewable energy.[99]

II. THE SCAPEGOATING OF RENEWABLES

Facing all these pressures, fossil fuel stakeholders and utilities are searching for ways to preserve their market positions and have strong economic incentives to promote narratives that slow the energy transition. Within this context, renewable energy is increasingly framed as inherently unreliable and has emerged as a common scapegoat for large-scale power outages, despite substantial evidence to the

92. Fergus Green & Richard Denniss, *Cutting with Both Arms of the Scissors: The Economic and Political Case for Restrictive Supply-side Climate Policies*, 150 CLIMATIC CHANGE (SPECIAL ISSUE) 73, 78–79 (2018) (discussing fossil fuel infrastructure lock-in risks). Technological lock-ins can create path dependency, making it difficult for incumbents to adapt to the energy transition in a timely manner. Pearson & Bardsley, *supra* note 10, at 75.

93. STEVE CORNELI ET AL., U.S. DEP'T ENERGY, REP. NO. LBNL-1003823, ELECTRIC INDUSTRY STRUCTURE AND REGULATORY RESPONSES IN A HIGH DISTRIBUTED ENERGY RESOURCES FUTURE (2015).

94. Askland, *supra* note 91, at 111.

95. *See Oil and Natural Gas Resource Categories Reflect Varying Degrees of Certainty*, U.S. ENERGY INFO. ADMIN. (July 17, 2014), https://perma.cc/TL8E-WYB9.

96. *See* Shahriar Shafiee & Erkan Topal, *When Will Fossil Fuel Reserves Be Diminished?*, 37 ENERGY POL'Y 181, 188 (2008) (using an econometrics model to calculate that worldwide supplies of oil, coal, and gas will be depleted in about "35, 107 and 37 years, respectively").

97. In 2019, the United States produced 89% less uranium concentrate than it produced in 2018—the lowest amount on record since 1949. *U.S. Uranium Production Fell to an All-Time Annual Low in 2019*, U.S. ENERGY INFO. ADMIN. (July 17, 2020), https://perma.cc/5TPA-DTT8.

98. Hannah Northey, *How Russia's Invasion is Affecting U.S. Nuclear*, E&E NEWS (Mar. 14, 2022, 7:20 AM), https://perma.cc/QR2Q-XLKF (describing how "Russia's invasion of Ukraine is raising questions about the cost and flow of fuel to existing and yet-to-be commercialized advanced U.S. reactors").

99. *See generally* Egan, *supra* note 77 (describing fossil fuel companies' recent struggles to raise capital).

contrary.[100] This narrative is part of a larger trend of incumbent energy stakeholders promoting disinformation to advance statutory and regulatory changes that benefit their interests.[101]

Disinformation refers to the "*intentional* spread of false information."[102] Scapegoating is a specific type of disinformation, wherein blame is attributed to something that was not the cause, or at least not the primary cause, of a specific problem.[103] When major power outages occur, blaming the sustainable energy transition offers an attractive strategy for those responsible for grid reliability such as government actors and policymakers, who might otherwise face harsh criticism. Scapegoating renewables for power outages also engenders the incorrect belief that increased reliance on traditional fuels (or decreasing use of renewables) will lead to fewer grid failures. For the coal and nuclear industries, framing traditional baseload resources as essential to reliable power is attractive because it justifies their need for government relief—without that overriding public need, it would be harder to convince lawmakers and the public to bail out generating sources that are no longer competitive.[104] Similarly, utilities face incentives to spread disinformation about renewables that justifies investment in new fossil fuel infrastructure.[105]

The spreading of disinformation after major grid failures in Texas and California in recent years illustrates how narratives portraying renewable energy as a scapegoat for grid failures are increasingly used to shift blame from responsible parties, vilify renewables, support problematic policies, and slow the energy transition.

A. Scapegoating Renewables for Major Power Outages: Texas and California

Recent grid failure events in Texas and California illustrate how some groups are increasingly scapegoating renewables as the cause of large-scale power outages. In each instance, numerous government actors and industry leaders publicly

100. To be clear, renewables are *not* causing the increased power outages—over 90% of recent interruptions were due to issues with transmission and distribution, and thus unrelated to fuel type. 2021 INFRASTRUCTURE REPORT, *supra* note 11, at 45. The growing number of power outages is primarily due the immense pressure of climate change on the nation's aging infrastructure, coupled with poor resource planning in a rapidly changing energy system. *Id.* at 50.

101. *E.g.*, Cary Coglianese & Daniel E. Walters, *Whither the Regulatory "War on Coal"? Scapegoats, Saviors, and Stock Market Reactions*, 2105 FAC. SCHOLARSHIP PA. L. 1, 68 (2020).

102. Michael Hameleers et al., *A Picture Paints a Thousand Lies? The Effects and Mechanisms of Multimodal Disinformation and Rebuttals Disseminated via Social Media*, 37 POL. COMMC'N 281, 282 (2020). Disinformation is distinct from *mis*information, which refers to any type of false information spread without the intent to mislead. *Id.*

103. Thomas J. Roulet & Rasmus Pichler, *Blame Game Theory: Scapegoating, Whistleblowing and Discursive Struggles Following Accusations of Organizational Misconduct*, I-30 ORG. THEORY 1, 3 (2020) ("[S]capegoating is a collective strategy for shifting blame . . . through the creation of relevant discourses."); *see also* Zachary K. Rothschild et al., *Displacing Blame Over the Ingroup's Harming of a Disadvantaged Group can Fuel Moral Outrage at a Third-Party Scapegoat*, 49 J. EXPERIMENTAL SOC. PSYCH. 898, 899 (2013) (noting that a responsible party may use scapegoating to shift blame to a third party, resulting in fewer reparative actions toward the problem itself).

104. *See* Coglianese & Walters, *supra* note 101, at 55 (discussing the coal industry's incentive to scapegoat regulation as the reason for its decline to justify government subsidies).

105. *See* Tsao & Martin, *supra* note 36.

blamed wind and solar for the outages—despite no supporting evidence—leading to broad dissemination of disinformation.

1. Blaming Wind for Statewide Grid Failures: Texas, 2021

The spreading of disinformation after a 2021 winter storm and ensuing blackouts in Texas is a paradigmatic example of how renewables are increasingly scapegoated as a primary cause of grid reliability problems. In February of 2021, Winter Storm Uri hit Texas and neighboring states, causing large scale power outages.[106] More than 4.5 million homes and businesses in Texas lost power during the event, and many had to endure dangerously low temperatures without electricity or running water for days.[107] Electricity prices soared over this period due to constrained supplies and elevated demand.[108] The crisis resulted in an estimated 700 deaths, disproportionately affected lower income communities of color, and cost Texas more than $130 billion, making it the costliest disaster in Texas history.[109]

a. False Narratives About Frozen Turbines

Shortly after the February 2021 blackouts began, Texas Governor Greg Abbott appeared on multiple television news stations and asserted that the blackouts were due to wind turbines shutting down in the freezing temperatures.[110] Abbott stated that the power outages illustrated why the "Green New Deal would be a deadly deal for the United States" and emphasized that the crisis showed that fossil fuels are indispensable to the electricity system.[111] This narrative gained momentum and, over the next 48 hours, Fox News blamed renewable energy for the blackouts 128 times.[112] A photo also started circulating on social and other media of a helicopter pouring liquid onto a frozen wind turbine.[113] The accompanying story implied that it depicted the current situation in Texas, wherein Texans were "flying helicopters using fossil fuels to put oil on wind turbines to defrost them."[114] U.S Senator Steve Daines of Montana retweeted the photo, stating that "Texas is frozen solid as folks

106. Jess Donald, *Winter Storm Uri 2021: The Economic Impact of the Storm*, COMPTROLLER.TEXAS.GOV (Oct. 2021), https://perma.cc/QPM7-E56Q.

107. Joshua W. Busby et al., *Cascading Risks: Understanding the 2021 Winter Blackout in Texas*, 77 ENERGY RSCH. & SOC. SCI. 1, 1 (2021).

108. *Id.* at 2.

109. *See* Dan Esposito & Eric Gimon, *The Texas Big Freeze: How a Changing Climate Pushed the State's Power Grid to the Brink*, UTIL. DIVE (June 2, 2021), https://perma.cc/T2D3-298W.

110. Rick Rouan, *Fact Check: Frozen Wind Turbines Don't Deserve All the Blame for Texas Blackouts*, USA TODAY (Feb. 17, 2021, 4:54 PM), https://perma.cc/3K7C-7Z6G.

111. Oliver Milman, *How Texas Blackouts Turned Renewables into Scapegoats*, CAN. NAT'L OBSERVER (Feb. 25, 2021), https://perma.cc/K3G2-N3B7.

112. Savillo, *supra* note 3. *See, e.g.*, Kristi Noem (@govkristinoem), TWITTER (Feb. 17, 2021, 7:36 AM), https://perma.cc/8BUC-4L2R (retweeting a video of Governor Kristi Noem of South Dakota on Fox News on February 17, arguing that wind and solar "aren't consistent enough to be our primary source of energy").

113. Brian Kahn, *Viral Image Claiming to Show a Helicopter De-Icing Texas Wind Turbines Is from Winter 2014 in Sweden*, GIZMODO (Feb. 16, 2021, 1:25 PM), https://perma.cc/7N4P-YLC5.

114. Eric Kleefeld, *Fox's Outnumbered Lies About Role of Climate Change in Texas and State's Record on Winter Blackouts*, MEDIA MATTERS (Feb. 19, 2021, 3:18 PM), https://perma.cc/MLF8-K6RP.

are left [with] no power to stay safe [and] warm."[115] He described it as "a perfect example of the need for reliable energy sources like natural gas & coal."[116] However, the media was wrong: the photograph actually featured an experiment that took place in Sweden from 2014.[117]

Multiple other Texas political figures and public officials seized on Governor Abbot's narrative as an opportunity to argue that major increases in renewable energy development would be catastrophic for the country. Sid Miller, Texas's agricultural commissioner, posted to Facebook that "we should never build another wind turbine in Texas."[118] In a tweet, Representative Dan Crenshaw of Texas described the blackouts as "what happens when you force the grid to rely in part on wind as a power source," explaining that "[w]hen weather conditions get as bad as they did this week, intermittent renewable energy like wind isn't there when you need it."[119]

Even outside of Texas, ideologically similar politicians used the winter 2021 storm narrative to condemn renewables. Jason Miller, a former member of the Trump Administration, tweeted that the "problem is Texas's overreliance on wind power that has left the grid more vulnerable to bad weather."[120] Representative Paul Gosar of Arizona asserted:

> [B]aseline power is fundamental to energy stability. That means: nuclear, gas, hydro and coal. Wind and solar can supplement these sources but can never replace them. California and now Texas see this on the ground with blackouts.[121]

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115. Steve Daines (@SteveDaines), TWITTER (Feb. 16, 2021, 9:19 AM), https://perma.cc/W5S7-2H38.

116. *Id*; *see also* Steve Daines (@SteveDaines), TWITTER (Feb. 16, 2021, 10:13 AM), https://perma.cc/6XMR-ELBH ("America [cannot] afford this radical transition away from reliable energy.").

117. Robert Mackey, *Fossil Fuel Apologists Crafted Lies Now Heard on Fox, Blaming Wind Power for Texas Blackouts*, INTERCEPT (Feb. 17, 2021, 12:50 AM), https://perma.cc/V3EL-L2KT. Since 2016, clean energy analyst Ketan Joshi has been "periodically debunking a misleading meme" that suggests that wind turbines must be deiced with helicopters. The image depicts an old experiment in Sweden and "predates the use of modern wind turbines, which can be purchased with built-in de-icing systems." *Id.* During the grid failures in Texas, "Joshi noticed that the meme had been shared by figures in the fossil fuel industry," including consultant Luke Legate, who works for a firm "that handles 'educational outreach' for the Texas Oil and Gas Association, the Texas Pipeline Association, and the Permian Basin Petroleum Association." *Id.* A single tweet by Legate with the image and false information generated over 87,000 likes and 30,000 retweets. *See* FRIENDS OF THE EARTH, FOUR DAYS OF TEXAS-SIZED DISINFORMATION: SOCIAL MEDIA COMPANIES THREATEN ACTION ON CLIMATE CHANGE 3 (2021) [hereinafter TEXAS DISINFORMATION REP.].

118. Milman, *supra* note 111. Miller's post generated over 34,000 engagements. TEXAS DISINFORMATION REPORT, *supra* note 117, at 6.

119. Ed Browne, *Why Did Wind Turbines Freeze in Texas When They Work in the Arctic?*, NEWSWEEK (Feb. 18, 2021, 8:27 AM), https://perma.cc/LS26-TWPT.

120. Jason Miller (@JasonMillerinDC), TWITTER (Feb. 17, 2021, 1:52 AM), https://perma.cc/6C4N-HZKJ.

121. Paul Gosar (@DrPaulGosar), TWITTER (Feb. 18, 2021, 11:16 AM), https://perma.cc/PY42-RZQR.

Representative Lauren Boebert of Colorado made similar assertions, noting that "renewables are clearly unreliable."[122]

Industry groups and other stakeholder entities in and out of Texas likewise chimed in to blame renewable energy. The Texas Public Policy Foundation ran paid Facebook ads during the blackouts "assailing 'failed' wind energy" and urging people to "'thank' fossil fuels for keeping them warm."[123] Alex Epstein, founder and director of the Center for Industrial Progress and an energy industry communications consultant, suggested that oil and gas industry lobbyists should say "the root cause of the Texas blackouts is a national and state policy that has prioritized the adoption of unreliable wind/solar energy over reliable energy."[124] The narrative blaming wind energy was also disseminated by mainstream news media, including the Wall Street Journal,[125] Forbes,[126] and the Daily Wire.[127] The articles were then shared on social media by some political figures, including Senator John Cornyn of Texas[128] and Senator Kevin Cramer of North Dakota.[129]

b. Systemic Failures

In reality, the widespread narratives blaming wind energy for the Winter 2021 Texas blackouts were not true. A post-mortem study by the Austin Energy Institute at the University of Texas found that the power outage was caused by about half of the state's generating capacity going offline at the same time the state's demand for electricity peaked.[130] Because many energy companies across Texas had not winterized their infrastructure, about half the state's power plants failed.[131] Although some nuclear, wind, and solar plants did go offline, the outage was largely due to frozen natural gas pipelines and failures in natural gas production and storage,

122. Lauren Boebert (@laurenboebert), TWITTER (Feb. 15, 2021, 7:45 PM), https://perma.cc/564A-GQSX; *see also* Wayne Christian, *Texas' Blackouts Blew in on the Wind*, WALL ST. J. (Mar. 19, 2021, 6:23 PM), https://perma.cc/89XK-3Y5Q (op-ed by a commissioner of the Texas Railroad Commission) ("The problem with wind and solar power is that investment in unreliable renewable sources has displaced investment in electricity generation from reliable energy sources.").

123. Milman, *supra* note 111.

124. Mackey, *supra* note 117.

125. Ed. Bd., *A Deep Green Freeze*, WALL ST. J., https://perma.cc/9GZ6-YYLX (Feb. 15, 2021, 2:09 PM).

126. Robert Bryce, *This Blizzard Exposes the Perils of Attempting To 'Electrify Everything'*, FORBES (Feb. 15, 2021, 10:16 AM), https://perma.cc/37CB-7DY3.

127. Ryan Saavedra, *Nearly Half of Texas' Wind Turbines Frozen in Winter Storm, Limiting State's Power Output*, DAILY WIRE (Feb. 15, 2021), https://perma.cc/XT9Z-UL8J.

128. John Cornyn (@JohnCornyn), TWITTER (Feb. 16, 2021, 5:34 AM), https://perma.cc/J7EJ-QPUD, (retweeting an article from the Austin American-Statesman) ("Frozen wind turbines hamper Texas power output, state's electric grid operator says."); John Cornyn (@JohnCornyn), TWITTER (Feb. 16, 2021, 5:47 AM), https://perma.cc/Z8NB-EW42 ("Rolling blackouts in Texas and spiking gas and power prices amid a cold snap show the folly of eliminating natural gas—and coal.").

129. Kevin Cramer (@SenKevinCramer), TWITTER (Feb. 19, 2021, 7:50 AM), https://perma.cc/9GU3-T8MX (retweeting an article from the Wall Street Journal) ("Yep: an over-reliance on unreliable energy sources like wind and solar are to blame for what we're seeing in places like Texas.").

130. *See* AUSTIN ENERGY INST., THE TIMELINE AND EVENTS OF THE FEBRUARY 2021 TEXAS ELECTRIC GRID BLACKOUTS 8–9 (2021).

131. Busby et al., *supra* note 107, at 1.

which meant that some gas-fired generators had no fuel to burn.[132] A joint report by NERC and the Federal Energy Regulatory Commission (FERC) found that most of the problem came from gas facilities freezing and losing power, and that 58% of the generating units that failed were natural gas-fired units.[133]

Although wind generation also decreased during the 2021 winter storm due to the freezing of some wind turbines,[134] a later report showed that wind energy actually overperformed during the storm compared to other energy sources.[135] Moreover, even if all of wind and solar had functioned at max capacity during the storm, it wouldn't have been able to compensate for the state's natural gas-related system failures because renewables still comprise only a minority of the Texas energy mix.[136] Importantly, because the Texas grid is isolated from the rest of the country, Texas could not rely on delivery of electricity from other states during the shortages.[137] In essence, Texas officials had not planned for this emergency, having long promoted regulatory decisions that created an isolated, under-winterized state grid with minimal energy storage capacity.

c. Why Scapegoat Wind?

Because policymakers' excessive risk-taking and inadequate regulation of ERCOT's grid significantly contributed to the 2021 Texas blackouts, Texas government officials and regulators had strong incentives to scapegoat wind power for the disaster.[138] Political debates about renewables in the United States operate within a broader discussion about climate policy that is highly partisan.[139] By reframing major grid failures as consequences of the clean energy movement, conservative politicians sought to shift attention away from their administration's questionable decisions

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132. *Id.*

133. Press Release, Fed. Energy Regul. Comm'n, Final Report on February 2021 Freeze Underscores Winterization Recommendations (Nov. 16, 2021).

134. *Id.*

135. Brandon Mulder, *Is Wind to Blame for the Texas Power Outages? Fact-checking Republican Statements,* AUSTIN-AM. STATESMAN, https://perma.cc/89MJ-X63S (Feb. 20, 2021, 4:03 PM).

136. *Id.* At the time of the 2021 blackout, wind comprised 23% of Texas's electricity mix, and solar 2%, over the course of a year. Busby et al., *supra* note 107, at 2. However, based on seasonal expectations for wind's contribution to the grid, the forecast for the relevant period suggested wind production would comprise only 7%.

137. The effect of this isolation is apparent when Texas is compared to Oklahoma, which also struggled with generation disruptions during Winter Storm Uri but experienced far more minor power interruptions because it pulled power from the multistate grid. Rachel Monroe, *Why Texas's Power Grid Still Hasn't Been Fixed*, NEW YORKER (Feb. 9, 2022), https://perma.cc/5NTN-7J3U. The Texas grid's independence also influenced the state's winterization requirements, as it is not subject to federal oversight by the FERC (which called on Texas to winterize its natural-gas facilities in 2011). *Id.*

138. For one thing, in the 1930s, ERCOT's predecessor decided to avoid federal regulation by restricting the grid's interstate connections. Asher Price, *'An Electrical Island': Texas Has Dodged Federal Regulation for Years by Having its Own Power Grid*, USA TODAY, https://perma.cc/G8BR-GAPC (Feb. 17, 2021, 7:19 PM). Following the 2021 blackout, both the grid's isolation and the 1999 decision to deregulate the Texas electricity industry were harshly criticized. *See, e.g.*, Clifford Krauss et al., *How Texas' Drive for Energy Independence Set It Up for Disaster*, N.Y. TIMES, https://www.nytimes.com/2021/02/21/us/texas-electricity-ercot-blackouts.html (May 13, 2021).

139. *See generally* RES. FOR THE FUTURE, CLIMATE INSIGHTS 2020: PARTISAN DIVIDE (2020).

about energy infrastructure and regulation and onto their political opponents' push for lowering carbon emissions.[140]

Ironically, Texas politicians and regulators, including Governor Abbott, members of the Public Utility Commission of Texas (PUCT), and ERCOT's board of directors, were arguably the most responsible for the state's winter 2021 blackouts because of their prior knowledge of the state's vulnerability to such crises. Texas had previously experienced severe winter storms in 2011 and 2014.[141] Both storms were followed by extensive recommendations to force generators to winterize their equipment.[142] During the 2011 event, roughly a third of ERCOT's generating capacity went offline due to production and generation losses in the natural gas industry from freeze-offs, icy roads, and equipment outages.[143] In response, the 2011 session of the Texas legislature enacted a law requiring the PUCT to analyze power plants' winter preparedness.[144] This statute specifically required the PUCT to prepare a "power generation weatherization preparedness" report by 2012, but it did not require annual reports and stated that subsequent reports could be deemed unnecessary.[145] As of 2021, only one report (the initial 2012 report) had been filed by the PUCT.[146] Government analyses published in 2011 and 2018 also identified state's sensing lines, transmitters, water lines, and certain other equipment as being vulnerable to freezing-related outages, and the freezing of these types of equipment proved to be the primary cause of the 2021 event.[147]

The significant failures of the Texas state government to adequately prepare the state's grid and ancillary infrastructure for extreme weather provided a substantial motivation for officials to scapegoat renewables when the 2021 blackouts occurred. The substantial criticisms that Governor Abbott has faced over his handling of energy-related matters from his primary and Democratic challengers in the 2022 election exemplify this threat.[148] Since the 2021 blackout, Abbott has been

140. *See, e.g.*, Tommy Tuberville (@SenTuberville), TWITTER (Jan. 4, 2022, 1:26 PM), https://perma.cc/D9ZC-BSV4 (arguing that energy prices are up because of Democrats' "radical policies"); Steve Daines (@StevenDaines), TWITTER (Mar. 26, 2019, 10:25 AM), https://perma.cc/9HVZ-HXVD ("The #GreenNewDeal would leave our rural communities in the dark, literally. When it's -40 out, our wind turbines stop turning. What picks up the slack and keeps the heat on for our families and businesses? COAL!").

141. Plautz, *supra* note 18. A post-mortem by the Austin Energy Institute made similar comments, comparing the 2021 event to storms in 1989 and 2011, both of which caused blackouts during which the "availability of natural gas to gas-fired power plants was a notable problem." AUSTIN ENERGY INST., *supra* note 130, at 73; *see also* James Osborne & Eric Dexheimer, *Texas Grid Fails to Weatherize, Repeats Mistake Feds Cited 10 Years Ago*, HOUS. CHRON., https://perma.cc/L7H9-GC3L (Feb. 17, 2021, 2:25 PM).

142. Plautz, *supra* note 18.

143. *Id.*

144. *See* TEX. UTIL. CODE ANN. § 186–007 (West 2021). The statute also authorized the PUCT to enact rules implementing the weatherization report and require generators to amend inadequate plans. AUSTIN ENERGY INST., *supra* note 130, at 72–73.

145. *Id.*

146. *Id.*

147. FERC & NERC, THE FEBRUARY 2021 COLD WEATHER OUTAGES IN TEXAS AND THE SOUTH CENTRAL UNITED STATES 184 (2021).

148. Both of Abbott's best-known primary opponents, Allen West and Don Huffines, focused their campaigns on the Texas grid, heavily criticizing Abbott's actions. Mitchell Ferman, *Gov. Greg Abbott Intervened to Put a Positive Spin on Texas' Power Grid*, TEX. TRIB. (Dec. 28, 2021, 4:00 AM), https://perma.cc/8ERP-33P3.

heavily involved in public messaging regarding the grid's winter readiness to boost his reelection campaign, describing Texas's grid as "good to go" for cold weather.[149] Characterizing this as mere political messaging, some energy experts have argued that the grid would not be ready for another storm as powerful as Winter Storm Uri because lawmakers still haven't required the immediate weatherization of the state's gas infrastructure.[150] By scapegoating renewables, Texas regulators facing such criticisms may avoid being blamed for the failing grid and retain the support of their constituents despite the officials' role in the February 2021 crisis.

2. Scapegoating Solar for Rolling Blackouts: California, 2020

The disinformation surrounding the power outages in California during summer 2020 is another example of the use of a false narrative to blame renewables for a grid resiliency problem. In August of 2020, the California Independent System Operator (CAISO) instituted rolling outages during an extreme heat wave.[151] Hundreds of thousands of homes and businesses lost power—some for as long as two and a half hours on August 14 and up to 90 minutes the following day.[152]

a. Blaming Solar Power

As occurred after the Texas blackouts, various politicians were quick to blame California's high levels of solar capacity for the rolling outages. Texas Senator Ted Cruz tweeted that California was "unable to perform even basic functions of civilization, like having reliable electricity," because of its "failed energy policy."[153] Representative Crenshaw joked, "Alexa, show me what happens when you let Democrats control energy policy."[154] Senator Cramer declared that "Californians spent August in the dark" due to "at least in part, . . . over-reliance on unreliable sources of energy like wind and solar,"[155] and later repeated these claims in an op-ed for Newsweek where he criticized the state for "banking on perpetual sunshine and steady breezes to power their grid."[156]

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149. Greg Abbott (@GregAbbottTX), TWITTER (Dec. 30, 2021, 12:58 PM), https://perma.cc/A2YN-F9B7 (characterizing Texas power plants as "good to go" for cold weather). *See also* Ferman, *supra* note 148.

150. *See* Ferman, *supra* note 148.

151. Lily Jamali et al., *During Rolling Blackouts Last Summer, California Kept Exporting Power Out of State. There's Still No Permanent Fix*, KQED (June 17, 2021), https://perma.cc/6LXY-5CTE.

152. *Id.*

153. Ted Cruz (@tedcruz), TWITTER (Aug. 19, 2020, 11:20 AM), https://perma.cc/QE4F-TDM6.

154. Dan Crenshaw (@DanCrenshawTX), TWITTER (Sept. 8, 2020, 10:09 AM), https://perma.cc/5KA9-BVHF.

155. Kevin Cramer (@SenKevinCramer), TWITTER (Sept. 10, 2020, 8:13 AM), https://perma.cc/2YDF-W7QC. *See also* Kevin Cramer (@SenKevinCramer), TWITTER (Aug. 20, 2020, 12:47 PM), https://perma.cc/C7AB-U24H ("California is a model for the problems caused by an over-reliance on unreliable energy sources."); Kevin Cramer (@SenKevinCramer), TWITTER (Sept. 12, 2020, 7:00 AM), https://perma.cc/LV3H-KFNC (retweeting an interview with Senator Cramer on Fox News) (connecting California's "energy woes" to closures of coal and nuclear plants).

156. Kevin Cramer, *Remember California's Energy Woes in November*, NEWSWEEK (Sept. 10, 2020, 8:00 AM), https://perma.cc/68G9-NLEX.

Several prominent news media outlets ran pieces blaming renewable energy for California's rolling blackouts shortly after the event. On Fox News' *Outnumbered Overtime*, contributor Lisa Boothe argued that "millions of Californians [were] losing power because the state has diverted billions of dollars to renewable energy, which doesn't work."[157] The next day, Fox News' *Ingraham Angle* also blamed the blackouts on renewables.[158] The editorial board of the Wall Street Journal called the blackouts a "warning to the rest of America" and criticized states for reducing their "reliance on fossil fuels that can generate round-the-clock power."[159]

After the August 2020 blackouts, California became a sort of poster child for the narrative that renewables were unreliable.[160] As the disinformation about California's blackouts spread, it was adopted by members of the federal executive branch. President Donald Trump connected the blackouts with Congress's proposed "Green New Deal" legislation, characterizing California's energy policies as "failed."[161] Then-Secretary of Energy Dan Brouillette also cited the 2020 blackouts in California to support his push to increase natural gas and nuclear energy,[162] posting a video from his official government Twitter account, arguing:

> California has a long history of getting energy policy wrong. When the sun doesn't shine and the wind doesn't blow, they are forced to rely on their neighboring states to fill the gap. But when those states don't have energy to spare, California is left to succumb to black outs.[163]

Rita Baranwal, who was then the DOE's top nuclear energy official, tweeted from her official government account that keeping the San Onofre Nuclear Generating Station open would have prevented some of the blackouts and warned

157. *See* MEDIA MATTERS, https://perma.cc/24GK-HXYK (an archived clip from the Aug. 18, 2020, edition of *Outnumbered Overtime*).

158. *See* MEDIA MATTERS, https://perma.cc/9FYY-NGW2 (an archived clip from the Aug. 19, 2020, edition of the *Ingraham Angle*).

159. Ed. Bd., *California's Blackout Warning*, WALL ST. J. (Aug. 16, 2020, 3:38 PM), https://perma.cc/CT2C-FUH6. *See also* Valerie Richardson, *California Rolling Blackouts Caused by Green Energy Plan, Heat Wave*, WASH. TIMES (Aug. 18, 2020), https://perma.cc/V3YR-RJ43.

160. *See, e.g.*, Ed. Bd., *California's Green Blackouts*, WALL ST. J. (Aug. 19, 2020, 7:20 PM), https://perma.cc/6VH8-NRF5; Daniel Turner, *California's Blackouts Expose Biden-Harris and the Green New Deal*, CTR. SQUARE (Aug. 31, 2020), https://perma.cc/CHY2-3RMG; Tom Del Beccaro, *California's Power Blackouts, Energy Nightmare and More Are Coming Your Way, America*, FOX NEWS (Oct. 25, 2019), https://perma.cc/QYY3-22XC.

161. Sammy Roth, *Here's How California Can Keep the Lights on While Meeting Its Clean Energy Goals*, L.A. TIMES (Aug. 19, 2020, 5:30 AM), https://perma.cc/W5C8-U42G.

162. Dan Brouillette, *A Plan for Solving California's Energy Problem*, ORANGE CNTY. REG., https://perma.cc/EP3C-VAPR (Sept. 25, 2020, 9:09 AM). Secretary Brouillette penned a similar op-ed for a Pennsylvania newspaper. *See* Dan Brouillette, *Clean Coal Is Essential to America*, PENN. LIVE (June 25, 2020, 8:58 AM), https://perma.cc/S889-LLA8.

163. Dan Brouillette (@SecBrouillette), TWITTER, (Aug. 25, 2020, 3:37 PM), https://perma.cc/4E93-868J ("When the sun doesn't shine and the wind doesn't blow, [California is] forced to rely on their neighboring states to fill the gap.").

that California's decision to close the Diablo Canyon Power Plant in favor of increasing renewable energy "could lead to more blackouts in the future."[164]

The myth that renewables were the primary cause of California's August 2020 rolling blackouts gained such traction that it ended up on the Senate floor within a month of the incident. In September of 2020, the rolling blackouts were a featured conversation topic in the Senate Energy and Natural Resource Committee's questions to FERC nominees Allison Clements and Mark Christie, with Senator Daines arguing that California had "put all their eggs in one basket" by prioritizing solar and therefore "can't deliver electricity now to their people."[165] Overall, the disinformation campaign blaming solar for the 2020 power outages in California had a wide-ranging impact on energy policy discourse.

b. Extreme Weather and Poor Planning

Like the disinformation campaign against renewables after the Texas winter blackouts, the narrative scapegoating renewables for California's power outages was not based in fact. A later report concluded that the state's blackouts were largely attributable to extreme heat causing increased demand, poor resource adequacy planning, and market electricity prices.[166] Unlike in Texas, the 2020 event in California was at least tangentially related to renewable energy because the grid operator's failure to adjust to the evolving power mix—including increased solar—led to demand for power exceeding planning targets.[167] However, the intermittency of solar power was not to blame.[168] In other words, the blackout did not occur because of a problem inherent to renewable energy. Rather, an overall shortage of electricity supply occurred because hydroelectric plants had decreased generation due to drought, natural gas plants had ramped down production due to high temperature, and the interstate grid offered less electricity importation due to an increase in demand from heat waves and wildfire risks.[169] Electricity transmission was further limited due to already-ignited wildfires and concerns over power lines sparking new ones in the hot, windy weather.[170]

c. Why Blame Solar?

For incumbent stakeholders in California's energy sector, categorizing solar energy as the cause of the 2020 rolling blackouts served two primary functions: it rationalized further investments in traditional forms of energy and shifted the blame

164. U.S. Assistant Secretary for Nuclear Energy (@DOE_NE1), TWITTER (Aug. 18, 2020, 10:43 AM), https://perma.cc/XA38-YKG2.

165. Catherine Morehouse, *Energy Committee Advances FERC Nominees to Senate for Final Confirmation*, UTIL. DIVE, https://perma.cc/NT8T-SHAK (Nov. 18, 2020).

166. Press Release, Cal. Energy Comm'n, CAISO, CPUC, CEC Issue Final Report on Causes of August 2020 Rotating Outages (Jan. 13, 2021).

167. Catherine Morehouse, *California Releases Final Root Cause Analysis of August Rolling Blackouts*, UTIL. DIVE (Jan. 15, 2021), https://perma.cc/MUJ9-9Y6R.

168. *Id.*

169. Ivan Penn, *Poor Planning Left California Short of Electricity in a Heat Wave*, N.Y. TIMES, https://www.nytimes.com/2020/08/20/business/energy-environment/california-blackout-electric-grid.html?smid=tw-share (Sept. 4, 2020).

170. *See id.*

for high electricity prices onto renewables. These effects are problematic in part because advancements in battery storage may enable California to rely on renewable energy for most or all of its needs in two decades or less, leaving little justification for investments in new fossil fuel power plants with 30-to-40-year lifespans.[171] Moreover, California typically generates excess electricity that it sells to other states and thus arguably doesn't need new natural gas-fired power plants.[172] However, portraying solar as intrinsically unreliable allows utilities to frame new natural gas plants as necessary to the further expansion of solar power rather than in conflict with clean energy goals.[173] Opponents of the new power plants argue that California already has more generating capacity than it needs and that the plants only serve to increase utilities' profits to the detriment of ratepayers.[174] Framing renewables as inherently unreliable justifies decision-makers' approval of these new generators despite the state's excess electricity supply by suggesting that such investments are required to prevent power interruptions.[175]

B. Broader Context: Framing Fossil Fuels as Necessary and Renewables as Expensive

Energy industry incumbents' scapegoating of renewables after blackouts supports their broader narrative that fossil fuel-generated power is indispensable because it is impossible to have a reliable grid supported solely through renewables and ancillary technologies.[176] This framing implies, among other things, that the carbon emissions associated with traditional fuels are a necessary cost of reliable electricity.[177] Such "necessitarianism" reifies the status quo, juxtaposing the threat

171. Ivan Penn, *California Invested Heavily in Solar Power. Now There's so Much That Other States are Sometimes Paid to Take it*, L.A. TIMES (June 22, 2017), https://perma.cc/XA7A-ULK6.

172. *Id.* "California has so much surplus electricity that existing power plants run, on average, at slightly less than one-third of capacity." *Id.* In 2012, power producers proposed replacing an aging natural gas plant in Redondo Beach, for an estimated cost of over $250 million, arguing that it was "necessary to protect against potential power interruptions," because solar and wind power "couldn't be counted on because their production is variable." *Id.* However, the project was eventually killed by the California Energy Commission, and even without it, Redondo Beach's existing natural gas units have operated at less than 5% capacity during the last four years. *Id.*

173. *Id.* (describing utilities' argument as "the state needs ample electricity sources when the sun isn't shining and the wind isn't blowing enough"); *see also* Tsao & Martin, *supra* note 36 (discussing why utilities have an incentive to push for investment in new plants to increase profits).

174. Penn, *supra* note 169. In 2014, the California Court of Appeals agreed with consumer advocates, overturning the PUC's decision to approve a new $1.15-billion power plant because there was no evidence the plant was needed. *Id.*

175. Penn, *supra* note 169.

176. Matthew Megura & Ryan Gunderson, *Better Poison is the Cure? Critically Examining Fossil Fuel Companies, Climate Change Framing, and Corporate Sustainability Reports*, 85 ENERGY RSCH. & SOC. SCI. 1, 2 (2022) (describing the argument that "the fossil fuel industry provides a necessary service that improves the quality of life of many" as common in corporate sustainability reports); *see also, e.g.*, *Blackouts Hit Chinese Cities and Factories as China Reduces Coal Consumption*, WALL ST. J. (Sept. 29, 2021, 9:01 AM), https://perma.cc/N7R8-YP9W (blaming power outages in China on "a push to meet strict emissions targets"); The Ed. Bd., *A Green Energy Texas Whitewash*, WALL ST. J. (Sept. 24, 2021, 6:49 PM), https://perma.cc/RL8T-GBW6 (arguing that "[h]efty subsidies" for renewables "make[] the grid less reliable").

177. *See* Megura & Gunderson, *supra* note 176, at 5.

of climate change with the possibility of large-scale power outages.[178] In short, it suggests that continued dependence on carbon-based energy cannot be avoided without major adverse consequences to the nation and its economy.[179]

In addition to taking undeserved blame for grid reliability problems, renewables are sometimes also scapegoated for increases in retail electricity rates.[180] Some renewable energy critics have tried to argue that renewables must cost more than conventional generators because they are intermittent and thus likely require increased back-up capacity.[181] However, data from the Texas grid suggests that integrating conventional plants can be more expensive than integrating wind projects because changes in wind output tend to be gradual and predictable, whereas failures by traditional generators occur instantly, without warning, and at a larger scale. Others have made a wide array of arguments aimed at portraying renewables as having harmful economic effects.[182] For example, proponents of the War on Coal narrative framed renewable energy sources as costing jobs and damaging important sectors of the economy.[183] Climate policy campaigns by conservative think tanks and industry groups have similarly depicted wind and solar energy as increasing electricity bills and unemployment.[184] In truth, various analyses suggest that the energy transition will likely ultimately result in more energy sector jobs and that most of this increase will come from jobs related to renewable energy.[185] Indeed, there is substantial and increasing evidence that the shift to renewable energy sources tends to lead to decreases rather than increases in retail electricity prices.[186]

C. Why Disinformation About and Scapegoating of Renewables Matters

Scapegoating renewables as the cause of power outages or rising electricity costs can have sizable consequences, justifying pro-fossil fuel or anti-renewables policies and focusing legislative solutions to grid failures solely on generating

178. *Id.* at 8.

179. *Id.*

180. *Id.* at 5.

181. *Id.* (quoting the *Oklahoman* editorial board).

182. *See* Maarten Wolsink, *Framing in Renewable Energy Policies: A Glossary*, 13 ENERGIES 1, 14 (2020).

183. *See* Oksan Bayulgen & Salil Benegal, *Green Priorities: How Economic Frames Affect Perceptions of Renewable Energy in the United States*, 47 ENERGY RSCH. & SOC. SCI. 28, 29 (2019).

184. *Id.*

185. *See, e.g.*, Sandeep Pai et al., *Meeting Well-Below 2˚C Target Would Increase Energy Sector Jobs Globally*, 4 ONE EARTH 1026, 1026 (2021) (predicting that an accelerated transition away from fossil fuels would result in 26 million energy sector jobs under a WB2C scenario globally by 2050, compared to 18 million in 2021); Aman Malik et al., *Climate Policy Accelerates Structural Changes in Energy Employment*, 159 ENERGY POL'Y 1,1 (2021) (finding that "[t]he 1.5°C-compatible scenario results in a net increase in jobs through gains in solar and wind jobs in construction, installation, and manufacturing, despite significant losses in coal fuel supply"); Max Wei et al., *Putting Renewables and Energy Efficiency to Work: How Many Jobs Can the Clean Energy Industry Generate in the US?*, 38 ENERGY POL'Y 919, 919 (2010) (using an analytical model to find that "all non-fossil fuel technologies . . . create more jobs per unit energy than coal and natural gas").

186. *See, e.g.*, *Majority of New Renewables Undercut Cheapest Fossil Fuel on Cost*, INT'L RENEWABLE ENERGY AGENCY (June 22, 2021), https://perma.cc/9PMS-SVYL ("[S]olar PV and onshore wind continuously undercut even the cheapest new coal option without any financial support.").

facilities rather than on grid infrastructure. Through these and other effects, the scapegoating of renewables can slow the energy transition, support new investments in coal and natural gas infrastructure, and undermine environmental justice goals.

1. The Potential Impacts of Scapegoating on Energy Policy

When scapegoating narratives permeate the political discourse around a particular industry, they can shape the public's understanding of issues in ways that impact policymaking.[187] These effects are often problematic because scapegoating attributes blame to something that is not the primary cause of a specific problem, leading to legal interventions that may ultimately worsen the actual problem rather than addressing it. In the context of energy policy, blaming wind and solar for grid failures distracts from efforts to improve transmission and distribution infrastructure, justifies policies that favor traditional resources such as coal and natural gas, and weakens support for legislation that would facilitate the clean energy transition.

a. Federal Policy Effects

In several notable instances, federal legislators have justified their anti-renewables positions based on the narrative that renewable energy is unreliable. For example, in late 2021, West Virginia Senator Joe Manchin signaled he would not support the Biden Administration's Build Back Better bill—effectively killing the legislation—because the bill promoted renewable energy.[188] In a written statement about his views, Manchin stated that such renewables-friendly policies would "risk the reliability of our electric grid."[189] He specifically asserted that transitioning to renewable energy "at a rate that is faster than technology or the markets allow will have catastrophic consequences for the American people like we have seen in both Texas and California in the last two years."[190] Ironically, Manchin's statement ignored the fact that major improvements to the U.S. electricity grid are needed to prevent further power outages and that Build Back Better included billions of dollars to implement those improvements.[191] The failure of the Build Back Better legislation will only hasten the catastrophic consequences Manchin purported to avert through his position on the bill.

Disinformation about renewable energy has also contributed to calls for anti-renewables regulatory policies, including a push by Trump administration members to subsidize coal and nuclear plants. In April 2020, then-Secretary of

187. *See* Katherine Mims Crocker, *A Scapegoat Theory of Bivens*, 96 NOTRE DAME L. REV. 1943, 1946 (2021).

188. Arnie Seipel & Joe Hernandez, *Joe Manchin Says He Won't Support President Biden's Build Back Better Plan*, NPR, https://perma.cc/TA93-TMES (Dec. 19, 2021, 12:53 PM).

189. *Manchin Statement on Build Back Better Act*, JOE MANCHIN (Dec. 19, 2021), https://perma.cc/GSX4-997Q.

190. Seipel & Hernandez, *supra* note 188. Earlier in 2021, Manchin successfully removed a key provision in Build Back Better that would have sped up the shift to renewable energy. *Id.* Jennifer Ludden, *Manchin Says Build Back Better's Climate Measures Are Risky. That's Not True.*, NPR (Dec. 19, 2021, 4:05 PM), https://perma.cc/82FB-FRPP.

191. Molly Christian et al., *Biden's $2 Trillion Infrastructure Plan Aims to 'Reenergize' US Power Grid*, S&P GLOB. MKT. INTEL. (Mar. 31, 2021), https://perma.cc/4B7M-2GBJ.

Energy Rick Perry directed his staff to assess the reliability of the grid system,[192] asserting that pro-renewables regulations promulgated by past administrations had caused the "erosion" of nuclear and coal-powered plants, which Perry described as "critical baseload resources," and arguing that such erosion "threaten[ed] to undercut the performance of the grid."[193] Based on the staff's final report, which did not identify past regulations or renewables as causing the declines in coal and nuclear power, the DOE released a list of policy recommendations.[194] Nonetheless, Perry submitted a proposed rule based on the report to the FERC calling for subsidies for coal and nuclear plants.[195] Colloquially termed the "Perry Proposal," the rule sought to specially compensate generators—all conventional electric generating facilities—for maintaining a 90-day fuel supply onsite, thereby providing "reliability" attributes.[196] However, the proposal's approach of equating onsite fuel supply with reliability was severely flawed. For example, during the Texas winter storm, onsite stores of gas and coal were unable to ensure the availability of electricity.[197] In sum, the Perry Proposal sought to leverage the narrative that renewables are unreliable to justify subsidies for the struggling coal industry. Fortunately, in this instance FERC unanimously rejected the proposal, with Commissioner Cheryl LaFleur finding that its approach failed to distinguish between services required for grid reliability and services that may be "highly damaging to the ability of the market to meet customer needs."[198] Commissioner Richard Glick similarly noted that the proposal had "little, if anything, to do with resilience, and was instead aimed at subsidizing certain uncompetitive electric generation technologies."[199]

b. State Policy Effects

The scapegoating of renewables has similarly impacted state energy legislation in recent years. Despite acknowledging that renewables did not actually cause the 2021 blackouts later that same year, Governor Abbott then recommended

192. Press Release, Rick Perry, The Sec. of Energy, Dep't of Energy (Aug. 27, 2017) [hereinafter Perry Letter]; Jacques Leslie, *The Energy Secretary Is Wrong: The Grid Is Ready for Renewables*, YALE 360 (July 5, 2017), https://perma.cc/R2NN-ZJPA (explaining that the Trump administration had already proposed several funding cuts to DOE research, including a 70% reduction in renewables research).

193. Perry Letter, *supra* note 192. Naturally, many predicted that the DOE study would find that renewables were undermining grid reliability. *See, e.g.*, Leslie, *supra* note 192. Travis Fisher, who had previously called clean energy policies "the single greatest emerging threat" to the U.S. electricity system, led the study, along with Alison Silverstein, a former senior advisor to FERC chairman Pat Wood III. *Id*.

194. Jeff McMahon, *Author Describes Writing Controversial DOE Grid Reliability Report*, FORBES (Nov. 12, 2017, 12:01 AM), https://perma.cc/PX6P-RB4C. In later interviews, Silverstein alleged that she was pressured to find that regulation was a significant contributing factor to the closure of coal and nuclear plants, which the data did not indicate. *Id.* Rather, the closures were due to declining natural gas prices and flattening electricity demand—in other words, the competitive market was doing "exactly what it was supposed to do": shutting down inefficient and unnecessary generators. *Id.*

195. *Id.* (quoting Silverstein, who described the proposed rule as diverging so sharply from her report that it was "as though they had never read it").

196. Seth Jaffe, *United States: FERC Rejects Grid Reliability and Resilience Pricing—for Now!*, MONDAQ BUS. BRIEFING (Jan. 10, 2018), https://perma.cc/W5T9-4J7Y.

197. Kara Norton, *Why Texas Was Not Prepared for Winter Storm Uri*, PBS: NOVA (Mar. 25, 2021), https://perma.cc/XA5J-8KEW.

198. Jaffe, *supra* note 196.

199. *Id.*

four directives to improve grid reliability directly stemming from that false narrative.[200] Moreover, as of early 2022, both Texas bills enacted to prevent future blackouts, Senate Bills 2 and 3, failed to address major issues undermining grid reliability. Senate Bill 2 reduced the number of seats on ERCOT's board of directors from 16 to 11 and gave the state's top politicians greater influence over the board.[201] Senate Bill 3 requires power plants and transmission lines to "weatherize" but largely exempted natural gas facilities from those requirements.[202] Considering the major role that natural gas infrastructure failures played in the 2021 blackouts, it would seem difficult to justify this resource-specific exemption. Texas legislators also initially attempted to capitalize on the renewables-as-scapegoat narrative by shifting the financial burden of purchasing reserve power to wind and solar producers, arguing that intermittent resources cause "unexpected interruptions" to the grid.[203] Although this provision was omitted from the final version of the bill,[204] it exemplifies efforts to use the framing of wind and solar as unreliable to justify anti-renewables policies.

Other states have recently adopted similar legislation that appears to rely on the narrative that the integration of renewables into electricity systems creates a greater risk of grid failures. In 2021, North Dakota's state legislature established a state policy to preserve "dispatchable thermal electric generation" to support grid reliability,[205] thus promoting fossil fuel-powered generators as necessary to a reliable grid. Like Texas, North Dakota is a state with a significant amount of wind power

200. *See* LETTER FROM GOVERNOR GREG ABBOTT, TO PUBLIC UTILITY COMMISSION OF TEXAS 1–2 (2021). For instance, Abbott directed the PUCT to streamline incentives encouraging the addition of new natural gas, coal, and nuclear plants and charge renewable resources based on their intermittency. *Id.* Given that models indicated that a Texas grid supplied predominantly by wind, solar, and energy storage would have performed better than the existing gas-led system during a massive storm, Abbott's focus on thermal energy sources as the solution seems difficult to justify. *See* Esposito & Gimon, *supra* note 109.

201. Isabella Zou, *Texas Power Generation Companies Will Have to Better Prepare for Extreme Weather Under Bills Gov. Greg Abbott Signed into Law*, TEX. TRIB., https://perma.cc/YTL9-F4JL (June 9, 2021). It is unclear how the changes to ERCOT's governance are related to reliability—experts criticized the bill as simply replacing experts with political appointees. *Id.*

202. *Id.*

203. Shawn Mulcahy & Erin Douglas, *Sweeping Legislation to Overhaul State's Electricity Market in Response to Winter Storm Heads to Texas House After Senate's Unanimous Approval*, TEX. TRIB., https://perma.cc/QYV4-88BZ (Mar. 29, 2021, 7:00 PM).

204. *Id.*

205. S. Con. Res. 4012, 67th Leg., Reg. Sess. (N.D. 2021). The state legislature also adopted a resolution urging the federal government to refrain from enacting regulations that threaten grid reliability and to increase support for next generation carbon-based energy. H. Con. Res. 3025, 67th Leg., Reg. Sess. (N.D. 2021). During the Texas blackout in February 2021, North Dakota Governor Doug Burgum tweeted that the situation "underscores the need for an all-of-the-above energy approach with reliable coal power as a critical piece of the baseload mix." Doug Burgum (@dougburgum), TWITTER (Feb. 15, 2021, 2:27 PM), https://perma.cc/UH2P-ULY7. This sentiment was echoed by Senators John Hoeven and Cramer of North Dakota. *See e.g.,* John Hoeven (@SenJohnHoeven), TWITTER (Feb. 16, 2021, 2:42 PM), https://perma.cc/85YR-KA2G (describing the 2021 Texas blackouts as "underscore[ing] the importance of preserving coal and other baseload power sources to ensure we have reliable electricity 24/7"); Kevin Cramer (@SenKevinCramer), TWITTER (Feb. 15, 2021, 2:50 PM), https://perma.cc/S3TW-4DMH ("Texas is a real-time example of why we need reliable sources of energy like coal, oil, nuclear, and natural gas.").

but also has a deep connection to fossil fuels and this juxtaposition has led to strong clashes of interests related to the energy transition.[206]

In 2021, Wyoming likewise enacted legislation—based in the same general narrative—that requires the state's Public Service Commission to consider "reliability" in plans to retire major power plants,[207] and creating a presumption against retirement that requires a showing that the closure will result in both consumer cost-savings and a sufficient amount of "reliable and dispatchable" electricity.[208] When a utility seeks to close a coal or natural gas plant but fails to rebut this presumption, the utility cannot recover any costs of building new generation facilities to replace the retired plant.[209]

The 2021 Arkansas Affordable Energy Act takes a somewhat similar approach, requiring the state's public service commissions to evaluate whether life extensions of existing power plants are in the "public interest" and denoting that it is in the "public interest to promote and encourage the use of existing electric generation units to the maximum extent practicable."[210] Commentators have argued that this public interest finding creates a presumption against closing existing coal-fired generators,[211] which Arkansas Senator John Boozman has repeatedly asserted would make electricity unreliable and unaffordable.[212] Similarly, West Virginia recently amended its state code to encourage public utilities to "operate their coal-fired plants at a maximum reasonable output and for the duration of the life of the plants."[213]

In other states, legislation has yet to be enacted but similar efforts to enact pro-fossil fuel, anti-renewable legislation are brewing. In early 2022, for example, some Virginia politicians targeted that state's renewable energy targets. Newly elected Governor Glenn Youngkin said during his campaign that such targets

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206. *See, e.g.*, Dan Charles, *North Dakota Officials Block Wind Power in Effort to Save Coal*, NPR (Feb. 25, 2021, 5:54 PM), https://perma.cc/BW28-E9KG (describing two municipalities' efforts in 2021 to save coal jobs by enacting regulations that restrict new wind projects).

207. WYO. STAT. ANN. § 37-2-122 (West 2021); *see* Mark Gordon (@GovernorGordon), TWITTER (Feb. 16, 2021, 10:27 AM), https://perma.cc/62WU-CZWR (showing that in February 2021, Wyoming Governor Mark Gordon tweeted that the crisis in Texas had "once again proven the importance of an-all-of-the-above energy approach" and that coal plants "provide reliable, dispatchable energy").

208. WYO. STAT. ANN. § 37-2-134 (West 2021).

209. *Id.*; WYO. STAT. ANN. § 37-3-118 (West 2021).

210. ARK. CODE ANN. § 23-18-1102 (West 2021).

211. *See* Ewelina Czapla, *Examining Policies that Preserve Coal in the Generation Mix*, AM. ACTION F. (June 10, 2021), https://perma.cc/2VDW-96JE.

212. *See, e.g.*, John Boozman (@JohnBoozman), TWITTER (Aug. 12, 2021, 8:10 AM), https://perma.cc/LXY2-8L2W (describing a legislative amendment that limit the retirement of fossil fuel-fired plants as ensuring "reliable, affordable energy"); John Boozman (@JohnBoozman), TWITTER (Aug. 10, 2021, 5:40 PM), https://perma.cc/GTM9-WGXK (describing legislation promoting a faster transition away from fossil fuel-burning plants as "jeopardize[ing] the supply of reliable, affordable energy").

213. H. Res. 18, 85th Legis., Reg. Sess. (W. Va. 2021); S. Res. 28, 85th Legis., Reg. Sess. (W. Va. 2021); W. Va. Code § 24-1-1d (2021). Additionally, the state legislature adopted a resolution stating that "[c]oal resources are necessary to maintain a baseload of predictable and sustainable sources of power to avoid disasters like that recently experienced in Texas," and "[w]hen emergency weather situations arise, . . . coal is the only source of reliable power, and other forms of energy production, such as wind, solar or hydropower, are simply not adequate to meet the needs of West Virginians." H. Res. 18, 85th Legis., Reg. Sess. (W. Va. 2021); S. Res. 28, 85th Legis., Reg. Sess. (W. Va. 2021).

threaten the reliability of electricity in the state, asserting that "we can use wind and solar, but we need to preserve our clean natural gas [to] . . . have a reliable energy grid."[214] In response to a gubernatorial candidate's plan to accelerate renewable energy projects in the state, Youngkin warned about "blackouts and brownouts and an unreliable energy grid."[215]

c. Implications of Policies Stemming from Disinformation

Policies built upon the scapegoating of renewables for power outages tend to weaken competitive markets, promote questionable investments in carbon-based energy infrastructure, and neglect the challenges that climate change poses to the nation's aging grid. Investing large amounts of capital into new fossil fuel-generation infrastructure not only further entrenches reliance on such energy resources into the nation's electricity system, it may also contribute to higher electricity prices in the long run.[216] In 2021, about a third of natural gas generators in the United States were losing money and one analysis estimated that utilities could face nearly $25 billion in stranded costs for new plants.[217] If such costs are passed on through electricity rates, consumers will face higher electricity bills.[218]

Perhaps most importantly, policies that assume renewables are the primary cause of increasing blackouts fail to address the actual causes of those blackouts, increasing the likelihood that the trend of more-frequent grid failures will continue in the future.[219] Disinformation about renewables delegitimizes expertise and objective data, thereby discouraging a greater policy focus on grid infrastructure improvements that are needed to help mitigate the nation's growing grid reliability problems.[220] Focusing potential solutions solely on the electricity generation mix—such as through proposed subsidies to coal- and gas-fired power plants for having stores of fuel on site—ignores potential demand-side grid management strategies and the growing weather-related pressures on transmission and distribution infrastructure that are contributing to increasing power outages.

For example, many experts fear that Texas's responsive legislation will not prevent future grid failures because the state did not include many of the expert-recommended solutions such as interconnecting with interstate grids or focusing on demand response measures.[221] Research on scapegoating suggests that this is a common result of blame-shifting: scapegoaters often manage to perpetuate the status

214. Mason Adams, *Virginia GOP Targets Clean Energy Law, but Options for Rollback are Limited*, ENERGY NEWS NETWORK (Nov. 9, 2021), https://perma.cc/PEM4-D8MR.

215. *Id.*

216. *See* Esposito & Gimon, *supra* note 109.

217. CARBON TRACKER INITIATIVE, PUT GAS ON STANDBY (2021).

218. *See* Gordon L. Weil, *Inflation Pushed by Electric Rates, Rigged Against Customers*, ME. MONITOR (Jan. 16, 2022), https://perma.cc/5LHW-HDTH.

219. *See* ALAN H. SANSTAD ET AL., DEP'T ENERGY, CASE STUDIES OF THE ECONOMIC IMPACTS OF POWER INTERRUPTIONS AND DAMAGE TO ELECTRICITY SYSTEM INFRASTRUCTURE FROM EXTREME EVENTS xi (2020) (noting that many utilities do not invest in significant weatherization and infrastructure improvements unless required to do so by law).

220. *See* Tawanna D. Lee, *Combating Fake News with "Reasonable Standards,"* 43 HASTINGS COMM. & ENT. L.J. 81, 84–85 (2021).

221. *See* Andrea Zelinski, *Did Lawmakers Fix Texas's Electric Grid?*, TEX. MONTHLY (June 15, 2021), https://perma.cc/S3AH-ACXB.

quo by painting the scapegoat's punishment as the solution to the problem.[222] Applying this concept here, the scapegoating of renewables for power outages may lessen public support for actual grid solutions.

2. Slowing the Energy Transition

The continued scapegoating of renewables also threatens to delay climate action, making it a troubling front in the fossil fuel industry's broader resistance to the clean energy transition. Framing renewables as unreliable decreases public support for wind and solar and increases support for measures to prop up the coal, gas, and nuclear industries.[223] For example, a recent study using survey data from western Colorado found that closures of coal-fired plants increased worries about power outages in residents, consistent with "public discourse that emphasizes the role of coal as a "baseload" fuel that provides stable, affordable energy—often contrasted with ostensibly expensive and unreliable renewables."[224]

Fossil fuel industry stakeholders have long used disinformation to slow the advancement of climate-friendly energy policies. Notably, a coordinated effort by ExxonMobil and other oil companies to sow doubt about climate science resulted in substantial opposition to legislative attempts to mitigate climate change that continues to this day. A series of investigative reports published in 2015 found that Exxon Mobil adopted disinformation techniques beginning in the 1980's to persuade the public and lawmakers that the risks of fossil fuel combustion were neither certain nor grave.[225] Exxon initiated these efforts in response to the growing scientific consensus on how carbon dioxide influences the climate, to defend against stricter regulation.[226]

Exxon's false narratives about climate science have had a potent and lasting effect on U.S. climate change policy. Nearly forty years later, the Trump Administration installed multiple climate denialists in important federal government positions related to energy policy and proceeded to reverse, revoke, or otherwise weaken more than 100 existing environmental regulations.[227] Many of these changes were driven by key executive officials with strong ties to the fossil fuel industries, including Scott Pruitt (an outspoken climate change denier),[228] Rick Perry (who

222. *See* Zachary K. Rothschild et al., *A Dual-Motive Model of Scapegoating: Displacing Blame to Reduce Guilt or Increase Control*, 102 J. PERSONALITY & SOC. PSYCH. 1148, 1161 (2012).

223. *See* Shelly Annette Biesel, *When Disinformation Makes Sense: Contextualizing the War on Coal in Appalachian Kentucky*, 8 ECON. ANTHROPOLOGY 7, 12 (2021).

224. Adam Mayer et al., *Concerned About Coal: Security, Dependence, and Vulnerability Among Coal Dependent Communities in Western Colorado*, 70 ENERGY RSCH. & SOC. SCI. 1, 6 (2020).

225. James Weinstein, *Climate Change Disinformation, Citizen Competence, and the First Amendment*, 89 U. COLO. L. REV. 341, 342–3 (2018).

226. *Id*; *see also* Stephan Lewandowsky, *Climate Change Disinformation and How to Combat It*, 42 ANN. REV. PUB. HEALTH 1, 6 (2021).

227. Nadja Popovich et al., *The Trump Administration Rolled Back More than 100 Environmental Rules. Here's the Full List*., N.Y. TIMES, https://www.nytimes.com/interactive/2020/climate/trump-environment-rollbacks-list.html (Jan. 20, 2021).

228. *See* Tom DiChristopher, *Scott Pruitt's Latest Climate Change Denial Sparks Backlash from Scientists, Environmentalists*, CNBC, https://perma.cc/VNK3-VBF2 (Mar. 10, 2017, 8:39 AM).

contended that carbon emissions are not a main driver of climate change),[229] Ryan Zinke (who argued against climate science on numerous occasions),[230] and Jeff Sessions (who repeatedly asserted his belief that carbon dioxide is not a pollutant).[231]

In the face of federal inaction, many state governments have expanded their efforts to take climate action. Unfortunately, despite significant advances in recent years, state-level climate policy is highly variable and insufficiently stringent. Such a fragmented approach not only delays the energy transition, but has allowed incumbent energy companies to leverage the climate denial narrative to stall state-level energy policy, lobbying for less regulation at the state and local levels.[232] Moreover, the lack of federal climate policy has generated a "race to the bottom" as states compete for companies to develop their energy resources by weakening state-level environmental policies.[233] In sum, disinformation about climate science has already had significant adverse effects on energy policy, and disinformation about renewable energy threatens to perpetuate this trend.

3. Threats to Environmental Justice

Disinformation about renewables also implicates environmental justice by increasing the likelihood of extreme weather-related disasters and resulting power outages and by perpetuating energy strategies that emit large amounts of carbon and other harmful toxins.[234] Both power interruptions and toxic emissions from power plants disproportionately impact Black, Indigenous, and People of Color (BIPOC) and low-income communities.[235]

The disproportionate impacts of the Texas and California blackouts on certain groups are illustrative of how the scapegoating of renewables can undermine environmental justice goals. During the 2021 Texas storm, areas with high shares of minority populations were over four times more likely to lose power than predominantly white areas.[236] Moreover, BIPOC communities were often the first to

229. *See* Steven Mufson, *Rick Perry Just Denied that Humans Are the Main Cause of Climate Change*, WASH. POST (June 19, 2017, 2:40 PM), https://perma.cc/V3KM-YTTS.

230. *See* Joel Clement, *Monumental Disaster at the Department of the Interior*, SCI. AM. (Dec. 4, 2018), https://perma.cc/4XGK-C2DT.

231. *See* Mazin Sidahmed, *Climate Change Denial in the Trump Cabinet: Where Do His Nominees Stand?*, GUARDIAN (Dec. 15, 2016), https://www.theguardian.com/environment/2016/dec/15/trump-cabinet-climate-change-deniers.

232. Joshua A. Basseches et al., *Climate Policy Conflict in the U.S. States: A Critical Review and Way Forward*, 170 CLIMATIC CHANGE 1, 6 (2022).

233. *Id.*

234. Fossil fuels emit airborne pollutants during each phase of production. *U.S. Energy Facts Explained*, EIA: ENERGY EXPLAINED, https://perma.cc/57WV-YD73 (June 10, 2022); *see also Learn About Environmental Justice*, EPA, https://perma.cc/2KMF-7ZTM (Sept. 6, 2022) (defining environmental justice as "the fair treatment . . . of all people regardless of race, color, national origin, or income in the development, implementation, and enforcement of environmental laws, regulations, and policies").

235. *See* Aneesh Patnaik et al., *Racial Disparities and Climate Change*, PRINCETON STUDENT CLIMATE INITIATIVE (Aug. 15, 2020), https://perma.cc/MY37-HUM9.

236. J.P. Carvallo et al., *Frozen Out in Texas: Blackouts and Inequity*, ROCKEFELLER FOUND. (Apr. 14, 2021), https://perma.cc/82PZ-98WM.

lose power and among the last to be reconnected.[237] The harm was multiplied by disparities such as lack of resources to leave or recover after the disruption.[238] Similarly, in California, the 2020 Public Safety Power Shutoffs disproportionately impacted low-income communities.[239] These communities tend to have less reserve food and limited financial capability to purchase backup power generators, exacerbating the problems resulting from extreme temperatures.[240]

Because disinformation about renewables slows the energy transition, it prolongs the use of traditional generators that emit harmful pollutants, disproportionately harming BIPOC and low-income individuals. Currently, air pollution kills over 60,000 Americans each year; coal-fired power plants alone are responsible for approximately 1,530 preventable deaths annually.[241] Toxic emissions from power plants disproportionately impact minority, low-income, and indigenous communities, many of whom experience higher-than-average rates of pollution-related health issues because power plants are frequently located in their locales.[242] In fact, 78% of African Americans reside within 30 miles of a coal-fired plant, and thus face substantial harm from toxins emitted by coal burning, many of which are suspected carcinogens.[243] Energy policies that rely on disinformation disproportionately affect BIPOC and low-income communities living in the vicinity of power plants by slowing the transition away from traditional resources, which emit significantly more pollution than wind and solar.[244]

Given these environmental justice implications, the NAACP expressly advocates for a transition away from fossil fuels and the ending of energy shut offs. Disinformation about renewables and policies based on that disinformation create significant health and environmental costs that are disproportionately borne by BIPOC and low-income communities. These impacts illustrate the importance of effective energy policy and the risks associated with further delaying the energy transition, and should not be overlooked when discussing potential mitigation strategies.

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237. *See Frozen Out: Minorities Suffered Four Times More Power Outages in Texas Blackouts*, U. MASS. AMHERST (Apr. 14, 2021), https://perma.cc/QBC5-K4EU [hereinafter *Frozen Out*]; *see also* James Dobbins & Hiroko Tabuchi, *Texas Blackouts Hit Minority Neighborhoods Especially Hard*, N.Y. TIMES, https://www.nytimes.com/2021/02/16/climate/texas-blackout-storm-minorities.html (Feb. 18, 2021).

238. *See* N'dea Yancey-Bragg & Rick Jervis, *Texas' winter storm could make life worse for Black and Latino families hit hard by power outages*, USA TODAY, https://perma.cc/V6AB-GPNC (Feb. 20, 2021, 1:21 PM).

239. Jackie Botts, *Low-income Families Still Reeling from Planned Blackouts*, CALIFORNIAN (Nov. 25, 2019, 11:29 AM), https://www.thecalifornian.com (search for "low-income families still reeling").

240. *See Frozen Out*, *supra* note 237.

241. NAACP, FOSSIL FUELED FOOLERY 30 (2d. ed. 2021).

242. *See* TIM DONAGHY & CHARLIE JIANG, FOSSIL FUEL RACISM: HOW PHASING OUT OIL, GAS, AND COAL CAN PROTECT COMMUNITIES (Charlie Jiang ed., 2021); *Power Plants and Neighboring Communities*, EPA, https://perma.cc/MM2X-5W2V (May 12, 2022). About 40% of BIPOC and low-income communities live within three miles of a generator. NAACP, *supra* note 241, at 30.

243. Audrey Haynes, *Coal-Fired Power Plants Disproportionally Impact Communities of Color, says NAACP*, EARTH ISLAND J. (Nov. 15, 2012), https://perma.cc/ZX7V-MTUR. Toxic emissions from coal-fired power plants cause $62 billion total damages annually. NAACP, *supra* note 241, at 30.

244. *See* NAACP, *supra* note 241, at 12–13 (noting that BIPOC and low-income communities are disproportionately impacted by climate policies based on disinformation).

III. STRATEGIES FOR COUNTERING DISINFORMATION ABOUT RENEWABLES

Given the current and future effects of disinformation about renewable energy, mitigation strategies are urgently needed to help combat this problem. The scapegoating of renewables for grid failures occurs within the context of broader scapegoating narratives targeting renewable energy and climate change, as well as the growing problem of disinformation in general. In recent years, academic and policy discussions about disinformation have become increasingly frequent and urgent.[245] However, the causes and effects of false narratives spread by digital media are still relatively misunderstood and viable solutions remain difficult to find. However, a variety of potential mitigation strategies may be possible, including policies focused on targeting the spreading of disinformation by government officials, efforts to limit the amplification of false claims on social media, or even executive branch actions aimed at promoting greater transparency and accuracy in the sharing of energy-related information.

A. The Challenges of Regulating Disinformation Spread by Government Officials

Constitutional protections can make it difficult to regulate the spread of disinformation by government officials in the United States. As the Texas and California examples in Part II illustrated, narratives scapegoating renewables for power outages are often propagated by government actors.[246] Disinformation spread by government actors is especially problematic because it often carries the "imprimatur of authority," increasing the likelihood that the media and public will believe it. The effects of the imprimatur of authority are compounded when the disinformation subject is complex—such as the factors leading to grid failures—or when the public does not have easy access to the information needed to assess its claims.

Unfortunately, crafting a constitutional prohibition on public officials' intentional spreading of disinformation or holding such officials to a higher standard of truthfulness in their everyday statements would be a very challenging task. The First Amendment to the U.S. Constitution provides strong protections for speech.[247] Government regulations of speech, particularly political speech, generally cannot survive constitutional muster unless they serve a "compelling interest" and are narrowly tailored.[248] The U.S. Supreme Court has declined to allow most

245. *See* Deen Freelon & Chris Wells, *Disinformation as Political Communication*, 37 POL. COMMC'N 145, 145 (2020).

246. *See supra* notes 107–26 and accompanying text (Texas); *supra* notes 149–60 and accompanying text (California).

247. *See* R.A.V. v. City of St. Paul, 505 U.S. 377, 382 (1992) ("The First Amendment generally prevents government from proscribing speech, or even expressive conduct, because of disapproval of the ideas expressed." (citing Cantwell v. Connecticut, 310 U.S. 296, 309–11 (1940) and Texas v. Johnson, 491 U.S. 397, 406 (1989)).

248. *See* Abby K. Wood & Ann M. Ravel, *Fool Me Once: Regulating "Fake News" and Other Online Advertising*, 91 S. CAL. L. REV. 1223, 1238 (2018) (discussing instances where the Court has upheld restrictions on political speech in close physical proximity to polling and voting locations); Bluman v. Fed. Election Comm'n, 800 F. Supp. 2d 281, 288 (D.D.C. 2011), *aff'd*, 565 U.S. 1104 (2012) (noting that the government has a compelling interest in limiting direct campaign contributions by foreign nationals).

government regulation of disinformation, instead stating that the general solution to false speech is "speech that is true."[249]

Legislators have proposed regulations on disinformation in political campaigns in recent years, although such efforts have yet to yield much success. One example of such an effort is the Honest Ads Act, introduced in 2017 by Senators Amy Klobuchar, Mark Warner, and the late John McCain.[250] If enacted, the Act would have extended existing campaign finance regulations for broadcast advertising to online platforms and implemented record-keeping and transparency requirements.[251] However, even if it had become law, it is unclear how impactful such a statute would be. False information about renewable energy during the grid failures in Texas and California was almost entirely spread outside the context of campaign advertisements, via news interviews, public statements, and social media posts.[252] Thus, regulating the spread of false information by public officials through legislative prohibitions is largely infeasible and unlikely to solve the problem of disinformation about renewables.

B. The Potential Roles of Social Media Companies

Although substantially protected from liability for disinformation spread by their users, social media companies are increasingly called upon to address their amplification of false information—partially through enhanced fact-checking—and might be another potential tool for combatting the scapegoating of renewables.[253] Many public officials communicate through social media sites, using these platforms to spread information about policy issues in ways that "may circumvent traditional media gatekeepers."[254] In the aftermath of the grid failures in Texas and California, a significant amount of disinformation was spread over Twitter and Facebook.[255] Unfortunately, current federal legislation makes it difficult to require social media companies to mitigate the spread of disinformation, and even when the law does impose requirements, the impact of such efforts is unclear.

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249. United States v. Alvarez, 567 U.S. 709, 727 (2012).

250. News Release, Amy Klobuchar, *Klobuchar, Warner, McCain Introduce Legislation to Improve National Security and Protect Integrity of U.S. Elections by Bringing Transparency and Accountability to Online Political Ads* (Oct. 19, 2017), https://perma.cc/9H3G-K5KS.

251. The bill stalled but was reintroduced with bipartisan support in 2019. Karl Evers-Hillstrom, *Lawmakers Seek to Curb Foreign Influence by Closing Online Political Ad Loopholes*, OPEN SECRETS (May 8, 2019, 2:31 PM), https://perma.cc/P5UJ-3L9G. The Act was then included in the Freedom to Vote: John R. Lewis Act, which was voted down by the Senate in January of 2022. Grace Panetta, *What's in the Major Voting Rights Bill that Senate Republicans Voted to Block*, BUS. INSIDER (Jan. 20, 2022, 10:12 AM), https://perma.cc/X5Q5-AA7J.

252. Similarly, imposing McCain-Feingold transparency requirements, which currently apply to political ads on TV, to online advertisements seems unlikely to mitigate the problem of disinformation about renewables. *See* Wood & Ravel, *supra* note 248, at 1228.

253. *See* Spencer McKay & Chris Tenove, *Disinformation as a Threat to Deliberative Democracy*, 74 POL. RSCH. Q. 703, 705 (2021).

254. *Id.*

255. *See supra* notes 107–26 and accompanying text (Texas); *supra* notes 149–60 and accompanying text (California).

1. Communications Decency Act

The Communications Decency Act, also known as Section 230, makes it difficult to require online providers (like Facebook and Twitter) to mitigate the spread of disinformation.[256] "Section 230 provides statutory immunity to online platforms from treatment as a publisher or speaker."[257] This general liability protection means that internet media companies have little incentive to address their role in amplifying false narratives. [258] In fact, online providers have a perverse incentive to ignore the problem—disinformation often engages viewers more than credible news.[259] Consequently, some commentators have suggested amendments to Section 230 in response to the increase in disinformation spread on social media platforms over the last decade.[260] For example, because the information that internet users see is dependent on content-ranking algorithms,[261] one proposal is to remove the Section 230 liability shield from online providers whose algorithm design choices promote the spread of disinformation.[262] Unfortunately, entities interested in maintaining the energy status quo are aware of how valuable certain false narratives can be for protecting their investments and are thus likely to resist regulations inhibiting the spread of disinformation.[263]

2. Fact-Checking

Independent fact-checkers could conceivably also help to combat false claims blaming renewables for major power outages or other energy-related problems.[264] Currently, independent fact-checkers such as Politifact.com and FactCheck.org review some claims made in news stories and on social media for their accuracy, and often will provide a metric indicating to what extent information is true or false along with the reasons for that rating.[265] Fact-checking efforts have also been employed by both Facebook and Twitter.[266]

Unfortunately, fact-checking activities have heretofore been limited in their ability to meaningfully combat disinformation. An analysis of disinformation related

256. Marguerite Reardon, *Section 230: How It Shields Facebook and Why Congress Wants Changes*, CNET (Oct. 6, 2021, 5:00 AM), https://perma.cc/3CEL-PCNT.

257. Lee, *supra* note 220, at 87.

258. *Id.* at 90.

259. Andrew Hutchinson, *New Study Shows that Misinformation Sees Significantly More Engagement than Real News on Facebook*, SOC. MEDIA TODAY (May 22, 2019), https://perma.cc/ZMU7-FL7E.

260. *See, e.g.*, Lee, *supra* note 220, at 83 (suggesting an amendment to Section 230 requiring social media platforms to adopt "reasonable standards" to retain their immunity).

261. *See* Will Oremus et al., *How Facebook Shapes Your Feed*, WASH. POST: TECH., https://perma.cc/S29G-7725 (Oct. 26, 2021, 7:00 AM).

262. *See* Danielle Keats Citron & Benjamin Wittes, *The Internet Will Not Break: Denying Bad Samaritans § 230 Immunity*, 86 FORDHAM L. REV. 401, 418-19 (2017).

263. *See* Lewandowsky, *supra* note 226, at 6 (noting that think tanks spreading climate disinformation made over $900 million in combined income between 2003 and 2010).

264. *See* Lauren Courchesne et al., *Review of Social Science Research on the Impact of Countermeasures Against Influence Operations*, 2 HARV. KENNEDY SCH. MISINFORMATION REV. (2021) (describing fact-checking as a tool for countering the spread of false information).

265. Hameleers, *supra* note 102, at 282, 285.

266. David Ingram, *Facebook and Twitter Keep Fact-Checking Trump on Voting by Mail. He's Undeterred*., NBC NEWS (Sept. 29, 2020, 11:20 AM), https://perma.cc/4V9R-742P.

to the Texas 2021 blackout examined posts pushing the narrative that the outage was caused by renewables and sharing the viral image allegedly depicting helicopters in Texas spraying chemicals to de-ice turbines and found that only 0.9% of analyzed posts carried a fact-checking label.[267] This low flagging rate occurred even though the false narratives were debunked by Facebook's fact-checking partners, PolitiFact, USA Today, and the Dispatch,[268] and the wind turbine picture was fact-checked by Reuters, Check Your Fact, and Climate Feedback.[269] However, none of the ten highest-performing posts blaming renewables—some of which were explicitly referenced by fact-checkers—had fact-check labels.[270]

Even when the public is routinely exposed to fact-checking, research suggests that such services are only partially effective at protecting citizens against disinformation. For example, a poll on the effect of the disinformation about the Texas crisis on the citizenry found that 41% of Republicans interviewed believed renewable energy caused the blackout,[271] despite fact-checking by mainstream media sources that indicated otherwise.[272] Even where fact-checking corrects a false belief, that attitude created by that belief (called a "belief echo") often lingers.[273] Studies have found that exposure to negative political information continues to shape attitudes even if information is effectively discredited almost *immediately*.[274] Thus, even where fact-checking establishes that renewable energy did not cause a specific power outage, the attitude created by that narrative (i.e., that renewables are unreliable) may persist.

C. Spotlighting Ties between Campaign Donations and Renewables Scapegoating

Policies that mitigate fossil fuel industry stakeholders' influence on energy policy decisions could also help limit the effect of disinformation about renewables. In some instances, heavy reliance on interest groups for political donations may motivate some public officials to scapegoat renewable energy for grid failures. Many of the most prominent voices spreading disinformation about renewables after the Texas and California blackouts had previously received substantial donations from the oil and gas, coal, or utilities industries. After enacting Senate Bills 2 and 3 absent weatherization requirements for natural gas infrastructure, Governor Abbott received

267. TEXAS DISINFORMATION REP., *supra* note 117, at 2.

268. *Id.* at 8.

269. *Id.*

270. *Id.*

271. Danielle Deiseroth & Marcela Mulholland, *Most Voters Didn't Believe Disinformation About the Texas Power Outages—Except Conservative News Watchers*, DATA FOR PROGRESS (Mar. 5, 2021), https://perma.cc/PY5T-L53U.

272. *See* Zachary Pleat, *Texas Media Outlets Are Aggressively Debunking Right-Wing Misinformation About the Winter Storm Power Outages*, MEDIA MATTERS, https://perma.cc/5VJG-7JQ9 (Feb. 19, 2021, 1:15 PM).

273. Emily Thorson, *Belief Echoes: The Persistent Effects of Corrected Misinformation*, 33 POL. COMMC'N 460, 460 (2016).

274. *See id.*

$4.6 million in post-session donations from the energy industry.[275] Other Texas politicians also received substantial donations from the oil and gas industry immediately after the legislative session—the authors of Senate Bills 2 and 3 saw some of the largest spikes in funding.[276]

Because existing campaign finance rules allow private donors to financially support public officials before, during, and after their public tenure, this regulatory framework often incentivizes officials to prioritize their personal interests ahead of the public.[277] This influence can be particularly impactful in the context of energy policy because regulatory decisions can significantly affect the likelihood of major power outages—for example, Texas politicians' decisions to exempt most natural gas infrastructure from weatherization requirements means that the state's grid is likely to fail again in freezing temperatures.[278] If Texans were better informed about the energy industry capture that led to passage of that bill, they might more effectively hold lawmakers accountable for these decisions through the democratic process.

Policymakers should implement a variety of campaign finance policies to mitigate public officials' spread of disinformation to benefit major campaign supporters. For example, commentators have proposed the small-donor public financing of campaigns, transparency rules for dark money organizations, and stronger contribution limits to reduce the influence of certain groups as possible means of confronting this problem.[279] Some legal scholars argue that such reforms are not only possible within the currently legal framework (as established by the U.S. Supreme Court's campaign finance jurisprudence), but also supported by the general public.[280] Although not directly mitigating disinformation, contribution limits could

275. Mitchell Ferman, *Gov. Greg Abbott Tells Electricity Regulators to Encourage Building More Power Plants, Penalize Renewable Energy*, TEX. TRIB. (July 6, 2021, 5:00 PM), https://perma.cc/W2B3-NK9G; *Id.* ("Governor Abbott also called on the PUC to incentivize new thermal generation and impose fees on wind and solar generators, but these suggestions were rejected by state lawmakers.").

276. Mitchell Ferman & Carla Astudillo, *Energy Industry Showers Gov. Greg Abbott, Other Texas Politicians with Campaign Cash After They Passed Power Grid Bills*, TEX. TRIB. (Aug. 4, 2021, 5:00 AM), https://perma.cc/ZE2A-ED4V. Other prominent voices blaming wind power during the 2021 Texas storm also received large donations from the energy sector in recent years. *See, e.g.*, *Sen. Ted Cruz - Campaign Finance Summary*, OPEN SECRETS, https://perma.cc/4X79-YN8X (last visited Sept. 27, 2022); *Kevin Cramer*, OPEN SECRETS, https://perma.cc/WMZ4-BQT8 (last visited Sept. 27, 2022); *John Cornyn*, OPEN SECRETS, https://perma.cc/AUG2-CFVG (last visited Sept. 27, 2022); *Steven Daines*, OPEN SECRETS, https://perma.cc/38UQ-BKSD (last visited Sept. 27, 2022); *Dan Crenshaw*, OPEN SECRETS, https://perma.cc/5ABX-9GAK (last visited Sept. 27, 2022).

277. *See* PREET BHARARA ET AL., BRENNAN CTR. FOR JUST., PROPOSALS FOR REFORM VOLUME II: NATIONAL TASK FORCE ON RULE OF LAW & DEMOCRACY (2019).

278. *See* Mitchell Ferman, *"People Should Probably Be Worried": Texas Hasn't Done Enough to Prevent Another Winter Blackout, Experts Say*, TEX. TRIB. (Nov. 29, 2021, 4:00 AM), https://perma.cc/N5SV-QJH2. Similarly, Senator Manchin relied on disinformation about grid reliability and renewables to nix the Build Back Better legislation, which would have improved grid reliability but negatively impacted the coal industry, from which Senator Manchin has received millions. *See* Fredreka Schouten, *Joe Manchin Has Made Millions from Coal. His Ties Are Now Facing Examination as Democrats Scramble for a Climate and Economic Agreement*, CNN POL., https://perma.cc/SA75-D593 (Oct. 27, 2021, 7:00 PM).

279. *See* BHARARA ET AL., *supra* note 277.

280. *Id.*

reduce politicians' incentive to prioritize donors' interests and could contextualize public officials' false claims about renewable energy.[281]

D. Government-Sponsored Information Campaigns

Government-sponsored information campaigns about energy issues could also lessen the effectiveness of false narratives blaming renewables for major power outages. By telling the best story about the country's energy strategy, interested parties influence public policymaking through discursive narratives.[282] Currently, narratives blaming renewables for grid failures gain traction by centering on society's ability to continue fulfilling its core functions in a low emissions future. Given the potency of these narratives and the high stakes of energy policy, the government should supply additional resources to combat disinformation about renewable energy and power outages.

Information campaigns can be a successful avenue for combatting disinformation by ensuring the general public has access to the facts and tools needed to assess the truth value of information provided to them. Effective information campaigns inoculate individuals against false information first by providing an explicit warning of impending disinformation attempts before it is encountered, and then by refuting the anticipated argument in a way that shows its fallacy.[283] One study attempting to combat climate change disinformation using this method found that inoculated individuals were less likely to believe false information than those in the control group.[284] The federal government should use this method to launch an information campaign on current electricity issues, including the energy transition and the reasons for increasing power outages. This campaign could refute the argument that wind and solar are unreliable due to intermittency.

Unfortunately, information campaigns are likewise limited in their effectiveness. For example, such campaigns often focus on individual facts rather than addressing structural changes or influencing hegemonic entities responsible for the spreading of disinformation. More importantly, if unethical leadership takes control of the government, information campaigns could also be used as a weapon for spreading disinformation. Additionally, aggressive information campaigns challenging the scapegoating of renewables would likely receive substantial pushback from industry leaders and fossil fuel-funded politicians. Empowering an independent bipartisan agency such as the FERC to conduct the information campaigns over a long-term period could mitigate some of these issues.[285]

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281. *Id.*

282. *See* Giorel Curran, *Coal, Climate and Change: The Narrative Drivers of Australia's Coal Economy*, 74 ENERGY RSCH. & SOC. SCI. 1, 2 (2021).

283. Lewandowsky*, supra* note 226, at 11.

284. *Id.*

285. For example, the Perry Proposal (which would have prioritized generators who maintain a 90-day fuel supply onsite—in other words, primarily coal—by equating fuel storage with grid reliability) was ultimately halted by FERC because it lacked evidentiary support. Jeff St. John, *FERC Rejects Energy Secretary Rick Perry's Coal and Nuclear Energy Market Bailout Plan*, GREEN TECH MEDIA (Jan. 8, 2018), https://perma.cc/NN3F-9XZK.

E. A New Energy Transparency Agency?

One other conceivable approach to reducing disinformation specific to the energy sector would be to establish a new federal agency—an Energy Transparency Agency (ETA) focused on increasing oversight of the energy industry and guiding decisionmakers' responses to severe weather events, outages, and grid failures.

Because objective, scientifically-supported data are essential to effective governance, the ETA could investigate large-scale blackouts and release a timely report identifying the true causes of the incident.[286] The agency could then publish its conclusions as part of a larger government-funded information campaign regarding the energy transition. This reporting mechanism would eliminate conflicts of interest by shifting the task of determining a grid incident's cause from potentially responsible parties such as grid operators, utilities, or local governments to a neutral federal agency. To further reduce the possibility of outside influence, such report's authors would ideally be field experts heavily insulated from political influence.[287] Such reports would be particularly useful for policymaking after blackouts because effective energy governance, although inherently political, must be grounded in an accurate depiction of reality.

In addition to investigating and reporting on grid incidents, a federal ETA could also provide resources and expertise to assist state and federal electricity regulators in utility regulation planning.[288] One reason utilities continue to build unnecessary fossil fuel-fired plants is that the regulators are overburdened and lack the capacity to correct flawed plans.[289] Relatedly, cost recovery rules applicable to some utilities can perversely incentivize them to overinvest in new power plants and underinvest in some types of resiliency-increasing infrastructure such as battery storage.[290] A new agency could examine such regulatory flaws and provide recommendations about best practices to local legislators.

Because some utilities and other energy stakeholders have incentives to be less than fully transparent about their activities and motivations,[291] the ETA could

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286. The timeliness requirement would be important for halting the spread of false narratives about the event.

287. BHARARA ET AL., *supra* note 277. In the past, political interests have prevented evidence-based grid improvements. *See* Peter Fairley, *How a Plan to Save the Power System Disappeared*, ATLANTIC (Aug. 20, 2020), https://perma.cc/QG73-2XWM (describing how executive officials in the Trump Administration suppressed the results of a DOE study that found that stronger interconnections between the nation's grids would accelerate the growth of renewables while reducing consumer costs and promoting reliability).

288. For example, the ETA could provide estimates of the cost to customers of specific large-scale power outages due to extreme weather events. Currently, although most utilities use cost-benefit analyses to decide whether grid improvements are needed, utilities in only *one* state (Maryland) consider the economic costs of power interruptions when making such determinations. *See* SANSTAD ET AL, *supra* note 219, at 102–04.

289. *See* Grant Smith, *Unused and Useless: States Must Act to End Flawed Natural Gas Power Plant Buildouts*, UTIL. DIVE (Jan 11, 2022), https://perma.cc/MTQ2-8HZ7.

290. *Id.*

291. Commentators argue that misleading information in utilities' investment plans is causing unnecessary investment in new gas infrastructure, suggesting that a higher transparency standard might be justified for such plans. *Id*; *see also* Tsao & Martin, *supra* note 36 (arguing that utilities are being

potentially even apply concepts used by other agencies such as the federal Securities and Exchange Commission to increase transparency. Just as securities regulation mandates disclosure requirements and high transparency standards,[292] the ETA could create and administer regulations imposing a higher-than-normal standard of truthfulness on energy industry actors and other important stakeholders. By applying such heightened rules to the energy industry, the ETA could help to mitigate the spread of disinformation in the same way the SEC protects against dishonest financial practices.

CONCLUSION

During major market transitions, narratives are a powerful strategy for defending incumbent stakeholders' interests. Increasingly, politicians and stakeholders have utilized false narratives scapegoating renewable energy for major power outages to promote pro-fossil fuel or anti-renewable legislation, to justify investments in outdated infrastructure, and to slow the energy transition. As extreme weather intensified by climate change increasingly disrupts the nation's aging grid system and pressure on incumbent energy stakeholders grows, incentives to falsely blame renewable energy for power outages and other ill effects on the energy system are likely to grow as well. Although combatting this trend will be difficult, policymakers could potentially help to address it through a variety of mitigation strategies, including stricter campaign finance laws, information campaigns on energy issues, federal investigations after major power outages, and increased disclosure and transparency requirements for energy companies aimed at counteracting the discursive framing of renewables as unreliable. Collectively, these strategies could promote more fact-based policy decision-making about energy issues and thereby help the nation more rapidly transition to a low-carbon, sustainable energy system.

disingenuous by failing to acknowledge that fossil fuels will become less profitable as the energy sector transitions such that new natural gas plants may not be wise investments).

292. *See* 15 U.S.C. § 77q (requiring disclosure of compensation arrangements); Joe Mont, *SEC Renews Its Offensive Against 'Fake News'*, COMPLIANCE WEEK (Apr. 18, 2017, 3:15 AM), https://perma.cc/G786-CUK6 (describing SEC enforcement actions against stock promoters who spread fake articles about public companies, under the guise of independence, while being compensated by the companies).