



**MEMORANDUM**

**March 22, 2021**

**To: Subcommittee on Energy Members and Staff**

**Fr: Committee on Energy and Commerce Staff**

**Re: Legislative Hearing on “The CLEAN Future Act: Powering a Resilient and Prosperous America”**

On **Wednesday, March 24, 2021, at 2 p.m. (EDT) via Cisco Webex online video conferencing**, the Subcommittee on Energy will hold a legislative hearing entitled, “The CLEAN Future Act: Powering a Resilient and Prosperous America.” The hearing will focus on select provisions within Titles II and III of H.R. 1512, the “Climate Leadership and Environmental Action for our Nation’s Future Act” or the “CLEAN Future Act.”

**I. H.R. 1512, THE “CLEAN FUTURE ACT”**

**A. Background**

Chairmen Pallone (D-NJ), Rush (D-IL), and Tonko (D-NY) introduced H.R. 1512, the “CLEAN Future Act” on March 2, 2021. In the 116<sup>th</sup> Congress, the Subcommittee on Energy held a series of hearings regarding select pathways toward reaching a 100 percent clean economy by no later than 2050. Those hearings formed the basis for the CLEAN Future Act, which was initially released as a discussion draft on January 28, 2020. The bill includes provisions focused on infrastructure resilience, grid modernization, and energy efficiency.

**B. Grid Resilience and Climate Change**

The power sector accounted for approximately 31 percent of 2019 U.S. energy-related carbon emissions.<sup>1</sup> Along with the sector’s contributions to carbon emissions, climate change will significantly impact the power sector. A recent Government Accountability Office (GAO) study made the case for examining infrastructure needs in the context of climate change and resilience.<sup>2</sup> The GAO study anticipated climate change to have far-reaching grid impacts,

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<sup>1</sup> U.S. Energy Information Administration, *How much of U.S. carbon dioxide emissions are associated with electricity generation? FAQs*, (Dec. 2020).

<sup>2</sup> Government Accountability Office, *Electricity Grid Resilience: Climate Change Is Expected to Have Far-reaching Effects and DOE and FERC Should Take Actions*, (Mar. 2021) (GAO-21-423T).

affecting generation, transmission, distribution, and electricity demand.<sup>3</sup> For example, the study found that wildfires caused by warmer temperatures and drier conditions could damage distribution lines, and that effects on the grids could cost utilities and customers billions of dollars due to outages and damage.<sup>4</sup> In 2017, the Department of Energy's (DOE) Quadrennial Energy Review affirmed the need to invest in U.S. energy infrastructure, and recommended numerous measures to address current and foreseeable challenges across the U.S. energy system. Recommendations included investing in transportation and building efficiency and electrification, smart grid technology, distributed energy, and critical energy infrastructure.<sup>5</sup>

The CLEAN Future Act includes numerous provisions on clean energy that diversify available resources and strengthen grid resilience. Title II includes provisions to develop and improve transmission infrastructure designed to help guarantee that areas with high electricity demand can access clean energy transported from areas with high clean energy generating capacity. Title II also includes provisions to update the Public Utility Regulatory Policies Act of 1978 to ensure that states consider energy storage, non-wires solutions, and community solar programs.

The CLEAN Future Act also authorizes funds for grid resiliency projects, microgrids, and critical grid equipment replacements. Title II establishes a program to provide loans to eligible entities to support the deployment of distributed energy systems, and a program to fund solar installations in underserved areas. These grid resilience projects help the power sector reduce its overall emissions and strengthen the grid against threats from climate change.

### **C. Energy Efficiency and Grid Reliability**

Energy efficiency measures are crucial for grid resilience and reliability. A 2018 report from the American Council for an Energy-Efficient Economy (ACEEE) found that energy efficiency can play an important role in reducing demand on the grid and increasing system reliability.<sup>6</sup> Investing in energy efficiency is less expensive than other grid infrastructure upgrades and can function as a non-wires alternative to address grid congestion.<sup>7</sup>

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<sup>3</sup> *Id.*

<sup>4</sup> *Id.*

<sup>5</sup> U.S. Department of Energy, *Transforming the Nation's Electricity System: The Second Installment of the QER*, (January 2017) ([www.energy.gov/epso/quadrennial-energy-review-second-installment](http://www.energy.gov/epso/quadrennial-energy-review-second-installment)).

<sup>6</sup> American Council for an Energy-Efficient Economy, *Saving energy can strengthen our electric grid*, (Oct. 29, 2018) ([www.aceee.org/blog/2018/10/saving-energy-can-strengthen-our](http://www.aceee.org/blog/2018/10/saving-energy-can-strengthen-our))

<sup>7</sup> American Council for an Energy-Efficient Economy, *Keeping the Lights On: Energy Efficiency and Electric System Reliability*, (Oct. 29, 2018)

Energy efficiency investments – such as home and school retrofits – also create jobs, reduce emissions, and save money for consumers.<sup>8</sup> These measures can cut U.S. energy use and greenhouse gas emissions by about 50 percent by 2050.<sup>9</sup>

H.R. 1512 includes provisions to improve energy efficiency in public, commercial, and residential spaces. Specifically, Title III establishes national energy savings targets for model building energy codes. Title III also authorizes funds for energy improvements in public school facilities and nonprofits. Additionally, the bill reauthorizes the Energy Efficiency and Conservation Block Grant Program at \$3.5 billion per year to provide funds to cities, communities and states to develop energy efficiency and conservation projects. H.R. 1512 also authorizes funds for workforce training and home energy retrofit rebates, as well as funds to improve efficiency and resiliency at critical public facilities and creates an efficiency benchmarking program at the Environmental Protection Agency.

## II. TEXAS POWER CRISIS

### A. Background

At 8:30 a.m. on February 14, 2021, Texas’s grid operator, the Electric Reliability Council of Texas (ERCOT), notified the public that it should conserve electricity in anticipation of increased demand and potential generator outages that could result from an impending storm.<sup>10</sup> By just after 7 p.m. that evening, ERCOT experienced a new record for winter peak electricity demand of 69,222 megawatts (MWs),<sup>11</sup> far exceeding ERCOT’s November 2020 winter assessment which forecasted a winter peak electricity demand of only 57,699 MW.<sup>12</sup> Just before 1:30 a.m. on February 15, ERCOT began implementing rotating outages, which were expected to be short in duration.<sup>13</sup> However, a large amount of expected generation was unavailable and numerous power lines servicing hospitals and other critical facilities had to be prioritized. As a

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<sup>8</sup> American Council for an Energy-Efficient Economy, *Job and Climate Impacts from Energy Efficiency Investments*, (Aug. 2020) ([www.aceee.org/sites/default/files/pdfs/stimulus\\_analysis\\_fs\\_8-4-20.pdf](http://www.aceee.org/sites/default/files/pdfs/stimulus_analysis_fs_8-4-20.pdf)).

<sup>9</sup> American Council for an Energy-Efficient Economy, *Halfway There: Energy Efficiency Can Cut Energy Use and Greenhouse Gas Emissions in Half by 2050*, (Sep. 2019) ([www.aceee.org/fact-sheet/halfway-there](http://www.aceee.org/fact-sheet/halfway-there)).

<sup>10</sup> Electric Reliability Council of Texas, Inc., *Grid operator requests energy conservation for system reliability*, (Feb. 14, 2021) ([www.ercot.com/news/releases/show/225151](http://www.ercot.com/news/releases/show/225151)).

<sup>11</sup> Electric Reliability Council of Texas, Inc., *Review of February 2021 Extreme Cold Weather Event – ERCOT Presentation, Bill Magness, at slide 11-12*, (Feb. 24, 2021) ([www.ercot.com/content/wcm/key\\_documents\\_lists/225373/2.2\\_REVISIED\\_ERCOT\\_Presentation.pdf](http://www.ercot.com/content/wcm/key_documents_lists/225373/2.2_REVISIED_ERCOT_Presentation.pdf)).

<sup>12</sup> Electric Reliability Council of Texas, Inc., *Seasonal assessments show sufficient generation for winter and spring*, (Nov. 5, 2020) ([www.ercot.com/news/releases/show/216844](http://www.ercot.com/news/releases/show/216844)).

<sup>13</sup> See note 11.

result, these outages were not able to rotate, leaving millions without power for days.<sup>14</sup> At its worst, 52,277 MWs – almost half of ERCOT’s total generation – were unavailable. Of this, approximately 18,000 MWs of wind generation and 27,000 MWs of natural gas generation were out.<sup>15</sup> However, ERCOT only anticipated approximately 6,000 MWs of wind during the winter, but was relying upon the availability of 67,000 MWs of mostly natural gas generation.<sup>16</sup>

Over four million people lost power, some for days on end,<sup>17</sup> and over 14 million people were under boil water orders.<sup>18</sup> As of March 15, 2021, the storm resulted in the death of 57 Texans.<sup>19</sup> Additionally, many Texans received energy bills in the thousands of dollars, with one person receiving an energy bill for \$17,000.<sup>20</sup>

This event has triggered multiple inquiries and investigations into issues such as infrastructure and reliability, electricity and natural gas prices, communications with the public, and regulatory oversight at the state and federal levels. For example, on February 16, 2021, the Federal Energy Regulatory Commission (FERC) and the North American Electric Reliability Corporation (NERC) announced a joint inquiry into the operations of the Texas grid.<sup>21</sup>

## **B. Contributing Factors**

While the official causes of this energy crisis are still under investigation, experts have focused on several contributing factors. One factor is the failure to adequately protect energy infrastructure from cold weather, often referred to as “winterization” or, more generally, “weatherization.” ERCOT has stated that “[e]xtreme weather conditions caused many

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<sup>14</sup> *Resigning ERCOT board members acknowledge “pain and suffering” from extreme power grid strain that caused outages for millions of Texans*, The Texas Tribune, (Feb. 24, 2021).

<sup>15</sup> *ERCOT lost almost half of generation capacity in storm, causing 20-GW load shed*, S&P Global, (Feb. 24, 2021).

<sup>16</sup> *No, frozen wind turbines aren’t the main culprit for Texas’ power outages*, The Texas Tribune, Feb. 17, 2021).

<sup>17</sup> *Why a predictable cold snap crippled the Texas power grid*, Reuters, (Feb. 20, 2021).

<sup>18</sup> *Power comes back for most in Texas, but other problems pile up*, NBC News, (Feb. 19, 2021).

<sup>19</sup> *At least 57 people died in the Texas winter storm, mostly from hypothermia*, The Texas Tribune, (March 15, 2021)

<sup>20</sup> *Some Texans told they owe thousands in electric bills*, ABC News, (Feb. 22, 2021).

<sup>21</sup> *FERC, NERC to Open Joint Inquiry into 2021 Cold Weather Grid Operations*, FERC, (Feb. 16, 2021).

generating units – across fuel types – to trip offline and become unavailable.”<sup>22</sup> Natural gas generation, wind, coal and nuclear plants all tripped offline, many of which did not have sufficient weatherization.<sup>23</sup> Further, broader natural gas pipeline infrastructure – including wellheads, pipes, and valves – froze during the storm.<sup>24</sup> Notably, FERC and NERC conducted a joint inquiry into another extreme cold weather event in Texas in 2011, and one of the major findings was that electric utilities and natural gas producers had not properly winterized their facilities.<sup>25</sup> Subsequent federal reports on Texas winter weather events have continuously found that energy infrastructure was not properly winterized.<sup>26</sup>

Another factor is ERCOT’s grid and market structure. ERCOT is electrically isolated from the rest of the United States, and not subject to regulation by FERC. Texas is largely unable to import electricity during emergency conditions, especially when the surrounding regions, to which it has very limited connection, are also short on energy. Also, ERCOT’s market structure may not provide adequate incentives for additional generation to be available to provide power during emergency conditions.<sup>27</sup>

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<sup>22</sup> Electric Reliability Council of Texas, Inc., *ERCOT calls for rotating outages as extreme winter weather forces generating units offline*, (Feb. 15, 2021) ([www.ercot.com/news/releases/show/225210](http://www.ercot.com/news/releases/show/225210)).

<sup>23</sup> *Gov. Greg Abbott wants power companies to “winterize.” Texas’ track record won’t make that easy*, The Texas Tribune, (Feb. 20, 2021).

<sup>24</sup> *Fact check: The causes for Texas’ blackout go well beyond wind turbines*, Reuters, (Feb. 19, 2021).

<sup>25</sup> *“Power companies get exactly what they want”: How Texas repeatedly failed to protect its power grid against extreme weather*, The Texas Tribune, (Feb. 22, 2021). Federal Energy Regulatory Commission and North American Electric Reliability Corporation. *During the Southwest Cold Weather Event of February 1-5, 2011, joint report*, (Aug. 2011) ([www.ferc.gov/sites/default/files/2020-04/08-16-11-report.pdf](http://www.ferc.gov/sites/default/files/2020-04/08-16-11-report.pdf)).

<sup>26</sup> *Experts mull market, reliability rule changes amid Texas, regional outages*, S&P Global, (Feb 16, 2021).

<sup>27</sup> See note 25.

### **III. WITNESSES**

The following witnesses have been invited to testify:

**Karen Wayland, Ph.D.**

Interim Chief Executive Officer  
GridWise Alliance

**Yvonne McIntyre**

Director, Federal Electricity & Utility Policy  
Natural Resources Defense Council

**Alison Silverstein**

Independent Energy Consultant

**Eric Hofmann**

President, Utility Workers of America Local 132  
Utility Workers of America AFL-CIO