



**A Call for Immediate Climate Action:**

**Findings and Recommendations to the Biden Administration  
and 117th Congress to Advance Climate Action**

**Staff Report  
Committee on Oversight and Reform, Subcommittee on Environment  
U.S. House of Representatives  
January 2021**

**[oversight.house.gov](https://oversight.house.gov)**

**TABLE OF CONTENTS**

**I. SUMMARY ..... 2**

**II. PAST: THE HISTORY OF CONSENSUS AND THE CAUSES OF INACTION ..... 2**

**A. Past Scientific Consensus ..... 2**

**B. A History of Bipartisan Political Action on Climate Change ..... 4**

**C. Outsized Industry Influence in Halting Climate Action ..... 5**

**III. PRESENT: THE CURRENT EFFECTS OF CLIMATE CHANGE ..... 6**

**A. The Current Public Health Effects of Climate Change..... 7**

**B. Increasing Natural Disaster Preparedness and Response Challenges ..... 8**

**C. The Current Economic Effects of Climate Change and the Costs of Inaction 9**

**D. The Trump Administration’s Anti-Climate Actions ..... 11**

**IV. MOVING TOWARDS A SUSTAINABLE FUTURE..... 13**

**V. RECOMMENDATIONS FOR ACTION..... 14**

**A. Federal Leadership and Investment..... 14**

**B. Public Health ..... 15**

**C. Natural Disaster Preparedness and Response and Hazard Mitigation ..... 16**

**D. Economic Tools ..... 17**

**E. The Role of Industry in Defeating Past and Current Climate Legislation .... 19**

**VI. CONCLUSION ..... 19**

## **I. SUMMARY**

Throughout the course of the 116th Congress, the Committee on Oversight and Reform's Subcommittee on Environment, led by Chairman Harley Rouda, held a series of hearings and briefings focused on climate change. These hearings sought to provide insights regarding how climate change has become an increasingly political issue rooted in undue industry influence, widespread public misinformation, and distrust of science. The Subcommittee explored the current health and economic impacts of climate change, the link between a warming climate and increasingly frequent and severe natural disasters, and proposals to decrease greenhouse gas emissions, increase resilience, and seize opportunities to create a more prosperous economy through climate-focused action.

Through the course of this investigation, witness testimony and questions by Subcommittee Members indicated a desire for bipartisan cooperation on climate policy at the federal level. The Subcommittee received testimony from experts, former federal officials, and current state and local officials regarding essential steps the federal government can take to act on climate change. Based on these proposals, Chairman Rouda is making key recommendations to the incoming Biden Administration and the incoming 117th Congress for steps the federal government can take to address the climate crisis.

## **II. PAST: THE HISTORY OF CONSENSUS AND THE CAUSES OF INACTION**

Most of what we currently understand about global warming was known in the late 1970s and early 1980s. At the beginning of the 1980s, scientists within the federal government knew that atmospheric concentrations of human-driven carbon dioxide emissions were increasing, mainly as a result of the combustion of coal, oil, and natural gases to produce energy, and that, unless action was taken to curb emissions, the nation would be headed toward a warmer planet over the next century than had been witnessed in several million years.<sup>1</sup> There can be no understanding of the country's current and future predicament without a clear understanding of why the nation failed to take steps to address climate change when we had the chance.

### **A. Past Scientific Consensus**

In previous decades, it was widely accepted that action on climate change would need to come immediately. During the 1970s, some of the world's largest oil and gas companies, including Exxon and Shell, made serious efforts to understand the scope and severity of the impending climate crisis and grapple with potential solutions. Exxon's own research documents from the 1980s warned about the atmospheric build-up of carbon dioxide from burning fossil

---

<sup>1</sup> Committee on Oversight and Reform, Subcommittee on Environment, *Hearing on The History of a Consensus and the Causes of Inaction* (Apr. 9, 2019) (online at <https://oversight.house.gov/legislation/hearings/climate-change-part-i-the-history-of-a-consensus-and-the-causes-of-inaction>).

fuels and projected climate effects.<sup>2</sup> Internal Exxon communications from 1981 cited a potential global temperature increase of three degrees Celsius if the amount of carbon dioxide in Earth's atmosphere doubled and warned of "major shifts in rainfall/agriculture" and "melting of polar ice."<sup>3</sup> In a 1982 speech, the president of the Exxon Research and Engineering Company stated that, at current rates, carbon dioxide levels could double by the late 21st century, with "climatic changes" occurring by the middle of the century.<sup>4</sup>

Royal Dutch Shell was also aware of global warming in the 1980's. A 1988 Shell report titled, "The Greenhouse Effect," which was written by members of Shell's Greenhouse Effect Working Group, stated that "by the time the global warming becomes detectable it could be too late to take effective countermeasures to reduce the effects or even stabilize the situation."<sup>5</sup> By the 1990's, Shell business strategists were examining a potential scenario in which, by the year 2010, "a series of violent storms causes extensive damage to the eastern coast of the US." They wrote: "Although it is not clear whether the storms are caused by climate change, people are not willing to take further chances. The insurance industry refuses to accept liability, setting off a fierce debate over who is liable."<sup>6</sup>

Beginning in the 1980s, federal government scientists were also raising concerns regarding global warming. During a landmark hearing in 1988 before the Senate Energy and Natural Resources Committee, James Hansen, a National Aeronautics Space Administration scientist, testified: "Global warming has reached a level such that we can ascribe with a high degree of confidence a cause and effect relationship between the greenhouse effect and observed warming. ... [I]t is already happening now."<sup>7</sup>

Dr. Michael Oppenheimer testified alongside Dr. Hansen at the 1988 Senate hearing. They warned the Senate and the American public of the dangers of a warming planet. The broad outlines of a problem bearing high risk for human civilization were already clear, although some important details were yet to be fleshed out.<sup>8</sup>

---

<sup>2</sup> *Exxon's Own Research Confirmed Fossil Fuels' Role in Global Warming Decades Ago*, Inside Climate News (Sept. 16, 2015) (online at [www.insideclimatenews.org/news/15092015/Exxons-own-research-confirmed-fossil-fuels-role-in-global-warming](http://www.insideclimatenews.org/news/15092015/Exxons-own-research-confirmed-fossil-fuels-role-in-global-warming)).

<sup>3</sup> Climate Files, *1981 Internal Exxon 'CO2 Position Statement'* (online at [www.climatefiles.com/exxonmobil/co2-research-program/1981-internal-exxon-co2-position-statement/](http://www.climatefiles.com/exxonmobil/co2-research-program/1981-internal-exxon-co2-position-statement/)) (accessed on Apr. 2, 2019).

<sup>4</sup> Climate Files, *1982 Exxon Speech 'Inventing the Future: Energy and the CO2 'Greenhouse' Effect'*, (online at [www.climatefiles.com/exxonmobil/inventing-future-energy-co2-greenhouse-effect/](http://www.climatefiles.com/exxonmobil/inventing-future-energy-co2-greenhouse-effect/)) (accessed Nov. 13, 2020).

<sup>5</sup> Shell International Petroleum, *The Greenhouse Effect* (Apr. 1986) (online at [www.documentcloud.org/documents/4411090-Documents3.html#document/p4/a415539](http://www.documentcloud.org/documents/4411090-Documents3.html#document/p4/a415539)).

<sup>6</sup> Shell International Petroleum, *Group Scenarios 1998-2020 Report* (1998) (online at [www.documentcloud.org/documents/4430277-27-1-Compiled.html#document/p119/a415454](http://www.documentcloud.org/documents/4430277-27-1-Compiled.html#document/p119/a415454)).

<sup>7</sup> *Global Warming Has Begun, Expert Tells Senate*, New York Times (June 24, 1988) (online at [www.nytimes.com/1988/06/24/us/global-warming-has-begun-expert-tells-senate.html](http://www.nytimes.com/1988/06/24/us/global-warming-has-begun-expert-tells-senate.html)).

<sup>8</sup> *Id.*

In his testimony before the Subcommittee on Environment decades later in 2019, Dr. Oppenheimer reiterated that the scientific community has long understood the reality of climate change and that developments since the 1980s have primarily contributed to developing a more detailed understanding of the challenge—not a change to the underlying concerns and projections regarding climate change.<sup>9</sup>

## **B. A History of Bipartisan Political Action on Climate Change**

To some degree, the United States took steps to heed this most serious warning and act before it was too late—and this was a bipartisan effort. While the conversation has become increasingly partisan, even Republican presidents were engaged on climate issues in previous decades.

For example, President Ronald Reagan pushed for the creation of the Intergovernmental Panel on Climate Change (IPCC).<sup>10</sup> Similarly, President George H. W. Bush helped convene the Earth Summit in Rio de Janeiro in 1992 and signed the United Nations Framework Convention on Climate Change, an intergovernmental treaty recognizing the problem of climate change and calling on all nations to take efforts to address it. This treaty was ratified by a unanimous voice vote in the Senate.<sup>11</sup>

On June 3, 1992, in response to the IPCC and other climate studies, the United Nations opened its Conference on Environment and Development in Rio de Janeiro. Unprecedented in size at the time, 172 governments and 2,400 representatives of non-governmental organizations participated to search for ways to “halt the destruction of irreplaceable natural resources and pollution of the planet.”<sup>12</sup> The U.S. agreed with 154 nations to the following statement:

[H]uman activities have been substantially increasing the atmospheric concentrations of greenhouse gases, that these increases enhance the natural greenhouse effect, and that this will result on average in an additional warming of the Earth’s surface and atmosphere and may adversely affect natural ecosystems and humankind.<sup>13</sup>

In 1997, the nations of the world, including the United States with the help of lead negotiator Tim Wirth, who was then serving as Undersecretary for Global Affairs for the U.S.

---

<sup>9</sup> Committee on Oversight and Reform, Subcommittee on Environment, *Hearing on The History of a Consensus and the Causes of Inaction* (Apr. 9, 2019) (online at <https://oversight.house.gov/legislation/hearings/climate-change-part-i-the-history-of-a-consensus-and-the-causes-of-inaction>).

<sup>10</sup> Intergovernmental Panel on Climate Change, *History of the IPCC* (online at [www.ipcc.ch/about/history/](http://www.ipcc.ch/about/history/)) (accessed Dec. 3, 2020).

<sup>11</sup> United States Senate, *Conditions Regarding U.N. Framework Convention on Climate Change* (July 21, 1997) (S. Rept. 105-54) (online at [www.govinfo.gov/content/pkg/CRPT-105srpt54/html/CRPT-105srpt54.htm](http://www.govinfo.gov/content/pkg/CRPT-105srpt54/html/CRPT-105srpt54.htm)).

<sup>12</sup> United Nations Framework Convention on Climate Change, S. Treaty Doc No. 102-38 (May 9, 1992) (online at [www.congress.gov/treaty-document/102nd-congress/38](http://www.congress.gov/treaty-document/102nd-congress/38)).

<sup>13</sup> United Nations Framework Convention on Climate Change, *Preamble* (online at <http://unfccc.int/resource/ccsites/zimbab/conven/text/preamble.htm>) (accessed Dec. 9, 2020).

Department of State, met in Kyoto and decided that the issue of climate change was serious enough that each nation needed to go further by making binding commitments to reducing global greenhouse gas emissions. While the United States signed the Protocol, it did not ultimately ratify the Kyoto treaty.<sup>14</sup>

### C. Outsized Industry Influence in Halting Climate Action

The United States failed to ratify the Kyoto treaty in large part due to actions of large fossil fuel companies. Despite early industry acknowledgement of the seriousness of the problems presented by a warming climate and their role in fueling this increasing crisis, major fossil fuel companies changed course on climate change. The reason for this reversal was that companies began to recognize that efforts to reduce carbon dioxide emissions would result in a negative impact on profits and long-term solvency.<sup>15</sup> As a result, the fossil fuel industry sought to fight scientific consensus and mislead the public—similar to the public relations campaigns devised by the tobacco industry to fight against the knowledge of the deadly health effects of smoking tobacco.<sup>16</sup> In addition, major fossil fuel companies like Exxon began to decrease their spending for climate research, eventually resulting in the abandonment of the company's research program.<sup>17</sup>

At the April 2019 Subcommittee hearing that examined the decades of inaction on climate change, former Senator Wirth described how the fossil fuel industry and its trade organizations, such as the American Petroleum Institute (API) and its lobbyists, sought to interfere with international negotiations. He explained an incident at a major international meeting when API had positioned a lobbyist outside of the negotiation room to threaten and bully delegates to bow to industry pressure and stall action based on these intimidation tactics. In addition, Dr. Oppenheimer recalled at the hearing the role of the Global Climate Coalition, an international lobbying group funded by fossil fuel companies including Exxon and Shell Oil, in influencing the positions of delegations involved in international negotiating sessions that resulted in the first U.N. Framework Convention on Climate Change and the Kyoto Protocol.<sup>18</sup> Dr. Jeffrey Sachs also testified at the hearing that fossil fuel industry-led influence has continued and is the cause of current inaction on climate change.<sup>19</sup>

---

<sup>14</sup> *Kyoto Protocol Fast Facts*, CNN (Apr. 8, 2020) (online at [www.cnn.com/2013/07/26/world/kyoto-protocol-fast-facts/index.html](http://www.cnn.com/2013/07/26/world/kyoto-protocol-fast-facts/index.html)).

<sup>15</sup> *How Vested Interests Tried to Turn the World Against Climate Science*, The Guardian (Oct. 10, 2019) (online at [www.theguardian.com/environment/2019/oct/10/vested-interests-public-against-climate-science-fossil-fuel-lobby](http://www.theguardian.com/environment/2019/oct/10/vested-interests-public-against-climate-science-fossil-fuel-lobby)).

<sup>16</sup> *Id.*

<sup>17</sup> *Climate Files, 1982 Exxon Memo Cutting CO2 Research Program Budget* (online at [www.climatefiles.com/exxonmobil/exxon-memo-to-co2-research-program-cutting-budget-1982/](http://www.climatefiles.com/exxonmobil/exxon-memo-to-co2-research-program-cutting-budget-1982/)) (accessed Nov. 13, 2020).

<sup>18</sup> Committee on Oversight and Reform, Subcommittee on Environment, *Hearing on The History of a Consensus and the Causes of Inaction* (Apr. 9, 2019) (online at <https://oversight.house.gov/legislation/hearings/climate-change-part-i-the-history-of-a-consensus-and-the-causes-of-inaction>).

<sup>19</sup> *Id.*

### III. PRESENT: THE CURRENT EFFECTS OF CLIMATE CHANGE

The first chapter of the climate change saga is over. Experts have identified the threat and its consequences, and policymakers have debated the measures required to keep the planet within the realm of habitability through a transition from fossil fuel combustion to the reliance on renewable energy sources, wiser land management and agricultural practices, and economic mechanisms. Members of the scientific community, including scientists at fossil fuel companies, now speak with increasing urgency about the need to pursue these aims, despite opposition and long odds, and about how industry's influence and misinformation campaigns prevented climate action for decades.

Currently, there is widespread agreement among scientists, public health officials and practitioners, and national security experts that climate change is already harming our country and that we need to act now to avoid the direst global outcomes.

The Department of Defense has recognized “the reality of climate change and the significant risk it poses to U.S. interests globally” and considers climate change to be a threat multiplier that undermines our safety, puts American troops and bases at risk, and increases the chances of global conflict.<sup>20</sup>

At a full Committee hearing entitled, “The Need for Leadership to Combat Climate Change and Protect National Security,” former Secretary of State John Kerry emphasized the strong bipartisan and non-political consensus regarding the threat climate change poses to our national security. Secretary Kerry, referencing the work of the American Security Project, an organization of security experts including retired admirals, generals, and flag officers, stated that “climate change is a ‘ring road issue,’ meaning that climate change affects all the other threats”—including disease vectors, migration, state stability, and, ultimately, global security. In addition, former Secretary of Defense Chuck Hagel stated at the hearing that “it is very clear that planning for climate change is not some frivolous waste of time or waste of money. It is essential to our troops and to their wellbeing and to the national security of our country.”<sup>21</sup>

As far back as 1990, the IPCC was also raising concerns about migration due to climate change, noting that one of the greatest impacts of climate change could be on human migration—with millions of people displaced by shoreline erosion, coastal flooding, and agricultural disruption. The most widely repeated prediction is that there will be 200 million climate refugees by 2050—meaning that one in every 45 people in the world will have been displaced by climate change.<sup>22</sup>

---

<sup>20</sup> *Experts to Trump: Climate Change Threatens the U.S. Military*, Vox (Jun. 5, 2017) (online at [www.vox.com/2017/6/5/15729426/paris-agreement-climate-change-military](https://www.vox.com/2017/6/5/15729426/paris-agreement-climate-change-military)).

<sup>21</sup> Committee on Oversight and Reform, *Hearing on The Need for Leadership to Combat Climate Change and Protect National Security* (Apr. 9, 2019) (online at <https://oversight.house.gov/legislation/hearings/the-need-for-leadership-to-combat-climate-change-and-protect-national-security>).

<sup>22</sup> International Organization for Migration, *Migration and Climate Change* (2008) (online at <https://publications.iom.int/books/mrs-ndeg31-migration-and-climate-change>) (accessed on Dec. 17, 2020).

The latest National Climate Assessment, issued by the Trump Administration’s own scientists, set forth a consensus view of 13 federal agencies and more than 300 experts. This report warns that the risks associated with climate change are increasing and that current efforts to address the climate crisis are inadequate.<sup>23</sup>

**A. The Current Public Health Effects of Climate Change**

Americans are already experiencing the health-related consequences of climate change. As detailed in the Trump Administration’s Fourth National Climate Assessment, the consequences of climate change are serious, far-reaching, and affect the health of Americans.

In this Assessment, experts warned that worsened air quality due to climate change will “increase the incidence of adverse respiratory and cardiovascular health effects, including premature death.”<sup>24</sup> At an April 2019 hearing, Dr. Bernard D. Goldstein, Professor Emeritus at the University of Pittsburgh, and Harvard University’s Dr. Aaron Bernstein testified before the Subcommittee and raised similar concerns that exposure to increased greenhouse gases and particulate pollution would negatively affect public health. The witnesses stated that global warming will exacerbate symptoms of respiratory illnesses, such as asthma and emphysema, and can lead to an increasing number of emergency room visits and hospitalizations and higher overall risk of mortality.<sup>25</sup>

At the hearing, Dr. Goldstein, Dr. Bernstein, and Dr. Holder emphasized the disproportionate health effects felt by vulnerable groups such as children, the elderly, people of color, and the poor. Dr. Cheryl L. Holder cautioned in her testimony that physicians are already reporting effects of climate change on patients’ health and detailed, from her experiences as a practitioner, how she is personally witnessing the disproportionate impact of climate change on low-income communities and communities of color. In her testimony, she stated that “for many reasons, poor people are—for better or for worse—this country’s proverbial canary in the coal mine” because they are on the frontlines of increased pollution and the unmitigated physical and mental effects of our warming climate.<sup>26</sup>

A warming global climate also aggravates the spread of infectious diseases by “alter[ing] the geographic range of disease-carrying insects and pests, exposing more people to ticks that

---

<sup>23</sup> U.S. Global Change Research Program, *Fourth National Climate Assessment* (Nov. 2018) (online at [https://nca2018.globalchange.gov/downloads/NCA4\\_2018\\_FullReport.pdf](https://nca2018.globalchange.gov/downloads/NCA4_2018_FullReport.pdf)).

<sup>24</sup> *Id.*

<sup>25</sup> Committee on Oversight and Reform, Subcommittee on Environment, *Hearing on Climate Change, Part II: The Public Health Effects* (Apr. 30, 2019) (online at <https://oversight.house.gov/legislation/hearings/climate-change-part-ii-the-public-health-effects>); see also Centers for Disease Control and Prevention and American Public Health Association, *Fact Sheet: Climate Change Decreases the Quality of the Air We Breathe* (online at [www.cdc.gov/climateandhealth/pubs/AIR-QUALITY-Final\\_508.pdf](http://www.cdc.gov/climateandhealth/pubs/AIR-QUALITY-Final_508.pdf)); M. L. Bell et al., “Ozone and Short-Term Mortality in 95 US Urban Communities, 1987- 2000,” *Journal of the American Medical Association* (Nov. 2004) (online at [www.ncbi.nlm.nih.gov/pubmed/15547165](http://www.ncbi.nlm.nih.gov/pubmed/15547165)).

<sup>26</sup> Committee on Oversight and Reform, Subcommittee on Environment, *Hearing on Climate Change, Part II: The Public Health Effects* (Apr. 30, 2019) (online at <https://oversight.house.gov/legislation/hearings/climate-change-part-ii-the-public-health-effects>).

carry Lyme disease and mosquitoes that transmit viruses such as Zika, West Nile, and dengue.” A warming environment will also likely cause more severe and more frequent allergic reactions due to “[e]arlier spring arrival, warmer temperatures, changes in precipitation, and higher carbon dioxide concentrations.”<sup>27</sup>

Climate change also alters interspecies interactions, which has an impact on human health and risk for infections. The health conditions caused by pollution also include cardiovascular disease, chronic respiratory disease, and hypertension, each of which may result in comorbidities that increase the mortality rates of people infected with the coronavirus.<sup>28</sup>

## **B. Increasing Natural Disaster Preparedness and Response Challenges**

Climate change is already causing more frequent and more severe natural disasters. Testimony received by the Subcommittee underscored that this trend is creating additional challenges for the Federal Emergency Management Agency’s (FEMA) preparedness and response operations. The Subcommittee sought to better understand the effect that climate change will have on federal disaster preparedness and recovery as well as the connection between warming temperatures and the increasing frequency and severity of hurricane and wildfire seasons. The Subcommittee also examined how, in the wake of climate change, federal, state, and local governments were preparing for hurricane and wildfire seasons and the recovery processes for wildfires in Southern California and Hurricanes Harvey, Irma, and Maria in the Gulf and Caribbean.

In a June 2019 hearing that examined the interconnectedness of climate change and worsening natural disasters, Dr. Michael Mann testified before the Subcommittee regarding the relationship between natural disasters and climate change and stated: “[T]here is absolutely nothing natural about the disasters we are talking about. We are not saying they have been caused by climate change. We are saying that climate change has worsened them. That is what the research says.”<sup>29</sup>

At this hearing, the Subcommittee also heard testimony from Mr. Mark S. Ghilarducci, Director of the California Governor’s Office of Emergency Services, and Mr. Christopher Currie, Director of Energy Management and National Preparedness of the Government Accountability Office (GAO), regarding the federal response to the 2017-2018 California wildfire season. Both witnesses expressed concerns about communications and housing

---

<sup>27</sup> U.S. Global Change Research Program, *Fourth National Climate Assessment* (Nov. 2018) (online at [https://nca2018.globalchange.gov/downloads/NCA4\\_2018\\_FullReport.pdf](https://nca2018.globalchange.gov/downloads/NCA4_2018_FullReport.pdf)).

<sup>28</sup> *Johns Hopkins ABX Guide: Coronavirus COVID-19 (SARS-CoV-2)*, Johns Hopkins Medicine (Mar. 27, 2020) (online at [www.hopkinsguides.com/hopkins/view/Johns\\_Hopkins\\_ABX\\_Guide/540747/all/Coronavirus\\_COVID\\_19\\_\\_SARS\\_CoV\\_2\\_](http://www.hopkinsguides.com/hopkins/view/Johns_Hopkins_ABX_Guide/540747/all/Coronavirus_COVID_19__SARS_CoV_2_)).

<sup>29</sup> Committee on Oversight and Reform, Subcommittee on Environment, *Hearing on Recovery, Resiliency and Readiness—Contending with Natural Disasters in the Wake of Climate Change* (June 25, 2019) (online at <https://oversight.house.gov/legislation/hearings/recovery-resiliency-and-readiness-contending-with-natural-disasters-in-the-wake/>).

shortages following the fires and stressed the need for emergency preparedness at the state and federal levels in order to prepare for longer and more intense wildfire seasons.<sup>30</sup>

Mr. Omar Marrero, Executive Director of the Central Office of Recovery and Reconstruction of Puerto Rico, and Ms. Adrienne Williams-Octablien, Director of the Office of Disaster Recovery for the Virgin Islands Public Finance Authority, highlighted the still-dire state of the regions nearly 20 months after Hurricanes Maria and Irma devastated their communities. Both witnesses voiced concerns stemming from bureaucratic hurdles that prevent communities from accessing recovery funds from FEMA. For example, Mr. Marrero testified that, in Puerto Rico, 20,000 families still live in homes with blue tarps, which is only temporary roofing, as a result of serious delays in federal disaster assistance and recovery efforts.<sup>31</sup>

Former FEMA Director James Lee Witt testified at the hearing that FEMA's recovery duties will be made more difficult in the future due to climate change and a lack of adequate training among FEMA staff. Mr. Witt pressed the Trump Administration to reconsider its policy of not including climate change in disaster relief planning. He testified that he thought the absence of climate change from strategic planning negatively affects FEMA's long-term planning and the agency's efforts to mitigate future impacts.<sup>32</sup>

### **C. The Current Economic Effects of Climate Change and the Costs of Inaction**

Americans are already paying the costs of climate change, and these costs will continue to rise if greenhouse gas emissions continue. According to the Trump Administration's own Fourth National Climate Assessment, continued greenhouse gas emissions could slash up to ten percent of the gross domestic product (GDP) by 2100.<sup>33</sup> A ten percent reduction in GDP is more than twice the decline experienced during the Great Recession from December 2007 to June 2009.<sup>34</sup>

A significant portion of these costs are in the form of disaster assistance. Since 1980, weather and climate-related disasters have cost approximately \$1.6 trillion in damages, and these costs are increasing. For example, natural disasters that occurred in 2018 had "the fourth highest costs, behind 2017, 2005, and 2012."<sup>35</sup> In March 2019, GAO found that climate change has cost

---

<sup>30</sup> *Id.*

<sup>31</sup> *Id.*

<sup>32</sup> *Id.*

<sup>33</sup> Fourth National Climate Assessment, *Chapter 29: Reducing Risks Through Emissions Mitigation* (online at <https://nca2018.globalchange.gov/chapter/29/>) (accessed Dec. 5, 2020).

<sup>34</sup> *U.S. Climate Report Warns of Damaged Environment and Shrinking Economy*, New York Times (Nov. 23, 2018) (online at [www.nytimes.com/2018/11/23/climate/us-climate-report.html](http://www.nytimes.com/2018/11/23/climate/us-climate-report.html)).

<sup>35</sup> Office for Coastal Management, National Oceanic and Atmospheric Administration, *Fast Facts: Weather Disasters and Costs* (May 30, 2019) (online at <https://coast.noaa.gov/states/fast-facts/weather-disasters.html>).

American taxpayers approximately \$30 billion in disaster assistance since 2005, which include covering expenses related to “catastrophic hurricanes, flooding, [and] wildfires.”<sup>36</sup>

In December 2019, at a briefing regarding the economic costs of climate change, Mayor Stephen Benjamin, who represents Columbia, South Carolina and who formerly served as President of the U.S. Conference of Mayors, informed the Subcommittee that residents in coastal states have also acutely felt the serious economic effects of climate change. Mayor Benjamin explained that local governments are also leading on efforts to mitigate those impacts and make communities more resilient by hardening and modernizing our infrastructure. However, Mayor Benjamin also emphasized that cities cannot tackle the challenge alone.<sup>37</sup>

At the briefing, the Subcommittee probed how the impacts of climate change on the insurance industry are being currently felt American homeowners. Climate-related disasters are causing insurers to raise the price of insurance policies across the country to account for high-risk areas. As a result, homeowner insurance rates are becoming unaffordable for Americans across the country and in many cases, unavailable.<sup>38</sup>

Even with repairs and insurance, many vulnerable properties will lose value as the impacts of climate change become even more severe. As a result, the private financial sector, including leading investment managers and institutional investors, are taking action to better understand the resiliency of their portfolios and are working to identify vulnerabilities resulting from climate-driven impacts including sea level rise, flooding, extreme heat, wildfires, and hurricanes.<sup>39</sup> However, even with these efforts, the impacts of climate change are currently not fully accounted for in the financial sector. For example, Brian Deese, the Global Head of Sustainable Investing for BlackRock, has asserted:

[T]he risk posed by more frequent and severe weather events such as hurricanes and wildfires are not fully reflected in the price of many assets, including U.S. utility equities. A rising share of municipal bond issuance is set to come from regions facing climate-related economic losses. And many high-risk commercial properties are outside official flood zones.<sup>40</sup>

---

<sup>36</sup> Government Accountability Office, *Substantial Efforts Needed to Achieve Greater Progress on High-Risk Areas* (Mar. 6, 2019) (online at [www.gao.gov/assets/700/697245.pdf](http://www.gao.gov/assets/700/697245.pdf)).

<sup>37</sup> Committee on Oversight and Reform, Subcommittee on Environment, *Hearing Climate Change, Part II: The Public Health Effects* (Apr. 30, 2019) (online at <https://oversight.house.gov/legislation/hearings/climate-change-part-ii-the-public-health-effects>).

<sup>38</sup> Committee on Oversight and Reform, Subcommittee on Environment, *Briefing on Climate Change, Part IV: Current Economic Effects of Climate Change and the Costs of Inaction* (Dec. 19, 2019) (online at <https://oversight.house.gov/legislation/hearings/climate-change-part-iv-current-economic-effects-of-climate-change-and-the-costs>); see also *How Climate Change is Changing Your Insurance*, PBS News Hour (Nov. 27, 2018) (online at [www.pbs.org/newshour/economy/making-sense/how-climate-change-is-changing-your-insurance](http://www.pbs.org/newshour/economy/making-sense/how-climate-change-is-changing-your-insurance)).

<sup>39</sup> Urban Land Institute and Heitman LLC, *Report: Climate Risk and Real Estate Investment Decision-Making* (2019) (online at [www.heitman.com/wp-content/uploads/2019/02/ULI-Heitman-Climate-Risk-Report.pdf](http://www.heitman.com/wp-content/uploads/2019/02/ULI-Heitman-Climate-Risk-Report.pdf)) (accessed on Dec. 17, 2020).

<sup>40</sup> BlackRock, *Press Release: Investors Underappreciated Climate-Related Risks in Their Portfolios* (Apr. 4, 2019) (online at [www.blackrock.com/corporate/newsroom/press-releases/article/corporate-one/press-](http://www.blackrock.com/corporate/newsroom/press-releases/article/corporate-one/press-)

The impacts of climate change on the average American worker are also sobering. For example, climate change has affected the fishery industry, causing a decrease in global fish yields by 4.1% since 1930.<sup>41</sup> American farmers have suffered as a result of climate change due to reduced corn yields and nutritional content of agricultural products.<sup>42</sup>

These calculations are especially concerning given recent GAO audits that have found that the Trump Administration has failed to make progress since 2017 to reduce fiscal exposure to climate change. Specifically, of the five criteria that GAO identified in its 2017 audit, four remain the same in terms of progress, and one has regressed.<sup>43</sup>

Research conducted by Nobel laureate Dr. Michael Oppenheimer, who testified before the Subcommittee, found that the economic impacts of climate change have a disproportionate effect on those more economically vulnerable, with the poorest American counties expected to experience up to a 20% loss of county income by the late 21st century.<sup>44</sup>

#### **D. The Trump Administration's Anti-Climate Actions**

The Trump Administration has made numerous efforts to undermine previous attempts to combat climate change. For example, the social cost of carbon, one of the key tools utilized in federal decision making that has been weakened under the Trump Administration, is an estimate of the economic damages that would result from emitting one additional ton of greenhouse gases into the atmosphere. Under the Obama Administration, the social cost of carbon included in its calculation the cost of carbon emission across the globe, which led to higher values, but the Trump Administration excludes all but domestic costs, leading to a significantly lower social cost of carbon. The Obama Administration estimated the cost of one ton of emissions of carbon dioxide in 2020 to be approximately \$45, while the Trump Administration estimates it at “between \$1 and \$6,” which would mean that the country would likely be exposed to increased carbon pollution.<sup>45</sup>

---

releases/investors-underappreciate-climate-related-risks-in-their-portfolios); *see also* BlackRock Investment Institute, *Report: Getting Physical: Assessing Climate Risks* (Apr. 4, 2019) (online at [www.blackrock.com/us/individual/insights/blackrock-investment-institute/physical-climate-risks](http://www.blackrock.com/us/individual/insights/blackrock-investment-institute/physical-climate-risks)).

<sup>41</sup> *Impacts of Historical Warming on Marine Fisheries Production*, *Science Magazine* (Mar. 1, 2019) (online at <https://science.sciencemag.org/content/363/6430/979>).

<sup>42</sup> Environmental Protection Agency, *Climate Impacts on Agriculture and Food Supply* (online at [https://19january2017snapshot.epa.gov/climate-impacts/climate-impacts-agriculture-and-food-supply\\_.html](https://19january2017snapshot.epa.gov/climate-impacts/climate-impacts-agriculture-and-food-supply_.html)) (accessed on Dec. 4, 2019).

<sup>43</sup> Government Accountability Office, *High-Risk Series, Substantial Efforts Needed to Achieve Greater Progress on High-Risk Areas* (Mar. 6, 2019) (online at [www.gao.gov/assets/700/697245.pdf](http://www.gao.gov/assets/700/697245.pdf)).

<sup>44</sup> *Estimating Economic Damage from Climate Change in the United States*, *Science Magazine* (June 30, 2019) (online at <https://science.sciencemag.org/content/356/6345/1362>).

<sup>45</sup> *Trump Put a Low Cost on Carbon Emissions. Here's Why It Matters.*, *New York Times* (Aug. 23, 2018) (online at [www.nytimes.com/2018/08/23/climate/social-cost-carbon.html](http://www.nytimes.com/2018/08/23/climate/social-cost-carbon.html)); *see also* *Fighting With Trump Over the Real 'Social Cost of Carbon'*, *Forbes* (July 7, 2020) (online at [www.forbes.com/sites/ucenergy/2020/07/07/environmentalists-are-not-alone-in-fighting-against-president-trumps-environmental-roll-backs](http://www.forbes.com/sites/ucenergy/2020/07/07/environmentalists-are-not-alone-in-fighting-against-president-trumps-environmental-roll-backs)).

At the December briefing, Dr. Michael Greenstone, Milton Friedman Distinguished Service Professor in Economics at the University of Chicago, stated that society needs to balance the costs to our economy of mitigating climate change today with future climate damages—and that the social cost of carbon, estimated using the best available evidence, is a key tool in this balancing act. He added that the social costs of inaction are large, both in dollars and in terms of human lives, and that both the Obama and Trump Administrations have undervalued the cost to society of carbon dioxide emissions.<sup>46</sup>

The Trump Administration also took drastic steps to rollback and undermine key climate-related regulations, such as the Obama-era corporate average fuel economy (CAFE) standards, also known as the Clean Cars Rule, aimed at decreasing greenhouse gas emissions. Many of these regressive actions were not based in science, would lead to increased greenhouse gas emissions, and would result in negative effects on public health.<sup>47</sup>

At a Subcommittee hearing on the Trump Administration’s efforts to roll back the Clean Cars Rule and rescind California’s legal right to create and enforce more stringent clean air standards, former California Governor Jerry Brown underscored the detrimental impact the rollback would have on Americans’ physical and economic wellbeing and the importance of California’s leadership, stating: “California is the way of the future. The combustion car is going the way of the dodo bird, and you have got to get with it or get out of the way.”<sup>48</sup>

In addition, as included in Senator Sheldon Whitehouse’s testimony at the Subcommittee hearing, many of the Trump Administration’s regulatory decisions appeared to be driven by the fossil fuel industry, their trade associations and front groups, and other fossil fuel-friendly organizations. In an effort to gain a complete picture of how these groups influenced the Trump Administration’s decision to rollback climate-focused regulations, the Subcommittee, along with Chairwoman Maloney and Senator Whitehouse, sent a document request to Marathon Petroleum Corporation requesting information regarding its role in the Administration’s decision to roll back the Clean Cars Rule.<sup>49</sup>

President Trump and his Administration have abdicated the leadership role that the United States had previously taken on the international stage to address climate change. In 2015, nearly every country met in Paris and, due in large part to President Obama’s and Secretary of

---

<sup>46</sup> Committee on Oversight and Reform, Subcommittee on Environment, *Briefing on Climate Change, Part IV: Current Economic Effects of Climate Change and the Costs of Inaction* (Dec. 19, 2019) (online at <https://oversight.house.gov/legislation/hearings/climate-change-part-iv-current-economic-effects-of-climate-change-and-the-costs>).

<sup>47</sup> Committee on Oversight and Reform, Subcommittee on Environment, *Hearing on Trump’s Wrong Turn on Clean Cars: The Effects of Fuel Efficiency Rollbacks on the Climate, Car Companies and California* (Oct. 29, 2019) (online at <https://oversight.house.gov/legislation/hearings/trump-s-wrong-turn-on-clean-cars-the-effects-of-fuel-efficiency-rollbacks-on>).

<sup>48</sup> *Id.*

<sup>49</sup> Letter from Chairwoman Carolyn B. Maloney, Committee on Oversight and Reform, et al. to Michael J. Hennigan, President and Chief Executive Officer, Marathon Petroleum Corporation (May 28, 2020) (online at [https://oversight.house.gov/sites/democrats.oversight.house.gov/files/2020-05-28.CBM%20Rouda%20Tlaib%20Whitehouse%20to%20Marathon%20re%20Emissions%20Standards\\_0.pdf](https://oversight.house.gov/sites/democrats.oversight.house.gov/files/2020-05-28.CBM%20Rouda%20Tlaib%20Whitehouse%20to%20Marathon%20re%20Emissions%20Standards_0.pdf)).

State John Kerry's in-depth negotiations with China, agreed to work to keep the average global temperature rise below 2-degrees Celsius by the year 2100.<sup>50</sup> In June 2017, within a year of taking office, President Trump announced his intent to withdraw from the agreement.<sup>51</sup>

#### IV. MOVING TOWARDS A SUSTAINABLE FUTURE

In the Subcommittee's final hearing of the climate change series, Members and witnesses discussed innovative strategies to transition to a green economy and the economic opportunities and health benefits of prioritizing these efforts.

The industries of the future are not fossil fuel-based, and the longer the United States delays the transition to clean, renewable energy, the more the country will fall behind in the global marketplace. Increased utilization of economic incentives is an essential component of advancing the transition to a more sustainable economy—including the need for greater parity in federal subsidies for renewables over fossil fuels. During the hearing, Dr. Robert Orr, Dean of the University of Maryland School of Public Policy, testified that greater parity in supporting renewable energy sources through the U.S. tax code presents an opportunity for economic growth and job creation to drive innovation.<sup>52</sup>

At the hearing, the Subcommittee also heard testimony regarding how communities that have disproportionately faced serious health and economic harms as a result of fossil fuel production and climate change cannot be left behind in the transition to a greener economy. In her testimony, Dr. Rachel Cleetus, Policy Director for Climate and Energy with the Union of Concerned Scientists, emphasized the importance of addressing environmental injustice in the transition away from fossil fuels. A status quo approach has not worked for many frontline communities across the country. Dr. Cleetus stressed the need for the federal government to increase investment and advance policies that can solve multiple crises at once—including the current economic crisis, public health challenges, and the climate crisis.<sup>53</sup>

The Subcommittee also heard testimony at the hearing regarding how cities and states across the country are looking for the federal government's leadership and partnership in supporting and advancing climate action. Mr. Reed Schuler, Senior Policy Advisor for Washington State Governor Jay Inslee, discussed the innovative strategies that states are taking to experiment, develop, and deploy strategies to achieve widescale decarbonization—and that

---

<sup>50</sup> United Nations, Climate Change, *The Paris Agreement* (online at <https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement>) (accessed on Dec. 13, 2020); see also *Biden Names John Kerry Climate Envoy*, *Scientific American* (Nov. 24, 2020) (online at [www.scientificamerican.com/article/biden-names-john-kerry-climate-envoy/](http://www.scientificamerican.com/article/biden-names-john-kerry-climate-envoy/)).

<sup>51</sup> The White House, *Statement by President Trump on the Paris Climate Accord* (June 1, 2017) (online at [www.whitehouse.gov/briefings-statements/statement-president-trump-paris-climate-accord/](http://www.whitehouse.gov/briefings-statements/statement-president-trump-paris-climate-accord/)).

<sup>52</sup> Committee on Oversight and Reform, Subcommittee on Environment, *Hearing on Climate Change, Part IV: Moving Towards a Sustainable Future* (Sept. 24, 2020) (online at <https://oversight.house.gov/legislation/hearings/climate-change-part-iv-moving-towards-a-sustainable-future>).

<sup>53</sup> Committee on Oversight and Reform, Subcommittee on Environment, *Hearing on Climate Change, Part IV: Moving Towards a Sustainable Future* (Sept. 24, 2020) (online at <https://oversight.house.gov/legislation/hearings/climate-change-part-iv-moving-towards-a-sustainable-future>).

these efforts would be greatly assisted through increased collaboration with the federal government. Mr. Christopher Castro, Senior Advisor to Orlando Mayor Buddy Dyer, highlighted the City of Orlando, Florida's efforts to accelerate transportation electrification as a model of successful efforts that could be mirrored on the federal level in order to decrease emissions. Mr. Schuler also emphasized the importance of the Paris Agreement and stated that cooperation among countries that are large and small, rich and poor, and major emitters and minor emitters is needed to make meaningful progress in solving the worldwide collective action problem in addressing climate change.<sup>54</sup>

## V. RECOMMENDATIONS FOR ACTION

Through the course of the 116th Congress, the Subcommittee received testimony from experts, state, local, and former federal officials, and other stakeholders regarding solutions to the climate crisis. These proposals helped to inform the recommendations below for the Biden Administration and 117th Congress regarding actions that can be taken to address the climate crisis.

### A. Federal Leadership and Investment

**Recommendation: After rejoining the Paris Agreement, the Biden Administration should take additional steps to ensure that the United States meets its goals and to reengage with the international community to address climate change and achieve aggressive climate goals. The federal government should also take steps to strengthen interagency coordination, especially on climate planning efforts to ensure that programs are operating efficiently and effectively.**

After four years without federal support for their climate policies, many cities, states, and corporations have worked to fill in some of the gaps left by the Trump Administration's antagonism toward environmental regulation and abdication of climate leadership.

The federal government is the largest employer in the United States, the largest purchaser of goods and services in the world, and an important partner to states, localities, Tribal governments, the public and private sectors, and other countries. The Oversight Committee's Climate Change Agenda for the 116th Congress, including the Federal Agency Climate Planning, Resilience, and Enhanced Preparedness Act, aims to utilize the federal government's unique position in the fight against climate change by making important reforms in the pursuit of greener, more efficient, and more just policies, programs, and processes.

**Recommendation: The Biden Administration and the 117th Congress should invest in a modern 21st century infrastructure system that prioritizes emission reductions and resilience and includes transit and multi-modal transportation, clean energy innovation and deployment, and clean buildings.**

---

<sup>54</sup> *Id.*

While President Trump campaigned on a promise of passing a \$1 trillion infrastructure package, he has spent four years calling for deep cuts to federal infrastructure programs—including a cut of \$159 billion over 10 years for highways and transit.<sup>55</sup>

In 2019, the electricity sector accounted for about 28 percent of U.S. greenhouse gas emissions, just behind transportation at 29 percent. Considering both direct emissions from the burning of fossil fuels, the landfilling of waste, and indirect emissions from the consumption of electricity generated by fossil fuels, commercial and residential buildings make up 12 percent of U.S. greenhouse gas emissions.<sup>56</sup>

**Recommendation: Efforts to address infrastructure issues should include a comprehensive framework to electrify and decarbonize the nation’s transportation sector through stronger regulatory requirements and incentives.**

Efforts to decarbonize power production and other sectors of the economy should draw upon the experience of states, like the City of Orlando, that have successfully created frameworks and worked to implement these policies.<sup>57</sup>

## **B. Public Health**

**Recommendation: The Biden Administration should work with congressional appropriators, through budgetary requests and spending plans, to prioritize funding to build greater public health infrastructure and research through targeted resilience efforts and forward-looking research and technological advancement.**

At the April 2019 Subcommittee hearing on the public health impacts of climate change, Dr. Karen DeSalvo proposed three areas in which to build resilience to extreme weather and climate change. First, she advocated strengthening public health infrastructure by shifting its focus from responding to instances of crisis toward building capacity. Second, she stated that the healthcare sector must be more accountable to patients and take action to reduce its carbon footprint. Finally, she recommended using data and technology to spur partnerships between public health and healthcare systems. Dr. DeSalvo stated:

[T]he annual outlay for public health infrastructure is anticipated to be \$32 per person annually. Based on our current national investment from Federal and local dollars, there remains a \$13 per person gap in annual spending to provide adequate public health

---

<sup>55</sup> Center for American Progress, *Reducing Carbon Pollution Through Infrastructure* (Sept. 3, 2019) (online at [www.americanprogress.org/issues/green/reports/2019/09/03/473980/reducing-carbon-pollution-infrastructure/](http://www.americanprogress.org/issues/green/reports/2019/09/03/473980/reducing-carbon-pollution-infrastructure/)).

<sup>56</sup> *Id.*

<sup>57</sup> Committee on Oversight and Reform, Subcommittee on Environment, Questions for the Record, Responses from Christopher Castro to Subcommittee Chairman Harley Rouda (Sept. 24, 2020) (online at <https://docs.house.gov/meetings/GO/GO28/20200924/111042/HHRG-116-GO28-20200924-QFR006.pdf>).

infrastructure to assure that all people in America have the public health protection they should expect.<sup>58</sup>

As the nation has seen through the federal government's response to the coronavirus pandemic, the need for increased investment in capacity and resources prior to a public health crisis is essential to ensuring adequate resources and a timely response.<sup>59</sup>

**Recommendation: The Biden Administration should rejoin the World Health Organization (WHO) and prioritize participation in global health programs to monitor for and manage health threats.**

President-elect Biden, as he signaled his Administration would, should take immediate action to maintain the country's membership in WHO on the first day of his presidency. This action will reverse the Trump Administration's decision to withdraw from WHO, the only global body that can declare a pandemic and internationally mobilize to stop it.<sup>60</sup> In addition, WHO has for years studied the health implications of climate change for communities across the globe.<sup>61</sup> Throughout the four years of the Trump Administration, the President's isolationist attitudes and actions have put Americans health at risk as a result of the current impacts of climate change and most recently due to the coronavirus pandemic. As the United States continues to respond to this pandemic and the public health threat that climate change poses, it is important that we prioritize international cooperation and coordination to protect human lives now and in the future.<sup>62</sup>

**C. Natural Disaster Preparedness and Response and Hazard Mitigation**

**Recommendation: The Biden Administration should ensure that every federal agency acknowledges and addresses global warming in strategic planning.**

FEMA and other related agencies must re-incorporate climate change into strategic planning efforts and documents. FEMA Administrator Peter Gaynor linked climate change to intensifying storms during testimony before the Subcommittee, stating that he does "believe the climate has changed." He used hurricanes as an example, stating: "You can look back at the

---

<sup>58</sup> Committee on Oversight and Reform, Subcommittee on Environment, *Hearing on Climate Change, Part II: The Public Health Effects* (Apr. 30, 2019) (online at <https://oversight.house.gov/legislation/hearings/climate-change-part-ii-the-public-health-effects>).

<sup>59</sup> *Pandemic Is Overwhelming U.S. Public Health Capacity in Many States. What Now?* National Public Radio (July 28, 2020) (online at [www.npr.org/sections/health-shots/2020/07/28/894858475/pandemic-is-overwhelming-u-s-public-health-capacity-in-many-states-what-now](http://www.npr.org/sections/health-shots/2020/07/28/894858475/pandemic-is-overwhelming-u-s-public-health-capacity-in-many-states-what-now)).

<sup>60</sup> *Trump Abandoned the WHO. Biden Will Rejoin the Agency on Day One in Office.* Vox (Nov. 9, 2020) (online at [www.vox.com/2020/11/9/21556172/trump-biden-transition-team-covid-19-who-join](http://www.vox.com/2020/11/9/21556172/trump-biden-transition-team-covid-19-who-join)); see also *When Disasters like Ebola Hit, the World Needs the World Health Organization. And It's Failing.*, Vox (May 22, 2015) (online at [www.vox.com/2015/5/22/8640607/ebola-WHO-reform](http://www.vox.com/2015/5/22/8640607/ebola-WHO-reform)).

<sup>61</sup> World Health Organization, *Global Climate Change: Implications for International Public Health Policy* (Mar. 2007) (online at [www.who.int/bulletin/volumes/85/3/06-039503/en/](http://www.who.int/bulletin/volumes/85/3/06-039503/en/)).

<sup>62</sup> *U.S. Says It Won't Join WHO-Linked Effort to Develop, Distribute Coronavirus Vaccine*, Washington Post (Sept. 1, 2020) (online at [www.washingtonpost.com/world/coronavirus-vaccine-trump/2020/09/01/b44b42be-e965-11ea-bf44-0d31c85838a5\\_story.html](http://www.washingtonpost.com/world/coronavirus-vaccine-trump/2020/09/01/b44b42be-e965-11ea-bf44-0d31c85838a5_story.html)).

history of hurricanes over the last 75 years or more—more frequent, more costly, more damage. So, the climate has changed.”<sup>63</sup>

**Recommendation: The Biden Administration and Congress should work together to ensure that adequate investments are made to increase resilience and reform recovery efforts with the aim of better preparing cities, states, and regions to minimize disaster risk and damage.**

Federal resiliency and recovery efforts appears to be an area with a degree of bipartisan support. A 2019 study conducted by the non-partisan National Institute of Building Sciences found that every \$1 invested in resilient infrastructure saves \$6 in future disaster costs.<sup>64</sup> The idea of building infrastructure better equipped to deal with natural disasters is appealing to fiscal conservatives who are loathe to keep spending taxpayer dollars rebuilding federal infrastructure just to see it destroyed again.<sup>65</sup> Among the first congressional committees to embrace the idea of resilient infrastructure were the House and Senate Armed Services committees, which legislated resiliency into the fiscal 2019 National Defense Authorization Act.<sup>66</sup> In addition, business-oriented groups known for supporting Republican political interests, including the U.S. Chamber of Commerce have also taken on a role in promoting policies to help ensure that the country builds modern, resilient infrastructure—including programs like the Resilience Revolving Loan Fund focused on pre-disaster mitigation efforts and tools to reduce climate risks.<sup>67</sup>

#### **D. Economic Tools**

**Recommendation: The Biden Administration should develop an aggressive, science-based social cost of carbon in federal regulatory actions and decision-making processes that increases over time and incorporates quantified effects on human health and other plausible climate impacts like damage from the increased frequency and severity of natural disasters. This figure should reflect global impacts—recognizing that the only way to protect American lives and livelihoods is**

---

<sup>63</sup> Committee on Oversight and Reform, Subcommittee on Environment, *Hearing on FEMA’s Natural Disaster Preparedness and Response Efforts During the Coronavirus Pandemic* (July 24, 2020) (online at <https://oversight.house.gov/legislation/hearings/fema-s-natural-disaster-preparedness-and-response-efforts-during-the>); see also *Disaster Chief Links Warming to Hurricanes For First Time*, E&E News (July 27, 2020) (online at [www.eenews.net/stories/1063635357](http://www.eenews.net/stories/1063635357)).

<sup>64</sup> National Institute of Building Sciences, *Natural Hazard Mitigation Saves 2019 Report* (Dec. 2019) (online at [https://cdn.ymaws.com/www.nibs.org/resource/resmgr/reports/mitigation\\_saves\\_2019/mitigationsaves2019report.pdf](https://cdn.ymaws.com/www.nibs.org/resource/resmgr/reports/mitigation_saves_2019/mitigationsaves2019report.pdf)).

<sup>65</sup> *How ‘Resilience’ Became a Politically Safe Word for ‘Climate Change’*, Roll Call (Sept. 30, 2019) (online at [www.rollcall.com/2019/09/30/how-resilience-became-a-politically-safe-word-for-climate-change/](http://www.rollcall.com/2019/09/30/how-resilience-became-a-politically-safe-word-for-climate-change/)).

<sup>66</sup> *Id.*, see also Center for Climate and Security, *U.S. Congress Addresses Climate Change and Security in the Latest Defense Bill* (Aug. 13, 2018) (online at <https://climateandsecurity.org/2018/08/u-s-congress-addresses-climate-change-and-security-in-the-latest-defense-bill/>).

<sup>67</sup> U.S. Chamber of Commerce, *With Momentum Building, Historic Climate Change Progress is Possible in 2020* (Sept. 24, 2020) (online at [www.uschamber.com/series/above-the-fold/momentum-building-historic-climate-change-progress-possible-2020](http://www.uschamber.com/series/above-the-fold/momentum-building-historic-climate-change-progress-possible-2020)).

**to take steps to ensure that all nations take account of the global harm in setting emissions limits.**

Dr. Michael Greenstone informed the Subcommittee that one of the surest ways to make progress in reducing carbon dioxide (CO<sub>2</sub>) emissions inexpensively is to set an economywide price on CO<sub>2</sub> emissions, either through a tax or by instituting a cap-and-trade market. If set at the correct level (e.g., the social cost of carbon), these pricing approaches would address a current challenge to addressing the climate crisis: that currently people and firms do not take account of the damages that they cause when they engage in activities that involve the release of CO<sub>2</sub>.<sup>68</sup>

**Recommendation: The Biden Administration’s budget should reflect increases in Research, Development, and Demonstration/Deployment (RD&D) investment across all relevant federal agencies to devote adequate resources and staff to conduct forward-looking and innovative research aimed at economy-wide CO<sub>2</sub> emissions reductions, including increasing energy efficiency and other mitigation-focused efforts.**

Dr. Greenstone also asserted that the federal government must adequately invest in RD&D to help obtain inexpensive emissions reductions in the future. The private sector, on its own, will not invest enough financial resources in RD&D because some of the benefits of these investments flow to their competitors; therefore, this presents an opportunity for the federal government to increase investments to meet the climate challenge through agencies like the Department of Energy’s Advanced Research Projects Agency.<sup>69</sup>

**Recommendation: The Biden Administration should work with Congress to reform the types and amounts of federal subsidies available to energy companies with the aim of reducing and eliminating subsidies available for fossil fuels and an increase in economic opportunities for renewable energy companies, projects, and initiatives.**

Congress must work to achieve greater parity, at minimum, between federal subsidies for renewable energy projects and subsidies available to the fossil fuel industry. Beyond parity, it is important that the federal government seek to eliminate the tens of billions of dollars’ worth of federal tax subsidies for fossil fuel companies, which can and should be invested into our economy instead.

**Recommendation: Congress should pass legislation to amend the Internal Revenue Code to give renewable energy projects access to master limited partnerships (MLP), a tax advantage currently available only to oil, gas, and coal projects, to level the playing field to make renewable energy sources more competitive for private capital investments.**

---

<sup>68</sup> Committee on Oversight and Reform, Subcommittee on Environment, Statement of Dr. Michael Greenstone, Milton Friedman Distinguished Service Professor in Economics, University of Chicago, *Briefing on Climate Change, Part IV: Current Economic Effects of Climate Change and the Costs of Inaction* (Dec. 19, 2019).

<sup>69</sup> *Id.*

Despite efforts by the fossil fuel industry to mislead the American public regarding the negative impact of continued carbon dioxide emissions, the entire energy sector, including oil and gas companies, should be a partner in transitioning the United States' economy to reliance on renewable energy—and the federal tax code must reflect that stated goal.

**Recommendation: The Biden Administration should launch collaborative efforts with the financial services sector, including insurers, to improve the understanding and management of climate and disaster risks.**

The financial services sector, including insurance systems, and government programs have developed haphazardly and are ill-suited to effectively plan for and address the increasing risks climate change presents to their operations.<sup>70</sup> Launching collaborative efforts to engage the financial services sector would help both entities better serve cities, states, and Americans across the country.

#### **E. The Role of Industry in Defeating Past and Current Climate Legislation**

**Recommendation: The Committee on Oversight and Reform should continue to investigate the extent to which industry has influenced the Trump Administration's actions—including anti-climate decisions and regulatory actions.**

Throughout the 116th session of Congress, the Subcommittee heard testimony by several witnesses regarding industry's role in defeating past and current climate action. This testimony is alarming and raises serious questions regarding the industry influence over the federal government and underscores the need for reform.

## **VI. CONCLUSION**

The Subcommittee explored the early scientific consensus on climate change, a reality confirmed in the 1970s and 1980s by internal scientists at major fossil fuel companies such as Exxon and Shell, which concluded that climate change was real and was caused by the combustion of fossil fuels. This reality was later denied by those same companies once the United States began to take action to address global warming.

In subsequent hearings and briefings, the Subcommittee examined the current devastating consequences of climate change for public health, the frequency and severity of natural disasters, and our economic well-being. To conclude, the Subcommittee focused on efforts to move toward a more sustainable future and the resulting economic opportunities tied to taking climate action.

Unfortunately, rather than mobilizing efforts to combat this existential threat to the country and to national security, President Trump sought to attack and undermine science,

---

<sup>70</sup> *Climate Change: Can the Insurance Industry Afford the Rising Flood Risk?*, Financial Times (Feb. 18, 2020) (online [www.ft.com/content/757d4cf8-4e51-11ea-95a0-43d18ec715f5](http://www.ft.com/content/757d4cf8-4e51-11ea-95a0-43d18ec715f5)).

opposed the development of a greener economy, and undermined American leadership and collaboration abroad.

The nation needs strong leadership to combat climate change. Harnessing American ingenuity and innovation through investment and incentives will create the jobs of the future—indeed, it already has. Developing and deploying new and emerging technologies for reducing greenhouse gas emissions and mitigating existing carbon pollution is good for business—some of the largest companies are already pivoting and making sizeable investments in these tools. Advancing strategies to decarbonize industry and achieve net zero emissions goals will result in economic growth—cities and states across the country are already rising to the challenge in the absence of federal leadership.

By recognizing the challenges at hand, seizing this moment, and prioritizing justice and equity in the transition to the future, the country has the potential to usher in a new era of economic growth, job creation, and opportunity for all Americans. While the challenge is great, the opportunities are greater. Climate change is an existential problem. It threatens every aspect of humanity's existence. The decisions our nation makes now will affect life on Earth for generations to come. There is no time to waste.