# The Earth Warms While Trump Ignores Science

To Our Elected Leaders at All Levels of Government -

As former employees of the U.S. Environmental Protection Agency, we know that science is at the heart of the bipartisan progress our nation has made toward protecting public health and the environment. Americans enjoy cleaner air, water and land today because for decades we have followed the science, using the best available evidence to understand and solve environmental problems. Yet as we mark the 47<sup>th</sup> Earth Day this month, the Trump Administration and its supporters in Congress are turning their backs on science and what it tells us about the gravest environmental problem of our times – climate change.

On April 22, Earth Day, tens of thousands of people marched in this country and around the world¹ to support science and the central role it plays in our lives. On April 29, people will march in cities and towns across the U.S. and the world to demand climate protection. The combined message of these marches is clear – that science must guide and speed our collective efforts to protect life on Earth from climate change. We urge you to join us at the climate marches and heed that message by rejecting the Trump Administration's climate denial policies and taking the action needed to help arrest human-caused climate change.

**Trump's policy of denial.** In a 2010 report that Congress itself commissioned, the National Research Council concluded, "Climate change is occurring, is caused largely by human activities, and poses significant risks for – and in many cases is already affecting – a broad range of human and natural systems." Other national and international scientific groups have since confirmed and strengthened the NRC's conclusion in light of more recent evidence.

Despite these authoritative reports, President Trump recently took two actions that turn a willfully blind eye to climate change, its human causes and its increasingly dangerous consequences:

 His so-called "Energy Independence Executive Order" stalls action to combat climate change and throws away tools that help policymakers and the public better understand, respond to and plan for the changes already underway. His justification has nothing to do with facts, either about climate change or the coal-mining jobs he claims will come back. See <u>EO Summary</u>.

<sup>&</sup>lt;sup>1</sup> The Wall Street Journal, April 24, 2017. <a href="http://secure.marketwatch.com/story/tens-of-thousands-march-for-science-in-more-than-500-rallies-around-the-world-2017-04-24?link=MW">http://secure.marketwatch.com/story/tens-of-thousands-march-for-science-in-more-than-500-rallies-around-the-world-2017-04-24?link=MW</a> story latest news

<sup>&</sup>lt;sup>2</sup> National Research Council (2010), "Advancing the Science of Climate Change," National Academy Press, Washington, D.C., p.3. The NRC is the operating arm of the National Academies of Science.

<sup>&</sup>lt;sup>3</sup> See, for example, U.S. Global Change Research Program, Climate Change Impacts in the United States: The Third National Climate Assessment, May 2014; and IPCC, 2014: Climate Change 2014: Synthesis Report, Geneva, Switzerland.

His proposed budget would defund EPA climate science and virtually eliminate EPA's
capacity to take regulatory action or promote voluntary action in response to scientific
findings showing that climate change already threatens the lives, health and property of
Americans and people around the world. Other federal agencies would face cuts in
climate science and clean energy research. See <u>Budget Summary</u>.

Trump's unprecedented and irrational break with science. The President's reckless disregard for the science and consequences of climate change stands in stark contrast to his predecessors' respect for science and common sense. For nearly 50 years, Republican and Democratic administrations have recognized scientific evidence that pollution has the potential to alter the world's climate in dangerous ways. In 1970, President Richard Nixon's Council on Environmental Quality recognized the phenomenon of "man's inadvertent modification of weather and climate" from growing levels of air pollution. In 1992, President George H.W. Bush agreed to the United Nations Framework Convention on Climate Change, the first international treaty to address human-caused climate change.

In 2008 under President George W. Bush,<sup>5</sup> and again in 2009 under President Obama,<sup>6</sup> EPA conducted exhaustive, public rounds of review of the available scientific evidence of climate change. The agency relied primarily on major, peer-reviewed assessments of the climate science literature by the government-wide U.S. Global Change Research Program, the National Research Council and the Intergovernmental Panel on Climate Change. After considering more than 11,000 individual public comments, EPA concluded in 2009 that climate-changing pollution endangers Americans' health and welfare – and in ways unprecedented in scope and severity.<sup>7</sup>

EPA explained that multiple lines of evidence show that most of the recent warming is due to human activities. One, greenhouse gas concentrations in the atmosphere have increased to levels not seen in hundreds of thousands of years, and these gases are known to trap heat. Two, multiple sets of temperature records show that the earth is in fact growing hotter, and estimates of past climate changes suggest that changes in global surface temperature over the last several decades are unusual. Three, peer-reviewed climate models that simulate response

<sup>&</sup>lt;sup>4</sup> U.S. CEQ, "Environmental Quality: The First Annual Report of the Council on Environmental Quality," August 1970, p. 93-104. That same year, Congress added "climate" to Clean Air Act's definition of "welfare" effects that the Act protects from air pollution.

<sup>&</sup>lt;sup>5</sup> U.S. EPA, Technical Support Document for Endangerment Analysis for Greenhouse Gases under the Clean Air Act, Sixth Order Draft, June 21, 2008.

https://www.regulations.gov/document?D=EPA-HQ-OAR-2008-0318-0082

<sup>&</sup>lt;sup>6</sup> U.S. EPA, Technical Support Document for Endangerment and Cause or Contribute Findings for Greenhouse Gases under Section 202(a) of the Clean Air Act, December 7, 2009. https://www.epa.gov/climatechange/technical-support-document-findings

<sup>&</sup>lt;sup>7</sup> U.S. EPA, Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act; Final Rule, Federal Register, Vol. 74, No. 239, December 15, 2009. https://www.epa.gov/sites/production/files/2016-08/documents/federal\_register-epa-hq-oar-2009-0171-dec.15-09.pdf

of the climate system to natural and human influences are only able to replicate the observed warming when human-caused emissions of greenhouse gases are included.<sup>8</sup>

EPA's endangerment finding was upheld by the U.S. Court of Appeals for the D.C. Circuit. Based on that finding, EPA began limiting greenhouse gas emissions from motor vehicles and other sources.

**Trump's risk-taking with American lives, property and legacy**. Since EPA's first endangerment finding in 2009, the scientific case that climate change is already occurring and will worsen over time has only grown stronger. Different administrations can and do decide on different policy approaches for addressing the same set of facts. But the Trump Administration is choosing to ignore the facts of climate change, endangering us all.

Scientists warn of climate change impacts so numerous and far-reaching that they are almost impossible to comprehend – except that we are already beginning to experience many of them: more extreme weather leading to heat waves, flooding, drought, mudslides and wildfires; melting glaciers, rising sea levels and higher storm surges inundating coastal communities; ocean acidification and coral death; the spread of tropical and other diseases to new areas of the U.S.; and migration or extinction of species important to agriculture, fishing, tourism and the world's biodiversity. Many impacts are, for all practical purposes, irreversible. See <u>Climate Change Science Summary</u>.

Action to reduce climate change needs to be taken now. While many air pollutants stay in the atmosphere only a short time, most climate-changing pollution remains in the atmosphere for tens, hundreds or even thousands of years depending on the pollutant. That means that the longer we wait to rein in the pollution, the more it builds up in the atmosphere and the more it warms the Earth, creating the damaging impacts described above.

**Trump's abdication of global leadership.** For climate change to be limited, countries around the world must reduce the pollution fueling it. Recent U.S. efforts to reduce its climate-changing pollution were instrumental to persuading other high-emitting countries to reduce their pollution as part of the Paris Accords. President Trump's attempts to sweep away U.S. climate protection policies not only diminish the U.S. in the eyes of the world but set a dangerous example for other nations.

**Facing facts.** The Trump Administration efforts to extinguish U.S. climate change policy and leadership flout scientific fact and common decency. We are in a global race against time to limit climate change. Unless action is taken now, Americans and people around the world will face the ever-encroaching, increasingly devastating effects of climate change.

Americans have always taken pride in leaving the world a better place for the next generation. We now stand on the brink of leaving our children and their children a more dangerous and

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<sup>&</sup>lt;sup>8</sup> Ibid, pp. 66523 and subsequent.

diminished world. At the upcoming climate marches and going forward, we call on you, our elected leaders, to stand with us for what has always made this country great – meeting the challenges of our times so that our children can inherit a better world. Take action now to put our world on course for a stable climate future.

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# Trump's Anti-Climate-Protection Executive Order

President Trump's so-called "Energy Independence Executive Order" is designed to undo most federal rules and policies for limiting climate change and defending against its impacts. This suggests that he continues to hold the unscientific view that climate change is a "hoax," in addition to regarding climate change programs as "a waste of money."

The order would establish a policy of promoting energy development and call for a review of regulations and policies that potentially burden development or use of domestically produced energy resources, with particular attention to oil, natural gas, coal and nuclear energy resources. Several EPA and Interior Department rules environmental safeguards are singled out for review to determine if it is appropriate to suspend, rescind or revise them. Removing needed environmental safeguards on fossil energy would tip the playing field against renewable energy resources that do less damage to the climate and clean air, water and land.

The order deliberately seeks to hide the seriousness of climate change impacts in studies that are done to inform government decision-makers and the public. And the order is propped up with arguments about jobs and energy markets that fly in the face of fact.

Rolling Back Emission Controls. The order requires EPA to review -- and if appropriate, to suspend, revise or rescind -- the Clean Power Plan and related rules to reduce climate-changing emissions from power plants, the largest source of these emissions in the U.S. EPA is to do the same for 2016 emission standards for the oil and natural gas sector. On a separate track, the Administration has revoked an EPA finding confirming the feasibility of already finalized 2017-2025 motor vehicle standards for climate-changing emissions, and ordered the agency to reconsider. The executive order's policy and Administration officials' statements indicate that these reviews are likely to produce rules more favorable for industry, and less protective of the public.

**Damaging Climate Change Readiness.** Inexplicably, the order pulls back a 2013 executive order intended to strengthen the nation's defenses against the effects of climate change. That order directed federal agencies to prepare for climate change impacts and to help states and cities

<sup>&</sup>lt;sup>1</sup> Presidential Executive Order on Promoting Energy Independence and Growth, March 28, 2017. https://www.whitehouse.gov/the-press-office/2017/03/28/presidential-executive-order-promoting-energy-independence-and-economi-1

<sup>&</sup>lt;sup>2</sup> The Washington Post, "China Tells Trump climate change is not a Chinese hoax," Jasper Scherer, November 17, 2016. <a href="https://www.washingtonpost.com/news/morning-mix/wp/2016/11/17/chinatells-trump-climate-change-is-not-a-chinese-hoax/?utm\_term=.2be8d4db4f38">https://www.washingtonpost.com/news/morning-mix/wp/2016/11/17/chinatells-trump-climate-change-is-not-a-chinese-hoax/?utm\_term=.2be8d4db4f38</a>

<sup>&</sup>lt;sup>3</sup> Asked about proposed cuts to climate change-related programs, Office of Management and Budget Director Mick Mulvaney said, "I think the President was fairly straightforward. We're not spending money on that anymore. We consider that to be a waste of your money to go out and do that." CNN, "Trump Budget Chief on Climate Change …," Dan Merica and Rene Marsh, March 16, 2017. <a href="http://www.cnn.com/2017/03/16/politics/donald-trump-budget-cut-epa/index.html">http://www.cnn.com/2017/03/16/politics/donald-trump-budget-cut-epa/index.html</a>

formulate and implement measures to prepare for and protect against the effects of climate change.

**Hiding the Truth from the Public and Decision Makers**. The Trump order contains several provisions that would hide the full effects of climate change from citizens and from government decision makers.

The order revokes the government's existing estimates of the dollar value of damage from a ton of climate-changing emissions; these estimates are used in benefit-cost analyses of potential government policies. The order returns the government to a 2003 approach that will shrink damage estimates, creating a bias against actions to limit climate-changing emissions and actions to prepare the nation for climate change. This change will hide from citizens and government decision makers the full costs of those emissions to society.

The order rescinds guidance to help federal agencies analyze a proposed federal action's effect on climate change, and the effect of climate change on environmental impacts of a federal action, under the National Environmental Policy Act. The guidance was intended to help agencies do a thorough analysis of climate impacts of federal actions. Without it, these analyses are likely to be less informative and less thorough, limiting the information available to government decision makers and to the public.

As noted above, the order calls for review of rules, policies and practices that it says impede domestic energy production. In the past, similar language has been code for limiting the ability of citizens to have access to information about industrial development in their communities and to have a voice in decisions about that development.

Removing Environmental Safeguards for Oil and Gas Development. In addition, the order calls for reviewing and potentially rescinding Interior Department rules that require the oil and gas industry to use best practices in hydraulic fracturing on federal and Indian lands, to minimize impacts of exercising oil and gas rights on national parks and wildlife refuges, and to reduce wasteful flaring of natural gas on federal lands. The likely results would include higher climate-changing emissions and more harm to air and water quality.

**Using Specious Arguments to Justify the Order.** The Trump Administration argues that the new executive order is needed to promote **energy independence.** Yet virtually all the energy used to generate electricity today is produced in the United States. Moreover, the Energy Information Administration has projected that with the Clean Power Pan in effect, under most of the scenarios analyzed, the U.S. between 2020 and 2030 would become a net energy exporter as natural gas exports grow and domestic use of liquid petroleum falls. This would continue to be the case at least until 2040.<sup>4</sup>

<sup>&</sup>lt;sup>4</sup> US Energy Information Administration, Today in Energy, January 5, 2017. https://www.eia.gov/todayinenergy/detail.php?id=29433

The Trump Administration also argues that the new executive order is needed to **promote energy production and economic growth**. U.S. Energy Information Administration figures indicate that beginning in 2008, U.S. energy production has been higher each year than in any year before that date.<sup>5</sup>

Nor does it create jobs. President Trump told coal miners at the signing ceremony that the executive order would bring back **coal-mining jobs**, but multiple coal and utility industry representatives and analysts said the opposite.<sup>6</sup> At best, the order might slow the decades-old decline in coal-mining employment as coal production has become mechanized and competing fuels have become competitive. But due to those factors, it may have no appreciable effect on coal-mining jobs.<sup>7</sup>

While the U.S. is experiencing job losses in the coal-related activities, the employment in the oil and gas sectors is growing. Oil and gas added a net 80,000 jobs between 2004 and 2014. There is even stronger job growth in the renewable energy sector. The Department of Energy (DOE) reports that the solar industry created 115,000 jobs in 2016 alone, and there were an additional 102,000 workers employed at U.S. wind farms. In addition, DOE reports that there are over 2 million people are working in industries either fully or partially related to energy efficiency. Surely if the Administration wanted to create energy jobs it would focus on bolstering the programs that promote renewable energy and energy efficiency. But it has not done that.

<sup>&</sup>lt;sup>5</sup> See Monthly Energy Review, March 2017, p.3. https://www.eia.gov/totalenergy/data/monthly/pdf/mer.pdf

<sup>&</sup>lt;sup>6</sup> The Hill, "Coal executive: Trump 'can't bring mining jobs back'," by Devin Henry, March 27, 2017, <a href="http://thehill.com/policy/energy-environment/325891-coal-executive-trump-cant-bring-mining-jobs-back">http://thehill.com/policy/energy-environment/325891-coal-executive-trump-cant-bring-mining-jobs-back</a>; The New York Times, "Planned Rollback of Climate Rules Unlikely to Achieve All Trump's Goals," by Coral Davenport, March 27, 2017, <a href="https://www.nytimes.com/2017/03/27/climate/planned-rollback-of-climate-rules-unlikely-to-achieve-all-trumps-goals.html">https://www.nytimes.com/2017/03/27/climate/planned-rollback-of-climate-rules-unlikely-to-achieve-all-trumps-goals.html</a>; Bloomberg News, "Trump's Executive Order Won't Save Coal Mining Jobs," by Jennifer A. Diouhy and Ari Natter, March 27, 2017, <a href="https://www.bloomberg.com/politics/articles/2017-03-27/trump-s-order-won-t-resurrect-jobs-of-miners-key-to-his-campaign">https://www.bloomberg.com/politics/articles/2017-03-27/trump-s-order-won-t-resurrect-jobs-of-miners-key-to-his-campaign</a>.

<sup>&</sup>lt;sup>7</sup> Ibid.

<sup>&</sup>lt;sup>8</sup> Interagency QER Task Force, Transforming the Nation's Electricity Sector: The Second Installment of the Quadrennial Energy Review, January 2017, p. 5-1. https://www.energy.gov/epsa/downloads/quadrennial-energy-review-second-installment

# Trump Administration Proposing to Stop Funding Most EPA Climate Programs and Cut Science Research

President Trump's FY2018 Budget Blueprint calls for eliminating most Environmental Protection Agency climate change programs – including many emission reduction programs and its climate change research program -- even as the earth continues to warm and climate change impacts grow worse.

The Blueprint would discontinue funding for implementing rules such as the Clean Power Plan to cut climate-changing emissions from power plants, and would eliminate 14 voluntary climate partnership programs that help industries, consumers, and states reduce emissions. Climate protection program activities that required \$70 million and 224 personnel in FY2016, including the 14 programs, would be reduced to zero, according to a March 21 EPA memo.<sup>1</sup>

These proposals show a willful disregard for the conclusions of authoritative scientific bodies such as the National Research Council, which have concluded that human activities are causing climate changes that pose significant risks and are already have far-reaching effects. <u>See climate science summary</u>.

EPA's regulatory and voluntary programs are responsible for much of the greenhouse gas (GHG) reductions the U.S. government has worked to achieve to date. Those programs have also been key to persuading other countries to agree to reduce their own GHG pollution.<sup>2</sup> Loss of EPA's climate programs without equally effective replacements soon would harm the world we inhabit and leave for future generations.

The misguided elimination of many climate change programs is a component of a Trump Administration budget that would slash EPA's non-infrastructure funding by 43 percent – the most ever in a single year.<sup>3</sup> EPA's workforce would be cut by more than one-fifth. The Budget Blueprint released in March sketches the broad outlines of the full budget proposal expected in May.

**Climate and other research cuts.** The Blueprint would eliminate funding for EPA climate change research, part of the government-wide U.S. Global Change Research Program. EPA's research recently has focused on assessing human and ecosystem exposures and effects associated with air pollutants and climate change, and on preparing for and responding to

<sup>&</sup>lt;sup>1</sup> EPA memorandum, "FY 2018 President's Budget: Major Policy and Final Resource Decisions," by David A. Bloom, Acting Chief Financial Officer, March 21, 2017, p. B-2.

https://www.washingtonpost.com/apps/g/page/politics/epas-spending-cut-plan/2188/?tid=a\_inl

<sup>&</sup>lt;sup>2</sup> E&E News/Climatewire, "Clean Power Plan: World watches as U.S. climate saga heads for court showdown," by Emily Holden, September 26, 2016. <a href="http://www.eenews.net/stories/1060043400">http://www.eenews.net/stories/1060043400</a>

<sup>&</sup>lt;sup>3</sup> The Environmental Protection Network, *Analysis of Trump Administration Proposals for FY2018 Budget for the Environmental Protection Agency*, March 22, 2017. <a href="https://drive.google.com/file/d/08-47Xatsg07SQk5rMGhkSHQtc0U/view?usp=sharing">https://drive.google.com/file/d/08-47Xatsg07SQk5rMGhkSHQtc0U/view?usp=sharing</a>

changes in climate and air quality. Among other things, eliminating EPA's climate research would undermine EPA's ability to provide tools and information needed by individuals, communities and government agencies to take action to prepare for and mitigate the impacts of climate change, and make public health decisions on air quality.

Climate and clean energy research at other agencies would face substantial cuts as well. The Blueprint would:

- Eliminate four NASA earth science missions important to climate research that use
  instruments to study clouds, small airborne particles, the flow of carbon dioxide and
  other elements of the atmosphere and oceans;<sup>4,5</sup>
- Reduce funding for the National Oceanic and Atmospheric Administration's Polar Follow
  On satellite program,<sup>6</sup> a move that could increase risks of weather and climate data
  gaps, according to a former NOAA chief.<sup>7</sup>
- Eliminate \$250 million in targeted NOAA programs including Sea Grants,<sup>8</sup> which supports research to help coastal communities deal with climate change and other challenges;<sup>9</sup>
- Cut \$2 billion from Department of Energy which reportedly would cut back DOE partnerships with the private sector to help deploy new energy technologies (as well as eliminate the Weatherization Assistance Program and State Energy Program). 10,11 DOE research programs specifically slated for elimination include the Advanced Research Projects Agency-Energy, which funds early research into long-shot energy technologies

<sup>&</sup>lt;sup>4</sup> The New York Times, "Scientists Fear Climate Data Gap as Trump Aims at Satellites," by Henry Fountain, April 10, 2017. <a href="https://www.nytimes.com/2017/04/10/climate/trump-nasa-satellites-global-warming-data.html">https://www.nytimes.com/2017/04/10/climate/trump-nasa-satellites-global-warming-data.html</a>

<sup>&</sup>lt;sup>5</sup> Office of Management and Budget, "America First: A Budget Blueprint to Make America Great Again," March 2017, p. 43. (In subsequent footnotes, this document cited as "Trump Budget Blueprint.") <a href="https://www.whitehouse.gov/sites/whitehouse.gov/files/omb/budget/fy2018/2018\_blueprint.pdf">https://www.whitehouse.gov/sites/whitehouse.gov/files/omb/budget/fy2018/2018\_blueprint.pdf</a>.

<sup>&</sup>lt;sup>6</sup> Ibid, p. 14. See also The Washington Post, "Proposed budget for Commerce would cut funds for NOAA," by Chris Mooney, March 16, 2017.

https://www.washingtonpost.com/business/economy/proposed-budget-for-commerce-would-cut-funds-for-noaa/2017/03/15/6c93d864-09ad-11e7-93dc-00f9bdd74ed1 story.html?utm term=.2fa662fce5dd

<sup>&</sup>lt;sup>7</sup> D. James Baker, former NOAA Administrator, personal communication, April 19, 2017.

<sup>&</sup>lt;sup>8</sup> See footnote 5.

<sup>&</sup>lt;sup>9</sup> Vox, "Trump's budget would hammer climate programs at EPA, NASA, NOAA, and Energy, by Brad Plumer, March 16, 2017. <a href="http://www.vox.com/energy-and-environment/2017/3/16/14943826/trump-budget-proposal-climate-change">http://www.vox.com/energy-and-environment/2017/3/16/14943826/trump-budget-proposal-climate-change</a>

<sup>&</sup>lt;sup>10</sup> Trump Budget Blueprint, p. 20.

https://www.whitehouse.gov/sites/whitehouse.gov/files/omb/budget/fy2018/2018\_blueprint.pdf <sup>11</sup> See footnote 9.

too risky for the private sector, and loan guarantee programs such as the Advanced Technology Vehicle Manufacturing Program, which provided early funding to TESLA.<sup>12</sup>

Climate research is not the only EPA research targeted for deep cuts. Overall, the Blueprint would cut funding for EPA's Office of Research and Development by 48%.<sup>13</sup> According to the evolving budget proposal described in the March 21 EPA memo, staff positions would be cut by 47% for research on air, climate and energy; 34% for research on safe and sustainable water resources; 43% for research on sustainable and health communities, and 22% for chemical safety and sustainability. Cuts in non-pay funding, which includes for example grant money for external research, would range from 41% to 88% depending on the research area.<sup>14</sup>

**Voluntary Climate Change Partnership Programs**. The 14 climate partnership programs slated for elimination help industries, consumers, and states to cut climate-changing pollution and other air pollution. In many cases, they also save businesses or consumers money by increasing efficiency and cutting energy bills. Energy Star, for example, since 1992 has prevented more than two billion tons of GHG emissions and saved \$362 million in utility bills. <sup>15</sup> Previous Republican and Democratic administrations have supported voluntary climate partnership programs.

According to a March 21 EPA memo, the 14 voluntary climate partnership programs slated for elimination are:

- Energy Star, which identifies and promotes energy efficient products to reduce GHG pollution and other air pollution. The widely recognized Energy Star label is now on major appliances, office equipment, lighting, home electronics, and new homes, buildings and plants. Energy Star also provides tools like Portfolio Manager, an interactive tool that enables companies to track and assess energy and water use across their portfolio of buildings.<sup>16</sup>
- *Green Power Partnership*, which encourages organizations to use renewable electricity to reduce GHG and other pollution associated with conventional electricity use.<sup>17</sup>
- Combined Heat & Power Partnership, which encourages facilities that generate
  electricity on-site to capture heat that is otherwise wasted and use it to provide steam
  or hot water for space heating, cooling, domestic hot water and industrial processes.<sup>18</sup>
- **Natural Gas STAR**, in which partner companies voluntarily reduce methane emissions, improve air quality, increase operational efficiency, and capture and monetize this

<sup>13</sup> Trump Budget Blueprint, p. 42.

<sup>&</sup>lt;sup>12</sup> See footnote 9.

 $<sup>\</sup>underline{\text{https://www.whitehouse.gov/sites/whitehouse.gov/files/omb/budget/fy2018/2018\_blueprint.pdf}}$ 

<sup>&</sup>lt;sup>14</sup> March 21 EPA budget memorandum, p. 20. For full cite and hyperlink, see footnote 1.

<sup>&</sup>lt;sup>15</sup> U.S. EPA. See https://www.energystar.gov/about/newsroom/the-energy-source/achievements

<sup>&</sup>lt;sup>16</sup> https://www.energystar.gov/buildings/facility-owners-and-managers/existing-buildings/use-portfolio-manager/learn-how-portfolio-manager

<sup>&</sup>lt;sup>17</sup> https://www.epa.gov/greenpower

<sup>18</sup> https://www.epa.gov/chp/what-chp

- valuable energy resource while also driving innovation and building a record of best practices. <sup>19</sup> Methane is a potent greenhouse gas.
- AgSTAR, which promotes the use of biogas recovery systems to reduce methane emissions from livestock waste.<sup>20</sup>
- Landfill Methane Outreach Program, which works cooperatively with industry and
  waste officials to reduce or avoid methane emissions from landfills through recovering
  and using biogas generated from organic municipal solid waste.<sup>21</sup>
- **Coalbed Methane Outreach Program**, which works with the coal mining industry in the U.S. and other major coal-producing countries to reduce methane emissions. <sup>22</sup>
- Voluntary Aluminum Industrial Partnership, a collaborative EPA-industry effort to improve aluminum production efficiency while reducing emissions of perfluorocarbons (PFC), which are potent greenhouse gases.<sup>23</sup>
- **SF6 Reduction Partnership for Electric Power Systems,** a collaborative EPA-industry effort to reduce emissions of sulfur hexafluoride, a highly potent greenhouse gas used in electric transmission and distribution equipment.<sup>24</sup>
- **Responsible Appliance Disposal Program**, which works with utilities, retailers, manufacturers, states, affiliates, and others to dispose of old refrigerated appliances using the best environmental practices available.<sup>25</sup>
- *GreenChill Partnership*, which works with food retailers to reduce HFC emissions and decrease their impact on stratospheric ozone and climate change.<sup>26</sup>
- **State and Local Climate Energy Program**, which offers expertise and information resources on about energy efficiency, renewable energy, and climate change policies and programs to interested <u>state</u>, <u>local</u>, and <u>tribal</u> governments.<sup>27</sup>
- **Center for Corporate Climate Leadership**, a resource center for all organizations looking to expand their work in the area of greenhouse gas (GHG) measurement and management, with a national climate leadership award program.<sup>28</sup>
- **SmartWay**, which helps companies assess and streamline shipping operations so they can use less fuel and generate less pollution. Experts project that by 2050, global freight transport emissions of CO<sub>2</sub> will surpass emissions from passenger vehicles.<sup>29</sup>

<sup>&</sup>lt;sup>19</sup> https://www.epa.gov/natural-gas-star-program/about-epas-oil-and-gas-methane-partnerships

<sup>&</sup>lt;sup>20</sup> https://www.epa.gov/agstar

<sup>21</sup> https://www.epa.gov/Imop

<sup>&</sup>lt;sup>22</sup> https://www.epa.gov/cmop

<sup>&</sup>lt;sup>23</sup> https://www.epa.gov/f-gas-partnership-programs/aluminum-industry

<sup>&</sup>lt;sup>24</sup> https://www.epa.gov/f-gas-partnership-programs/electric-power-systems-partnership

<sup>&</sup>lt;sup>25</sup> https://www.epa.gov/rad

<sup>&</sup>lt;sup>26</sup> https://www.epa.gov/greenchill

<sup>&</sup>lt;sup>27</sup> https://www.epa.gov/statelocalclimate

<sup>&</sup>lt;sup>28</sup> https://www.epa.gov/climateleadership

<sup>&</sup>lt;sup>29</sup> https://www.epa.gov/smartway/learn-about-smartway

**Regulatory Programs.** The Trump Blueprint would remove funding for implementing Clean Power Plan standards expected to reduce greenhouse gas pollution from existing power plants by 32% from 2005 levels by 2030. Power plants release 31% of total U.S. GHG pollution.<sup>30</sup>

Specific budget proposal information for these existing programs and for ongoing rulemakings reduce climate changing emissions is generally not yet available, but the budget documents repeatedly refer to de-emphasizing climate work and focusing on what the Trump Administration regards as "core programs." Trump has directed EPA to review, and consider revising or rescinding, rules to cut methane emissions from new or modified oil and gas facilities, and to reconsider standards to cut climate-changing emissions from 2017-2025 cars and light trucks. Those standards are expected to avoid 2 billion tons of climate-changing emissions reductions and result in approximately 4 billion barrels of oil savings over the lifetime of vehicles sold in model years 2017 through 2025.<sup>31</sup>

The March 21 memo indicates that the Trump budget would cut staffing by 43 positions for issuance of emissions control rules for stationary pollution sources. "Climate work" is identified as one focus of the reductions.

**International work.** The Budget Blueprint would eliminate funding for EPA's international climate programs, but does not name those programs. It is essential that other countries control their GHG pollution for significant progress to be made on mitigating increasing GHG levels and climate change impacts. The international climate work done by EPA and other agencies has helped move high-emitting countries like China, India, Brazil and others to take action to reduce emissions.

The Budget Blueprint for the State Department and related programs would cease U.S. payments to the Green Climate Fund, created by the United Nations Framework Convention on Climate Change, and its two precursor Climate Investment Funds.<sup>32</sup> As part of the Paris climate deal in 2015, the United States pledged to provide \$3 billion to poorer countries to help them adapt to climate change and develop clean energy, but only \$1 billion has been provided.<sup>33,34</sup>

<sup>&</sup>lt;sup>30</sup> U.S. EPA. See <a href="https://www.epa.gov/cleanpowerplan/clean-power-plan-existing-power-plant">https://www.epa.gov/cleanpowerplan/clean-power-plan-existing-power-plant</a>

<sup>&</sup>lt;sup>31</sup> EPA, Regulatory Impact Analysis: Final Rulemaking for 2017-2025 Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards, August 2012. https://nepis.epa.gov/Exe/ZyPDF.cgi/P100EZI1.PDF?Dockey=P100EZI1.PDF

<sup>&</sup>lt;sup>32</sup> Trump Budget Blueprint, p. 33.

https://www.whitehouse.gov/sites/whitehouse.gov/files/omb/budget/fy2018/2018 blueprint.pdf

<sup>&</sup>lt;sup>33</sup> See footnote 8.

<sup>&</sup>lt;sup>34</sup> Green Climate Fund web site.

 $<sup>\</sup>frac{\text{http://www.greenclimate.fund/documents/20182/24868/Status\_of\_Pledges.pdf/eef538d3-2987-4659-8c7c-5566ed6afd19}{\text{Notice of the problem of the problem$ 

### **Key Findings from Authoritative Scientific Reports On Climate Change**

### Scientific Findings

For decades, evidence has mounted that human activities, especially the burning of fossil fuels, is responsible for much of the warming and related climate changes being observed around the world.<sup>1</sup> The operating arm of the National Academy of Sciences, the National Research Council, published a broad assessment of the scientific literature in 2010 which stated:

"Climate change is occurring, is caused largely by human activities, and poses significant risks for -- and in many cases is already affecting -- a broad range of human and natural systems." "(emphasis added)

Statements by Trump Administration officials questioning the significance of the human contribution are at odds with this and other authoritative and peer-reviewed assessments of the scientific literature such as those by the government-wide U.S. Global Change Research Program and the Intergovernmental Panel on Climate Change, and scientific assessments by many foreign governments.<sup>iii</sup> These assessments are based on thousands of scientific studies that were subjected to peer review by other scientist to make sure the research methods were sound and that conclusions were be supported by the evidence. Recent assessments have provided further support for the conclusions summarized above.<sup>iv</sup>

It is important not to delay reducing carbon pollution and other greenhouse gas emissions because, once emitted, these emissions persist in the atmosphere for decades, hundreds of years, or even longer, depending on the chemical compound. As the National Research Council has explained, "The sooner that serious efforts to reduce greenhouse gas emissions proceed, the lower the risks posed by climate change, and the less pressure there will be to make larger, more rapid, and potentially more expensive reductions later."

The effects of emissions of carbon pollution and other greenhouse gases threaten the lives, health and well-being of Americans and people worldwide. These long-lived gases are building up in the atmosphere and causing far-reaching changes to our planet, according to the National Research Council and other scientific authorities:

- Heat waves and record high temperatures have increased across most regions of the world. Further warming will continue to increase risks of heat-related illnesses and deaths, especially among the poor and elderly. vi, vii
- Patterns of precipitation are already changing regionally and over time are expected to make dry areas dryer and wet areas wetter. These increasing trends will bring more droughts, increase fire risks, and intensify severe storms, viii extreme weather and flooding -- events that can cause deaths, and injuries, as well as billions of dollars of damage to property and the nation's infrastructure (e.g., electric power grid, roads and transportation systems, water distribution systems, buildings, etc.) ix

- Other climate change public health concerns raised in the scientific literature include anticipated increases in ground-level ozone pollution<sup>x</sup>, the potential for enhanced spread of some waterborne and pest-related diseases<sup>xi</sup>, and evidence for increased production or dispersion of airborne allergens<sup>xii</sup>.
- Rising sea levels are documented and are expected over time to cause coastal flooding that affects population centers in the U.S. and around the globe.xiii
- Numerous species in the ocean and on land over time will be threatened with extinction.xiv
- Threats to the food chain are becoming evident and will continue to be more pronounced. Warmer waters can lead to a decline in oxygen causing dead zones threatening important U.S. fisheries. Increased CO2 in the oceans is causing them to become increasingly acidic, threatening many species including important food commodities. On land the changing climate over time is expected to damage staple crops, and global food security may be threatened.xv
- The Department of Defense states, "Global climate change will aggravate problems such as poverty, social tensions, environmental degradation, ineffectual leadership and weak political institutions that threaten stability in a number of countries." xvi
- Those most vulnerable to climate related health effects -- such as children, the elderly, the poor, and future generations -- face disproportionate risks. Studies also find that climate change poses particular threats to the health, well-being, and ways of life of indigenous peoples in the United States.xvii
- Several assessments state that we may be approaching critical, poorly understood thresholds that may lead to rapid and potentially permanent changes not predicted by climate models that could cause abrupt and serious impacts for society and ecosystems.xviii

Actions to reduce climate-changing emissions will have multiple benefits. For example, reducing CO2 emissions from power plants will also reduce emissions of sulfur dioxide and nitrogen oxides. These pollutants contribute to formation of fine particle pollution and ozone pollution, which have a range of health effects including respiratory and cardiovascular illness and premature death.xix Studies have documented a wealth of opportunities to achieve GHG emission reductions that are cost-effective and provide economic stimulus to businesses helping to build a cleaner economy.xx

### **Continuing Denial**

Despite the authoritative studies summarized here, President Trump claimed in 2012 that "the concept of global warming was created by and for the Chinese in order to make U.S. manufacturing non-competitive." In 2014, he wrote, "This very expensive bulls--- has got to stop," and in another Twitter message referred to "global warming hoaxsters." The President's EPA Administrator, Scott Pruitt, has stated that he "would not agree" that human activity is "a primary contributor to the global warming that we see. We don't know that yet." XXIII

Notably, neither President Trump nor Administrator Pruitt has provided a scientific basis for his claim, and Pruitt apparently understands that the claims cannot be substantiated. In testimony before Congress, Pruitt said he would not try to reverse EPA's 2009 finding that greenhouse gas pollution endangers public health and welfare because a reversal would almost certainly be overturned by the courts. \*\*xiv\* While courts give EPA (and other expert agencies) deference in assessing scientific issues, they still insist that EPA consider the relevant scientific evidence and reach conclusions that are reasonable and rational considering that evidence.

As detailed in the studies noted above, the evidence that humans are the primary driver of climate change is extensive and compelling. The evidence was developed using the scientific method that we all learned as children in school – testing ideas of how natural systems work by collecting and objectively assessing information gathered through careful observation, measurement and experiment. The scientific method used in climate research also propels advances in medicine, technology and other important areas that benefit our lives.

So why the skepticism about climate science? For some, it may be the prospect of what combating climate change may mean for their businesses' bottom line, though combating climate change also offers many business opportunities. For others, it may be the belief that the relatively few scientists who are climate change skeptics are like Galileo, courageously dissenting from the prevailing scientific consensus. Yet comparing skeptics to Galileo proves nothing. In Galileo's day, the prevailing view that the sun revolved around the earth was largely based on religion; Galileo's contribution was to use the scientific method to show, based on his astronomical observations, that the earth revolves around the sun. Galileo is considered the father of the scientific method that climate and other scientists employ today. Climate science assessments by NRC and other scientific bodies consider a very broad range of peer-reviewed studies in the scientific literature and weigh the evidence in determining their conclusions.

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<sup>&</sup>lt;sup>i</sup> National Research Council of the National Academies, Climate change: Evidence, Impact and Choices, https://nas-sites.org/americasclimatechoices/more-resources-on-climate-change/climate-change-lines-of-evidence-booklet/

National Research Council (2010), <u>Advancing the Science of Climate Change</u>, National Academy Press, Washington, D.C., p. 3.

The NRC noted that its conclusion (above in quotes) is based on findings that are consistent with several other major assessments of the state of scientific knowledge on climate change. National Research Council (2010), *Advancing the Science of Climate Change*, National Academy Press, Washington, D.C., p. 286.

EPA has observed that these more recent assessments -- from the Intergovernmental Panel on Climate Change (IPCC), the U.S. Global Change Research Program (USGCRP), and the National Research Council (NRC) -- include: IPCC's 2012 Special Report on Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation (SREX) and the 2013–2014 Fifth Assessment Report (AR5), the USGCRP's 2014 National Climate Assessment, Climate Change Impacts in the United States (NCA3), and the NRC's 2010 Ocean Acidification: A National Strategy to Meet the Challenges of a Changing Ocean, 2011 Report on Climate Stabilization Targets: Emissions, Concentrations, and Impacts over Decades to Millennia, 2011 National Security Implications for U.S. Naval Forces, 2011 Understanding Earth's Deep Past: Lessons for Our Climate Future, 2012 Sea Level Rise for the Coasts of California, Oregon, and Washington: Past, Present, and Future, 2012 Climate and Social Stress: Implications for Security Analysis, and 2013 Abrupt Impacts of Climate Change.

Valional Research Council (2011) <u>America's Climate Choices: Report in Brief</u>, Committee on America's Climate Choices, Board on Atmospheric Sciences and Climate, Division on Earth and Life Studies, The National Academies Press, Washington, D.C., p. 2.

#### vi See footnote 1

vii Karl, T.R., J.M. Melillo, and T.C. Peterson (eds.) (2009), *Global Climate Change Impacts in the United States*, United States Global Change Research Program, Cambridge University Press, New York, NY, USA. https://www.rosemonteis.us/documents/016726

<sup>ix</sup> U.S. Global Change Research Program, *Climate Change Impacts in the United States: The Third National Climate Assessment*, May 2014. http://nca2014.globalchange.gov/report

\* CCSP (2008), Analyses of the effects of global change on human health and welfare and human systems. A Report by the U.S. Climate Change Science Program and the Subcommittee on Global Change Research. Gamble, J.L. (ed.), K.L. Ebi, F.G. Sussman, T.J. Wilbanks, (Authors), U.S. Environmental Protection Agency, Washington, DC, USA.

xi Confalonieri, U., B. Menne, R. Akhtar, K.L. Ebi, M. Hauengue, R.S. Kovats, B. Revich and A. Woodward (2007). Human health. In: Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change. Parry, M.L., O.F. Canziani, J.P. Palutikof., P.J. van der Linden and C.E. Hanson, (eds.), Cambridge University Press, Cambridge, United Kingdom.

viii See footnote 1.

<sup>&</sup>lt;sup>xii</sup> Ibid.

xiii See footnote 1.

xiv See footnote 1.

vii U.S. EPA, Regulatory Impact Analysis for the Clean Power Plan Final Rule, August 2015 (updated October 23, 2015). Available at: <a href="https://www.epa.gov/cleanpowerplan/clean-power-plan-final-rule-regulatory-impact-analysis">https://www.epa.gov/cleanpowerplan/clean-power-plan-final-rule-regulatory-impact-analysis</a>

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