

RISKS TO SCIENCE-BASED POLICY UNDER THE TRUMP ADMINISTRATION*

Gretchen Goldman,** Genna Reed,† and Jacob Carter‡

Our nation has a long history of reliance on science to inform policy decisions. Throughout its history, the United States has benefited greatly from the use of science in public policy. When President Abraham Lincoln signed into law legislation founding the National Academies of Science in 1863,¹ he answered the nation's call for "an institution of science . . . to guide public action in reference to science matters."² Today, science is employed on a daily basis to protect Americans' health and safety, bolster technological advancement, and help the nation predict and prepare for security threats.³ In ways unseen by most Americans, science is produced, utilized, and disseminated by our public

* The discussion within this Article can also be found in Gretchen Goldman et al., *Preserving Scientific Integrity in Federal Policymaking: Lessons from the Past Two Administrations and What's at Stake Under the Trump Administration*, UNION OF CONCERNED SCIENTISTS (Jan. 2017), <http://www.ucsusa.org/sites/default/files/attach/2017/01/preserving-scientific-integrity-in-federal-policymaking-ucs-2017.pdf>, and the work of the Union of Concerned Scientists.

** © 2018, Gretchen Goldman. All rights reserved. Research Director, Center for Science and Democracy at the Union of Concerned Scientists. Ph.D., Georgia Institute of Technology; M.S., Georgia Institute of Technology; B.S., Cornell University.

† © 2018, Genna Reed. All rights reserved. Science and Policy Analyst, Center for Science and Democracy at the Union of Concerned Scientists. M.A., Lehigh University; B.S., Lehigh University.

‡ © 2018, Jacob Carter. All rights reserved. Research Scientist, Center for Science and Democracy at the Union of Concerned Scientists. Ph.D., University of Kansas; M.S., Kansas State University; B.S., University of Central Arkansas.

1. An Act to Incorporate the National Academy of Sciences, 12 Stat. 806 (1863).

2. Gretchen Goldman et al., *Preserving Scientific Integrity in Federal Policymaking: Lessons from the Past Two Administrations and What's at Stake Under the Trump Administration*, UNION OF CONCERNED SCIENTISTS 1 (Jan. 2017), <http://www.ucsusa.org/sites/default/files/attach/2017/01/preserving-scientific-integrity-in-federal-policymaking-ucs-2017.pdf> [hereinafter *Preserving Scientific Integrity*].

3. Gretchen Goldman et al., *Progress and Problems: Government Scientists Report on Scientific Integrity at Four Agencies*, UNION OF CONCERNED SCIENTISTS 2 (Oct. 2015), <http://www.ucsusa.org/sites/default/files/attach/2015/09/ucs-progress-and-problems-2015.pdf> [hereinafter *Progress and Problems*].

institutions.⁴ It informs, illuminates, and steers our nation's direction on everything from global security policy down to keeping safe the food and products in our home.⁵

As the ability of science to impact policy increases, however, the temptation also increases for political, ideological, and financial interests to manipulate or suppress inconvenient data.⁶ When science is undermined in such a manner, the public is left with laws and regulations that inadequately meet the needs of citizens.⁷

When President Barack Obama took office, he vowed to “restore science to its rightful place”⁸ and took several steps to protect and advance the role that science plays in the federal government.⁹ In addition to enacting open government and open data initiatives and signing an executive order to address the revolving door between government and regulated industries,¹⁰ President Obama issued a directive that resulted in twenty-eight agencies and departments adopting scientific integrity policies, and many agencies installing scientific integrity officials to oversee the policies' adherence.¹¹

These recent efforts on scientific integrity and transparency were hard fought and sorely needed. They have laid the groundwork for ensuring greater scientific integrity across the government. These are key protections that must be adhered to—goals that will allow the new Administration and Congress to enact

4. *Scientific Integrity in Policymaking: An Investigation into the Bush Administration's Misuse of Science*, UNION OF CONCERNED SCIENTISTS 1 (Mar. 2004), http://www.ucsusa.org/sites/default/files/legacy/assets/documents/scientific_integrity/rsi_final_fullreport_1.pdf.

5. *See id.* (generalizing that scientific data serves to support the government's decision-making process).

6. Gretchen Goldman et al., *Grading Government Transparency Scientists' Freedom to Speak (and Tweet) at Federal Agencies*, UNION OF CONCERNED SCIENTISTS 2 (Mar. 2015), <http://www.ucsusa.org/sites/default/files/attach/2015/03/grading-government-transparency-ucs-2015.pdf> [hereinafter *Government Transparency*].

7. *Preserving Scientific Integrity*, *supra* note 2, at 2.

8. Deborah Bailin et al., *Mediated Access: Transparency Barriers for Journalists' Access to Scientists and Scientific Information at Government Agencies*, UNION OF CONCERNED SCIENTISTS 3 (Aug. 2015), <http://www.ucsusa.org/sites/default/files/attach/2015/07/ucs-mediated-access-report-2015.pdf>.

9. *Id.*

10. *Id.*

11. *Preserving Scientific Integrity*, *supra* note 2, at 7. The number of agencies and departments that adopted scientific integrity policies increased from twenty-four to twenty-eight. (The tallying of the number of agencies and departments was completed by the Authors).

policies that truly serve the public based on scientific evidence—in order for science-based policies to be credible and legitimate.

However, the use of science in government is now under threat from multiple fronts.¹² “Political, ideological, and financial interests [are working to] undermine[] the [ability of science to inform] federal decision[-]making, harming the public good.”¹³ The early days of the Trump Administration have already raised new concerns. Executive orders, cabinet appointments of individuals with little expertise and clear conflicts of interest, and a sympathetic Congress all create new threats to the government’s ability to make science-informed policy decisions.¹⁴ Additionally, surveys of federal scientists indicate that many scientific integrity problems persist.¹⁵ “In recent cases, politics have [overridden] what . . . should have been science-based . . . decisions by federal agencies.”¹⁶

It is clear that the federal infrastructure that allows independent science to effectively inform policy decisions must be kept intact in order to preserve the crucial role of science in our government. Here, the history of federal scientific integrity is surveyed and the current risks to the federal scientific enterprise are discussed in three main areas: (1) corporate capture of the federal government; (2) dismantling the process of science-based rulemaking; and (3) intimidation and control of scientists.

I. WHAT IS SCIENTIFIC INTEGRITY?

Scientific integrity refers to processes through which independent science fully and transparently informs policy decisions, free from inappropriate political, ideological, financial, or other undue influence. Scientific integrity includes the open, reliable conduct, supervision, and communication of science as well as the appropriate use of science in policy creation. While preventing research misconduct—including outright plagiarism or falsification of data—is part of scientific integrity, in the context of this report, *scientific integrity* applies more broadly to the proper use of science throughout federal

12. *Id.* at 2, 6, 10.

13. *Id.* at 44.

14. *Id.* at 19, 30.

15. Curtis Brainard, *Transparency Watch: A Closed Door*, COLUM. JOURNALISM REV. (2011), http://www.cjr.org/feature/transparency_watch_a_closed_door.php.

16. *Preserving Scientific Integrity*, *supra* note 2, at 44.

[decision[-]making] processes. Principles of scientific integrity include the following:

▣ **Independent Science.** Public policy decisions must be informed by expert scientific advice free from political or financial pressure. By relying on independent science, the government ensures that policy proposals are informed by evidence stemming from a credible scientific process. Processes that rely on independent science result in better policy decisions and improved public trust in those decisions. Components of independent science include peer review, disclosure of potential conflicts of interest, public availability of research findings and methodology, freedom to publish research, and deterrents against scientific misconduct.

▣ **Transparent Decision[-]making.** Scientific integrity requires public access to the science that underlies decisions as well as to information regarding how decisionmakers used that science. Such access can be granted while maintaining necessary confidentiality and respecting privacy concerns (such as those regarding medical data). Additionally, agency staff should not impede public access to the government scientists responsible for collecting, developing, and analyzing scientific data. It is essential that agencies strive to increase transparency within the regulatory process, both to reduce opportunities for political interference in science and to facilitate public knowledge of and participation in policymaking, particularly for rules that impact public health and safety.

▣ **Scientific Free Speech.** To flourish and to maintain their professional credibility, government scientists must be able to publish their research relevant to their agency's mission and communicate their findings in a timely manner. Further, federal scientists should have the right to express personal views on science and policy, provided they make clear they are not speaking for their agency. Federal employees who express differing scientific opinions or report political interference in science as a form of fraud, waste, or abuse in government should be protected from retaliation by both law and policy.

▣ **Statutory Compliance.** Some laws require decisions to be based solely on the best available science. For example, the Food and Drug Administration (FDA) approves prescription drugs based solely on evidence of their safety and efficacy. Other laws require science to be the only factor in some parts of

decisions but not in others. For example, the Clean Air Act requires air pollution standards to be set using the best available science on the link between air pollution and health effects, but it allows other considerations (such as economic factors) to be considered when *implementing* standards. Misrepresentation of these statutes constitutes political interference in science.¹⁷

II. AN EVIDENCE-BASED NATION: PROGRESS AND PROBLEMS

Political interference in science-informed policymaking is not a new phenomenon. As science has grown to be a tool to inform public policies, so too have instances to suppress, alter, or undermine it. The construction industry knew and ignored the occupational hazards of silica dust in the 1930s.¹⁸ Biologist Rachel Carson was the subject of harassment and ridicule for speaking out on the dangers of pesticides in the 1960s.¹⁹ President Richard Nixon fired his science adviser over disagreements on missile defense.²⁰ The William J. Clinton Administration admitted evidence was on the side of “lifting the ban on federal funding for needle-exchange programs” but declined to do so for political reasons.²¹

A. Politicization of Science Under President George W. Bush

Over the years, the problem of political interference in science has crossed both sides of the aisle. However, the politicization of science arguably reached a crescendo during the presidency of George W. Bush. Starting in the early 2000s, reports began to surface about the government’s treatment of science and federal scientists.²² Stories of the Bush Administration ignoring science,

17. *Id.* at 3.

18. *Id.* at 20.

19. Rachael Bishop, *The Legacy of Rachel Carson’s Silent Spring*, AM. CHEMICAL SOC’Y (Oct. 26, 2012), <https://www.acs.org/content/dam/acsorg/education/whatischemistry/landmarks/rachel-carson-silent-spring/rachel-carsons-silent-spring-historical-resource.pdf>.

20. *Preserving Scientific Integrity*, *supra* note 2, at 4; Chris Mooney, *The Top Science Post in the White House Needs to Be Pulled from the Shadows of the Cold War and Reestablished as a Cornerstone of Crucial, Rational Advice for the Presidency*, SEED (Jan. 3, 2008), http://seedmagazine.com/content/article/the_science_adviser/.

21. *Preserving Scientific Integrity*, *supra* note 2, at 4.

22. *Id.* at 1–2.

altering data, and disparaging scientists kept growing during the Bush Administration.²³

The Bush Administration interfered with science and scientists in a myriad of ways. Julie MacDonald, the Fish and Wildlife Service (FWS) Deputy Assistant Secretary, was forced to resign after three years on the job when it came to light that she was “heavily involved with editing, commenting on, and reshaping the Endangered Species Program’s scientific reports from the field.”²⁴ In several high profile cases, including decisions on multiple species of prairie dogs, MacDonald’s interference caused the FWS to change from a “positive” decision to protect a species to a “negative” one.²⁵

Meanwhile, at the National Aeronautics and Space Administration (NASA), public affairs officials (PIOs) worked to limit scientist speech regarding climate change.²⁶ After Dr. James Hansen, NASA’s top climate scientist, gave a lecture highlighting the danger of greenhouse gas emissions, which clashed with the position of the Bush Administration, Hansen found PIOs “reviewing and [restricting] his public statements and press interviews.”²⁷

Union of Concerned Scientists (UCS) reports and surveys of government scientists documented this pattern of abuse across the government. Between 2005–2007, “more than 3,000 federal scientists at four agencies [were surveyed] on issues of scientific integrity.”²⁸ Survey “responses indicated that abuses of science were [widespread] across agencies, across issue areas, and [at varying] levels of the government.”²⁹

A 2004 “scientist statement on scientific integrity endorsed by” over 12,000 scientists, including signatories that served all

23. *Id.* at 2.

24. *Investigative Report: On Allegations Against Julie MacDonald, Deputy Assistant Secretary, Fish, Wildlife and Parks*, U.S. DEP’T OF THE INTERIOR 2, <https://www.doiioig.gov/sites/doiioig.gov/files/Macdonald.pdf> (last visited Dec. 29, 2017).

25. *Investigative Report: The Endangered Species Act and the Conflict Between Science and Policy*, U.S. DEP’T OF THE INTERIOR 90 (Dec. 10, 2008), <https://www.doiioig.gov/sites/doiioig.gov/files/EndangeredSpeciesFINAL.pdf>.

26. Timothy Donaghy et al., *Atmosphere of Pressure: Political Interference in Federal Climate Science*, UNION OF CONCERNED SCIENTISTS AND THE GOV’T ACCOUNTABILITY PROJECT 12 (Feb. 2007), <https://www.whistleblower.org/sites/default/files/AtmosphereOfPressure.pdf>.

27. *Id.*

28. *Preserving Scientific Integrity*, *supra* note 2, at 6.

29. *Id.*

presidential “administrations dating back to President Dwight D. Eisenhower—expressed concern about this misuse of science and urged the [A]dministration to ‘return to the ethic and code of conduct which once fostered independent and objective scientific input into policy formation.’”³⁰

The processes that allowed abuse to happen are as egregious as the abuse itself. It became clear that the processes by which science informs federal decision-making were “vulnerable to political interference.”³¹ A “lack of transparency” and few policies in place “to safeguard against such abuses” meant that decision-makers could easily “sidestep[], alter[], or suppress[] science” and justify policies that were in fact driven by other factors.³²

It was clear that reforms were needed to put policies in place and change agency culture in order to prevent such abuses in the future. Working with diverse stakeholders in government, academia, and civil society, UCS developed a comprehensive list of reforms aimed at changing government [decision-making] processes to address the misuse of science in [decision-making]. The reforms, compiled in the report *Federal Science and the Public Good*, recommended concrete steps for the incoming Obama [A]dministration, the 111th Congress, and new federal agency heads in order to protect federal scientists, ensure robust scientific input, increase transparency, and otherwise reform the [decision-making] process.³³

“By the end of the Bush [A]dministration, the role [of science] in informing government was diminished . . . public trust in an evidence-based democracy” was tarnished, and “federal scientists were demoralized.”³⁴ This was the state of federal scientific integrity that President Obama inherited.

B. President Obama’s Scientific Integrity Legacy

“When President Obama took office . . . he vowed to restore science to its rightful place and took several meaningful steps to protect and advance the role that science plays in the federal

30. *Id.*

31. *Id.* at 18.

32. *Id.* at 6.

33. *Id.*

34. *Id.*

government.”³⁵ In addition to launching open-government initiatives; reversing previous federal government actions that enabled political interference in science; and signing an executive order to address the revolving door between government and regulated industries, President Obama issued a directive that resulted in twenty-eight agencies and departments adopting scientific integrity policies and many agencies installing scientific integrity officials to oversee adherence to the new policies.³⁶

Despite these efforts, the Obama Administration has not been free of political interference in science-based decision-making.³⁷ As the Obama Administration went on and scientific integrity became less of a priority, it became clear that much work remains to ensure that federal science is protected from undue political influence.³⁸ Evidence from recent executive decisions and surveys of federal scientists indicates that problems still persist.³⁹ “In recent cases, politics have derailed what by statute should have been science-based environmental and public health decisions by federal agencies.”⁴⁰ “Some agency scientific integrity policies are weakly written, while some stronger scientific integrity policies have not been fully implemented or have no implementation plans.”⁴¹ Additionally, some government scientists and journalists report an *increase* in barriers to the free flow of scientific information.⁴²

1. *Bringing Scientific Integrity to the Forefront*

Following outcry from scientists and citizens as well as “significant [organized] pressure from groups, including UCS, . . . President Obama took several . . . steps in his first 100 days to address the issue of scientific integrity” and the loss experienced under the previous Administration.⁴³

35. *Id.* at 7.

36. *Id.* at 7–9. The number of agencies and departments that adopted scientific integrity policies increased from twenty-four to twenty-eight. (The tallying of the number of agencies and departments was completed by the Authors).

37. *Id.* at 12.

38. *Id.* at 30.

39. *Id.* at 12.

40. *Id.* at 44.

41. *Strengthening Federal Science for the Public Good: A Blueprint for the Next Administration*, UNION OF CONCERNED SCIENTISTS 2 (Oct. 2016), http://www.ucsusa.org/sites/default/files/attach/2016/10/strengthening-federal-science-recommendations-45th-president-ucs-2016_0.pdf.

42. *Preserving Scientific Integrity*, *supra* note 2, at 25.

43. *Id.* at 7.

[The President] appointed several prominent scientists to high-level posts in his [A]dministration, . . . [appointing] Harvard Kennedy School of Government Professor John Holdren as his science advisor and head of the White House Office of Science and Technology Policy (OSTP); [Stanford physicist] Stephen Chu . . . as his secretary of energy; and Oregon State environmental scientist Jane Lubchenco as head of the National Oceanic and Atmospheric Administration[, to name a few].⁴⁴

“In March 2009, the White House issued a memorandum” to executive branch department and agency heads “describing key elements of the Obama [A]dministration’s plan to reform federal scientific integrity policy.”⁴⁵ “While this early memo signaled to . . . agencies that scientific integrity would be a priority of the [A]dministration,” this effect was somewhat muted by the fact that it was almost two years before the White House “OSTP issued a follow-up memorandum providing more detailed guidelines for federal scientific integrity policies.”⁴⁶

In response to the follow-up memo, “[twenty-eight] federal agencies developed scientific integrity policies over the following year.”⁴⁷ “The policies varied greatly in terms of” comprehensiveness.⁴⁸

Some policies, such as those of NOAA [(National Oceanic and Atmospheric Administration)], and the DOI [(Department of the Interior)], provided the kinds of protections necessary to create a strong culture of scientific integrity at federal agencies. Others, such as those of the Department of Transportation (DOT) . . . contained broad statements but provided incomplete or inadequate protections for scientists. Some agency policies, such as those of the FDA and the Department of Commerce (DOC), fell in the middle of the pack, providing some protections for their scientists while neglecting other important aspects of scientific integrity. . . . [S]everal agencies also appointed scientific integrity officers to oversee implementation of the scientific integrity policy as well as convened internal scientific committees composed of staff from across the agency. Scientific integrity officers vary by agency in terms of the time they have

44. *Id.*

45. *Id.*

46. *Id.*

47. *Id.*

48. *Id.*

to devote to the issue and their placement within the agency. For example, NOAA has a full-time scientific integrity officer who reports to the highest-ranking civil servant at the agency, allowing the officer some insulation from political influence as well as high-level access to agency staff. Other agencies, including the Centers for Disease Control and Prevention (CDC), have scientific integrity officers who devote significant fractions of their time to other issues. Scientific integrity committees, such as those at the EPA [(Environmental Protection Agency)] and the DOI, provide another way to ensure that scientific integrity is a focus throughout the agency: they bring more staff into conversations about scientific integrity and allow for a broader reach [of scientific integrity policy and practices] to staff in diverse parts of the agency.⁴⁹

2. *The Challenge of Culture Change*

As the Obama Administration continued, scientific integrity appeared to wane as a White House priority.⁵⁰ It was increasingly clear that scientific integrity policies, even if comprehensive and strong, would not be sufficient to drive changes in agency practices.⁵¹

Federal scientists and people outside of the government continue to report challenges to science-based [decision-making], including political influence on scientific work, barriers to scientific free speech, and a lack of adherence to scientific integrity policies. A 2015 UCS survey of 7,000 government scientists across four agencies—the CDC, the FWS, the FDA, and NOAA—found that agencies continue to face challenges implementing their scientific integrity policies. . . . Awareness of agency scientific integrity policies was only moderately widespread among survey respondents, despite the four agencies having comprehensive scientific integrity policies in place. The FWS had the highest rate, with 79 percent (632 respondents) reporting awareness of the agency’s scientific integrity policy. NOAA had the lowest, with 66 percent (1,092 respondents) reporting awareness of the agency’s scientific integrity policy. [Only six percent of respondents across agencies reported believing that their agencies did *not* adhere to this policy.] One NOAA scientist commented, “Whistleblower

49. *Id.* at 7–9.

50. *Id.* at 10.

51. *Id.*

laws and scientific integrity policies help in terms of being able to bring issues to light, but our scientists need to be informed about the details of these policies (updated yearly),” while an FWS employee noted that they had responded as “undecided” because “while we are all encouraged to read and follow [the FWS’s scientific integrity policy], there is no formal training. Most people don’t have the time to read it so [they] don’t.”⁵²

The Obama Administration has also received mixed reviews on its efforts around whistleblower protections. “In 2012, Congress passed the Whistleblower Protection Enhancement Act (WPEA) The law strengthened whistleblower protections across the government and explicitly protected scientists who report waste, fraud, or abuse.”⁵³ However, the law has not adequately addressed incidents of retaliation against employees who report such abuses, and the law excludes full protections for certain federal employees, including those whose jobs are classified as sensitive and those in the intelligence community, military service, and contractor workforces.

“Despite this strengthened law, many agencies have still not completed” their Office of Special Counsel 2302(c) Certification Program, as WPEA requires, and concerns about retaliation against whistleblowers remain.⁵⁴

In their responses to the 2015 UCS survey, scientists across agencies were divided on the level of awareness of and practices surrounding whistleblower rights and on concerns about retaliation. Although the majority of scientists felt they had been adequately briefed on their whistleblower rights under the WPEA [(Whistleblower Protection Enhancement Act of 2012)] (53 to 75 percent across all agencies surveyed), only about half of the respondents reported they could openly express any concerns about the mission-driven work of their agencies without fear of retaliation (53 to 58 percent). The agency with the greatest proportion of scientists who reported adequate briefing on whistleblower protections was the FWS, with 75 percent (606 respondents).

Even at the FWS, however, respondents expressed fear in open-ended responses about using their whistleblower rights. One

52. *Id.* at 10–11.

53. *Id.* at 11.

54. *Id.*

respondent wrote, “Until staff employees see that they will not be retaliated against and that those individuals who have violated our policies and laws are punished, no one will come forward and stand up for scientific integrity for fear of retribution. I have personally heard . . . employees say they witnessed or [are] knowledgeable about a scientific integrity violation but will not come forward for fear of retribution.” Another FWS respondent noted, “Managers should actively solicit input from field biologists and not cultivate a ‘culture of fear’ where voicing one’s opinion can involve negative consequences.”

Even with scientific integrity policies in place, instances of and concerns about political interference have continued during the Obama [A]dministration [though seemingly to a lesser degree than under the George W. Bush Administration].⁵⁵

“In the 2015 UCS survey of federal scientists, a significant number (46 to 73 percent across agencies surveyed) reported that the level of consideration of political interests at their agencies was too high. The greatest proportion of respondents reporting this concern was at the FWS (73 percent, 601 respondents).⁵⁶ And, “the FDA had the largest proportion of respondents reporting that the level of consideration of business interests was about right (33 percent, 465 respondents).”⁵⁷

In answers to open-ended questions, respondents commented on how they perceived the previous [A]dministration’s legacy to affect the current level of political interference. One FWS employee reflected, “Because the Bush [A]dministration was so intent about staffing the FWS with like-minded people for eight years, and because the Obama [A]dministration has done nothing to counter it, many FWS employees feel like we’re still in the Bush [A]dministration.”⁵⁸

The evidence of concerns about the adherence to agencies’ scientific integrity policies, whistleblower protections, and political interference may be an indication of agency culture being out of step with policies.⁵⁹

55. *Id.* at 11–12.

56. *Id.* at 12.

57. *Progress and Problems*, *supra* note 3, at 7.

58. *Preserving Scientific Integrity*, *supra* note 2, at 14.

59. *Id.*

Overall, much policy progress was made on scientific integrity under the Obama Administration. With new protections for science and scientists at federal agencies, a federal workforce now trained in recognizing and reacting to potential losses of scientific integrity, and new avenues for reporting and publicizing politicization of science, there are more safeguards in place than ever before. It is crucial that these gains are not walked back under the Trump Administration.

III. A NEW ADMINISTRATION, NEW THREATS TO SCIENCE

The Trump Administration and Congress have already taken several steps that threaten the role of science in federal decision-making on multiple fronts.⁶⁰ As detailed below, these threats come from the following areas: corporate capture of the federal government; dismantling the process of science-based rulemaking; and dismissal and control of scientists.

In a multi-pronged approach, both President Trump and the 115th Congress are working toward these aims, which could cause irreparable damage to the science-based policy enterprise as we know it.⁶¹

A. Corporate Capture of the Federal Government

The U.S. has long strived to maintain a level of transparency and clear separation between its government and the private sector. A series of rules and norms have allowed for a system, while not without problems, that has held administrations accountable by taking actions in the public interest. President Trump and his cabinet, however, have failed to follow these expectations, starting with President Trump's unprecedented refusal to release his tax returns,⁶² and culminating with his current cabinet of many individuals with deep ties to private industries.⁶³ The clear conflicts of interest of President Trump and his cabinet, combined

60. *Id.* at 2, 31.

61. *Government Transparency*, *supra* note 6, at 2–3.

62. Julie Hirschfeld Davis, *Top Adviser Says Trump Won't Release Tax Returns*, N.Y. TIMES, Jan. 23, 2017, at A16, available at <https://nyti.ms/2kgKb6F>.

63. Donna Tam, *The Major Industry Ties of Trump's Cabinet Picks*, MARKETPLACE (Dec. 23, 2016, 10:23 AM), <https://www.marketplace.org/2016/12/20/economy/major-industry-ties-trump-s-cabinet-picks>.

with the lack of transparency that has thus far been characteristic of this Administration, create large vulnerabilities for science-based policy in this Administration.

1. *Corporate Influence over the Executive Branch*

President Trump has put in place several high-ranking officials with direct financial ties to the industries they are now charged with overseeing. For example, President Trump's Administrator of the EPA, Scott Pruitt, has connections to the oil and gas industry and a long history of suing the agency for issuing science-based policies within the scope of its mission.⁶⁴ Indeed, these factors make it difficult to imagine Administrator Pruitt being able to make objective, science-based decisions that serve the EPA's mission of protecting public health and the environment.

In a more egregious case, the Trump Administration appointed a chemical industry scientist, Nancy Beck, to oversee chemical safety work at the EPA.⁶⁵ For years, Beck was in charge of regulatory science for the chemical industry trade association, the American Chemistry Council; now at the EPA, Beck will be responsible for implementing the very policies she fought when working for the chemical industry.⁶⁶

As of this writing, the Trump Administration does not yet have high-level political leaders appointed at many science agencies, such as the Fish and Wildlife Service, the Occupational Safety and Health Administration, and the National Oceanic and Atmospheric Administration. Like the EPA, these agencies conduct and collect scientific studies to inform rulemaking processes to protect public health, safety, and the environment. It is crucial that the heads of these agencies be able to carry out their agencies' science-based missions free from conflicts of interest.

64. Eric Lipton & Coral Davenport, *Choice for E.P.A. a Frequent Ally of the Regulated*, N.Y. TIMES, Jan. 15, 2017, at A1, available at <https://nyti.ms/2k1K5Q1>.

65. Eric Lipton, *Chemical Industry Insider Now Shapes E.P.A. Policy*, N.Y. TIMES, Oct. 22, 2017, at A1, available at <https://nyti.ms/2gW4h6S>.

66. *Id.*

2. *Corporate Connections in Congress*

In addition to administration actions, the 115th Congress has also been taking steps that prioritize interests of industry over those of the public, as detailed below.

For example, Congress recently overturned the Stream Protection Rule issued by the Department of Interior's Office of Stream Mining Reclamation and Enforcement (OSMRE) and the mining industry's footprint was evident.⁶⁷

Representatives Bill Johnson of Ohio and Evan Jenkins and David McKinley of West Virginia were among the sponsors of the legislation to revoke the Stream Protection Rule. Between them, they have taken more than \$1 million in political contributions from the mining industry The talking points of the National Mining Association and America's largest mining company, Murray Energy Company, are also echoed in the representatives' misinformed statements about the rule.

By overturning this protection, the bill's sponsors are ensuring that residents across America will continue to see their water sources, their homes, and their environment degraded.⁶⁸

This science-based rule was designed to protect streams in the United States, including headwater streams, from the often devastating impacts of pollution with mining waste and debris [The] rule would have improved the quality of some 263 miles of streams downstream of mines each year.⁶⁹

[Similarly,] Oklahoma Representative Markwayne Mullin, who has received more than \$410,000 from the oil and gas industry during just two terms in office, has introduced legislation to remove a rule issued by the EPA last year designed to improve safety at facilities that use or store large amounts of dangerous chemicals and to further protect first responders and fenceline communities. Major industrial facilities, including oil and gas companies, have been vocal in their opposition to this rule, and Mullin [echoed these positions].

67. Genna Reed, *Congress Does Industry's Bidding by Cutting Public Safeguards*, UNION OF CONCERNED SCIENTISTS (Feb. 23, 2017, 5:28 PM EDT), <http://blog.ucsusa.org/genna-reed/congress-does-industrys-bidding-by-cutting-public-safeguards>.

68. *Id.*

69. *Id.*

The updated EPA Risk Management Plan (RMP) rule is . . . designed to regulate industrial facilities all across America that release toxic chemicals. On average in recent years, approximately 150 catastrophic accidents have occurred annually at these facilities, posing often-grave risks to the workers and to the neighboring communities.

There are a significantly greater percentage of African Americans, Latinos, and people in poverty living near these facilities at higher risk for exposure to chemical releases . . . [R]esidents in Houston communities with RMP facilities have a higher risk of developing or worsening lung diseases such as asthma and chronic bronchitis due to exposure of high toxic concentrations of air pollutants including harmful chromium compounds.⁷⁰

This legislation failed to pass, but the Administration issued a three month stay on the rule's implementation and has extended the delay until early 2019.⁷¹

In another case, lawmakers have attempted to repeal the Bureau of Land Management's (BLM) Methane and Waste Prevention Rule, which was issued to update regulation of oil and gas extraction on federal lands.⁷² "Two of the sponsors of the legislation that would eliminate this rule are Utah's Rob Bishop and Wyoming's John Barrasso, who have received over \$1 million in campaign contributions from the oil and gas industry over the course of their political careers."⁷³ The Methane Rule would reduce emissions from unconventional oil and gas developments that employ hydraulic fracturing, including leaks, venting, and flaring.

Pulling the methane rule [would have resulted] in the continued release of methane pollution, which perhaps not surprisingly occurs at the highest levels on tribal lands in Rob Bishop's state of Utah—and John Barrasso's state of Wyoming has one of the highest methane emission levels on federal lands⁷⁴

70. *Id.*

71. *Final Amendments to the Risk Management Program (RMP) Rule*, U.S. ENVTL. PROTECTION AGENCY, <https://www.epa.gov/rmp/final-amendments-risk-management-program-rmp-rule> (last updated Aug. 2, 2017).

72. Reed, *supra* note 67.

73. *Id.*

74. *Id.*

Fortunately, the resolution to repeal this rule failed to pass the Senate.⁷⁵

With agency heads and members of Congress willing to cater to private sector interests over public health and safety, our government's ability to make science-based decisions in the public interest is at stake.

B. Dismantling the Process of Science-Based Rulemaking

While much attention has thus far been paid to individual rules and policies that the Trump Administration and Congress are attempting to unravel, such as the Affordable Care Act and the Clean Power Plan, greater risk lies in the possibility that decision-makers are going to dismantle the very process by which we use science and evidence to inform policy decisions, across many issues and executive departments and agencies.⁷⁶

1. *President Trump's Two for One Deal*

On January 30, 2017, President Trump signed an executive order requiring that federal agencies cut two rules for every new one issued, a move that undermines the ability of federal agencies to carry out their science-based missions to protect public health, safety, and the environment.⁷⁷ Federal science agencies are charged with carrying out laws, such as the Clean Air Act, the Occupational Safety and Health Act, and the Endangered Species Act, which require rules be issued based on scientific evidence of a need. When an air pollutant is at levels not protective of public health, when workers face occupational risks, and when a species requires protection, agencies are required to issue new rules. "Each regulation must be judged on its own merits."⁷⁸ Thus, a requirement that agencies remove two rules to issue a new one would require them to break the laws they are charged with

75. Coral Davenport, *Obama Policy Survives Vote, for a Change*, N.Y. TIMES, May 11, 2017, at A1, available at <https://nyti.ms/2pxil8d>.

76. *Preserving Scientific Integrity*, *supra* note 2, at 30.

77. Reducing Regulation and Controlling Regulatory Costs, Exec. Order No. 13771, 82 Fed. Reg. 9339, 9339 (Feb. 3, 2017).

78. Ken Kimmell, *The Absurd, Illegal Logic Behind Trump's "Two for One" Regulation Proposal*, UNION OF CONCERNED SCIENTISTS (Nov. 23, 2016, 11:35 AM EDT), <http://blog.ucsusa.org/ken-kimmell/trump-two-for-one-regulation-proposal>.

implementing.⁷⁹ “An agency’s authority to issue regulations comes from statutes passed by Congress, and these statutes do not place a ‘cap’ on regulations.”⁸⁰

So, for example, if the Environmental Protection Agency (EPA) wants to issue a new rule to protect kids from mercury pollution from power plants, it would need to cut two existing rules, such as reducing lead in drinking water or requiring school buses to cut smog-causing emissions. Or if the Consumer Product Safety Commission wants to protect families from dangerous car seats for children, the Commission would need to drop rules such as requiring better labeling of age appropriate toys, or reducing toxic substances in baby products.⁸¹

2. *Congress Threatens Public Safeguards*

In addition, Congress has taken several steps to dismantle agency rulemaking.⁸² The Regulations from the Executive in Need of Scrutiny (REINS) Act, for example, would give more authority to Congress in rulemaking rather than leaving it to the expertise of agencies.⁸³

[The REINS Act] would substitute political judgement for scientific judgement by requiring Congress to approve every significant public protection developed by federal agency scientists. This means politics could further prevent the government from protecting communities from unsafe drinking water or chemical plant explosions.⁸⁴

In another example,

The Regulatory Accountability Act, . . . which is under consideration in Congress, would add dozens of burdensome procedures to how science informs federal rule-making that would, in effect, prevent federal agencies from issuing any science-based rules, as many statutes require. In large part because they are grounded in science, these rules ensure that

79. *Id.*

80. *Id.*

81. *Id.*

82. *Preserving Scientific Integrity*, *supra* note 2, at 17.

83. Michael Halpern, *The Inquisition Congress, Abetted by Trump, Has Begun*, UNION OF CONCERNED SCIENTISTS (Jan. 6, 2017, 3:54 PM EDT), <http://blog.ucsusa.org/michael-halpern/the-inquisition-congress-abetted-by-trump-has-begun>.

84. *Id.*

only drugs proven safe and effective can be put on the market, prevent workers from dangerous environmental exposures, keep our food safe, keep our drinking water clean, and protect our air. President Trump, following the lead of the Republican majority in Congress, has emphasized the economic costs of regulations while minimizing or disregarding health, safety, and other benefits that often far outweigh costs. Eroding these policies undermines the role that science plays in our government.⁸⁵

C. Dismissal and Control of Scientists

Whether by design or by indirect effects, several actions taken by the Administration and Congress thus far serve to enhance control of government science and otherwise create a chilling environment in which federal scientists work. In other cases, the Administration has cut scientists out of decision-making processes entirely and as a result, many scientists have chosen to leave government jobs.

1. *Gag Orders on Federal Scientists*

In the first week of the Administration, media blackouts were issued across many federal science agencies including the United States Department of Agriculture (USDA), the DOI, the DOT, Health and Human Services (HHS), and the EPA.⁸⁶ Some of these media blackout directives were reportedly touted only as a “recommendation” and developed within the agency, such as the directive issued at the DOT.⁸⁷ However, some directives—such as the ones at the EPA, which were enforced—are much more restrictive and are reported to have generated within the Trump Administration.⁸⁸ “Incoming media requests will be carefully screened,” one directive [at the EPA] said. ‘Only send out critical messages, as messages can be shared broadly and end up in the

85. Gretchen Goldman et al., *Ensuring Scientific Integrity in the Age of Trump: Policies to Protect Government Scientists Must Be Protected*, 355 SCI. 696, Feb. 17, 2017, at 697 (footnotes omitted).

86. Jamiles Lartey, *US Federal Communications Crackdown: What We Know and What We Don't*, THE GUARDIAN (Jan. 26, 2017, 6:00 AM EST), <https://www.theguardian.com/us-news/2017/jan/26/us-federal-agency-crackdown-epa-sean-spicer>.

87. *Id.*

88. *Id.*

press.”⁸⁹ A memo to the USDA staff by department leadership read,

In order for the Department to deliver unified, consistent messages, it’s important for the Office of the Secretary to be consulted on media inquiries and proposed responses to questions related to legislation, budgets, policy issues, and regulations Policy-related statements should not be made to the press without notifying and consulting the Office of the Secretary. This includes press releases and on and off the record conversations.⁹⁰

And staff within the Agricultural Research Service (ARS) were issued a separate email from ARS chief, Sharon Drumm, ordering staff to not publish any “outward facing” documents and news releases.⁹¹ “Starting immediately and until further notice, [the Agricultural Research Service] will not release any public-facing documents. This includes, but is not limited to, news releases, photos, fact sheets, news feeds, and social media content,” read the ARS email.⁹²

The majority of the gag orders were quickly lifted, but some additional scrutiny of restrictions on public release of scientific information from agencies appears to be in place.⁹³ At the EPA, for example, social media accounts were silent for nearly a month between inauguration and the appointment of Administrator Pruitt.⁹⁴

89. Michael Biesecker & John Flesher, *Trump Issues EPA Media Blackout and Suspends Agency’s Grants*, PBS NEWSHOUR (Jan. 24, 2017, 1:06 PM EDT), <http://www.pbs.org/newshour/rundown/trump-issues-epa-media-blackout-suspends-agencys-grants/>.

90. Juliet Eilperin & Brady Dennis, *Federal Agencies Ordered to Restrict Their Communications*, WASH. POST (Jan. 24, 2017), https://www.washingtonpost.com/politics/federal-agencies-ordered-to-restrict-their-communications/2017/01/24/9daa6aa4-e26f-11e6-ba11-63c4b4fb5a63_story.html?utm_term=.d07dd6171e6e.

91. *Id.*

92. *Id.*

93. Paulina Firozi, *USDA Lifts Gag Order: Report*, THE HILL (Jan. 25, 2017, 8:23 AM EST), <http://thehill.com/homenews/administration/316015-agriculture-department-lifts-order-for-lockdown-on-its-research-arm>.

94. Chelsea Harvey, *The EPA’s Social-Media Accounts Have Been Silent Since the Inauguration*, WASH. POST (Feb. 16, 2017), https://www.washingtonpost.com/news/energy-environment/wp/2017/02/16/the-epas-social-media-accounts-have-been-silent-since-the-inauguration/?utm_term=.3151996175fd.

2. *Freezes and Review of EPA Grants and Contracts*

The Administration has also expanded control over scientific grants and contracts. First, a temporary freeze was issued on EPA administration of grants and contracts in order for the new Administration to review them.⁹⁵

Hours after Donald Trump was sworn in as President of the United States on Friday, January 20, an email from the [A]dministration was sent to the Environmental Protection Agency (EPA) instructing employees to temporarily suspend all contracts and grant awards. It was later reported by Doug Eriksen, the Trump transition's team communication lead at the EPA, on Thursday, January 26 that an internal review of about \$3.8 billion in grants had been completed. "We finished our review process," Eriksen stated, "As of now, nothing has been delayed. Nothing has been cut. There was simply a pause and everything is up and running." Additionally, Eriksen noted that many sources of funding continued including state revolving funds, tribes and other entities for capital construction and wastewater treatment, and brownfields and superfund cleanup projects.

While many sources of funding from the EPA continued to be dispersed, there was concern that grants and contracts were being reviewed by political appointees on Trump's EPA transition team. When asked specifically about whether or not scientific data would be reviewed by political appointees on the transition team, Eriksen responded, "Everything is under review." This review of science by political appointees was of concern as it presented possible conflict with the EPA's scientific integrity policy that expresses scientific studies should be "uncompromised by political or other interference."

. . .

Disruptions to EPA grant and contract funding could make it difficult for the EPA to fulfill its mission to protect human health and the environment. At the time the freeze was imposed, it was unclear whether or not it affected the roughly \$6.4 billion worth of federal contracts and grants the EPA

95. Brady Dennis & Juliet Eilperin, *Trump Administration Tells EPA to Freeze All Grants, Contracts*, WASH. POST (Jan. 24, 2017), https://www.washingtonpost.com/news/energy-environment/wp/2017/01/23/trump-administration-tells-epa-to-freeze-all-grants-contracts/?utm_term=.91b4a47a0d5b.

currently had in place, or only contracts and grants yet to be awarded. EPA awards billions of dollars in grants every year to states, local communities, nonprofit organizations, and researchers at universities. The agency awarded between \$3-9 billion in grants every year during 2000-2013, and \$1-1.8 billion every year in contracts over this same time period. The agency provides these funds to states, local communities, tribes, and universities to work on issues ranging from adapting to the impacts of climate change to revitalizing communities once plagued with contaminated land.⁹⁶

In September 2017, it was discovered that a political appointee of the Trump Administration, John Konkus, was reviewing EPA grant solicitations and proposals, and canceled nearly \$2 million worth of grant funding competitively awarded to outside institutions, telling staff to eliminate “climate change” from grant solicitations.⁹⁷ Konkus, who does not have a background in science, was determining the direction of scientific work that was funded by the EPA, sidelining scientific experts’ recommendations, and putting the public’s health at risk by eliminating the Agency’s climate change work.⁹⁸

Scrutiny of scientists even began prior to the Administration. In December 2016, the Trump transition team asked the Department of Energy (DOE) for a list of employees who had done climate change-related work.⁹⁹ The request was denied by DOE leadership, and the transition team ultimately rescinded the request;¹⁰⁰ however, the above actions have sent a signal to federal scientists that the Administration is watching closely.

96. *Trump Transition Team Temporarily Halts Grants and Contracts at EPA*, UNION OF CONCERNED SCIENTISTS, <http://www.ucsusa.org/center-science-and-democracy/attacks-on-science/trump-transition-team-temporarily-halts-grants-and-contracts-epa#.WeR2gGiPKM8> (last visited Dec. 29, 2017).

97. Juliet Eilperin, *EPA Now Requires Political Aide’s Sign-off for Agency Awards, Grant Applications*, WASH. POST (Sept. 4, 2017), https://www.washingtonpost.com/politics/epa-now-requires-political-aides-sign-off-for-agency-awards-grant-applications/2017/09/04/2fd707a0-88fd-11e7-a94f-3139abce39f5_story.html?utm_term=.b07340769ffa.

98. *Id.*

99. Steven Mufson & Juliet Eilperin, *Trump Transition Team for Energy Department Seeks Names of Employees Involved in Climate Meetings*, WASH. POST (Dec. 6, 2016), https://www.washingtonpost.com/news/energy-environment/wp/2016/12/09/trump-transition-team-for-energy-department-seeks-names-of-employees-involved-in-climate-meetings/?utm_term=.8872ff3b1681.

100. Eugene Scott, *Trump Team Disavows Climate Change Questionnaire to Energy Department*, CNN (Dec. 14, 2016, 7:04 PM EST), <http://www.cnn.com/2016/12/14/politics/energy-department-litmus-test/index.html>.

3. *Targeting of Scientists by Congress*

Congress, too, has taken steps that serve to create a chilling effect for scientists at federal agencies. The recently resurrected Holman Rule, for example, allows Congress to reduce a federal employee's salary to one dollar.¹⁰¹ It is easy to see how such a rule could be used to target federal scientists conducting policy-relevant research, such as climate science or environmental impacts of industrial pollution.

Scientists outside of the government are also affected. Members of Congress continue to scrutinize individual grants awarded by the National Science Foundation in efforts to demonstrate wasteful spending.¹⁰² Letters and subpoenas to scientists from members of Congress are also new and increasingly used tools to politicize science and intimidate researchers conducting policy-relevant science.¹⁰³ Climate scientists have been a consistent target of such attacks.¹⁰⁴ For example, Representative Lamar Smith, the Chairman of the House Science Committee, has issued subpoenas and threatening letters to climate scientists both in and outside the government.¹⁰⁵ In 2016, Representative Marsha Blackburn subpoenaed scientists working with fetal tissue in an effort to intimidate and politicize such research.¹⁰⁶

101. Jenna Portnoy & Lisa Rein, *House Republicans Revive Obscure Rule That Allows Them to Slash the Pay of Individual Federal Workers to \$1*, WASH. POST (Jan. 5, 2017), https://www.washingtonpost.com/local/virginia-politics/house-republicans-revive-obscure-rule-that-could-allow-them-to-slash-the-pay-of-individual-federal-workers-to-1/2017/01/04/4e80c990-d2b2-11e6-945a-76f69a399dd5_story.html?utm_term=.6378a5e26afb.

102. Jeffrey Mervis, *Battle Between NSF and House Science Committee Escalates: How Did It Get This Bad?*, SCI. (Oct. 2, 2014, 7:15 PM), <http://www.sciencemag.org/news/2014/10/battle-between-nsf-and-house-science-committee-escalates-how-did-it-get-bad>.

103. Emily Crockett, *Congress Has Spent 15 Months "Investigating" Planned Parenthood Using McCarthy-Like Tactics*, VOX (Dec. 7, 2016, 1:34 PM EST), <https://www.vox.com/2016/4/29/11469044/congress-planned-parenthood-witch-hunt-fetal-tissue-scientists>.

104. Michael Halpern & Michael Mann, *Transparency Versus Harassment*, 348 SCI. 479 (May 1, 2015), available at <http://science.sciencemag.org/content/sci/348/6234/479.full.pdf>.

105. Lawrence M. Krauss, *The House Science Committee's Anti-Science Rampage*, THE NEW YORKER (Sept. 14, 2016), <https://www.newyorker.com/news/news-desk/the-house-science-committees-anti-science-rampage>.

106. Crockett, *supra* note 103.

4. *Removing Scientists from Decision-making*

One concerning trend that differs from past administrations is the propensity for the Trump Administration to remove independent science from decision-making processes of which science is a key element. For example, in June 2017, the Administration decided not to ban the pesticide chlorpyrifos despite evidence from the EPA, and external scientists, indicating that exposure to the pesticide has adverse health effects, including brain damage in children.¹⁰⁷ Scientists in the EPA's Office of Pesticide Programs were not even consulted on the decision by the EPA.¹⁰⁸

Similarly, the Trump Administration has taken several steps to remove federal scientific advisory committee capacity and access to agency decisions. Federal advisory committees play a key role in providing independent scientific advisory to the government on a wide range of topics. The Trump Administration has frozen the work of more than 200 advisory committees and the Department of the Interior, and dismantled a forensic science committee at the Department of Justice.¹⁰⁹ At the EPA, the Administration has gutted multiple advisory committees, including the Scientific Advisory Board, the Clean Air Scientific Advisory Committee, and the Board of Scientific Councilors, and replaced independent scientists.¹¹⁰ The Administration also prohibited scientists with current EPA grants from serving on its advisory committees—a move that prevents many prominent scientific experts in their field from advising the EPA on matters related to their expertise.¹¹¹ As a consequence, the EPA will have less access to independent

107. Roni Caryn Rabin, *E.P.A. Lags on Pesticide Action*, N.Y. TIMES, May 16, 2017, at D1, available at <https://nyti.ms/2rjkOVr>.

108. *See id.* (providing that the decision by the new chief of the EPA, Scott Pruitt, not only confounded many scientists and environmentalists but also contradicted the EPA's own scientific analyses).

109. Jacob Carter et al., *Sidelining Science Since Day One: How the Trump Administration Has Harmed Public Health and Safety in Its First Six Months*, UNION OF CONCERNED SCIENTISTS 1–2, 10 (July 2017), <https://www.ucsusa.org/sites/default/files/attach/2017/07/sidelining-science-report-ucs-7-20-2017.pdf>.

110. *Id.* at 9.

111. Juliet Eilperin, *EPA's New Science Advisers Add More Industry Experts, Conservatives to the Mix*, WASH. POST (Nov. 4, 2017), https://www.washingtonpost.com/news/energy-environment/wp/2017/11/04/pruitts-new-science-advisers-add-more-industry-experts-conservatives-to-the-mix/?utm_term=.461dfbfc0e4.

scientific advice feeding into Agency decisions, and contributing to its mission of protecting public health and the environment.

5. *Consequences of Intimidation*

It is already clear that these moves have created a chilling environment for federal scientists, and some have chosen to leave.¹¹²

Shortly after Donald Trump was elected President, the Centers for Disease Control and Prevention (CDC) canceled a climate change conference that had been planned months in advance. The “Climate and Health Summit” was to be held in Atlanta, Georgia in February 2017. The CDC did not officially comment on *why* the conference, which had been in the works for months, was canceled.

The theme of the conference as originally planned by the CDC was “the state of the science on climate and health, adaptation through interagency collaboration, and communication and stakeholder engagement strategies.” The CDC said that it had notified participants as early as December 22 of the cancellation and that it was considering options for rescheduling the conference in light of “budget priorities for the fiscal year 2017.”

Some suggest that this cancellation was done in light of the Trump [A]dministration’s political views on climate change. The executive director of the American Public Health Association (APHA) and planned keynote speaker at the conference, Georges Benjamin, expressed that agency officials decided to call off the event rather than risk conflict with an incoming president who has repeatedly called climate change a “hoax.” “[CDC] ran it up the flagpole and realized that it was so close to inauguration, the chances of it being canceled were pretty real with the [A]dministration that was coming in. Some might argue they should have said, ‘We’re going to do this and make them tell us no.’ But that was the decision they made. We should think of this as a strategic retreat,” Benjamin stated.

Kristie Ebi, a professor of global health at the University of Washington and invited speaker at the CDC’s conference,

112. Andrew A. Rosenberg & Kathleen Rest, *Our Federal Science Agencies Are in Mortal Danger*, SCI. AM. (Oct. 17, 2017), <https://blogs.scientificamerican.com/observations/our-federal-science-agencies-are-in-mortal-danger/>.

echoed Benjamin's concerns that the cancellation of the conference was worrisome. "In the long run, climate change is affecting the health of Americans. At some point, I hope they will move forward with the conference," she said. Other scientists expressed concern that this could be indicative of a future pattern of "self-sabotage" or "self-censorship" of science from federal agencies.

The conference ended up happening as a privately funded and abridged one-day summit instead of the three-day program that was previously planned. The one-day summit was sponsored by [former] vice president, Al Gore. Benjamin said that Al Gore had called him to discuss continuing the conference, "he called me and we talked about it and we said, 'there's still a void and still a need.[]'" We said, 'let's make this thing happen.'"

It was unclear whether or not CDC staff would be attending the resurrected meeting. CDC said that the agency did not "provide direction to employees about attending the meeting. Some CDC staff may have decided to take personal leave to attend." It was reported that some CDC staff did attend the resurrected meeting, but that they kept a low profile. The meeting was held at the nonprofit Carter Center in Atlanta, GA on February 16.¹¹³

IV. LOOKING FORWARD

The role of science in the American democracy must be preserved. Federal scientists will need support. Their work is crucial to policy decisions, making it vulnerable to political interference. It has happened before. Under the George W. Bush Administration, scientists at the FWS, for example, watched political appointees change data on a scientific report showing the sage grouse's need for protection under the Endangered Species Act.¹¹⁴ Scientists at NASA, NOAA, and the CDC were prevented from speaking publicly on climate change.¹¹⁵ We need federal scientists to feel supported and know their work is valued. They

113. *CDC Cancels Climate Change Conference*, UNION OF CONCERNED SCIENTISTS, <http://www.ucsusa.org/center-science-and-democracy/attacks-on-science/centers-disease-control-and-prevention-cancels#.WeSAc2iPKM8> (last visited Dec. 29, 2017).

114. Francesca Grifo et al., *Federal Science and the Public Good: Securing the Integrity of Science in Policy Making*, UNION OF CONCERNED SCIENTISTS 32 (Dec. 2008), http://www.ucsusa.org/sites/default/files/legacy/assets/documents/scientific_integrity/Federal-Science-and-the-Public-Good-12-08-Update.pdf.

115. *Id.* at 30–31.

may need defense from the scientific and legal communities in the event that they or their work become targets of political forces.

Science-based safeguards will need protection in the coming years. The Trump Administration and Congress are already taking steps to undermine the many science-based regulations that keep Americans safe and healthy.¹¹⁶ Beyond revoking specific rules, President Trump and his allies in Congress are working to dismantle the very process that allows science to inform government decision-making across all agencies and issue areas, in the name of cutting costs and regulatory burdens on private industry.¹¹⁷ In reality, science-based regulations protect the public health, safety, and the environment and have repeatedly proven their benefits far outweigh their costs.¹¹⁸ These benefits must be articulated.

Finally, use of science in federal policy decisions must be defended. There is little reason to believe that the Trump Administration will respect the role of scientific information when it is inconvenient to his policy agenda.¹¹⁹ The Administration's moves must be diligently scrutinized for attempts to circumvent or disparage the use of science to make government decisions.

This will be an uphill battle. Engagement is crucial, and the public must sound the alarm when science is silenced, manipulated, or otherwise compromised. Our nation depends on it. When science cannot inform policy decisions, Americans lose.

116. Carter, *supra* note 109, at 1–3, 8.

117. *Id.* at 23, 44.

118. *Attacks on Science-Based Safeguards in Congress: Endangering a Century of Progress*, UNION OF CONCERNED SCIENTISTS, <http://www.ucsusa.org/center-science-and-democracy/preserving-science-based-safeguards/attacks-science-based-regulation#.WeSDJWiPKM8> (last visited Dec. 29, 2017).

119. Matt Weiser, *A Guide to the EPA Data Under Threat by the Trump Administration*, THE GUARDIAN (Mar. 15, 2017, 8:00 EDT), <https://www.theguardian.com/sustainable-business/2017/mar/15/epa-data-trump-climate-change>.