

Statement of Dr. James McCarthy
Subcommittee on Investigations and Oversight
House Science Committee
March 28, 2007

Mr. Chairman and members of the committee, thank you for holding this hearing, and for giving me the opportunity to testify today about efforts to distort the science of climate change. My name is James McCarthy, and I am Alexander Agassiz Professor of Biological Oceanography at Harvard University. From 1986 to 1993, I served as chair of the international committee that establishes research priorities and oversees implementation of the International Geosphere—Biosphere Program. From 1997 to 2001, I co-chaired Working Group II of the Intergovernmental Panel on Climate Change (IPCC), which had responsibilities for assessing impacts of and vulnerabilities to global climate change for the Third IPCC Assessment. I am President-elect of the American Association for the Advancement of Science, and member of the Board of Union of Concerned Scientists.

It is now clear that for a number of years, both Bush administration political appointees and a network of organizations funded by the world's largest private energy company, ExxonMobil, have sought to distort, manipulate and suppress climate science, so as to confuse the American public about the reality and urgency of the global warming problem, and thus forestall a strong policy response.

Unfortunately, these efforts have misled many individuals, including elected officials, to believe that the human influences on climate change are either negligible or of little consequence. The science, however, leaves no doubt that human induced climate change is of enormous potential consequence, and clearly one of the most urgent issues of our times. It is also increasingly clear that we only have a narrow window of time – a decade or less – within which to initiate serious action if we are to avoid the highly negative impacts of global warming that are otherwise projected for this century.

In my testimony, I will begin by describing the process by which scientists have reached a robust and consistent position on our understanding of climate change and the threats it poses. I will then summarize two recent reports by the Union of Concerned Scientists. The first “Smoke, Mirrors, and Hot Air” details how Exxon Mobil manufactured uncertainty on climate change, and the second, “Atmosphere of Pressure” describes how federal climate science has been systematically manipulated and suppressed. I will close by providing recommendations for Congress, the administration and Exxon Mobil to protect the integrity of science and the free flow of scientific information and to ensure strong public policies that will provide a healthy climate for our children and grandchildren.

The Role of Science in Addressing Global Warming

First, let me outline where the scientific understanding of climate change and the threat it poses now stands. Science is an evolving body of knowledge, which is always open to challenge and new ideas. But there is a process by which this occurs, one that gives these challenges and new ideas credibility and legitimacy. This is through publication in peer reviewed scientific journals.

Novel findings do not always readily attain widespread acceptance in the scientific community. For example, the most important contribution to Earth sciences in the last four decades may be the discovery of seafloor-spreading and plate tectonics. And yet, some distinguished Earth scientists went to their graves unconvinced of the evidence.

Sometimes new findings, seemingly credible in the initial publication, are eventually proven wrong. The process of science is to continue to question and challenge both new and well-established findings. No scientist would ever discourage this skepticism.

The understanding of how changes in the atmospheric concentrations of greenhouse gases can affect Earth's temperature dates to the late 1800's. But due to the complex dynamics of climate, it took time for scientists to understand the linkages between chemical cycles involving land, ocean and atmospheric processes, and to ascertain clear trends in climate and in greenhouse gas concentrations. Was the Earth warming or cooling? Could the amount of heat-trapping gases produced by humans really be large enough to affect change? These and many other sensible questions were a common motivator of scientific studies in the last century. It was not until the latter half of the 20th century that key pieces of the relationship between increases in concentrations of heat-trapping gases and climate came into clear view.

For the past 25 years, many national academies of science have reviewed the body of climate science and have spoken consistently regarding the observed changes in Earth's climate and the evidence that human activities are the primary source of heat-trapping emissions responsible for global warming.

In June, 2005, the academies of science in each of the G-8 nations plus India, China, and Brazil issued a joint statement summarizing the science relating to anthropogenic climate change, which declared:

“...there is now strong evidence that significant global warming is occurring...It is likely that most of the warming in recent decades can be attributed to human activities... This warming has already led to changes in Earth's climate... The scientific understanding of climate change is now sufficiently clear to justify nations taking prompt action. It is vital that all nations identify cost-effective steps that they can take now, to contribute to substantial and long-term reduction in net global greenhouse gas emissions”.

Within the United States most climate scientists are members of one or more of the following professional organizations which publish scientific journals and hold regular meetings for scientists to present their latest findings: the American Geophysical Union (41,000 members), the American Meteorology Society (AMS) (11,000 members), and the American Association for the Advancement of Science (120,000 individual and institutional members). These preeminent scientific societies have all made similar statements about recent climate change. Here, for example is the statement of the AMS:

"Despite uncertainties, there is adequate evidence from observations and interpretations of climate simulations to conclude that the atmosphere, ocean, and land surface are warming; that humans have significantly contributed to this change; and that further climate change will continue to have important impacts on human societies, on economies, on ecosystems and on wildlife through the 21st century and beyond".

And, just last month, the authoritative Intergovernmental Panel on Climate Change (IPCC) released a report which concludes that the planet is unequivocally warming – their word, *unequivocal* – and that the warming we’re seeing is due primarily to the coal, oil and natural gas we burn to power our homes, businesses and transportation.

Despite this strong scientific understanding, media coverage and political debate on global warming science often give undue credence to the views of little known organizations and statements by individuals purporting to be experts on climate science.

A medical analogy comes to mind. Official position statements of the National Academies Institute of Medicine, the American Medical Association, the American Heart Association, and the American Cancer Society state that medical evidence strongly links cigarette smoking to lung and heart disease. Would any of us who are not experts in this field of medical science feel qualified challenging the views of these august bodies?

How is it then, that non-scientific organizations and a few individuals are able to cast doubt on the common statement of the world’s leading scientific academies, the IPCC, and on more than a century of scientific discovery regarding climate science? A recent report by the Union of Concerned Scientists (UCS) provides an explanation.

ExxonMobil’s Disinformation Campaign¹

In January 2007, UCS released “*Smoke, Mirrors and Hot Air: How ExxonMobil Uses Big Tobacco Tactics to Manufacture Uncertainty on Climate Science.*” The report documents how Exxon-Mobil, the world’s largest energy company, has for years underwritten a sophisticated disinformation campaign whose aim has been to deceive the public and policymakers about the reality of global warming. The campaign bears striking similarities to the tobacco industry’s decades-long effort to mislead the public about the scientific evidence linking smoking to lung cancer and heart disease. In fact, some of the

¹ References available in the full report, available at www.ucsusa.org/news/press_release/ExxonMobil-GlobalWarming-tobacco.html

same organizations and individuals involved in the tobacco industry effort are also part of the ExxonMobil's disinformation campaign.

Like the tobacco industry in previous decades, ExxonMobil has:

- Raised doubts about even the most indisputable scientific evidence;
- Funded an array of front organizations to create the appearance of a broad platform for a tight-knit group of vocal climate change contrarians who misrepresent peer-reviewed scientific findings;
- Attempted to portray its opposition to action as a positive quest for "sound science" rather than business self-interest; and,
- Used its access to the Bush administration to block federal policies and shape government communications on global warming.

Exxon-Mobil Contributions to Climate Contrarian Groups

Specifically, the UCS report shows that between 1998 and 2005, Exxon-Mobil funneled close to \$16 million to a network of 43 ideological and advocacy groups that seek to manufacture uncertainty about the strong scientific consensus on global warming. These groups promote spokespeople who misrepresent peer-reviewed scientific findings or cherry-pick facts in an attempt to mislead the media and public into thinking there is vigorous debate in the mainstream scientific community about climate change. Among the ExxonMobil-funded groups are established conservative and anti-regulation think tanks and organizations such as the American Enterprise Institute. There are also a myriad of smaller, lesser known groups, including the Heartland Institute (\$560,000), the Annapolis Center for Science Based Public Policy (\$763,500), and Frontiers of Freedom (\$1,000,200).

There are two disturbing themes about the groups funded by ExxonMobil. First, virtually all of the 43 organizations publish and publicize the work of a nearly identical small group of spokespeople who work to misrepresent climate science and confuse the public's understanding of global warming. Most of these organizations also include these same individuals as board members or scientific advisers. Second, ExxonMobil has often been the major underwriter of these groups' climate change-related activities.

There are many examples of what I've described in the UCS report. Solid state physicist Frederick Seitz, for instance, is the emeritus chair of the ExxonMobil funded Marshall Institute and is also affiliated with at least four other groups receiving funding from ExxonMobil. Patrick Michaels and Fred Singer, both prolific climate change skeptics, each have ties to no fewer than 11 organizations funded by ExxonMobil.

In terms of the organizations themselves, one of the most striking features to emerge from the data is the fact that ExxonMobil is often the major underwriter of these groups' climate change-related efforts. A good example is a Washington, DC.-based group called the Committee for a Constructive Tomorrow. This organization has, since 1998, received nearly a half a million dollars from ExxonMobil. The company's 2004 grant to this organization made up approximately a quarter of the group's total expenses for that year.

Another notable example is the Competitive Enterprise Institute which has, to date, received more than \$2 million in ExxonMobil funding.

All these figures and many more like them are documented in the report and its appendices. Part of UCS's goal was to provide a comprehensive reference of people, organizations, and funding data on this topic, and with close to 300 footnotes, the report provides plenty of source material for people to look into the story more deeply for themselves.

ExxonMobil Links to Big Tobacco

In addition to providing this information, though, the report also details links in strategy and personnel between ExxonMobil's efforts and those of the tobacco industry. It includes the text, for instance, of a seminal 1998 memo that ExxonMobil helped draft as part of a small group called the Global Climate Science Team that set much of the company's strategy in motion. As the report shows, this internal memo didn't just mimic the tobacco industry's strategy, it even drew upon key personnel who had implemented it.

For instance, Randy Randol, ExxonMobil's senior environmental lobbyist at the time, was a member of this Global Climate Science Team. Notably, so was Steve Milloy, who headed a tobacco front organization. As we now know from internal documents made public by court order, the tobacco firm Philip Morris actually hired a PR firm to create this group – called the Advancement of Sound Science Coalition – in 1993 to mislead the public about the dangers of second-hand smoke. In an effort to disguise its identity as a tobacco industry front group, TASSC also fostered support for a host of other anti-regulatory efforts on issues ranging from asbestos to radon.

Milloy is one of several veterans of the tobacco industry's disinformation campaign who this report shows are involved in ExxonMobil's similar, ongoing efforts on global warming. As recently as 2004, ExxonMobil has continued to fund Milloy's efforts. He currently runs two organizations out of his Maryland home—the resuscitated Advancement of Sound Science Center and something called the Free Enterprise Education Institute. ExxonMobil's close connection with some of the very same personnel who helped engineer the tobacco industry's blatant and shameful disinformation campaign speaks for itself.

ExxonMobil's Political Influence

The UCS report shows that ExxonMobil's influence over government policy may surpass that of the tobacco industry it emulates. The report documents that during the 2000-2006 election cycles, ExxonMobil's PAC and individuals affiliated with the company gave more than \$4 million to federal candidates and parties. Shortly after President Bush took office, ExxonMobil began to wield its influence. In 2001, ExxonMobil participated in Vice President Cheney's "Energy Task Force", which recommended a continued reliance on fossil fuels.

ExxonMobil also successfully urged the Bush administration to back away from the U.S. Commitment to the Kyoto Protocol. Notes from a 2001 talk by state department official Paula Dobriansky confirm the role ExxonMobil played in persuading the administration to abandon the international agreement. Another 2001 memo from ExxonMobil urged the administration to hire Harlan Watson, a vocal opponent of climate action, as the lead negotiator for the U.S. on international climate policy. Since then H. Watson has steadfastly opposed any U.S. engagement in the Kyoto process.

Other documents reveal that in February 2001, following the release of an authoritative report by the Intergovernmental Panel on Climate Change (IPCC), ExxonMobil successfully lobbied the White House to withdraw its support for renomination of Robert Watson to a second term as chairman of the IPCC. R. Watson, an internationally respected scientist, has served as the director of the science division at NASA and was at the time a chief scientist at the World Bank.

In one of the most striking examples of ExxonMobil's influence, the administration hired Philip Cooney to serve as the chief of staff in the White House Council of Environmental Quality (CEQ) from 2001-2005. Before joining the administration, Cooney had spent a decade as a lawyer for the American Petroleum Institute, the oil industry lobby that worked with ExxonMobil to develop its disinformation campaign. In that capacity, Cooney sought to prevent the U.S. from entering into any kind of international agreement or enacting any domestic legislation that might lead to mandatory limits on global warming emissions.

Cooney, a lawyer with an undergraduate degree in economics, had no scientific credentials that might qualify him to rewrite the findings of top government scientists. Nonetheless, during his tenure at CEQ, he spent a significant amount of time censoring and distorting government reports so as to exaggerate scientific uncertainty about global warming. One particularly damning incident involved Cooney's efforts to sabotage the administration's own May 2002 "U.S. Climate Action Report", which concluded that climate change posed a significant risk and was caused by human-made emissions. The report drew on the findings of the "U.S. National Assessment of the Potential Consequences of Climate Variability and Change," an earlier government report that predated the Bush administration.

E-mail correspondence obtained through a Freedom of Information Act request shows that Cooney contacted Myron Ebell at the ExxonMobil-funded Competitive Enterprise Institute for help in undermining the administration's own report. Ebell advised the administration to distance itself from the report. Shortly after, President Bush did exactly that, denigrating the report as having been "put out by the bureaucracy". CEI then filed the second of two lawsuits calling for the Bush administration to withdraw the National Assessment, on which the report in question was based.

Cooney's inappropriate activities came to light when Rick Piltz, a whistle-blowing researcher at the U.S. government's interagency Climate Change Science Program, resigned in protest over Cooney's censorship practices and other Bush administration

abuses of climate science. Two days after the *New York Times* first reported on Piltz's revelations, Cooney resigned. It was not surprising when, one week after he left the White house, Cooney accepted a high-ranking public relations position at ExxonMobil.

The Bottom Line on ExxonMobil

In an effort reminiscent of the tobacco industry, ExxonMobil has helped create an echo chamber that serves to amplify the views of a carefully selected group of spokespeople whose work has been largely discredited by the scientific community. Hopefully, as the connections documented in this report become known, lawmakers, media, and the public will become more attuned to the relationships that many of the most vocal critics of climate change science and their organizations have to a corporation that has repeatedly refused to acknowledge the science and respond to the concerns so succinctly summarized in the joint statement of the 11 Academies and the recent IPCC report.

Protecting Federal Climate Scientists from Political Interference

Federal climate science research is at the forefront of assessing fundamental causes of global warming and the future dangers it could pose to our nation and the world. Such research is of tremendous value to many Americans planning for these risks, including coastal communities designing infrastructure for protecting against storm surges; civil authorities planning for heat waves; power companies preparing for higher peak energy demands; forest managers planning wildfire management programs; farmers adjusting to changing precipitation patterns; and policy makers evaluating energy legislation. Therefore, it is crucial that the best available science on climate change be disseminated to the public, through government websites, reports, and press releases. In recent years, however, this science has been increasingly tailored to reflect political goals rather than scientific fact.

Out of concern that inappropriate political interference and media favoritism are compromising federal climate science, the Union of Concerned Scientists (UCS) and the Government Accountability Project (GAP) undertook independent investigations of federal climate science. UCS mailed a questionnaire to more than 1,600 climate scientists at seven federal agencies to gauge the extent to which politics was playing a role in scientists' research. Surveys were also sent to scientists at the independent (non-federal) National Center for Atmospheric Research (NCAR) to serve as a comparison with the experience of federal scientists. About 19 percent of all scientists responded (279 from federal agencies and 29 from NCAR). At the same time, GAP conducted 40 in-depth interviews with federal climate scientists and other officials and analyzed thousands of pages of government documents, obtained through the Freedom of Information Act (FOIA) and inside sources, regarding agency media policies and congressional communications.

These two complementary investigations arrived at similar conclusions regarding the state of federal climate research and the need for strong policies to protect the integrity of science and the free flow of scientific information. Together, they formed the basis for

“Atmosphere of Pressure”, a joint report by the Union of Concerned Scientists and the Government Accountability Project.

Findings of the Report: “Atmosphere of Pressure”

Political Interference with Climate Science: The federal government needs accurate scientific information to craft effective policies. Political interference with the work of federal scientists threatens the quality and integrity of these policies. As such, no scientist should ever encounter any of the various types of political interference described in our survey questions. Yet unacceptably large numbers of federal climate scientists personally experienced instances of interference over the past five years:

- 57 scientists (21 percent of all respondents to the question) personally experienced pressure to eliminate the words “climate change,” “global warming,” or other similar terms from a variety of communications.
- 41 scientists (15 percent) personally experienced changes or edits during review that changed the meaning of scientific findings.
- 47 scientists (18 percent) personally experienced statements by officials at their agencies that misrepresented scientists’ findings.
- 60 scientists (22 percent) personally experienced the disappearance or unusual delay of websites, reports, or other science-based materials relating to climate.
- 97 scientists (36 percent) personally experienced new or unusual administrative requirements that impair climate-related work.
- 17 scientists (6 percent) personally experienced situations in which scientists have actively objected to, resigned from, or removed themselves from a project because of pressure to change scientific findings.
- In all, 150 scientists (58 percent) said they had *personally experienced* at least one incident of some form of interference within the past five years, for a total of *at least* 435 incidents of political interference.

The more frequently a climate scientist’s work touches on sensitive or controversial issues, the more interference he or she reported. More than three-quarters (78 percent) of those survey respondents who self-reported that their research “always” or “frequently” touches on issues that could be considered sensitive or controversial also reported they had personally experienced at least one incident of inappropriate interference. More than one-quarter (27 percent) of this same group had experienced six or more such incidents in the past five years.

In contrast to this evidence of widespread interference in climate science at federal agencies, scientists at the independent National Center for Atmospheric Research (NCAR), who are not federal employees, reported far fewer instances of interference. Only 22 percent of all NCAR respondents had personally experienced such incidents over the past five years. Of course, this is still unacceptable; no scientist should be subjected to such political interference.

Barriers to Communication: Federal scientists have a constitutional right to speak about their scientific research, and the American public has a right to be informed of the findings of taxpayer-supported research. Restrictions on scientists who report findings contrary to an administration's preferred policies undermine these basic rights. These practices also contribute to a general misunderstanding of the findings of climate science and degrade our government's ability to make effective policies on topics ranging from public health to agriculture to disaster preparation.

The investigation uncovered numerous examples of public affairs officers at federal agencies taking a highly active role in regulating communications between agency scientists and the media—in effect serving as gatekeepers for scientific information.

Among the examples taken from interviews and FOIA documents:

- One agency scientist, whose research illustrates a possible connection between hurricanes and global warming, was repeatedly barred from speaking to the media. Press inquiries on the subject were routed to another scientist whose views more closely matched official administration policy.
- Government scientists routinely encounter difficulty in obtaining approval for official press releases that highlight research into the causes and consequences of global warming.
- Media policies at federal agencies went beyond notifying public affairs officers of upcoming interviews or recapping the content of past interviews. In some cases requests to speak with the media were only granted under the condition that a public affairs officer be physically present at the interview. This practice of having their statements monitored may have made some scientists feel less comfortable speaking freely.
- Both scientists and journalists report that restrictive media policies and practices have had the effect of slowing down the process by which interview requests are approved. As a result, the number of contacts between government scientists and the news media has been greatly reduced.

Highly publicized incidents of interference have led at least one agency to implement reforms; in February 2006, NASA adopted a scientific openness policy that affirms the right of open scientific communication. Perhaps as a result, 61 percent of NASA survey respondents said recent policies affirming scientific openness at their agency have improved the environment for climate research. While imperfect, the new NASA media policy stands as a model for the type of action other federal agencies should take in reforming their media policies.

The investigation also highlighted problems with the process by which scientific findings are communicated to policy makers in Congress. One example, taken from internal documents provided to GAP by agency staff, shows edits to official questions for the record by political appointees, which change the meaning of the scientific findings being presented.

Inadequate Funding: When adjusted for inflation, funding for federal climate science research has declined since the mid-1990s. A majority of survey respondents disagreed that the government has done a good job funding climate science, and a large number of scientists warned that inadequate levels of funding are harming the capacity of researchers to make progress in understanding the causes and effects of climate change. Budget cuts that have forced the cancellation of crucial Earth observation satellite programs were of particular concern to respondents.

Poor Morale: Morale among federal climate scientists is generally poor. The UCS survey results suggest a correlation between the deterioration in morale and the politicized environment surrounding federal climate science in the present administration. One primary danger of low morale and decreased funding is that federal agencies may have more difficulty attracting and keeping the best scientists.

A large number of respondents reported decreasing job satisfaction and a worsening environment for climate science in federal agencies:

- Two-thirds of respondents said that today's environment for federal government climate research is worse compared with 5 years ago (67 percent) and 10 years ago (64 percent). Among scientists at NASA, these numbers were higher (79 percent and 77 percent, respectively).
- 45 percent said that their personal job satisfaction has decreased over the past few years. At NASA, three in five (61 percent) reported decreased job satisfaction.
- 36 percent of respondents from NASA, and 22 percent of all respondents, reported that morale in their office was "poor" or "extremely poor." Among NCAR respondents, only seven percent reported such low levels of morale.

Recommendations

Congress should take action to prevent the worst effects of global warming, ignore the disinformation campaign funded by ExxonMobil, and take steps to protect federal climate scientists from political interference. Let me address each of these areas.

Congressional Action on Global Warming

The true signal that ExxonMobil's disinformation campaign has been defeated and federal climate scientists have regained a real voice will come when Congress passes policies that meaningfully address the threat of global warming. Most importantly, Congress should pass science based legislation that gradually reduces global warming emissions to 80 percent below 1990 levels by 2050. In addition, Congress should enact policies that spur the development of solution technologies and make compliance with the economy-wide reductions more affordable. These should include:

- Increased fuel economy standards for passenger vehicles;
- A Renewable Electricity Standard requiring utilities to obtain 20 percent of electricity from renewable energy sources by 2020;

- A shift in government energy support and incentives away from conventional coal, oil, and gas toward clean, renewable energy sources; and,
- Integration of low carbon fuels into the supply chain by ensuring that more gas stations sell biofuels such as E85 and flexible fuel vehicles comprise a greater percentage of the vehicle fleet.

Ending ExxonMobil's Disinformation Campaign

The UCS "Smoke, Mirrors, and Hot Air" report, which was covered in more than 300 media outlets, came on the heels of other criticism of ExxonMobil's disinformation campaign. In September 2006, the Royal Society, Britain's premier scientific academy, sent a letter to ExxonMobil urging the company to stop funding the dozens of groups spreading disinformation on global warming and also strongly criticized the company's "inaccurate and misleading" public statements on global warming. On October 27, 2006, Senators Olympia Snowe (R-ME) and John D. Rockefeller (D-WV) sent a letter to ExxonMobil urging the company to stop funding climate contrarian groups. All three of these documents have led to public outrage about the company's cynical campaign to delay climate action.

In response to public pressure, ExxonMobil recently launched a public relations campaign aimed at softening its image as a climate skeptic. Although the company recently acknowledges the global warming threat, and has announced that it has cut off funding for some of the groups involved in the disinformation campaign, including the Competitive Enterprise Institute, it has not yet pledged a complete halt to its bankrolling of the scores of skeptic groups that disseminate misleading information on global warming. In a letter responding to Senators Snowe and Rockefeller, ExxonMobil claimed to have no control over the activities of the groups it supports. If that's true, Exxon Mobil can certainly choose to stop funding any group that disseminates misinformation and establish clear standards for groups that receive funding in the future.

Even if ExxonMobil ceases to fund its disinformation campaign, much of what it funded in the past will continue to have influence, and to the degree it does, our nation will take longer to enact the needed policies described above. Such delay would be costly in harm done to natural and human socioeconomic systems that are sensitive to the negative impacts of business-as-usual projections for future climate. Therefore, I urge Members of Congress to draw the scientific information needed to formulate wise policy responses to impending climate change from bona fide scientific organizations and member scientists who publish in the scientific literature, and to assiduously avoid being influenced by the protestations of small but vocal groups and individuals funded by ExxonMobil and other corporations and special interests for the express purpose of casting doubt on a robust body of climate science.

Protecting Federal Climate Scientists

The UCS-GAP "Atmosphere of Pressure" report brought to light numerous ways in which U.S. federal climate science has been filtered, suppressed, and manipulated in the last five years. Until this political interference ends, the United States will not be able to

fully protect Americans and the world from the dangers of a warming planet. Creating systems to ensure long-term independent and accessible science will require the energies of the entire federal government. I recommend the following reforms and actions:

- Congress must act to specifically protect the rights of federal scientists to conduct their work and communicate their findings without interference and protect scientists who speak out when they see interference or suppression of science.
- The federal government must respect the constitutional right of scientists to speak about any subject, including policy-related matters and those outside their area of expertise, so long as the scientists make it clear that they do so in their private capacity, and such communications do not unreasonably take from agency time and resources. Scientists should also be made aware of these rights and ensure they are exercised at their agencies.
- Ultimate decisions about the communication of federal scientific information should lie with scientists themselves. While non-scientists may be helpful with various aspects of writing and communication, scientists must have a “right of last review” on agency communications related to their scientific research to ensure scientific accuracy has been maintained.
- Pre-approval of media interviews with federal scientists by public affairs officials should be eliminated. Scientists should not be subject to restrictions on media contacts beyond a policy of informing public affairs officials in advance of an interview and summarizing the interaction for them afterwards. Coordinating media requests with the public affairs office is reasonable, but the practice of public affairs officers being present at an interview, either physically or by phone, can have a chilling effect on the free flow of scientific information and should not serve as a prerequisite for the approval of an interview. The UCS report provides a Model Media Policy that can be used as an example for federal agencies who wish to reform their policies and practices regarding scientific freedom and openness.
- Federal agencies should clearly support the free exchange of scientific information in all venues. They should investigate and correct inappropriate policies, practices, and incidents that threaten scientific integrity, determine how and why problems have occurred, and make the necessary reforms to prevent further incidents.
- Funding decisions regarding climate change programs should be guided by scientific criteria, and must take into account the importance of long-term, continual climate observation programs and models.
- All branches of the government must have access to independent scientific advice.

Conclusion

The actions of ExxonMobil-funded groups and federal political appointees to distort, manipulate, and suppress climate science have helped postpone meaningful U.S. action to protect future generations from the worst consequences of global warming. The federal government must commit to ensuring basic scientific freedoms and supporting scientists

in their endeavors to bring scientific results to the policy arena, scientific fora, and the American people.

Attachment A

The six pages that comprise this attachment are excerpted from the UCS report "Smoke, Mirrors, and Hot Air". To view the full report and obtain citations, visit:
http://www.ucsusa.org/global_warming/science/exxonmobil-smoke-mirrors-hot.html

Appendix B

GROUPS AND INDIVIDUALS ASSOCIATED WITH EXXONMOBIL'S DISINFORMATION CAMPAIGN

Table 1 **Select ExxonMobil-Funded Organizations Providing Disinformation on Global Warming**¹⁷⁴

Organization	Total ExxonMobil Funding ¹⁷⁵ (1998-2005)	Illustrative Information
Africa Fighting Malaria	\$30,000	AFM received \$30,000 donation in 2004 for "climate change outreach." This grant represents 10% of their total expenses for that year. AFM's website has an extensive collection of articles and commentary that argue against urgent action on climate change. ¹⁷⁶
American Council for Capital Formation, Center for Policy Research	\$1,604,523	One-third of the total ExxonMobil grants to ACCF-CPR between 1998 and 2005 were specifically designated for climate change activities. ExxonMobil funds represent approximately 36% of their total expenses in 2005. ¹⁷⁷
American Council on Science and Health	\$125,000	ExxonMobil donated \$15,000 to ACSH in 2004 for "climate change issues." A September 2006 Better Business Bureau Wise Giving Alliance Charity Report concludes that the ACSH does not meet all the standards for charity accountability. ¹⁷⁸
American Enterprise Institute	\$1,625,000	Lee R. Raymond, retired chair and CEO of ExxonMobil, is vice chairman of AEI's Board of Trustees. ¹⁷⁹
American Friends of the Institute of Economic Affairs	\$50,000	American Friends of the IEA received a \$50,000 ExxonMobil donation in 2004 for "climate change issues." This grant represents 29% of their total expenses for that year. The 2004 IEA study, <i>Climate Alarmism Reconsidered</i> , "demonstrates how the balance of evidence supports a benign, enhanced greenhouse effect." ¹⁸⁰
American Legislative Exchange Council	\$1,111,700	Of the total ExxonMobil grants to ALEC, \$327,000 was specifically for climate change projects. ALEC received \$241,500 in 2005 from ExxonMobil.
Annapolis Center for Science-Based Public Policy	\$763,500	In 2002, ExxonMobil funds represented approximately 20% of their total expenses. The Annapolis Center's climate work includes production of materials exaggerating the uncertainty about the human contribution to climate change. Climate contrarians Sallie Baliunas and Richard Lindzen serve as scientific advisors. ¹⁸¹
Arizona State University, Office of Climatology	\$49,500	The Office of Climatology at ASU received an ExxonMobil donation in 2001. Robert C. Balling, Jr., directed the office during this time. ¹⁸² ExxonMobil did not donate to any other offices of climatology between 1998 and 2005.
Atlantic Legal Foundation	\$20,000	The Atlantic Legal Foundation filed an <i>amicus</i> brief on behalf of climate contrarians, Sallie Baliunas, David Legates, and Patrick Michaels, in support of the EPA's decision against the regulation of carbon dioxide emissions as a pollutant. ¹⁸³ The ALF received several ExxonMobil donations between 1998 and 2005.
Atlas Economic Research Foundation	\$680,000	Atlas Economic Research Foundation received \$65,000 in 1998 for a "global climate conference and other support." In 2003, ExxonMobil funds represented approximately 6% of their total expenses for that year.
Cato Institute	\$105,000	In 2002, ExxonMobil funds represented approximately 0.2% of the total expenses.
Center for the Defense of Free Enterprise	\$230,000	From 2003 to 2005, ExxonMobil funds represent a significant percentage of the total expenses (2003: 61%, 2004: 143%, 2005: 95%). The largest grant (\$130,000 in 2004) was specified by ExxonMobil for "global climate change issues."
Centre for the New Europe	\$170,000	ExxonMobil gave \$120,000 between 2004 and 2005 to support the centre's climate change activities.
Center for the Study of Carbon Dioxide and Global Change	\$90,000	In 2003, ExxonMobil funds represented approximately 14% of total expenses.
Citizens for a Sound Economy Educational Foundation [became FreedomWorks]	\$380,250	CSE received \$275,250 from ExxonMobil in 2001, an increase from \$30,000 the year before. CSE merged with Empower America and became FreedomWorks in 2004. ¹⁸⁴ FreedomWorks maintains that the science of climate change is "far from settled" and cites scientists such as Sallie Baliunas. ¹⁸⁵

Table 1 **Select ExxonMobil-Funded Organizations Providing Disinformation on Global Warming**¹⁷⁴
continued

Organization	Total ExxonMobil Funding ¹⁷⁵ (1998–2005)	Illustrative Information
Committee for a Constructive Tomorrow	\$472,000	Approximately 23% of the total ExxonMobil funding for the CCT was directed by ExxonMobil for climate change activities. The 2004 ExxonMobil grant represented approximately a quarter of their total expenses for that year.
Competitive Enterprise Institute	\$2,005,000	Of the organizations analyzed, CEI received 1.2 times more money from ExxonMobil since 1998 than the second most-funded organization, AEI. In FY 2003, ExxonMobil grants represented approximately 16% of CEI's total expenses.
Congress of Racial Equality (CORE)	\$235,000	In 2004, ExxonMobil donated \$135,000 for climate change activities. This organization is not required to file an annual return with the IRS because its income is reportedly less than \$25,000 annually. ¹⁸⁶
Consumer Alert, Inc.	\$70,000	In 2004, the ExxonMobil grants for climate change “opinion leader and public education efforts” and climate change “outreach to opinion leaders” represented approximately 14% of their total expenses for that year.
Federalist Society for Law & Public Policy Studies	\$90,000	S. Fred Singer is a featured expert for the Federalist Society, which received funding from ExxonMobil every year from 2000 to 2005.
Foundation for Research on Economics and the Environment	\$210,000	FREE's federal judicial seminars in Montana, which were reported in a May 2006 <i>Washington Post</i> article as funded by ExxonMobil and other corporations, have been criticized for facilitating special interest lobbying. ¹⁸⁷ In 2004, ExxonMobil donated \$20,000 for a “climate seminar.”
Fraser Institute	\$120,000	All of the funds ExxonMobil donated to the Fraser Institute between 1998 and 2005 were for climate change work.
Free Enterprise Action Institute	\$130,000	The Free Enterprise Action Institute is registered under Steven Milloy's name and home address. In 2005, ExxonMobil funds represented approximately 64% of total expenses. Tax filings from 2004 and 2005 reported no staff.
Frontiers of Freedom Institute	\$1,002,000	A May 2003 <i>New York Times</i> article reported that the \$232,000 ExxonMobil donation in 2002 (up from \$40,000 the year before) represented approximately one-third of FFI's annual budget. Almost half of their total ExxonMobil donations since 1998 were specifically designated by ExxonMobil for climate change projects. ¹⁸⁸
George C. Marshall Institute	\$630,000	The George C. Marshall Institute has received a steady stream of funding from ExxonMobil for its climate science program: \$405,000 between 2001 and 2004. In 2004, ExxonMobil funds represented approximately 21% of total expenses. The Marshall Institute in turn donated \$12,602 to the Tech Central Science Foundation (Tech Central Station) in 2004. ¹⁸⁹
Heartland Institute	\$561,500	Nearly 40% of the total funds that the Heartland Institute has received from ExxonMobil since 1998 were specifically designated for climate change projects. ExxonMobil donated \$119,000 in 2005, its biggest gift to Heartland since 1998.
Heritage Foundation	\$460,000	ExxonMobil gave \$25,000 in 2002 for “climate change issues.”
Hoover Institution on War, Revolution, and Peace, Stanford University	\$295,000	ExxonMobil donated \$30,000 in 2003 for “global climate change projects.” Climate contrarians Sallie Baliunas and S. Fred Singer were Wesson Fellows for the Hoover Institute, a public policy research center. ¹⁹⁰
Independent Institute	\$70,000	Climate contrarians S. Fred Singer, David Legates, and Frederick Seitz are all research fellows at the Independent Institute, which has received money from ExxonMobil from at least 1998 to 2005.
Institute for Energy Research	\$177,000	The Institute received \$45,000 in 2004 for “climate change and energy policy issues” from ExxonMobil. In 2005, ExxonMobil funds represented approximately 31% of total expenses.
International Policy Network	\$295,000	The International Policy Network's largest grant from ExxonMobil since 1998, \$115,000 in 2004, was specifically designated for “climate change” activities. This grant represented 16% of their total expenses for that year.
Lindenwood University	\$10,000	In 2004, ExxonMobil donated \$5,000 for “climate change outreach.” Lectures publicized on the university's Institute for Study of Economics and the Environment, for example, question the human contribution to global warming. ¹⁹¹
Media Research Center	\$150,000	\$100,000 of the total funds the Media Research Center received from ExxonMobil between 1998 and 2005 were specifically designated for climate change activities.

Table 1 **Select ExxonMobil-Funded Organizations Providing Disinformation on Global Warming**¹⁷⁴
continued

Organization	Total ExxonMobil Funding ¹⁷⁵ (1998–2005)	Illustrative Information
Mercatus Center, George Mason University	\$80,000	ExxonMobil funded \$40,000 in 2004 to support the Mercatus Center's work on climate change regulation.
National Association of Neighborhoods	\$100,000	In 2004, an ExxonMobil grant for work on climate change issues represented approximately 6% of total expenses.
National Center for Policy Analysis	\$420,900	The NCPA received funding from ExxonMobil every year from 2000 to 2005. NCPA climate work includes, for example, a paper authored by climate contrarian David Legates that argued the arctic polar bear population was not threatened by global warming. ¹⁹² The NCPA also cites the work of Robert Balling, Jr., John Christy, and other climate contrarians.
National Center for Public Policy Research	\$280,000	In 2003, ExxonMobil gave the center \$30,000 to fund the EnviroTruth website (www.envirotruth.org), which purportedly provides information on the "truths and falsehoods" of a variety of environmental issues, including climate change. ¹⁹³
National Environmental Policy Institute	\$75,000	Steven Milloy is the former director of the NEPI. ¹⁹⁴ ExxonMobil funds in 2000 represented 3% of their total expenses that year. The activities of NEPI's Global Climate Science Project included a Congressional roundtable and white paper referencing several climate contrarians. ¹⁹⁵
Pacific Research Institute for Public Policy	\$355,000	PRI's largest donation from ExxonMobil since 1998 is \$100,000 in 2004 (up from \$45,000 for each of the two previous years). ExxonMobil allocated half of this grant for "climate change and environmental quality research."
Science and Environmental Policy Project	\$20,000	SEPP was founded by climate contrarian S. Fred Singer. ¹⁹⁶ ExxonMobil donated \$10,000 in 2000 for project support.
The Advancement of Sound Science Center, Inc.	\$50,000	ExxonMobil funds represented approximately 65% of total expenses in FY 2002.
Tech Central Station	\$95,000	The DCI Group ran TCS until TCS was sold in September 2006. ¹⁹⁷ The DCI Group is a registered ExxonMobil lobbying firm. ¹⁹⁸
Weidenbaum Center, Washington University (formerly Center for the Study of American Business)	\$345,000	Murray Weidenbaum, honorary chair, has written about the "great uncertainty" of the human contribution to global warming. ¹⁹⁹ The center received \$70,000 from ExxonMobil in 1998 for "Global Climate Change and other support" and published papers by climate contrarians Patrick Michaels (1998) and S. Frederick Singer (1999).

TOTAL: \$15,837,873

Table 2 **Scientific Spokespeople Affiliated with ExxonMobil-Funded Groups**

Name	Affiliation With ExxonMobil-Funded Organizations	Title/Role
Sallie Baliunas	Annapolis Center for Science Based Public Policy	<i>Science and Economic Advisory Council Member</i> ²⁰⁰
	Committee for a Constructive Tomorrow	<i>Academic and Scientific Advisory Board Member</i> ²⁰¹
	Competitive Enterprise Institute	<i>Report Author</i> ²⁰²
	George C. Marshall Institute	<i>Senior Scientist</i> ²⁰³ and <i>Chair of Science Advisory Board</i> ²⁰⁴
	Global Climate Coalition	<i>Featured Scientist</i> ²⁰⁵
	Heartland Institute	<i>Writer/contributor</i> ²⁰⁶
	Heritage Foundation	<i>Writer/contributor</i> ²⁰⁷
	Hoover Institution on War, Revolution and Peace	<i>Robert Wesson Endowment Fund Fellow (1993-4)</i> ²⁰⁸
Robert C. Balling, Jr.	Tech Central Station	<i>Science Round Table Member</i> ²⁰⁹
	Cato Institute	<i>Book Author</i> ²¹⁰
	Committee for a Constructive Tomorrow	<i>Academic and Scientific Advisory Board Member</i> ²¹¹
	Heritage Foundation	<i>Policy Expert</i> ²¹²
	International Policy Network	<i>Writer/contributor</i> ²¹³
John Christy	Tech Central Station	<i>Science Roundtable Member</i> ²¹⁴
	Competitive Enterprise Institute	<i>Report and Article Authors</i> ²¹⁵
Hugh Ellsaesser	Independent Institute	<i>Report Author</i> ²¹⁶
	Committee for a Constructive Tomorrow	<i>Academic and Scientific Advisory Board Member</i> ²¹⁷
Sherwood B. Idso	Consumer Alert	<i>Advisory Council Member</i> ²¹⁸
	Center for the Study of Carbon Dioxide and Global Change	<i>President</i> ²¹⁹
	Committee for a Constructive Tomorrow	<i>Academic and Scientific Advisory Board Member</i> ²²⁰
David R. Legates	George C. Marshall Institute	<i>Report Author</i> ²²¹
	Competitive Enterprise Institute	<i>Former Adjunct Scholar</i> ²²²
	George C. Marshall Institute	<i>Report Author</i> ²²³
	Heartland Institute	<i>Featured Author</i> ²²⁴
	Independent Institute	<i>Research Fellow</i> ²²⁵
	National Center for Policy Analysis	<i>Adjunct Scholar and E-team Expert</i> ²²⁶
Richard Lindzen	Tech Central Station	<i>Science Roundtable Member</i> ²²⁷
	Annapolis Center for Science Based Public Policy	<i>Science and Economic Advisory Council Member</i> ²²⁸
	Cato Institute	<i>Contributing Expert</i> ²²⁹
	George C. Marshall Institute	<i>Report Author</i> ²³⁰

Table 2 **Scientific Spokespeople Affiliated with ExxonMobil-Funded Groups** continued

Name	Affiliation With ExxonMobil-Funded Organizations	Title/Role
Patrick J. Michaels	American Council on Science and Health	<i>Scientific Advisor</i> ²³¹
	American Legislative Exchange Council	<i>Report Author</i> ²³²
	Cato Institute	<i>Senior Fellow in Environmental Studies</i> ²³³
	Committee for a Constructive Tomorrow	<i>Academic and Scientific Advisory Board Member</i> ²³⁴
	Competitive Enterprise Institute	<i>CEI expert</i> ²³⁵
	Consumer Alert	<i>Advisory Council Member</i> ²³⁶
	George C. Marshall Institute	<i>Book Editor and Contributor</i> ²³⁷
	Heartland Institute	<i>Writer/contributor</i> ²³⁸
	Heritage Foundation	<i>Policy Expert</i> ²³⁹
	Tech Central Station	<i>Science Roundtable member</i> ²⁴⁰
	Weidenbaum Center	<i>Study Author</i> ²⁴¹
Fredrick Seitz	Atlantic Legal Foundation	<i>Director Emeritus</i> ²⁴²
	Committee for a Constructive Tomorrow	<i>Academic and Scientific Advisory Board Member</i> ²⁴³
	George C. Marshall Institute	<i>Chairman Emeritus and Member of the Board of Directors</i> ²⁴⁴
	Independent Institute	<i>Research Fellow</i> ²⁴⁵
	Science and Environmental Policy Project	<i>Chairman of the Board of Directors</i> ²⁴⁶
S. Fred Singer	American Council on Science and Health	<i>Scientific Advisor</i> ²⁴⁷
	Cato Institute	<i>Writer/contributor</i> ²⁴⁸
	Centre for the New Europe	<i>Featured Expert</i> ²⁴⁹
	Federalist Society for Law and Public Policy Studies	<i>Featured Expert</i> ²⁵⁰
	Frontiers of Freedom	<i>Adjunct Fellow</i> ²⁵¹
	Heritage Foundation	<i>Senior Fellow</i> ²⁵²
	Hoover Institution on War, Revolution and Peace	<i>Robert Wesson Endowment Fund Fellow and Featured Author</i> ²⁵³
	Independent Institute	<i>Research Fellow</i> ²⁵⁴
	National Center for Policy Analysis	<i>Adjunct Scholar</i> ²⁵⁵ and <i>E-team Expert</i> ²⁵⁶
	Science and Environmental Policy Project	<i>President</i> ²⁵⁷
Weidenbaum Center	<i>Study Author</i> ²⁵⁸	
Willie Soon	Fraser Institute	<i>Featured Expert</i> ²⁵⁹
	Frontiers of Freedom	<i>Chief Scientific Researcher for the Organization's Center for Science and Public Policy</i> ²⁶⁰
	George C. Marshall Institute	<i>Senior Scientist</i> ²⁶¹
	Heartland Institute	<i>Writer/contributor</i> ²⁶²
	Tech Central Station	<i>Science Roundtable member</i> ²⁶³

Table 3 **Key Personnel Overlap between Tobacco and Climate Disinformation Campaigns**

Person	Tobacco Company Affiliation	Climate Campaign Role*
Doug Goodyear	VP, Walt Klein and Associates, PR firm for R.J. Reynolds tobacco company (RJR) Cofounder, Ramhurst, an ostensibly grassroots organization for “smokers’ rights” that received funding from RJR ²⁶⁴	CEO, DCI Group, a registered ExxonMobil lobbying firm that created Tech Central Station, an on-line journal that publishes articles by climate contrarians. Director, Tech Central Science Foundation, funding arm of Tech Central Station ²⁶⁵
Timothy N. Hyde	Senior Director of Public Issues, RJR, 1988 to 1997 ²⁶⁶	Managing Partner, DCI Group
Steven Milloy	Headed The Advancement of Sound Science Coalition (TASSC), a group that the Philip Morris tobacco company covertly created in 1993 to manufacture uncertainty about the health hazards posed by secondhand smoke ²⁶⁷	Member, Global Climate Science Team (GCST), a group created in part by ExxonMobil that outlined an explicit strategy to invest millions of dollars to manufacture uncertainty on the issue of global warming ²⁶⁸ Home address listed for the slightly renamed The Advancement of Sound Science <i>Center</i> (TASSC) and the Free Enterprise Action Institute, both funded by ExxonMobil ²⁶⁹
Frederick Seitz	Employed by RJR to oversee the company’s medical research funding, 1979 to 1989 ²⁷⁰	Emeritus chair of the ExxonMobil-funded George C. Marshall Institute ²⁷¹ Wrote and circulated a letter asking scientists to sign a petition calling upon the U.S. government to reject the Kyoto Protocol ²⁷²
Tom Synhorst	Midwestern Field Coordinator, RJR ²⁷³	Chair, DCI Group

* Major climate campaign roles were identified; this is not a comprehensive list.

Attachment B

Selected Excerpts from UCS Climate Survey Essay Responses

The 40-question survey mailed by UCS to over 1,600 federal climate scientists featured one essay question that allowed scientists to provide a written narrative, and extra space for scientists to leave additional comments. The following are excerpts from the essays provided, divided into five topic areas: political interference in climate science, scientific findings misrepresented, barriers to communication, funding, and climate scientist are disheartened.

“The integrity of the U.S. federal government climate science could best be improved by...”

I. Political Interference with Climate Science

Large numbers of federal climate scientists reported various types of interference, both subtle and explicit:

National Aeronautics and Space Administration (NASA)

“Remembering that the civil service scientists and engineers can and should be an unbiased reservoir of insights into different questions with impacts across international economic and cultural dividing lines. Politicizing and degrading the integrity for which we are internationally known and respected is a disservice to our country and a danger to the world. If we can’t be trusted, to give insights on global change and funded to do so, who in the world will do it?”

“Keep politics out of science.”

“Administration needs to act on the best information, not try to force the information to fit their desired action.”

National Oceanic and Atmospheric Administration (NOAA)

“Removing the current atmosphere where scientists who report findings truthfully may face consequences if they contradict administration policies.”

“I have never seen or expected this degree of political interference in scientific research. It’s appalling and unbelievable that it happens in the US.”

“Eliminating political pressure from influencing science findings.”

“De-politicizing the science, especially at the highest administrative levels of agencies. Protect the integrity of scientists by letting them speak, and by respecting that.”

“Remove political pressures that try to make agencies support the administration’s agenda. Allow scientific agencies to remain nonpolitical. Allow scientific results to be used as scientific facts instead of political or policy statements.”

“Policy of zero interference in the scientific process.”

Environmental Protection Agency (EPA)

“The perception that . . . we (climate scientists) might find and write [something that] might

be considered controversial is a strong one that comes down from management. It’s not clear that there’s a real reason for it or what the consequences would be. This perception should be actively discouraged from the highest levels!”

“Keeping politics out of the scientific process. I believe the line has been crossed between science informing public policy and policy manipulating the science (and trying to influence its outcome). I have personally experienced this manipulation in the area of communicating the science many times.”

Department of Energy

“Allowing scientists to work completely independently of current administrative views on the subject.”

“No oversight of scientific quality by politicians. It should be left to peer review and presentations of results in scientific meetings.”

U.S. Geological Survey (USGS)

“A scientific report will now undergo three ‘policy’ reviews and two ‘peer’ reviews prior to further peer-review journal reviews. This will not only slow the reporting of results, but the chances are that significant watering-down of results will occur during the three ‘policy’ reviews by non-specialists.”

National Center for Atmospheric Research (NCAR)

“Keeping political employee appointments completely independent of the scientific research, scientific publication, and scientific communications processes.”

II. Scientific Findings Misrepresented

Federal climate scientists reported that their research findings have been changed by non-scientists in ways that compromise accuracy:

National Oceanic and Atmospheric Administration (NOAA)

“Not censoring scientific results.”

“US Federal government climate science does not lack integrity. Science assessments, summaries, policy papers sometimes do lack integrity. The best way to improve them would be to ensure they are written by qualified scientists, not by political hacks.”

Department of Agriculture (USDA)

“It’s not the climate science per se, but how it is spun and censored by officials.”

“Hands off by policy/communications and non-scientific staff on scientific reports. These reports should be subject to scientific and independent peer review.”

Department of Energy

“Not having political appointees who have no formal training in climate science looking over our shoulders. There should be some minimum bar before they are appointed. Policy should be based on sound science; results of science should not be diluted or suited/adjusted to justify policy. This particular Administration has gone beyond reasonable boundaries, on this issue.”

National Center for Atmospheric Research

“The unedited presentation of findings to government panels and to the public. It appears that funding organizations are shifting priorities away from climate studies to other programs deemed more important by the current administration.”

III. Barriers to Communication

Agency scientists are not free to communicate their research findings to the media or the public:

National Aeronautics and Space Administration (NASA)

“As of March 2006, there was a marked change in NASA, and I have spoken out freely on climate change, including a NASA-approved press release. I believe scientists at other agencies (e.g. NOAA) still have restrictions.”

“Allow direct and open communication between scientists and the public without prior permission, clearance, chaperones, handlers, etc.”

“Recently a Bush appointee to the position of Public Information Officer attempted to muzzle Jim Hansen, Director of GISS . . . the NASA Administrator made it clear that such political meddling would not be tolerated. This was excellent leadership at the top and set the tone for any lower echelons that may not otherwise have been this strong. Michael Griffin is a great improvement over his recent precedents.”

“Reduced public affairs interference, review, delay, oversight.”

“Not having White House liaisons in science related PR offices.”

National Oceanic and Atmospheric Administration (NOAA)

“Scientists should be free to communicate with the media, rather than having media contacts filtered by “Public Affairs” officers. This should be official policy, not a “wink and nod” policy.”

“Removing all apparatchiks monitoring the controlling how scientists communicate to the public.”

“Allowing us to interact openly with the public.”

“Less restrictions on publications and data output, more universal support, less restrictive travel/visitor policies (our honored guests are treated like criminals to even get in the building).”

Department of Energy

“Not having political appointees tinker with science that is best left to the experts. Particularly at NOAA where the Administration has gagged free exchange of results.

“More open discussion of issues, honest assessment of data and results. The public does not know who to believe. Separate the “grey” results/literature from solid peer reviewed results and provide “what is known and not known”, not opinions.”

Environmental Protection Agency (EPA)

“Allowing scientists to communicate directly to the public and other scientists about critical significance of climate change. In fact, informing the public regarding the truth of this issue must be encouraged and rewarded.”

National Center for Atmospheric Research

“From what I’ve heard, NCAR is rare among research institutes in that we are free to communicate our findings. This policy needs to apply to all research institutes and all scientists should be encouraged to communicate their results to the public.”

“At one point, I specifically asked my division director if there were any censorship policies at NCAR. He emphatically stated that there were none and that if we were ever pressured that we should contact him immediately and he would raise hell to eliminate the pressure.”

IV. Inadequate Funding

Scientists reported that inadequate funding affects their ability to do the research that is necessary and pertinent.

National Aeronautics and Space Administration (NASA)

“I believe that climate research at NASA is being undermined by the current administration.

This is accomplished not through direct threats of intimidation, but through lack of funding. Several years ago the funding focus [at NASA] was switched from Earth Science to solar system exploration (Moon and Mars). I believe this was done not for solar system exploration, but rather to curtail climate research. The emphasis needs to be switched back to Earth Science.”

“Problems with climate research in the federal government mainly have to do with funding. Future funding at my agency is uncertain. Future climate observational programs (crucial ones) are threatened because of lack of funds. New accounting rules at my agency require climate scientists to spend unreasonable amounts of time writing proposals, which has reduced productivity.”

“Funding for climate research is a factor of 5-10 below critical mass to develop a designed climate observing system.”

National Oceanic and Atmospheric Administration (NOAA)

“Include a dedicated long-term observing program with stable funding support for about 30 more years. The current satellite program does not meet climate research needs.”

Environmental Protection Agency (EPA)

“I have not worked directly on climate change since funding was eliminated in my area. Other areas of much less importance have been emphasized as a result. Which is a tragedy.”

Department of Agriculture (USDA)

“The US Climate Change Science Program has not received sufficient funding for needed observations, monitoring, research, [and] data systems.”

U.S. Geological Survey (USGS)

“US satellite programs are in severe jeopardy. The loss of continuity in observational satellite data will impair progress in climate science.”

V. Climate Scientists are Disheartened

While a large majority of respondents (88 percent) agreed with the statement, “U.S. federal government climate research is of generally excellent quality,” respondents reported decreasing job satisfaction and a worsening environment for climate science in federal agencies:

National Oceanic and Atmospheric Administration (NOAA)

“The intrusion of politics into the field is making some (me and others) consider change of field or career.”

Environmental Protection Agency (EPA)

“I am [close to] retirement and feel that I will no longer be able to use my abilities to produce scientific information of relevance to the American public. The last years of my career are being squandered for political reasons. I do not think I will be able to do any more new climate science before I retire. My goal is to get out the results from past research.”

Department of Energy

To watch this from another agency is so demoralizing. They have virtually derailed the mission of providing environmental services to the public and burnt billions.... Shocking tracking record!”