# The Fossil Fuel Industry's Role in Hindering Climate Change Action: Lobbying and Disinformation Against Science and Scientists

### Prepared by Fossil Free MIT, April 2014

We stand at a pivotal moment in the history of humanity. On March 31, 2014, Working Group II of the Intergovernmental Panel on Climate Change, backed by 193 governments, released its landmark report warning that climate change has already "caused impacts on natural and human systems on all continents..." and threatens "severe, pervasive, and irreversible" future consequences<sup>1</sup>. The International Energy Agency forecasts that to limit global warming to less than the 2 °C guardrail agreed to by nearly every country on Earth, we must cease construction of all fossil fuel infrastructure within three years (by 2017)<sup>2</sup>. In 2015, the United Nations Climate Change Conference will meet in Paris with the aim of establishing, for the first time in over 20 years, a binding and universal climate change agreement.

In response to the unprecedented urgency of global climate change, Fossil Free MIT's petition, signed by more than 2,400 MIT members, is calling on MIT to divest its \$11 billion endowment from the 200 fossil fuel companies<sup>3</sup> with the world's largest publicly traded carbon reserves.

Fossil Free MIT believes that divestment from the fossil fuel industry presents MIT with a unique opportunity to lead the global effort to combat climate change. We wholeheartedly support our Institute's cutting-edge climate science and renewable energy technology research, as well as MIT's campus sustainability initiatives, and we propose divestment as a highly complementary strategy that will bring MIT's investments in line with the goals of its research and sustainability activities. There are three central reasons why we urge MIT to divest from the fossil fuel industry:

- The fossil fuel industry's business practice is fundamentally inconsistent with the science of climate change mitigation. A 66% chance of limiting global warming to less than 2 °C above preindustrial temperatures demands that no more than 35% of proven fossil fuel reserves can be burned prior to 2100<sup>4,5</sup>. Yet in 2012, the fossil fuel industry spent \$674 billion developing new reserves<sup>6</sup>.
- The fossil fuel industry spends hundreds of millions of dollars lobbying and donating in Washington, D.C. against legislation for climate change action 10.
- Many fossil fuel companies are responsible for funding or orchestrating targeted anti-science disinformation campaigns that confuse the public, sabotage science, and slander scientists.

We believe that on all three counts, the fossil fuel industry's behavior contradicts and undermines the science by which MIT stands and the mission to which MIT aspires. We here provide additional information substantiating the latter two points: the fossil fuel industry's lobbying against climate change action, and disinformation campaigns.

#### Lobbying

### Lobbying and Political Donations by the Fossil Fuel Industry

The fossil fuel industry continues to lobby against climate change legislation on a scale that dwarfs even that of Big Tobacco at its peak<sup>7,8</sup>. In 2012 alone, individuals and political action committees associated with the

<sup>&</sup>lt;sup>1</sup> Field, C. B. *et al.* Climate Change 2014: Impacts, Adaptation, and Vulnerability, *Intergovernmental Panel on Climate Change, Working Group II AR5* (2014).

<sup>&</sup>lt;sup>2</sup> World Energy Outlook 2012, *International Energy Agency* (2012).

<sup>&</sup>lt;sup>3</sup> Unburnable Carbon – Are the world's financial markets carrying a carbon bubble? *Carbon Tracker Initiative* (2012).

<sup>&</sup>lt;sup>4</sup> Alexander, L. et al. Climate Change 2013: The Physical Basis, *Intergovernmental Panel on Climate Change, Working Group I AR5* (2013).

<sup>&</sup>lt;sup>5</sup> Carbon Tracker's carbon budgets O&A. Carbon Tracker Initiative (2013).

<sup>&</sup>lt;sup>6</sup> Unburnable Carbon – Wasted capital and stranded assets. *Carbon Tracker Initiative* (2012).

<sup>&</sup>lt;sup>7</sup> OpenSecrets.org

<sup>&</sup>lt;sup>8</sup> Oreskes, N., Conway, E. Merchants of Doubt (2010)

oil and gas sector donated \$70 million to US candidates and political parties, in addition to funding over 800 lobbyists at a cost of more than \$149 million<sup>7,9</sup>. The coal-mining sector spent another \$13 million in donations and \$18 million in lobbying<sup>7,9</sup>. All told, the fossil fuel industry spends an order of magnitude more than those advocating alternative energy sources, who spent \$2.5 million on donations and \$28 million on lobbying in 2012<sup>9</sup>. This spending disparity appears to have profoundly impacted the climate change debate in Washington, as discussed below.

# The Impact of Fossil Fuel Industry Lobbying and Donations on Washington Climate Change Politics

While it is impossible to demonstrate that lobbying necessarily promotes rhetoric or voting to counter climate change action, this is nevertheless evidenced *prima facie* by the exceedingly strong correlation between politicians' stances towards climate change and the size of contributions they receive from the fossil fuel industry.

Over 56% of current Republicans in the House of Representatives and 65% in the Senate deny the basic facts of climate science<sup>10</sup>. That is, they have made public statements indicating that they question or reject that climate change is real, is happening, and is caused by human use of fossil fuels<sup>11</sup>. For example, in August 2013 Rep. Dana Rohrabacher (R-CA) – Vice Chairman of the House Committee on Science, Space and Technology – said, "Just so you'll know, global warming is a total fraud..." <sup>12</sup>

Members of the Republican leadership and the committees that make critical decisions on national energy policy and air pollution have even higher concentrations of climate deniers:

- 8 out of 9 (88%) of the Republican leadership in both House and Senate<sup>10</sup>
- 17 out of 22 (77%) Republican members of the House Committee on Science, Space and Technology<sup>10</sup>
- 22 out of 30 (73%) Republican members of the House Energy and Commerce Committee<sup>10</sup>
- 8 out of 8 (100%) of Senate Environment and Public Works Committee Republicans<sup>10</sup>

As the Center for American Progress has noted, "The campaigns of those who reject the reality of climate science are fueled by the fossil fuel industry that advocate[s] for and drive[s] the emissions that cause global warming." The data appear to corroborate this observation: in total, climate deniers, constituting 160 elected Members in the 113<sup>th</sup> Congress, have accepted \$55,516,077 in contributions from the coal mining industry while the other 373 Members have taken \$35,210,844 in contributions. On average, a climate denier therefore takes almost four times more in contributions from the fossil fuel industry than a non-denier 10.

As just one example of the protestations that this lobbying supports, Senator James Inhofe, who sits on and previously chaired the Senate Committee on Environment and Public Works, has repeatedly described global warming as "the greatest hoax ever perpetrated on the American people" (including in his book, The Greatest Hoax: How the Global Warming Conspiracy Threatens Your Future 14) and compared environmentalists to Nazis9. To date, Senator Inhofe has taken contributions totaling \$1,587,596 from the oil and gas industry<sup>7,9</sup>.

# **Disinformation**

The anti-climate science disinformation campaigns, in part fueled by the fossil fuel industry, are perhaps the greatest affront to MIT's global reputation as a place of scientific integrity and leadership. MIT climate

<sup>&</sup>lt;sup>9</sup> Berners-Lee, M., Clark, D. The Burning Question (2013).

<sup>&</sup>lt;sup>10</sup> Germain, T., Koronowski, R., Spross, J. The Anti-Science Climate Denier Caucus: 113<sup>th</sup> Congress Edition. *ThinkProgress.org* (2013).

<sup>&</sup>lt;sup>11</sup> For all quotations see: Spross, J. The Anti-Science Climate Denier Caucus. *ThinkProgress.org* (2013).

<sup>&</sup>lt;sup>12</sup> Wing, N. Dana Rohrabacher, GOP House Science Committee Member: 'Global Warming Is A Total Fraud'.

<sup>&</sup>lt;sup>13</sup> See, for example, Senator Inhofe's speech to the U.S. Senate on July 28, 2003.

<sup>&</sup>lt;sup>14</sup> Inhofe, J. The Greatest Hoax: How the Global Warming Conspiracy Threatens Your Future (2012).

science Professor Kerry Emanuel noted at a Fossil Free MIT lecture on February 26, 2014 that, "...there is no doubt that there is a strong disinformation campaign. It's not a conspiracy theory, it has been documented. There are billions and billions of dollars going into making Americans believe that there is no problem..." This has had devastating consequences for national and global climate policy. In her study, Deep freeze: How business has shaped the global warming debate in Congress, MIT Professor Judith Layzer concludes, "The industry campaign was extremely effective at deterring presidential leadership." 16

### The disinformation machine

As investigative journalist Ross Gelbspan has described, "...the coal and oil industries have spent millions of dollars to wage a propaganda campaign to downplay the threat of climate change. Much of that money has gone to amplifying the views of about a half-dozen dissenting researchers, giving them a platform and a level of credibility in the public arena that is grossly out of proportion to their influence in the scientific community." 17

Harvard science historian Prof. Naomi Oreskes – whose book, *Merchants of Doubt*, is widely recognized as a seminal account of scientific disinformation – has similarly detailed how, "...Fred Singer, Fred Seitz, and a handful of other scientists joined forces with think tanks and private corporations to challenge scientific evidence...in later years, it came from foundations, think tanks, and the fossil fuel industry... – over the course of nearly two decades and against the face of mounting evidence – they dismissed the reality of global warming."

### Climate Science Disinformation Campaigns Funded by the Fossil Fuel Industry

i) Global Climate Coalition and National Coal Association

In the 1990s, energy and automotive companies openly sought to block climate legislation via bodies such as the Global Climate Coalition (GCC)<sup>16</sup>. According to the *Los Angeles Times*<sup>18</sup>, the GCC spent \$13 million on its 1997 anti-Kyoto advertising campaign. *Common Cause* has documented more than \$63 million in contributions to politicians from members of the GCC from 1989-1999<sup>19</sup>.

The GCC's disinforming role has been well documented in the peer-reviewed literature. Jacques et al. describe how, "...ExxonMobil and other corporations have sought to undermine climate science via lobbying and participation in the Global Climate Coalition (GCC) as well as by directly funding CTTs [conservative think tanks] and skeptical scientists." <sup>20</sup>

MIT Professor Judith Layzer describes the GCC as an "...amalgamation of fifty-four industry and trade-association members representing [among others] oil and coal producers. In hopes of defusing public concern about global warming the GCC launched an attack on the scientific basis for the global warming hypothesis: coalition members financed the publication and distribution of books, pamphlets, and articles by a handful of skeptics who challenged the scientific understanding of the climate and the evidence for asserting that humans were having an impact on it." <sup>16</sup>

In a scientific "backgrounder" provided to lawmakers and journalists through the early 1990s, the GCC wrote, "The role of greenhouse gases in climate change is not well understood," and that, "scientists differ" on the issue<sup>21</sup>. The GCC's public denial and defamation of science was blatantly purposeful; a federal lawsuit document has recently demonstrated that GCC's own scientific advisory committee had at the time already concluded that the evidence for the "potential impact of human emissions of greenhouse gases such as  $CO_2$  on climate is well established and cannot be denied."

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<sup>&</sup>lt;sup>15</sup> Emanuel, K. Global Warming: The Risk, and How to Confront It. *Fossil Free MIT Climate Change Speaker Series* (February 26, 2014)

<sup>&</sup>lt;sup>16</sup> Layzer, J. A. Deep freeze: How business has shaped the global warming debate in Congress. *Ch. 4 of Business and Environmental Policy*, Ed. by Kraft, M. E., Kamieniecki, S. (2007).

<sup>&</sup>lt;sup>17</sup> Gelbspan, R. The Heat is On (1998).

<sup>&</sup>lt;sup>18</sup> Farley, M. Slowdown at Global Warming Summit. Los Angeles Times (1997).

<sup>&</sup>lt;sup>19</sup> Some Like it Hot, Common Cause (November 30, 1999).

<sup>&</sup>lt;sup>20</sup> Jacques, P. J., Dunlap, R. E., Freeman, M. The organisastion of denial: Conservative think tanks and environmental scepticism. *Environ. Politics* **17**, 349 (2008).

<sup>&</sup>lt;sup>21</sup> Revkin, A. E. Industry Ignored Its Scientists on Climate. NY Times (2009).

The GCC has attacked not only science, but also scientists themselves. In Professor Layzer's words, "...to frame [growing international scientific and political efforts to address climate change] for their domestic audience, fossil-fuel-based industry leaders initiated another round of outside lobbying. They tried to discredit the IPCC [Intergovernmental Panel on Climate Change] report by launching personal attacks on its senior authors..." 16

In May 1996, two leading IPCC scientists – Dr. Benjamin Santer and Dr. Tom M. L. Wigley – explained the pivotal findings of a new IPCC report to a packed Congressional office in Washington, DC. These results, published one month later in *Nature*<sup>22</sup>, were described by the journal as "the clearest evidence yet that humans may have affected the global climate." At the end of the scientists' presentations, GCC chairman and American Petroleum Institute official, William O'Keefe, publicly accused Santer of secretly altering the previous year's IPCC report<sup>8,17</sup>. The GCC thereafter accused Santer in *The Washington Post* and the *Energy Daily*<sup>23</sup> trade paper of making "unauthorized" and "politically motivated" changes. Energy Daily quoted from a GCC handout: "Unless the management of the IPCC promptly undertakes to republish the printed versions of the underlying…report…the IPCC's credibility will have been lost." 17,23

In Santer's words, "These allegations impugn my own scientific integrity, the integrity of the other [IPCC] Lead Authors...and the integrity of the IPCC itself." He observed that, "In effect, the Global Climate Coalition would like to put the IPCC – and my own scientific integrity – on trial." <sup>17</sup>

Santer was under attack: "...the last couple of weeks – both for me and my family – have been the most difficult of my entire professional career." The IPCC chairman and the IPCC's science working group cochairs, as well as forty-two other IPCC scientists, wrote multiple letters in *The Wall Street Journal* emphatically defending Santer's meticulous adherence to proper IPCC procedure and his violation of no scientific ethics. Yet lobbyists went so far as to urge Rep. Dana Rohrabacher (R-CA) to write to the Energy Secretary Hazel O'Leary encouraging her to withdraw Energy Department funding from the laboratory employing Santer<sup>17</sup>.

The GCC was so successful at shifting debate that the George W. Bush administration credited it with playing a key role in America's rejection of the Kyoto Protocol: U.S. Under Secretary of State for Democracy and Global Affairs, Paula Dobriansky, wrote to the GCC saying that President Bush had "rejected Kyoto in part based on input from you". Among the GCC's members were British Petroleum, Shell, ExxonMobil and Chevron. Additionally, one of the GCC's members was the National Coal Association, which has since become the National Mining Association. The National Mining Association's members include:

Alliance Coal, LLC Alpha Natural Resources, LLC Anglo American Exploration (USA), Inc. ArcelorMittal Arch Coal, Inc. BHP Billiton New Mexico Coal Cloud Peak Energy, Inc. CONSOL Energy, Inc.
Patriot Coal Corporation
Peabody Energy
Rio Tinto
Sasol Synfuels International
Teck American Incorporated

All of these (or their parent companies) are on Fossil Free MIT's list of the 200 fossil fuel companies<sup>3</sup> with the largest publicly traded carbon reserves, from which Fossil Free MIT is calling on MIT to divest.

#### ii) American Petroleum Institute

GCC's efforts were coordinated with separate campaigns by many of its members, such as the National Coal Association, which spent more than \$700,000 on the global climate issue in 1992 and 1993, and the American Petroleum Institute, which paid the Burson-Marstellar public relations firm \$1.8 million in 1993 for a computer-driven campaign credited by former Treasury Secretary Lloyd Bentsen as spearheading the defeat of a proposed tax on fossil fuels<sup>17</sup>. The American Petroleum Institute has funded think tanks such as

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<sup>&</sup>lt;sup>22</sup> Santer, B. E. *et al.* A Search for Human Influences on the Thermal Structure of the Atmosphere. *Nature* **382**, 39 (1996).

<sup>&</sup>lt;sup>23</sup> Wamstead, D. Doctoring the Documents? *Energy Daily* (1996).

the Cato Institute and the Competitive Enterprise Institute<sup>24</sup>, both of which have denied the science of climate change on numerous occasions<sup>8,25</sup>.

The American Petroleum Institute has, like the GCC, influenced climate policy at the highest levels of government. In 2003, White House staff replaced assessments of the National Academy of Sciences with a discredited paper by two individuals with no expertise in climatology<sup>17</sup>. This paper was funded by the American Petroleum Institute and was so scientifically flawed that its appearance in a peer-reviewed journal led to three editors resigning in protest, and to the publisher's unprecedented acknowledgement of mishandling<sup>26</sup>. MIT Professor Judith Layzer has described how, "...a group led by the American Petroleum Institute and including representatives of Exxon, Chevron...circulated a memorandum...which aimed to defuse support for the Kyoto Protocol." <sup>16</sup>

Among the American Petroleum Institute's members are the following fossil fuel companies, all 22 of which (or their parent companies) are on Fossil Free MIT's list of 200 companies<sup>3</sup> from which we urge MIT to divest:

Alcoa Oil and Gas
Anadarko Petroleum Corporation
ArcelorMittal USA
BHP Billiton
Chesapeake Energy
Chevron Corporation
ConocoPhillips
Devon Energy Corp.
ExxonMobil
Hess Corporation
Idemitsu Lubricants America

Marathon Oil Company Murphy Oil Corporation Noble Corporation Occidental Oil & Gas Corporation Petrobras America, Inc. Repsol E&P USA, Inc. Shell Oil Company Statoil Talisman Energy, Inc. Total E&P USA, Inc. Williams Cos.

#### iii) Information Council on the Environment

In 1991, the National Coal Association (as noted above, at least 13 of the fossil fuel companies from which Fossil Free MIT is asking MIT to divest were members of this group), together with the Western Fuels Association and Edison Electric Institute established a group called the Information Council on the Environment (ICE). Its strategy, spelled out in a document produced by the Western Fuels Association and designed by a public relations firm<sup>17</sup>, was to "reposition global warming as theory (not fact)" <sup>27,28</sup>.

ICE was given \$510,000 by the Western Fuels Association to test its messages in the home districts of members of the Energy and Commerce or Ways and Means Committees of the US House of Representatives<sup>27</sup>. The purpose was to "Demonstrate that a consumer-based media awareness program can positively change the opinions of a selected population regarding the validity of global warming." The messages distributed included<sup>29</sup>:

- "Some say the earth is warming. Some also said the earth was flat."
- "Who told you the Earth was warming ... Chicken Little?"
- "How much are you willing to pay to solve a problem that may not exist?"

<sup>26</sup> Lewandowsky, S. Attacks on climate scientists are the real 'climategate'. *The Guardian* (2011).

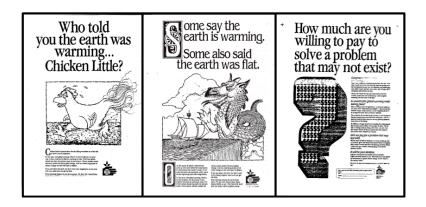
<sup>27</sup> Monbiot. G. Case Study for The Real Climate Scandal: www.monbiot.com/2009/12/07/case-studies

<sup>29</sup> Hoggan, J., Littlemore, R. Climate Cover-Up (2009).

<sup>&</sup>lt;sup>24</sup> Fitzsimmons, J. Meet the Climate Denial Machine. *Media Matters for America* (2012).

<sup>&</sup>lt;sup>25</sup> Gelbspan, R. Boiling Point (2005).

<sup>&</sup>lt;sup>28</sup> Text made available by Professor Naomi Oreskes: www.aip.org/history/powerpoints/GlobalWarming\_Oreskes.ppt



#### iv) ExxonMobil

One of the most visible fossil fuel companies responsible for the promotion of climate science disinformation is ExxonMobil. Its complicity has been quantified in the peer-reviewed literature<sup>20,30</sup> and documented by multiple investigators<sup>8,16,17</sup>. Prof. Naomi Oreskes notes in her disinformation study that, "ExxonMobil's support for doubt mongering and disinformation is disturbing but hardly surprising. What is surprising is to discover how extensive, organized, and interconnected these efforts have been, and for how long."8

MIT offshoot, The Union of Concerned Scientists, concluded in its report, Smoke, Mirrors, & Hot Air: How ExxonMobil uses big tobacco's tactics to manufacture uncertainty on climate science, that "ExxonMobil has underwritten the most sophisticated and successful disinformation campaign since Big Tobacco misled the public about the incontrovertible scientific evidence linking smoking to lung cancer and heart disease."31

Prof. Layzer has provided this account: "On taking office in 1995 ExxonMobil's CEO, Lee Raymond, established himself as a vocal critic of global warming science and a staunch opponent of greenhouse gas emissions reductions...In October 1997 Raymond urged developing countries...not to curtail but increase their use of fossil fuels, pointing out that nature was to blame for most global warming and that changes in the Earth's temperature were commonplace. In 2002...Raymond told attendees that 'we in ExxonMobil do not believe that the science required to establish this linkage between fossil fuels and warming has been demonstrated – and many scientists agree'...To promote its position, between 1998 and 2004 ExxonMobil gave more than \$15 million to conservative organizations working to influence public and policymakers' views about global warming...The company also spent \$55 million between 1999 and 2004 on direct lobbying and worked closely with the White House to craft its position on global warming and the Kyoto pact... ,,,16

In 2005, recent MIT Knight Science Journalism fellow Chris Mooney documented how in just a few years ExxonMobil had channeled more than \$8 million to forty different organizations that challenged the scientific evidence of global warming<sup>32</sup>. The organizations did not just include pro-business and conservative think tanks, but also "quasi-journalistic outlets like TechCentralStation.com (a website providing 'news, analysis, research and commentary' that received \$95,000 from ExxonMobil in 2003), a FoxNews.com columnist, and even religious and civil rights groups."<sup>32</sup> ExxonMobil also gave \$960,000 in funding to the American Enterprise Institute and, in 2002, specifically earmarked \$60,000 for "legal activities" by the Competitive Enterprise Institute<sup>8</sup>. Indeed, ExxonMobil has publicly admitted funding the Competitive Enterprise Institute<sup>33</sup>, which in 2006 released a high-production-value TV advertising campaign that claimed that glaciers were growing, not shrinking, and said of carbon dioxide, "They call it pollution. We call it life." "33

<sup>30</sup> Brulle, R. J. Institutionalizing delay: foundation funding and the creation of U.S. climate change counter-movement organizations. Climatic Change 122, 681 (2014).

<sup>32</sup> Mooney, C., Some Like It Hot (2005).

<sup>&</sup>lt;sup>31</sup> Shulman, S. et al. Smoke, Mirrors, & Hot Air: How ExxonMobil uses big tobacco's tactics to manufacture uncertainty on climate science. Union of Concerned Scientists (2007).

<sup>&</sup>lt;sup>33</sup> Heger, M. ExxonMobil Cuts Back Its Funding for Climate Skeptics. *IEEE Spectrum* (2008).

In 2004, when scientists released the comprehensive Arctic Climate Impact Assessment<sup>34</sup>, which concluded that the Arctic was warming at twice the rate of the rest of the world, the report was ridiculed in an article by Steve Milloy, a columnist at FoxNews.com and an adjunct scholar at the Cato Institute, which had received \$75,000 from ExxonMobil. Milloy had himself received money from ExxonMobil: \$40,000 to The Advancement of Sound Science Center and \$50,000 to the Free Enterprise Action Institute, both of which are registered to Milloy's home address<sup>8,32</sup>.

Another lobbying group supported by ExxonMobil is The Heartland Institute<sup>33</sup>, to whom it gave \$676,000 between 1998 and 2006<sup>27</sup>. In 2007, The Heartland Institute published a list of 500 Scientists Whose Research Contradicts Man-Made Global Warming Scares<sup>35</sup>. Their work, it maintained, supported "...the very important view that the Modern Warming is natural and no more dangerous than were the Medieval Warming, the Roman Warming and the Holocene Warming before it."

But it didn't. Journalist Kevin Grandia began to contact the scientists whom The Heartland Institute had cited, asking them whether they endorsed the views represented on their behalf. Within 48 hours, 45 scientists responded, all outraged that they had been misrepresented<sup>36</sup>.

The Heartland Institute has also associated people who believe in climate change with mass murderers. Its billboard campaign showed mug shots of serial killers alongside the words: "I still believe in global warming. Do you?" Heartland's president, Joseph Bast, said on the accompanying press release, "The most prominent advocates of global warming aren't scientists. They are Charles Manson, a mass murderer; Fidel Castro, a tyrant; and Ted Kaczynski, the Unabomber. Global warming alarmists include Osama bin Laden and James J. Lee."

The Heartland Institute has also sponsored a *Nongovernmental International Panel on Climate Change* (mocking the UN's Intergovernmental Panel on Climate Change; the standard bearer of international climate change science) and sponsored a conference in 2008 insisting that global warming is not and never has been a serious problem<sup>8</sup>.

In 2006, The Royal Society wrote an open letter to ExxonMobil condemning the company's "inaccurate and misleading" statements and demanding that the company withdraw its support for dozens of groups that have "misrepresented the science of climate change by outright denial of the evidence" Fossil Free MIT calls on MIT to end its financial support of fossil fuel companies such as ExxonMobil.

# Conclusion

This report offers a glimpse into the anti-climate-change-action lobbying and anti-climate-science disinformation campaigns perpetuated by think tanks and individuals funded by the fossil fuel industry. Peerreviewed literature, investigative journalists, and science historians have documented these processes. Publicly available information shows that House Representatives and Senators who deny the realities of climate change accept, on average, almost four times more in contributions from the fossil fuel industry than do their colleagues. We also find there to be overwhelming evidence that, at least in some cases, the fossil fuel industry has been complicit in funding, orchestrating or endorsing attacks on science and scientists, to the detriment of public understanding and political action to mitigate climate change. The business practices of fossil fuel companies are fundamentally inconsistent with the science of climate change mitigation. In equal measure, these companies' involvement in lobbying against climate change legislation and in disinformation campaigns is inconsistent with both MIT's tradition of scientific integrity and its commitment to "generating, disseminating, and preserving knowledge, and to working with others to bring this knowledge to bear on the world's great challenges." <sup>38</sup>

<sup>&</sup>lt;sup>34</sup> Arctic Climate Impact Assessment, Arctic Council and the International Arctic Science Committee (2004).

<sup>&</sup>lt;sup>35</sup> Avery, D. 500 Scientists Whose Research Contradicts Man-Made Global Warming Scares. *Heartland Institute* (2007).

<sup>&</sup>lt;sup>36</sup> Littlemore, R. 500 Scientists with Documented Doubts – about the Heartland Institute. *DeSmogBlog.com* (2007).

<sup>&</sup>lt;sup>37</sup> Adam, D. Royal Society tells Exxon: stop funding climate change denial. *The Guardian* (2006).

<sup>38</sup> MIT Mission: web.mit.edu/facts/mission.html