Assessing ExxonMobil’s climate change communications

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Have communications about climate change by ExxonMobil and other fossil fuel companies misled customers, shareholders, or the public?
A timeline of climate denial

Adapted from original graphic. Paul Horn/ICN not responsible for any changes.
1954: American Petroleum Institute alerted that fossil fuels increasing atmospheric CO$_2$.  

Perhaps the most interesting effect concerning carbon in trees which we have thus far observed is a marked and fairly steady increase in the $\text{C}^{32}/\text{C}^{13}$ ratio with time. Since $\text{C}^{13}/\text{C}^{12}$ the ratio has clearly increased markedly. This effect can be explained on the basis of a changing carbon dioxide concentration in the atmosphere resulting from industrialization and the consequent burning of large quantities of coal and petroleum. If this explanation were correct, the carbon dioxide content of the atmosphere today would be about 5% greater than it was a century ago.
1957: Humble Oil quantifies "cumulative mass of fossil carbon dioxide"

Adapted from original graphic. Paul Horn/ICN not responsible for any changes.
1968/69/72: API-commissioned reports warn of potentially “severe” climate change.

C. Summary of Carbon Dioxide in the Atmosphere

In summary, Revelle makes the point that man is now engaged in a vast geophysical experiment with his environment, the earth. Significant temperature changes are almost certain to occur by the year 2000 and these could bring about climatic changes.

If the earth’s temperature increases significantly, a number of events might be expected to occur, including: melting of the Antarctic ice cap, a rise in sea levels, warming of the oceans, and an increase in photosynthesis. The first two items are of course related since the increase in sea level would be entirely due to the added water from the ice cap.
1977: Exxon scientist briefs executives on global warming projections & climatic effects

- Changing CO₂
- Cumulative mass of fossil carbon dioxide
- Potentially severe climate change

1. CO₂ release most likely source of inadvertent climate modification.
2. Prevailing opinion attributes CO₂ increase to fossil fuel combustion.
3. Doubling CO₂ could increase average global temperature 1°C to 3°C by 2050 A.D. (10°C predicted at poles).
4. More research is needed on most aspects of greenhouse effect.
5. 5-10 yr. time window to get necessary information.
6. Major research effort being considered by DOE.

Adapted from original graphic. Paul Horn/ICN not responsible for any changes.
1978-9: Request for a “credible scientific team” for climate research at Exxon

Adapted from original graphic.
Paul Horn/ICN not responsible for any changes.
By the late 1970s, global warming was no longer speculative.

The issue was not were we going to have a problem, the issue was simply how soon and how fast and how bad was it going to be. Not if.

DR. EDWARD GARVEY
Exxon climate researcher, 1978-83
Interviewed 2015 & 2018
Doubling CO₂ could increase average global temperature 1°C to 3°C by 2050

Changing CO₂

Cumulative mass of fossil carbon dioxide

Potentially severe climate change
We unequivocally reject allegations that ExxonMobil suppressed climate change research contained in media reports that are inaccurate distortions of ExxonMobil’s nearly 40-year history of climate research.
When it comes to climate change, read the documents

Posted: October 21, 2015 by Ken Cohen

Read the documents.

Go ahead, you really should. Read the documents *InsideClimate News* cites that purportedly prove some conspiracy on ExxonMobil’s part to hide our climate science findings.
Assessing ExxonMobil’s climate change communications (1977–2014)

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Abstract
This paper assesses whether ExxonMobil Corporation has in the past misled the general public about climate change. We present an empirical document-by-document textual content analysis and comparison of 187 climate change communications from ExxonMobil, including peer-reviewed and non-peer-reviewed publications, internal company documents, and paid, editorial-style advertisements (‘advertorials’) in The New York Times. We examine whether these communications sent consistent messages about the state of climate science and its implications—specifically, we compare their positions on climate change as real, human-caused, serious, and solvable. In all four cases, we find that as documents become more publicly accessible, they increasingly communicate doubt. This discrepancy is most pronounced between advertorials and all other documents. For example, accounting for expressions of reasonable doubt, 83% of peer-reviewed papers and 80% of internal documents acknowledge that climate change is real and human-caused, yet only 12% of advertorials do so, with 81% instead expressing doubt. We conclude that ExxonMobil contributed to advancing climate science—by way of its scientists’ academic publications—but promoted doubt about it in advertorials. Given this discrepancy, we conclude that ExxonMobil misled the public. Our content analysis also examines ExxonMobil’s discussion of the risks of stranded fossil fuel assets. We find the topic discussed and sometimes quantified in 24 documents of various types, but absent from advertorials. Finally, based on the available documents, we outline ExxonMobil’s strategic approach to climate change research and communication, which helps to contextualize our findings.
Global warming: who’s right?
Facts about a debate that’s turned up more questions than answers
In 1850 and the rate of increase in concentration from anthropogenic sources appears to be doubling every 15 years. The most widely held theory is that:

- The increase is due to fossil fuel combustion
- Increasing CO₂ concentration will cause a warming of the earth's surface
- The present trend of fossil fuel consumption will cause dramatic environmental effects before the year 2050.
“Estimate of the average global temperature increase” under the “Exxon 21st Century Study-High Growth scenario”
The body of statistical evidence in Chapter 8, when examined in the context of our physical understanding of the climate system, now points towards a discernible human influence on global climate. Our ability to quantify the magnitude of this effect is currently limited by uncertainties in key factors, including the magnitude and

Summary for Policymakers

There is new and stronger evidence that most of the warming observed over the last 50 years is attributable to human activities.

The SAR concluded: “The balance of evidence suggests a discernible human influence on global climate”. That report also noted that the anthropogenic signal was still emerging from the background of natural climate variability. Since the SAR
rationing? Probably not.

Let’s face it: The science of climate change is too uncertain to mandate a plan of action that could plunge economies into turmoil. Yet, that’s what nations seem prepared to do.

Scientists cannot predict with certainty if temperatures will increase, by how much and where changes will occur. We still don’t know what role man-made greenhouse gases might play in warming the planet.

We’re not impugning the existing science or suggesting that “our science is better than your science” or that we should establish a new science to address climate change. Our point is simply that the evidence is not as clear-cut as many policymakers and the public believe.
changes throughout Earth's history. Against this backdrop of large, poorly understood natural variability, it is impossible for scientists to attribute the recent small surface temperature increase to human causes.
The more public ExxonMobil's climate communications are, the more they communicate doubt.
The more public ExxonMobil's climate communications are, the more they communicate doubt.
Have climate communications from ExxonMobil (Exxon/Mobil/ExxonMobil) misled customers, shareholders, or the public?

Yes.
Misleading #1: Exxon and ExxonMobil Corp misled with discrepant communications (statistical and document-to-document).
Science: ~80% Acknowledge

Advertorials: ~80% Doubt

Unsettled Science

Knowing that weather forecasts are reliable for a few days at best, we should recognize the enormous challenges facing scientists seeking to project climate change and its impact over the next century. In spite of everyone’s desire for clear answers, it is not surprising that fundamental gaps in knowledge leave scientists unable to make reliable predictions about future change.

A recent report from the National Research Council (NRC) raises important issues, including these still-unanswered questions: (1) Has human activity already begun to change temperature and the climate, and (2) How significant will future changes be? The NRC report confirms that Earth’s surface temperature has risen by about 1 degree Fahrenheit over the past 150 years. Some use this result to claim that humans are causing global warming, and they point to storms or foods to say that dangerous impacts are already under way. Yet scientists remain unable to confirm either contention.

Geological evidence indicates that climates and greenhouse gas levels experienced significant changes for reasons having nothing to do with human activity. Historical records and current scientific evidence show that Europe and North America experienced a medieval warm period one thousand years ago, followed centuries later by a little ice age. Geologic records show even larger changes throughout Earth’s history. Against this backdrop of long, poorly understood natural variability, it is impossible for scientists to attribute the recent small surface temperature increase to human causes.

ExxonMobil

Science has given us enough information to know whether climate changes may pose long-term risks. Natural variability and human activity may lead to climate change that could be significant and perhaps both positive and negative. Consequently, people, companies, and governments should take responsible actions now to address the issue.

One essential step is to encourage development of lower-emission technologies to meet our future needs for energy. We’ll next look at the promise of technology and what is being done today.
ExxonMobil contributed quietly to the science yet loudly to raising doubts about it.

- Average citations = 21 (peer-reviewed)
  2 (non-peer-reviewed)

- Intellectually & physically inaccessible
ExxonMobil contributed quietly to the science yet loudly to raising doubts about it.

Unsettled Science

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Let “the public to know where we stand”

Readership of millions

“Every Thursday” 1972-2001, $31,000 each

“Advertorials substantially affect levels of individual issue salience” (Cooper et al. 2004)
Misleading #1: Exxon and ExxonMobil Corp misled with discrepant communications (statistical and document-to-document).

Misleading #2: Mobil, Exxon, and ExxonMobil Corp misled with misinforming advertorials and non-peer-reviewed publications, which conflicted with mainstream science.
“very misleading”
DR. LLOYD KEIGWIN
Woods hole Oceanographic Institution
The vast majority of the greenhouse effect is created by water vapor, over which we have little or no control. The second leading cause is carbon dioxide, or CO₂. Every living human and animal continuously breathes in oxygen and breathes out CO₂.

Nearly all CO₂ emissions come from natural sources. Only a small amount comes from burning fossil fuels.

**Fossil fuels and the climate**

Does the tiny portion of greenhouse gases caused by burning fossil fuels have a measurable effect on worldwide climate? No one knows for sure. That’s the crux of the debate.

In 1995, a special United Nations panel set up to study global climate change issued an extensive report on the issue. In keeping with the practice of publishing research findings, peers in the scientific community reviewed the report before it was released. The scientists were careful not to make any firm conclusions about the connection between burning fossil fuels and global warming.

However, the executive summary of the report, the part most people read, was heavily influenced by participants who are not scientists. The summary, which was not peer-reviewed, states that the balance of evidence suggests a discernible human influence on climate. But many scientists say that a great deal of uncertainty still needs to be resolved.

**Scientific uncertainties**

One cause of the uncertainty stems from the fact that much of the
Misleading #1: Mobil, Exxon, and ExxonMobil Corp misled with misinforming advertorials and non-peer-reviewed publications, which conflicted with mainstream science.

Misleading #2: Exxon and ExxonMobil Corp misled with discrepant communications (statistical and document-to-document).

Misleading #3: Exxon and ExxonMobil Corp misled by funding climate denial inconsistent with what the company knew.
“Even though we were writing all these papers [with Exxon scientists] which were basically supporting the idea that climate change from CO₂ emissions was going to change the climate of the earth according to our best scientific understanding, the front office...of the company was also supporting people that we call climate change deniers...they were giving millions of dollars to other entities to support the idea that the CO₂ greenhouse was a hoax.”

DR. MARTIN HOFFERT
Professor, New York University
Research collaborator with Exxon scientists in the 1980s
Interviewed 2018
Dear Nick,

Thank you for your recent letter and accompanying copies of the 2005 ExxonMobil "Corporate Citizenship Report" and the "UK and Ireland Corporate Citizenship" brochure. I have read both with interest, but I am writing to express my disappointment at the inaccurate and misleading view of the science of climate change that these documents present.

In particular, I was very surprised to read the following passage from the section on Environmental performance under the sub-heading of "Uncertainty and risk" (p. 23) in the "Corporate Citizenship Report":

"While assessments such as those of the IPCC have expressed growing confidence that recent warming can be attributed to increases in greenhouse gases, these conclusions rely on expert judgment rather than objective, reproducible statistical methods. Taken together, gaps in the scientific basis for theoretical climate models and the interplay of significant natural variability make it very difficult to determine objectively the extent to which recent climate changes might be the result of human actions."

These statements also appear, of course, in the ExxonMobil document on "Tomorrow's Energy", which was published in February. As I mentioned during our meeting in July, these statements are very misleading. The "expert judgment" of the Intergovernmental Panel on Climate Change was actually based on objective and quantitative analyses and methods, including advanced statistical appraisals, which carefully accounted for the interplay of natural variability, and which have been independently reproduced.

Furthermore, these statements in your documents are not consistent with the scientific literature that has been published on this issue. For instance, Chapter 12 of the contribution of IPCC working group 1 to the Third Assessment Report provided an overview of scientific papers relating to the "Detection of climate change and attribution of causes" that had been published up to the end of 2000. The chapter concluded:

"In the light of new evidence and taking into account the remaining uncertainties, most of the observed warming over the last 50 years is likely to have been due to the increase in greenhouse gas emissions."

Yours sincerely,

Nick Thomas
Ending ExxonMobil Sponsorship of the American Geophysical Union

How ExxonMobil’s past and present climate misinformation violates the AGU’s Organizational Support Policy and scientific integrity

The Company

Contrarian scientists

Third-party organizations

Climate-denying politicians

Online at bit.ly/ExxonReport
This is a petition signed by 17,000 scientists…
‘There is no convincing scientific evidence…’

2000 EXXONMOBIL SHAREHOLDER MEETING

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.

2002 ASIA OIL & GAS CONFERENCE

Our ability to project with any degree of certainty the future is continuing to be very limited…our examination about the models are [sic] that they’re not competent.

2013 EXXONMOBIL SHAREHOLDER MEETING
Exxon/ExxonMobil’s past & present climate denial:

The Company

Contrarian scientists

Third-party organizations

Climate-denying politicians

Online at bit.ly/ExxonReport
It's the Sun, stupid!

The 20th century is likely not the warmest nor a uniquely extreme climatic period of the last millennium.

…the hypothesis of a CO2-dominated warming of the Arctic is not likely consistent...

It's the Sun, stupid!

…flawed notion…that increasing atmospheric carbon dioxide (CO₂) concentrations will change climate dramatically...

Too much ice is really bad for polar bears.

Willie Soon’s “deliverables”
- $1.25 million from fossil fuel companies
- Funding frequently undisclosed in papers
- $335,000 from ExxonMobil Foundation (2005-10)
Exxon/ExxonMobil’s past & present climate denial:

The Company

Contrarian scientists

Third-party organizations

Climate-denying politicians

Online at bit.ly/ExxonReport
$38.7 million+ to 73 climate-denying organizations (1992-2017)*

*Does not include ~$1 billion to PR and Advertising firms from fossil fuel industry over the last decade alone.

Acton Institute  
Advancement of Sound Science Center, Inc.  
AEI American Enterprise Institute  
Africa Fighting Malaria  
ALEC American Legislative Exchange Council  
American Conservative Union Foundation  
American Council for Capital Formation - Center for Policy Research  
Independent Women’s Forum  
Institute for Energy Research  
Institute for Policy Innovation  
American Friends of the Institute of Economic Affairs  
Institute for Senior Studies  
Institute for Study of Earth and Man  
International Policy Network - North America  
Arizona State University  
International Republican Institute  
Atlas Economic Research Foundation  
Landmark Legal Foundation  
Capital Research Center (Greenwatch)  
Cato Institute  
Lindenwood University, St. Charles, Missouri  
Lexington Institute  
Manhattan Institute  

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Adapted from original graphic.  
Paul Horn/ICN not responsible for any changes.

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$36,500  
$50,000  
$5,014,000  
$30,000  
$1,987,900  
$90,000  
$1,824,523  
$165,000  
$50,000  
$115,000  
$38.7 million+ to 73 climate-denying organizations (1992-2017)*  

ExxonSecrets.org  
Climate Investigations Center (2019) Trade Associations and the Public Relations Industry
Role of greenhouse gases in climate change is not well understood

$13M in 1997 anti-Kyoto ad campaign

$63M in political contributions (1989-99)

1996: 'The IPCC: Institutionalized Scientific Cleansing?'

$38.7 million+ to 73 climate-denying organizations (1992-2017)
• Guard against trade sanctions as means to force Protocol upon the United States.

Solicit views in developing an effective and market-based response:

• POTUS rejected Kyoto, in part, based on input from you.

• POTUS believes, however, we need to show leadership on this issue to advance U.S. domestic and international policy objectives.

• Interested in hearing from you, what type of international alternatives to Kyoto would you support?
Ending ExxonMobil Sponsorship of the American Geophysical Union

How ExxonMobil’s past and present climate misinformation violates the AGU’s Organizational Support Policy and scientific integrity

The Company

Contrarian scientists

Third-party organizations

Climate-denying politicians

Online at bit.ly/ExxonReport
“The idea that manmade gases, CO$_2$, are causing catastrophic global warming is the greatest hoax ever perpetrated on the American people”

SENATOR JAMES INHOFE
ExxonMobil also misled about climate change as serious & solvable
2. Effects of a doubling of the 1860 CO$_2$ concentration. (580 ppm)

- Global temperatures would be 9°F above 1950 levels.
- Most areas would get more rainfall, and snow would be rare in the contiguous states, except on higher mountains.
- Ocean levels would rise four feet.
- The melting of the polar ice caps could cause tremendous redistribution of weight and pressure exerted on the earth's crust. This could trigger major increases in earthquakes and volcanic activity resulting in even more atmospheric CO$_2$ and violent storms.
- The Arctic Ocean would be ice free for at least six months each year, causing major shifts in weather patterns in the northern hemisphere.

- The present tropics would be hotter, more humid, and less habitable, but the present temperature latitude would be warmer and more habitable.
Just as changeable as your local weather forecast, views on the climate change debate range from seeing the issue as serious or trivial, and from seeing the possible future impacts as harmful or beneficial.

Some in the debate believe they can predict changes in climate decades from now. Advocating
Misleading on stranded fossil fuel assets: 24 documents allude to stranded assets, but no advertorials do so

Mitigation of the "greenhouse effect" would require major reductions in fossil fuel combustion. Shifting between fossil fuels is not a feasible alternative because of limited long-term supply availability for certain fuels although oil does produce about 18% less carbon dioxide per Btu of heat released than coal and gas about 22% less than oil.
Misleading on stranded assets: 24 documents allude to stranded fossil fuel assets, but no advertorials do so

2015–2100 CO₂ budgets:
(<2°C and/or [CO₂] < 550 ppm)

ExxonMobil: 251–716 GtC
IPCC: 442–651 GtC

Table 4

<table>
<thead>
<tr>
<th>Year</th>
<th>Emitted, GtC</th>
<th>Stored in Atmosphere, GtC</th>
<th>Atmospheric Concentration, ppm</th>
<th>Average Temperature Increase, °C</th>
</tr>
</thead>
<tbody>
<tr>
<td>1979</td>
<td>--</td>
<td>69.3</td>
<td>20</td>
<td>0</td>
</tr>
<tr>
<td>1990</td>
<td>77.2</td>
<td>146.5</td>
<td>41.3</td>
<td>0.22</td>
</tr>
<tr>
<td>2000</td>
<td>137.5</td>
<td>284.0</td>
<td>73.6</td>
<td>0.75</td>
</tr>
<tr>
<td>2015</td>
<td>163.3</td>
<td>447.3</td>
<td>87.4</td>
<td>1.25</td>
</tr>
<tr>
<td>2050</td>
<td>263.5</td>
<td>710.8</td>
<td>141.0</td>
<td>1.84</td>
</tr>
<tr>
<td>2080</td>
<td>490.6</td>
<td>1201.4</td>
<td>262.5</td>
<td>2.78</td>
</tr>
<tr>
<td>2090</td>
<td>191.3</td>
<td>1392.7</td>
<td>102.3</td>
<td>3.09</td>
</tr>
</tbody>
</table>

Table 3. Carbon Budgets Over the Next Three Centuries for CO₂ Stabilization

Glaser M B 1982 CO₂ ‘Greenhouse’ Effect
Have climate communications from ExxonMobil (Exxon/Mobil/ExxonMobil) misled customers, shareholders, or the public?

Yes.
(1) Climate science research

- “Highly visible programs” (1978)
- “Establish a scientific presence”
- “Maintain awareness of new scientific developments” (1984)
- “Credentials required to speak with authority in this area” (1980)
- “Detailed understanding of the total Federal atmospheric CO₂ program which the Corporation needs for its own planning” (1981)

(2) Public relations campaign

- “Great public relations value” (1978)
- ‘CO₂ Greenhouse Communications Plan’ to target “opinion leaders who are not scientists” (1980)
1980s: Exxon develops “CO\textsubscript{2} Greenhouse Communications Plan” to “emphasize the uncertainty”

- IMPROVE UNDERSTANDING
  - Extend the Science
  - Include the Costs/Economics
  - Face the Socio-Political Realities

- Emphasize the uncertainty in scientific conclusions regarding the potential enhanced greenhouse effect.

Levine D G 1989 Potential Enhanced Greenhouse Effects Status and Outlook
Carlson J M 1988 The Greenhouse Effect
1990s: Oil industry develops “uncertainty” strategy

*Victory Will Be Achieved When*

- Average citizens “understand” (recognize) uncertainties in climate science; recognition of uncertainties becomes part of the “conventional wisdom.”
- Media “understands” (recognizes) uncertainties in climate science.

GCSCT members who contributed to the development of the plan are: A. John Adams, John Adams Associates; Candace Crandall, Science and Environmental Policy Project; David Rothbard, Committee For A Constructive Tomorrow; Jeffrey Salmon, The Marshall Institute; Lee Garrigan, Environmental Issues Council; Lynn Bouchev and Myron Ebell, Frontiers of Freedom; Peter Cleary, Americans for Tax Reform; Randy Randol, Exxon Corp.; Robert Gehrl, The Southern Company; Sharon Kneiss, Chevron Corp.; Steve Milloy, The Advancement of Sound Science Coalition; and Joseph Walker, American Petroleum Institute.
1990s: Coal industry & electric utilities develop “theory (not fact)” strategy

Strategies

1. Reposition global warming as theory (not fact).

2. Target print and radio media for maximum effectiveness.

3. Achieve broad participation across the entire electric utility industry.
# Big Oil is the new Big Tobacco

<table>
<thead>
<tr>
<th>STRATEGY</th>
<th>TOBACCO</th>
<th>FOSSIL FUELS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Develop detailed understanding of products’ dangers</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Denial of consensus – including internal – science</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Subvert evidence in policymaking</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Reshape media</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Preempt litigation &amp; regulation</td>
<td>✓</td>
<td>✓</td>
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<table>
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<tr>
<th>TACTICS &amp; INFRASTRUCTURE</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Internal research to inform decision-making and PR</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Direct denial</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Shift to indirect denial &amp; lobbying (‘think tanks’, AstroTurf groups, PR firms, lobby groups, trade associations, politicians)</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Contrarian scientists and talking heads</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Colonization of academia</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Aggressive, predatory marketing at unprecedented scale</td>
<td>✓</td>
<td>✓</td>
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<tr>
<th>RHETORIC</th>
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<tbody>
<tr>
<td>Doubt mongering</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shift from explicit doubt to “risk” rhetoric</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Appeal to techno-fixes &amp; solutions misinformation</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Consumer risk and choice versus industry responsibility</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Appeal to libertarian and free-market conservative ideologies</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Never acknowledge deception</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>
Climate denial machine

- Fossil Fuel Industry
- Corporate Interests
- Conservative Foundations
- Think Tank Networks
- PR/Ad Firms
- Think Tanks
- Front Groups
- Politicians
- Media
- Blogs
- Contrarian Scientists & AstroTurf Campaigns

Adapted from Dunlap R E & McCright A M (2011) The Oxford Handbook of Climate Change and Society, Ch 10
4,556 individuals
164 organizations

Farrell, J. PNAS. 113, 92 (2015)
Europe’s Web of Denial

Corporate Europe Observatory (Dec 2010)
Concealing their sources – who funds Europe’s climate change deniers?
Climate denial machine

- ExxonMobil API
- Koch Foundation
- Institute for Energy Research

Politicians

Media

Blogs

Study Author

Study of the effects on employment of public aid to renewable energy sources

The study calculates that the programs creating those jobs also resulted in the destruction of nearly 110,500 jobs elsewhere in the economy, or 2.2 jobs destroyed for every "green job" created.
Climate denial machine

ExxonMobil

International Policy Network

Center for New Europe

Politicians

Media

Blogs

Study Author

Study of the effects on employment of public aid to renewable energy sources

March 2009

The study calculates that the programs creating those jobs also resulted in the destruction of nearly 110,500 jobs elsewhere in the economy, or 2.2 jobs destroyed for every “green job” created.
Climate denial machine

ExxonMobil

Atlas Network

Instituto Juan de Mariana

Koch Foundation

Politicians

Media

Blogs

Study Author

Study of the effects on employment of public aid to renewable energy sources

The study calculates that the programs creating those jobs also resulted in the destruction of nearly 110,500 jobs elsewhere in the economy, or 2.2 jobs destroyed for every “green job” created.
“ecosystem of influence”
"It is reasonable to conclude that climate change denial campaigns in the US have played a crucial role in blocking domestic legislation and contributing to the US becoming an impediment to international policy making."

Dunlap R E & McCright A M (2011) The Oxford Handbook of Climate Change and Society, Ch 10
“Arguments emphasising scientific uncertainty have achieved political traction in the United Kingdom, creating a ‘fog of distrust’ instrumental in draining political capital from the active implementation of climate policy.”

Profit & Ideology

Distrust in science, media, government

Anti-science & anti-policy climate denial
Our results do not stand in isolation.

Fossil fuel companies and trade associations, including ExxonMobil, have variously orchestrated, funded, and perpetuated direct and indirect climate change misinformation.

Fossil fuel companies and trade associations, including ExxonMobil, have variously known about the basics of climate science and its implications for decades.

Put together, the evidence points to a singular conclusion: Fossil fuel companies and trade associations, including ExxonMobil, have variously promoted disinformation about climate change so as to stifle action by misleading the public and policymakers.

Quantitative and qualitative analyses suggest that they have succeeded.