



The denial industry

For years, a network of fake citizens' groups and bogus scientific bodies has been claiming that science of global warming is inconclusive. They set back action on climate change by a decade. But who funded them? Exxon's involvement is well known, but not the strange role of Big Tobacco. In the first of three extracts from his new book, George Monbiot tells a bizarre and shocking new story

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ExxonMobil is the world's most profitable corporation. Its sales now amount to more than \$1bn a day. It makes most of this money from oil, and has more to lose than any other company from efforts to tackle climate change. To safeguard its profits, ExxonMobil needs to sow doubt about whether serious action needs to be taken on climate change. But there are difficulties: it must confront a scientific consensus as strong as that which maintains that smoking causes lung cancer or that HIV causes Aids. So what's its strategy?

The website Exxonsecrets.org, using data found in the company's official documents, lists 124 organisations that have taken money from the company or work closely with those that have. These organisations take a consistent line on climate change: that the science is contradictory, the scientists are split, environmentalists are charlatans, liars or lunatics, and if governments took action to prevent global warming, they would be endangering the global economy for no good reason. The findings these organisations dislike are labelled "junk science". The findings they welcome are labelled "sound science".

Among the organisations that have been funded by Exxon are such well-known websites and lobby groups as TechCentralStation, the Cato Institute and the Heritage Foundation. Some of those on the list have names that make them look like grassroots citizens' organisations or academic bodies: the Centre for the Study of Carbon Dioxide and Global Change, for example. One or two of them, such as the Congress of Racial Equality, are citizens' organisations or academic bodies, but the line they take on climate change is very much like that of the other sponsored groups. While all these groups are based in America, their publications are read and cited, and their staff are interviewed and quoted, all over the world.

By funding a large number of organisations, Exxon helps to create the impression that doubt about climate change is widespread. For those who do not understand that scientific findings cannot be trusted if they have not appeared in peer-reviewed journals, the names of these institutes help to suggest that serious researchers are challenging the consensus.

This is not to claim that all the science these groups champion is bogus. On the whole, they use selection, not invention. They will find one contradictory study - such as the discovery of tropospheric cooling, which, in a garbled form, has been used by Peter Hitchens in the Mail on Sunday - and promote it relentlessly. They will continue to do so long after it has been disproved by further work. So, for example, John Christy, the author of the troposphere paper, admitted in August 2005 that his figures were incorrect, yet his initial findings are still being circulated and championed by many of these groups, as a quick internet search will show you.

But they do not stop there. The chairman of a group called the Science and Environmental Policy Project is Frederick Seitz. Seitz is a physicist who in the 1960s was president of the US National Academy of Sciences. In 1998, he wrote a document, known as the Oregon Petition, which has been cited by almost every journalist who claims that climate change is a myth.

The document reads as follows: "We urge the United States government to reject the global warming agreement that was written in Kyoto, Japan, in December 1997, and any other similar proposals. The

proposed limits on greenhouse gases would harm the environment, hinder the advance of science and technology, and damage the health and welfare of mankind. There is no convincing scientific evidence that human release of carbon dioxide, methane, or other greenhouse gases is causing or will, in the foreseeable future, cause catastrophic heating of the Earth's atmosphere and disruption of the Earth's climate. Moreover, there is substantial scientific evidence that increases in atmospheric carbon dioxide produce many beneficial effects upon the natural plant and animal environments of the Earth."

Anyone with a degree was entitled to sign it. It was attached to a letter written by Seitz, entitled Research Review of Global Warming Evidence. The lead author of the "review" that followed Seitz's letter is a Christian fundamentalist called Arthur B Robinson. He is not a professional climate scientist. It was co-published by Robinson's organisation - the Oregon Institute of Science and Medicine - and an outfit called the George C Marshall Institute, which has received \$630,000 from ExxonMobil since 1998. The other authors were Robinson's 22-year-old son and two employees of the George C Marshall Institute. The chairman of the George C Marshall Institute was Frederick Seitz.

The paper maintained that: "We are living in an increasingly lush environment of plants and animals as a result of the carbon dioxide increase. Our children will enjoy an Earth with far more plant and animal life than that with which we now are blessed. This is a wonderful and unexpected gift from the Industrial Revolution."

It was printed in the font and format of the Proceedings of the National Academy of Sciences: the journal of the organisation of which Seitz - as he had just reminded his correspondents - was once president.

Soon after the petition was published, the National Academy of Sciences released this statement: "The NAS Council would like to make it clear that this petition has nothing to do with the National Academy of Sciences and that the manuscript was not published in the Proceedings of the National Academy of Sciences or in any other peer-reviewed journal. The petition does not reflect the conclusions of expert reports of the Academy."

But it was too late. Seitz, the Oregon Institute and the George C Marshall Institute had already circulated tens of thousands of copies, and the petition had established a major presence on the internet. Some 17,000 graduates signed it, the majority of whom had no background in climate science. It has been repeatedly cited - by global-warming sceptics such as David Bellamy, Melanie Phillips and others - as a petition by climate scientists. It is promoted by the Exxon-sponsored sites as evidence that there is no scientific consensus on climate change.

All this is now well known to climate scientists and environmentalists. But what I have discovered while researching this issue is that the corporate funding of lobby groups denying that manmade climate change is taking place was initiated not by Exxon, or by any other firm directly involved in the fossil fuel industry. It was started by the tobacco company Philip Morris.

In December 1992, the US Environmental Protection Agency published a 500-page report called Respiratory Health Effects of Passive Smoking. It found that "the widespread exposure to environmental tobacco smoke (ETS) in the United States presents a serious and substantial public health impact. In adults: ETS is a human lung carcinogen, responsible for approximately 3,000 lung cancer deaths annually in US non-smokers. In children: ETS exposure is causally associated with an increased risk of lower respiratory tract infections such as bronchitis and pneumonia. This report estimates that 150,000 to 300,000 cases annually in infants and young children up to 18 months of age are attributable to ETS."

Had it not been for the settlement of a major class action against the tobacco companies in the US, we would never have been able to see what happened next. But in 1998 they were forced to publish their internal documents and post them on the internet.

Within two months of its publication, Philip Morris, the world's biggest tobacco firm, had devised a strategy for dealing with the passive-smoking report. In February 1993 Ellen Merlo, its senior vice-president of corporate affairs, sent a letter to William I Campbell, Philip Morris's chief executive officer and president, explaining her intentions: "Our overriding objective is to discredit the EPA report ... Concurrently, it is our objective to prevent states and cities, as well as businesses, from passive-smoking bans."

To this end, she had hired a public relations company called APCO. She had attached the advice it had given her. APCO warned that: "No matter how strong the arguments, industry spokespeople are, in and of themselves, not always credible or appropriate messengers."

So the fight against a ban on passive smoking had to be associated with other people and other issues. Philip Morris, APCO said, needed to create the impression of a "grassroots" movement - one that had been formed spontaneously by concerned citizens to fight "overregulation". It should portray the danger of tobacco smoke as just one "unfounded fear" among others, such as concerns about pesticides and cellphones. APCO proposed to set up "a national coalition intended to educate the media, public officials and the public about the dangers of 'junk science'. Coalition will address credibility of government's scientific studies, risk-assessment techniques and misuse of tax dollars ... Upon formation of Coalition, key leaders will begin media outreach, eg editorial board tours, opinion articles, and brief elected officials in selected states."

APCO would found the coalition, write its mission statements, and "prepare and place opinion articles in key markets". For this it required \$150,000 for its own fees and \$75,000 for the coalition's costs.

By May 1993, as another memo from APCO to Philip Morris shows, the fake citizens' group had a name: the Advancement of Sound Science Coalition. It was important, further letters stated, "to ensure that TASSC has a diverse group of contributors"; to "link the tobacco issue with other more 'politically correct' products"; and to associate scientific studies that cast smoking in a bad light with "broader questions about government research and regulations" - such as "global warming", "nuclear waste disposal" and "biotechnology". APCO would engage in the "intensive recruitment of high-profile representatives from business and industry, scientists, public officials, and other individuals interested in promoting the use of sound science".

By September 1993, APCO had produced a "Plan for the Public Launching of TASSC". The media launch would not take place in "Washington, DC or the top media markets of the country. Rather, we suggest creating a series of aggressive, decentralised launches in several targeted local and regional markets across the country. This approach ... avoids cynical reporters from major media: less reviewing/challenging of TASSC messages."

The media coverage, the public relations company hoped, would enable TASSC to "establish an image of a national grassroots coalition". In case the media asked hostile questions, APCO circulated a sheet of answers, drafted by Philip Morris. The first question was:

"Isn't it true that Philip Morris created TASSC to act as a front group for it?"

"A: No, not at all. As a large corporation, PM belongs to many national, regional, and state business, public policy, and legislative organisations. PM has contributed to TASSC, as we have with various groups and corporations across the country."

There are clear similarities between the language used and the approaches adopted by Philip Morris and by the organisations funded by Exxon. The two lobbies use the same terms, which appear to have been invented by Philip Morris's consultants. "Junk science" meant peer-reviewed studies showing that smoking was linked to cancer and other diseases. "Sound science" meant studies sponsored by the tobacco industry suggesting that the link was inconclusive. Both lobbies recognised that their best chance of avoiding regulation was to challenge the scientific consensus. As a memo from the tobacco company Brown and Williamson noted, "Doubt is our product since it is the best means of competing with the 'body of fact' that exists in the mind of the general public. It is also the means of establishing a controversy." Both industries also sought to distance themselves from their own campaigns, creating the impression that they were spontaneous movements of professionals or ordinary citizens: the "grassroots".

But the connection goes further than that. TASSC, the "coalition" created by Philip Morris, was the first and most important of the corporate-funded organisations denying that climate change is taking place. It has done more damage to the campaign to halt it than any other body.

TASSC did as its founders at APCO suggested, and sought funding from other sources. Between 2000 and 2002 it received \$30,000 from Exxon. The website it has financed - JunkScience.com - has been the main entrepot for almost every kind of climate-change denial that has found its way into the mainstream press. It equates environmentalists with Nazis, communists and terrorists. It flings at us the accusations that could justifiably be levelled against itself: the website claims, for example, that it is campaigning against "faulty scientific data and analysis used to advance special and, often, hidden agendas". I have lost count of the number of correspondents who, while questioning manmade global warming, have pointed me there.

The man who runs it is called Steve Milloy. In 1992, he started working for APCO - Philip Morris's

consultants. While there, he set up the JunkScience site. In March 1997, the documents show, he was appointed TASSC's executive director. By 1998, as he explained in a memo to TASSC board members, his JunkScience website was being funded by TASSC. Both he and the "coalition" continued to receive money from Philip Morris. An internal document dated February 1998 reveals that TASSC took \$200,000 from the tobacco company in 1997. Philip Morris's 2001 budget document records a payment to Steven Milloy of \$90,000. Altria, Philip Morris's parent company, admits that Milloy was under contract to the tobacco firm until at least the end of 2005.

He has done well. You can find his name attached to letters and articles seeking to discredit passive-smoking studies all over the internet and in the academic databases. He has even managed to reach the British Medical Journal: I found a letter from him there which claimed that the studies it had reported "do not bear out the hypothesis that maternal smoking/ passive smoking increases cancer risk among infants". TASSC paid him \$126,000 in 2004 for 15 hours' work a week. Two other organisations are registered at his address: the Free Enterprise Education Institute and the Free Enterprise Action Institute. They have received \$10,000 and \$50,000 respectively from Exxon. The secretary of the Free Enterprise Action Institute is Thomas Borelli. Borelli was the Philip Morris executive who oversaw the payments to TASSC.

Milloy also writes a weekly Junk Science column for the Fox News website. Without declaring his interests, he has used this column to pour scorn on studies documenting the medical effects of second-hand tobacco smoke and showing that climate change is taking place. Even after Fox News was told about the money he had been receiving from Philip Morris and Exxon, it continued to employ him, without informing its readers about his interests.

TASSC's headed notepaper names an advisory board of eight people. Three of them are listed by Exxonsecrets.org as working for organisations taking money from Exxon. One of them is Frederick Seitz, the man who wrote the Oregon Petition, and who chairs the Science and Environmental Policy Project. In 1979, Seitz became a permanent consultant to the tobacco company RJ Reynolds. He worked for the firm until at least 1987, for an annual fee of \$65,000. He was in charge of deciding which medical research projects the company should fund, and handed out millions of dollars a year to American universities. The purpose of this funding, a memo from the chairman of RJ Reynolds shows, was to "refute the criticisms against cigarettes". An undated note in the Philip Morris archive shows that it was planning a "Seitz symposium" with the help of TASSC, in which Frederick Seitz would speak to "40-60 regulators".

The president of Seitz's Science and Environmental Policy Project is a maverick environmental scientist called S Fred Singer. He has spent the past few years refuting evidence for manmade climate change. It was he, for example, who published the misleading claim that most of the world's glaciers are advancing, which landed David Bellamy in so much trouble when he repeated it last year. He also had connections with the tobacco industry. In March 1993, APCO sent a memo to Ellen Merlo, the vice-president of Philip Morris, who had just commissioned it to fight the Environmental Protection Agency: "As you know, we have been working with Dr Fred Singer and Dr Dwight Lee, who have authored articles on junk science and indoor air quality (IAQ) respectively ..."

Singer's article, entitled Junk Science at the EPA, claimed that "the latest 'crisis' - environmental tobacco smoke - has been widely criticised as the most shocking distortion of scientific evidence yet". He alleged that the Environmental Protection Agency had had to "rig the numbers" in its report on passive smoking. This was the report that Philip Morris and APCO had set out to discredit a month before Singer wrote his article.

I have no evidence that Fred Singer or his organisation have taken money from Philip Morris. But many of the other bodies that have been sponsored by Exxon and have sought to repudiate climate change were also funded by the tobacco company. Among them are some of the world's best-known "thinktanks": the Competitive Enterprise Institute, the Cato Institute, the Heritage Foundation, the Hudson Institute, the Frontiers of Freedom Institute, the Reason Foundation and the Independent Institute, as well as George Mason University's Law and Economics Centre. I can't help wondering whether there is any aspect of conservative thought in the United States that has not been formed and funded by the corporations.

Until I came across this material, I believed that the accusations, the insults and the taunts such people had slung at us environmentalists were personal: that they really did hate us, and had found someone who would pay to help them express those feelings. Now I realise that they have simply transferred their skills.

While they have been most effective in the United States, the impacts of the climate-change deniers

sponsored by Exxon and Philip Morris have been felt all over the world. I have seen their arguments endlessly repeated in Australia, Canada, India, Russia and the UK. By dominating the media debate on climate change during seven or eight critical years in which urgent international talks should have been taking place, by constantly seeding doubt about the science just as it should have been most persuasive, they have justified the money their sponsors have spent on them many times over. It is fair to say that the professional denial industry has delayed effective global action on climate change by years, just as it helped to delay action against the tobacco companies.

· This is an edited extract from *Heat*, by George Monbiot, published by Allen Lane. To order a copy for £16.99 with free UK p&p (rrp £17.99), go to Guardian.co.uk/bookshop or call 0870 836 0875.

· George Monbiot's film on this issue will be broadcast tonight on BBC2's *Newsnight*, starting at 10.30pm.

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