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## Early oil industry disinformation on global warming

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### ABSTRACT

Determining the onset of organized disinformation about global warming is critical for understanding its political history and evaluating the responsibilities of fossil fuel producers and other relevant parties today. A newly discovered archival document shows the American Petroleum Institute was promulgating false and misleading information about climate change in 1980, nearly a decade earlier than previously known, in order to promote public policies favorable to the fossil fuel industry. This finding demonstrates early use of public-facing disinformation about global warming by the petroleum industry and suggests commercial fossil fuel interests played a more obstructive role in climate change discourse and policy throughout the 1980s than previously understood.

**KEYWORDS** Climate change; global warming; American Petroleum Institute; fossil fuel industry; disinformation; denial

In the historiography of climate change politics, organized disinformation (false or misleading information promulgated by an organization) about global warming is often understood to commence in 1989 with publications from the George C. Marshall Institute (Brulle 2020a) and the founding of the Global Climate Coalition (Brulle 2020b). Some writers (Rich 2018), as well as fossil fuel industry representatives (Walrath 2018), have argued that this apparent lack of organized disinformation prior to 1989 proves that commercial interests bear no or little responsibility for the lack of proactive climate policy throughout the 1980s. A document not yet noticed by historians, however, shows that the American Petroleum Institute (API) was publicly downplaying the threat of climate change as early as 1980.

In August 1980, the API published *Two Energy Futures: A National Choice for the 80s* (American Petroleum Institute 1980). The policy booklet acknowledged that carbon dioxide was a ‘pollutant’ and that fossil fuels could cause global warming, stating (American Petroleum Institute 1980, p. 80):

When coal (or any other fossil fuel) is burned, carbon dioxide emissions occur. In itself, carbon dioxide is harmless – nature itself is a major source. However, some scientists believe that large concentrations of carbon dioxide in the

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atmosphere can, in time, cause climatic changes – specifically, higher temperatures worldwide (the ‘greenhouse’ effect).

After this acknowledgment, however, the API proceeded to cast doubt upon the danger of global warming, invoking the popular astronomer Carl Sagan:

Other scientists are more sanguine about the presence of carbon dioxide in the atmosphere. Some scientists, including Dr. Carl Sagan, Cornell University astronomer, see a cooling phenomenon as counteracting the greenhouse effect.

To support this message of reassurance, the API cited an article in the magazine *The Wilson Quarterly* (Woodrow Wilson International Center for Scholars 1980), which itself was a summary of an article by Sagan, physicist Owen Toon, and astrophysicist James Pollack in the journal *Science* (Sagan *et al.* 1979). But the article by Sagan and colleagues did not state that global warming from fossil fuels was not a threat, as suggested by the API. Rather, the scientists proposed that human societies had over thousands of years caused desertification and deforestation of large areas of Earth, gradually increasing the planet’s albedo and lowering globally averaged temperatures by about 1 degree Celsius. Continued desertification and deforestation might reduce the planet’s temperature by another 1 degree Celsius by the end of the twenty-first century, the scientists estimated. But such cooling, they noted, would require that nearly all of Earth’s surface be deforested, transformed into desert, and/or salinized into salt flats, and even then, global warming from fossil fuels would be only partly counteracted. ‘The surface albedo of the earth will reach an asymptotic limit long before the carbon dioxide abundance will,’ the scientists observed, warning, ‘Global temperature changes of this magnitude [1–2 degrees Celsius] have profound consequences for human populations.’ The API’s public reassurance that Sagan was ‘sanguine’ (i.e. optimistic) about the buildup of carbon dioxide from fossil fuels was false.

Sagan also discussed global warming in his widely read 1980 book *Cosmos*, where he issued a stark admonition (Sagan 1980):

The surface environment of Venus is a warning: something disastrous can happen to a planet rather like our own. . . . the carbon dioxide content of the Earth’s atmosphere is increasing dramatically. The possibility of a runaway greenhouse effect suggests that we have to be careful: Even a one- or two-degree rise in the global temperature can have catastrophic consequences.

Again, Sagan’s words were far from the posture of reassurance falsely attributed to him by the API.

Having created the false impression that scientists did not view global warming from fossil fuels as a significant threat, the API suggested that expanded fossil fuel use – specifically expanded coal and synthetic fuel production – would be safe (American Petroleum Institute 1980, p. 80):

Members of the World Coal Study concluded that present knowledge of carbon dioxide effects on climate ‘does not justify delaying the expansion of coal use.’ The WOCOL [World Coal Study] report added, ‘It may happen that some effects of CO<sub>2</sub> (carbon dioxide) will become detectable on a regional and global scale before the end of the century.’ This finding, WOCOL pointed out, is consistent with the authoritative statement on the carbon dioxide question issued by the World Climate Conference in 1979.

The World Coal Study, directed by MIT business professor Carroll Wilson, was supported by various fossil fuel companies (World Coal Study Records 1977 – 1981) and supervised by an employee of the mining and construction firm Bechtel (Lomask 1986, p. 179–180). The study called for a tripling of coal production and use by the year 2000 under the mistaken assumption that petroleum would soon become scarce and could be replaced only by synthetic fuels derived from coal (Wilson 1980). This coal expansion, the study claimed, could be achieved at low cost without significant negative effects on human health or the environment.

A biography of Carroll Wilson noted the policy goals motivating the effort: ‘In the eyes of its creator [Wilson], WOCOL was more than a project. It was a crusade – an effort by a man, disenchanted with the possibilities of nuclear power, to demonstrate that coal could provide much of the world’s “additional energy needs” during the remaining years of the twentieth century’ (Lomask 1986, p. 178). Indeed, upon completion of the study in 1980, Wilson used it to lobby U.S. President Carter for a tripling of coal production by 1990 among the G7 countries (France, West Germany, Italy, Japan, the United Kingdom, the United States, and Canada). When Wilson was told his request was unrealistic, he reportedly replied, ‘Doubling then!’ (Lomask 1986, p. 182). His recommendation was passed to President Carter and adopted by the G7 that year (Owen 1981). In Wilson’s own words, by 1981 he had ‘spen[t] the last year peddling coal all over the world’ (Lomask 1986, p. 199).

The API reassured the public that a major expansion of coal for synthetic fuel production would cause ‘no significant damage to the environment’ and used Wilson’s industry-supported study to suggest such an expansion would be ‘consistent’ with the conclusions of the 1979 World Climate Conference (American Petroleum Institute 1980). But that conference, far from calling for the expansion of fossil fuels, had in fact concluded it was ‘urgently necessary . . . to foresee and prevent potential man-made changes in climate that might be adverse to the well-being of humanity’ (Zillman 2009). In *Two Energy Futures*, the API ignored this warning and instead mentioned the conference only while reassuring the public that a decades-long expansion of fossil fuel production would be safe.

Not only did the API misleadingly characterize Carl Sagan’s view of global warming, the foreseeable effects of synthetic fuel and coal expansion, and the conclusions of the 1979 World Climate Conference, but the trade association

also omitted its own knowledge of climate science. As reported by others (Banerjee 2015), the API had created a secret industry-wide task force in 1979 to monitor developments in climate science, and six months before *Two Energy Futures* was published, engineer John Laurmann of Stanford University gave a briefing on global warming to the group, including representatives from the API, Exxon (now ExxonMobil), Texaco (now Chevron), and Standard Oil of Ohio (now BP) (Nelson 1980). During his lengthy presentation, Laurmann displayed a slide summarizing the ‘likely impacts’ of then-current fossil fuel production trends:

1°C RISE (2005): BARELY NOTICEABLE

2.5°C RISE (2038): MAJOR ECONOMIC CONSEQUENCES, STRONG REGIONAL DEPENDENCE

5°C RISE (2067): GLOBALLY CATASTROPHIC EFFECTS

Laurmann warned the task force that warming of 2.5 degrees Celsius could ‘bring[s] world economic growth to a halt’ and suggested that avoiding the predicted outcomes would require prompt action, since the adoption of non-fossil energy sources would likely require decades to accomplish. Despite this internal knowledge, the API reassured the public in *Two Energy Futures* that a worldwide expansion of the most carbon-intensive fossil fuels would be safe for decades to come.

In addition to Laurmann’s warning, in 1979 the API prepared a background paper on climate change for members of the task force, predicting that fossil fuels would cause global warming but that the phenomenon would be masked by natural variability and go undetected until around the year 2000 (Campion 1979). Furthermore, in 1979, Exxon produced an internal assessment of global warming, which was known to task force personnel and which predicted myriad climatic effects by the mid-21<sup>st</sup> century including rising sea levels, ice-free Arctic summers, less habitable tropics, and desertification and drought in the US Southwest unless over 80% of recoverable fossil fuels were left in the ground, coal and shale oil were never extensively used, and non-fossil energy systems were to begin replacing fossil fuels significantly by the 1990s (Knisely and Ferrall 1979). And over a decade earlier, in 1968, the API was privately informed by scientists it had commissioned at the Stanford Research Institute that if fossil fuel production continued to grow, ‘Significant temperature changes are almost certain to occur by the year 2000, and these could bring about climatic changes. . . . there seems to be no doubt that the damage to our environment could be severe’ (Robinson and Robbins 1968). The scientists recommended the industry develop ‘systems in which CO<sub>2</sub> emissions would be brought under control.’ This knowledge and more in API’s possession was omitted from *Two Energy Futures*. Instead, the API reassured the public that global warming would not be serious and promoted a massive, long-term expansion of the most carbon-intensive fossil fuels.

*Two Energy Futures: A National Choice for the 80s* shows that the American Petroleum Institute was promulgating disinformation about global warming to the public as early as 1980, earlier than previously known, in order to promote energy and environmental policies favored by the fossil fuel industry. This finding revises the historiographies of climate change politics and organized climate denial and may be relevant for determining the responsibilities of fossil fuel producers today (Frumhoff *et al.* 2015).

## Disclosure statement

The author has served as a consulting expert for climate change litigation, and the findings reported in this article may be relevant to such litigation.

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