A new study concludes that this has been the warmest century in 600 years, and that the hottest years during this century have been 1990-1995, and 1997. This is further evidence that global warming is upon us, and that humans are contributing to it by burning coal and oil. (See REHW #430, #466.) "Our conclusion was that the warming of the past few decades appears to be closely tied to emission of greenhouse gases by humans and not [by] any of the natural factors," say Michael E. Mann, principal author of the new study.[1]

The global temperature varies as time passes because of natural changes in sunlight reaching the Earth, dust from volcanoes (which reflects sunlight back into space), and changing amounts of greenhouse gases in the atmosphere.

So-called greenhouse gases (mainly carbon dioxide [CO2], but also methane and a few others that are less important) allow sunlight to strike the Earth but don't allow heat to escape back into space as readily, thus trapping heat near the surface, just as the glass roof on a greenhouse does. Scientists have recognized the existence of this "greenhouse effect" for about 100 years and they know that, sooner or later, increasing the amount of "greenhouse gases" in the atmosphere must warm the planet. Thus scientists don't debate whether greenhouse gases will cause global warming. They debate when it will be noticeable, how big the warming will be, and what its consequences might be.

During the past 100 years, humans burning coal and oil have increased the atmosphere's concentration of carbon dioxide [CO2] --the main greenhouse gas--by 25%, and the concentration is still rising.

Actual temperature measurements only go back about 150 years, so temperatures earlier than that must be inferred from tree rings, corals and fossils in the oceans, deposits left by glaciers, the chemical composition of ancient ice at the poles, and fossilized pollen found in lake sediments. The new study, published in the British journal NATURE, uses many of these techniques to reconstruct the Earth's temperature back to the year 1400 A.D.[2]

The new study bolsters the consensus reached in 1996 by an overwhelming majority of the world's climatologists, that (a) global warming is probably noticeable now; and (b) human activities are probably contributing to the rise in the planet's average temperature. That consensus conclusion was published in the second Assessment Report of the Intergovernmental Panel on Climate Change (IPCC),[3] which is an office of the United Nations Environment Programme and the World Meteorological Organization.

For their part, the coal and oil corporations are not taking this scientific consensus lying down. They are fighting back with a multi-million dollar public relations plan that was recently leaked to the NEW YORK TIMES.[4] These corporations stand to lose by the global climate-change agreement reached last December 11 in Kyoto, Japan. The Kyoto agreement binds the U.S. to reduce its carbon dioxide emissions to 7% below 1990 levels by the period 2008-2012. For a country like the U.S., which has steadily rising emissions, the Kyoto agreement will require cuts as great as 30% to 35% below where emissions would otherwise be by the year 2012. (See REHW #577.)

In an attempt to undermine the Kyoto agreement, the energy corporations plan "to recruit a cadre of scientists who share the industry's views of climate science and to train them in public relations so they can help convince journalists, politicians, and the public that the risk of global warming is too uncertain to justify controls on greenhouse gases like carbon dioxide that trap the sun's heat near Earth."[4] The plan is being spearheaded by Joe Walker, a public relations representative of the American Petroleum Institute.

The scientific talent for the public relations campaign is being recruited by Frederick Seitz, who is a physicist, not a climatologist, but who has an impressive scientific resume as former president of the American Physical Society, former president of the National Academy of Sciences (NAS), and president emeritus of Rockefeller University. Dr. Seitz is also distinguished by being one of the last remaining scientists who insist that humans have not altered the stratospheric ozone layer, despite an overwhelming body of evidence to the contrary. He is currently associated with two libertarian think tanks, the George C. Marshall Institute and the Advancement of Sound Science Coalition (see www.marshall.org, www.tassc.org, and www.junkscience.com).

Dr. Seitz injected himself into the climate debate forcefully by attacking the IPCC just days after publication of the IPCC's consensus conclusion that humans were probably contributing to global warming. Writing in the WALL STREET JOURNAL June 12, 1996, Dr. Seitz called the IPCC report a "major deception on global warming." He accused IPCC scientists of the most "disturbing corruption of the peer-review process" that he had ever witnessed. And he accused one particular scientist, Benjamin Santer, of having made "unauthorized changes" to the IPCC report for political purposes. It turned out that Seitz had not attended any of the IPCC meetings, and he had not contacted Santer to find out whether the changes to the IPCC document were "authorized" or not. It also turned out that all of Seitz's charges were wrong --the IPCC report had been peer-reviewed by roughly one thousand qualified scientists and all of the writing in the final report was fully authorized.[5]

Dr. Seitz and his associates at the George C. Marshall Institute are now preparing to release a petition that they reportedly sent to "virtually every scientist in every field" in the U.S.[6] There are 10 million people with undergraduate degrees in science in the U.S., and half a million with science Ph.D.s. Of these, 15,000 science graduates and 6000 with Ph.D. degrees have reportedly signed the petition, which rejects the Kyoto agreement and argues that increasing levels of carbon dioxide in the atmosphere will benefit the planet. The mass mailing to scientists included a copy of an article formatted to look as if it had been published in the prestigious, peer-reviewed journal PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES. It was not. The article, which had been neither peer-reviewed nor published, argued that the release of more carbon dioxide "will help to maintain and improve the health, longevity, prosperity, and productivity of all people." The Union of Concerned Scientists (www.ucsusa.org) has branded the exercise a "deliberate attempt to deceive the scientific community with misinformation on the subject of climate change."

According to the NEW YORK TIMES, the energy corporations plan to spend $5 million over the next two years to "maximize the impact of scientific views consistent with ours on Congress, the media, and other key audiences." Their plan calls for spending $600,000 (not including costs of advertising) on a media campaign to influence science writers, editors, columnists, and TV network correspondents using as many as 20 "respected climate scientists" recruited specifically "to inject credible science and scientific accountability into the climate science debate, thereby raising questions about and undercutting the 'prevailing scientific wisdom.'" The energy corporations say they intend to provide "a one-stop resource for members of Congress, the media industry, and all others concerned."

This latest plan to "educate" Americans about global warming will be paid for by Exxon, Chevron, and other supporters of the American Petroleum Institute. Previous similar attempts in recent years have been funded by Exxon, Shell Oil, Unocal, ARCO, the British Coal Corporation, the German Coal Mining Association, and Cyprus Minerals, a western mining company that is the single biggest funder of the so-called Wise Use anti-environmental movement in the U.S.[7]

Who knows? With enough money, it may be possible to convince Congress and the media that global warming is not happening,
despite the evidence, which is considerable (see REHW #430, #466):

** Average global air temperatures have risen this century.
** The oceans have warmed this century;
** The level of the oceans has been rising this century because water expands as it warms;
** Many glaciers have shrunk this century in response to warming;
** Plants are moving upward on mountainsides as temperatures rise;
** Rainfall -- particularly torrential rainfall -- has been increasing this century as global warming has put more water vapor into the air;
** Floods are increasing because of more rainfall;
** In England, where climatic records reach back several hundred years, spring has been arriving earlier in recent decades;
** The IPCC and the World Health Organization say that global warming is expanding the range of mosquitoes that carry malaria, yellow fever, and dengue fever, a trend that will put millions of additional humans at risk from these diseases. (See REHW #466.)
** Computer models predict that global warming will be accompanied by more storms and more intense storms, and, in fact, this has been happening. To protect itself the U.S. insurance industry in 1996 stopped insuring certain storm-prone areas on the eastern seaboard and along the Gulf coast.[8]

Already severe storms are hurting people in California, Alabama, the upper midwest, and New England, to mention only U.S. locations where extreme weather events have struck in recent months. Real people are suffering. Affected individuals, and all taxpayers, are paying large costs. If the world scientific consensus is correct, this will continue until our use of coal and oil is cut by 60% or 70% and the atmosphere can stabilize again. At present there is no possibility--none--of achieving such drastic cuts because the oil and coal companies are too powerful.

Global warming is the most important problem we face because it has the potential to disrupt every part of the global ecosystem. It is also the most important because it promises to reveal the fundamental flaws in the permissive way we treat corporations: (1) we give them the free-speech protections of the Bill of Rights, allowing them to spend millions on disinformation campaigns aimed at maintaining a harmful status quo. And (2) we allow them to manipulate our most basic democratic institutions by pumping millions of dollars into election campaigns. It seems clear that if we are to solve the global warming problem, these two practices will have to change.

--Peter Montague (National Writers Union, UAW Local 1981/AFL-CIO)

[5] Paul N. Edwards and Stephen H. Schneider, "The 1995 IPCC Report: Broad Consensus or 'Scientific Cleansing,' ECOFABLES/ECOSCIENCE No. 1 (Fall 1997), pgs. 3-9. ECOFABLES/ECOSCIENCE is published by the Center for Conservation Biology, Department of Biological Sciences, Stanford University, Stanford, CA 94305-5020. E-mail: ecofable@bing.stanford.edu; telephone (415) 723-5924; fax: (415) 723-5920.

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