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Unearthing America's Deep Network of Climate Change Deniers

A new study attempts the first tally of those driving the peculiarly American strain of climate change denial.

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The American public has turned away from outright denial of climate change. Sixty-three percent of adults describe the problem as "serious" in the latest opinion poll from the *Washington Post* and ABC News, a dip from the 69 percent who held that view in June. The minority who remain skeptical of climate science—a group that includes presidential hopefuls and powerful lawmakers—can count on a dedicated network of several thousand professional supporters.

New research for the first time has put a precise count on the people and groups working to dispute the scientific consensus on climate change. A loose network of 4,556 individuals with overlapping ties to 164 organizations do the most to dispute climate change in the U.S., according to a paper published today in *Nature Climate Change*. ExxonMobil and the family foundations controlled by Charles and David Koch emerge as the most significant sources of funding for these skeptics. As a two-week United Nations climate summit begins today in Paris, it's striking to notice that a similarly vast infrastructure of denial isn't found in any other nation.

The role of ExxonMobil and the Kochs in influencing climate denial hadn't been empirically studied before now, according to Justin Farrell, an assistant professor of sociology at the Yale School of Forestry & Environmental Studies and the author of the new paper. He said the flow of money from group to group and person to person is often opaque to researchers.

ExxonMobil has maintained for years that it does not fund denial of climate change. A spokesman pointed out that the company's \$100 million founding commitment to Stanford University's Global Climate & Energy Project was made in 2002, right in the middle of the period covered by the *Nature Climate Change* study. Representatives for any of the Koch family foundations could not be reached for comment.

Farrell said he focused on ExxonMobil and the Koch foundations because "they are reliable indicators of a much larger effort of corporate lobbying in the climate change counter-movement." He examined Internal Revenue Service data showing which groups in the network

of climate contrarians accepted funding from ExxonMobil or Koch foundations between 1993 and 2013. Recipients from those two sources tend to occupy central nodes in what he calls a "contrarian network." Groups funded by ExxonMobil or the Kochs "have greater influence over flows of resources, communication, and the production of contrarian information," Farrell wrote.

A graphic from the paper shows how individuals' affiliations tie the organizations (shown as balls) together into a network. The groups shown as green balls received some corporate funding over the 20-year period in Farrell's study from either ExxonMobil or the Kochs; organizations shown as red balls did not. The green balls, Farrell found, make up the highly influential network center that is more effective than the outliers at "the production of contrarian information."

The research was neither easy nor glamorous. One particular element of tedium was making sure that individuals were not represented more than once. Farrell analyzed the individuals, eliminated all middle initials, corrected misspellings, and deleted courtesy titles. "This was completed by hand," he noted, "on all 4,556 names." A supplement to the paper lists all 164 of the organizations he identified as promoting climate-change skepticism, a roster that includes the CATO Institute, the Heritage Foundation, and the Heartland Institute.

Once he understood the network, Farrell investigated which organizations were most successful in pushing their view. He found that groups with ties to the two big donors were more likely to see their viewpoints make it into media than those without such ties.

Last week, meanwhile, Farrell published a separate study in the *Proceedings of the National Academy of Sciences* that sought to show how funding from corporate donors shapes public thought and opinion on climate science. "Corporate funding influences the actual language and thematic content of polarizing discourse," he wrote. "These effects were visible over time."

Over the 20 years under review, climate contrarianism increased the most in major media sources—more even than in presidential speeches or congressional floor statements. Farrell's research took him through 40,785 documents from contrarian groups; 14,943 from the *New York Times*, *Washington Times*, and *USA Today*; 1,930 from U.S. presidents; and 7,786 from Congress.

For Robert Brulle, a sociology professor at Drexel University who has conducted research on the topic, Farrell's research helps define how climate denial works. "Corporate funders create and support conservative think tanks," which then pass off climate misinformation as valid. The mainstream media pick up on it, which helps shape public opinion.

"This brings up the following question," Brulle said. "Why is the media picking up and promulgating the central themes of climate misinformation?"