

# Environmental activism works, study shows

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The environmental movement is making a difference - nudging greenhouse gas emissions down in states with strong green voices, according to a Michigan State University (MSU) study.

Social scientist Thomas Dietz and Kenneth Frank, MSU Foundation professor of sociometrics, have teamed up to find a way to tell if a state jumping on the environmental bandwagon can mitigate other human factors - population growth and economic affluence - known to hurt the environment.

"We've used new methods developed over the years and new innovations Ken has developed to add in the politics - and find that politics and environmentalism can mediate some environmental impact," Dietz said. "Environmentalism seems to influence policies and how well policies that are in place are actually implemented and it also influences individual behavior and the choices people make."

The study, in this week's *Proceedings of the National Academy of Sciences*, shows a state-level win for environmental activism that hasn't been apparent on a national scale.

The authors compared [greenhouse gas emissions](#) between all 50 U.S. states and within each state over time going back to 1990, and determined how emissions correlated with population, [gross state product](#) per capita, employment rate, and environmentalism. They calculated environmentalism by the environmental voting record of a state's congressional delegation, as rated by the League of Conservation Voters.

The combined influences of population and affluence have been regarded as the core of environmental stress - and have tended to guarantee an annual increase in carbon dioxide emissions. But the paper "Political influences on [greenhouse gas emissions](#) from U.S. states" adds what the MSU researchers say is an important layer to understanding human impact on climate change. They show that a 1 percent increase in [environmentalism](#) tends to reduce emissions by more than enough to compensate for the typical annual increase in emissions.

"Efforts to mitigate emissions take a variety of forms at the state and local level and may have substantial impact even in the absence of a unified national policy," the paper notes. "Existing regulations can be applied strictly or less stringently, and programs can be pursued enthusiastically or given a low priority. Even without formal policy and programs, the importance of reducing emissions can be widely accepted by individuals and organizations and result in actions that have substantial impact."

This breakdown showed that certain states, such as New York for example, that would expected to see its increasing population and affluence bring along significantly higher [carbon dioxide emissions](#) instead saw those emissions fall thanks to politics that favored environmental protections.

Dietz and Frank offer a new way of understanding what drives humans' impact on the environment, one that both see as a first step at turning up the sensitivity of understanding how people are players in the environment's health.

Frank's sensitivity analysis parceled out whether variables comparable to a state's liberal or conservative leanings, political affiliation or number of women in the legislature, could be tipping the scales they were attributing to environmental activism.

"When doing this sensitivity analysis, we ask what it would take to knock our results over - a feather, an arm or a sledgehammer, and these are pretty close to sledgehammer results," Frank said. "We're finding that 44 percent of our data would have to be due to bias to shake this."

Dietz notes that understanding activism is a strong first step to understanding many kinds of environmental stresses, such as air pollution.

"We've always said this is laying the groundwork for more study. Ken came in with subtle ways to look at how the world works," Dietz said. "This is just the start of a conversation."

**More information:** Political influences on greenhouse gas emissions from US states, [www.pnas.org/cgi/doi/10.1073/pnas.1417806112](http://www.pnas.org/cgi/doi/10.1073/pnas.1417806112)

Provided by Michigan State University

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