

# Economists are out of touch with climate change

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In the debate over climate change, there is one group from whom you don't hear much: economists. The failure of climate economics to make a difference in the public discussion about climate policy should be a concern for the profession.

Climate economists are just as worried as anyone about the prospect of global warming. A recent survey by the Institute for Policy Integrity found that most climate economists believe climate change is a grave threat. Most supported carbon taxes or cap-and-trade programs to limit emissions, even if these actions were taken unilaterally by the United States. The consensus view was that a catastrophic loss of global gross domestic product – a 25 per cent decline or more – is possible under a "business as usual" scenario.

But for all this concern, economic research has had little impact on the public debate. The problem, as far as I can tell, is that there is a disconnect between climate science and economics. This goes beyond the out-of-date forecasting models used by policy makers. Even within academia, research often uses bad science.



Economists are as worried by climate change as anyone but have had little impact on public debate about the threat. *Photo: Nic Walker*

The first climate economics paper I ever read provides a nice illustration of this problem. In 2007, Michael Greenstone, of the University of Chicago, and Olivier Deschenes, of the University of California-Santa Barbara, published a paper entitled "Climate Change, Mortality, and Adaptation: Evidence from Annual Fluctuations in Weather in the US". The paper tried to estimate how many people would die as a result of global warming. To do this, the authors calculated how many people now die from random temperature fluctuations, due to things such as heat stroke. They then extrapolated this effect using the expected temperature increase from climate change, and found the probable increase in mortality is small.

But there is an obvious problem with this type of analysis, which even a second-year graduate student took about five seconds to figure out.

Global warming will probably kill people in a lot more ways than days of extreme heat do now. If the climate changes a lot, floods will become more common in low-lying areas. Hurricane Katrina provided an example of how a large flood can cause a lot of deaths. This has nothing to do with the mechanism studied by Deschenes and Greenstone – the authors just leave it out. If they had paid more attention to science, they would have taken more sources of mortality into account.

Illustration: Andrew Dyson

This paper demonstrates how climate economics can go astray. But it is far from an unusual or solitary example. In 2011, the Stockholm Environment Institute published a report that chided climate economists for their failure to keep up with scientific advances.

They glumly reported: "Regrettably, climate economics tends to lag behind climate science, especially in the slow-paced, peer-reviewed economics literature. The analyses rarely portray the most recent advances in climate science; instead, they often incorporate simplified representations of scientific knowledge that is out of date by several years, if not decades. Moreover, climate economics has often been hampered by its uncritical adoption of a traditional cost-benefit framework, minimising or overlooking the deep theoretical problems posed by uncertainty, intergenerational impacts, and long-term technological change."

The disconnect between economics and natural science is certainly part of the problem. Economists are notoriously unwilling to cite research in other social science fields, and this insularity – sometimes called siloing – probably leads them to ignore the natural sciences as well. But many economic phenomena are critically dependent on natural phenomena, so neglecting science can make economic models spit out ludicrous results. Economic models, like any other, are subject to the problem of rubbish in, rubbish out.

This shortcoming plagued a second paper by Deschenes and Greenstone; when they tried to estimate the impact of climate change on agriculture, they were criticised by some of their colleagues for using out-of-date science.

The Stockholm Environment Institute report goes on to detail ways in which economics could improve by paying more attention to the latest science. I am more pessimistic; if top climate economists are ignoring the potential of deaths from flooding, what are the chances they will keep up to date on state-of-the-art models of flood probability?

I suspect there is an even deeper failing than insularity at work here. Many economists treasure their field's ability to produce counter-intuitive results – to tell people things that contradict their intuition. For example, many people think rent control helps poor people; economists have traditionally delighted in explaining to their students why it actually hurts the poor.

Contrarian results such as these are prized, because they seem to show that economics has something to offer that other disciplines don't. Economists probably have the urge to find results showing that, contrary to popular belief, climate change will be benign, or even beneficial, to humanity.

But bias in favour of counter-intuitive results is as bad as any other form of research bias. If biologists came out with a study showing that eating nuclear waste for breakfast is good for you, it would be both eye-catching and at odds



with common knowledge, but it would also be silly. In order to have more relevance to the public debate, climate economics should avoid the temptation to be cute, and just get the science right.

**Noah Smith is an assistant professor of finance at Stony Brook University and a freelance writer for finance and business publications. For more columns from Bloomberg View, visit [bloomberg.com/view](https://www.bloomberg.com/view).**

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