A conversation with Bentley Allan on March 25, 2014

Participants

- Bentley Allan – Assistant Professor, Department of Political Science, Johns Hopkins University
- Alexander Berger – Senior Research Analyst, GiveWell

Note: This set of notes was compiled by GiveWell and gives an overview of the major points made by Dr. Allan.

Summary

GiveWell spoke with Professor Allan about the history of climate governance and potential lessons for the governance of geoengineering. At GiveWell's request, Professor Allan compared the current state of geoengineering research to the history of climate change research and policy and drew lessons about factors that might speed or slow progress in governance of geoengineering.

The current state of geoengineering research and policy

There are fewer than ten major laboratories doing geoengineering research, which means that the current state of geoengineering research is similar to that of climate change research in approximately 1970. At that time, some of the main climate change laboratories were the National Center for Atmospheric Research (NCAR) and the Princeton Geophysical Fluid Dynamics Laboratory (GFDL).

Serious negotiations for the Kyoto Protocol to the United Nations Framework Convention on Climate Change (UNFCCC) did not begin until 1992. If geoengineering research and policy progresses at the same speed as climate policy did, it may be more than thirty years before an international agreement on geoengineering governance is reached.

History of climate policy

The development of international agreements on climate policy has been a slow process, due as much to political as scientific barriers.

The events of 1988

The literature repeatedly highlights 1988 as a watershed moment. In 1988, Dr. James Hansen made one of the first testimonies to Congress about climate change, and the Intergovernmental Panel on Climate Change (IPCC) was created. These events were important, but Professor Allan believes they were primarily the culmination of underlying forces, rather than themselves driving key events. It is difficult to predict when and why these breakthroughs occur, but we can look retrospectively and the conditions that enable

breakthrough. In explaining the emergence of climate change as a political problem, the important dynamic is a back and forth between producing scientific knowledge and developing political institutional capacity necessary to govern at the global level. But political considerations slow this process down.

The United Nations Framework Convention on Climate Change

A key enabling condition for climate governance was the accumulation of a convincing body of scientific evidence (by scientists with the right credentials). This body of knowledge was built between 1965 and 1985. The Villach Conference in 1985 created the first scientific "consensus" and resulted in a proposal to create the UNFCCC. There was a consensus among scientists and the leaders of international organizations that a framework convention was necessary, but the U.S. government did not initially agree to the proposal. Although there may have been a framework convention on climate change created as early as the mid-1980s, the UNFCCC was not concluded until 1992. The delay between the proposal in 1985 and the introduction of the convention was mostly political.

The Intergovernmental Panel on Climate Change

Another central moment of institutional creation was the formation of the IPCC. Although many see the IPCC as a neutral, scientific creation, it was initially established so states could wrest control over the scientific process. The U.S. government was concerned that Mostafa Tolba, the Executive Director of the United Nations Environment Programme, would have too much control over who would be selected to form a scientific consensus on climate change. Also, since the Environmental Protection Agency (EPA) and the Department of Energy (DOE) had been writing reports on climate change since the 1970s and had expertise on the subject, they probably did not want to be excluded from the process. Other governments had a similar desire not to grant Dr. Tolba exclusive control.

In 1986, the DOE proposed an intergovernmental mechanism based on one of its internal proposals from the early 1980s. The U.S. largely controlled the negotiation process to create the IPCC. In 1988, the IPCC was created. At a climate change conference in Toronto in the same year, the U.S. government was unhappy about the proposed 20% cut in carbon dioxide emissions, which strengthened its commitment to moving negotiations to the more state-controlled IPCC.

As it turned out, governments grant the IPCC considerable independence so that it retains its scientific legitimacy. Another body, the Subsidiary Body for Scientific and Technological Advice (under the UNFCCC), now serves the function of allowing states to exert political influence over the scientific process in climate governance.

The Subsidiary Body for Scientific and Technological Advice

The Subsidiary Body for Scientific and Technological Advice (SBSTA) was created to support the efforts of the UNFCCC. The SBSTA approves IPCC reports before they are negotiated at the UNFCCC. States are more willing to interfere with the SBSTA than the

IPCC. Governments want the IPCC to be independent so that they can have credible information, but they also want to be able to control the scientific research that ends up on the floor of UNFCCC negotiations via the SBSTA.

Why geoengineering may be different

Geoengineering governance processes may be emerge more quickly because the UNFCCC, IPCC and other relevant institutions already exist. In addition, there are not political interests such as oil companies that would oppose geoengineering proposals in the way that there were for initial climate change negotiations.

Scientific and institutional factors that could affect the speed of progress in geoengineering governance

Size of the research community

It is an open question whether a large group of scientists is necessary to develop politically viable proposals for geoengineering governance. The examples of climate change and ozone depletion demonstrate that it is not necessary to have a large number of scientists working on an issue to have a major impact on policy discussions. Perhaps a small group of scientists working on geoengineering could be effective.

Nine or ten scientists formed the core group that organized the climate science conference in 1985 in Villach, Austria which had a major impact on bringing the topic to international attention. Though today there are thousands of scientists doing climate change research, at that time there were only hundreds.

In the case of ozone depletion, having a small number of scientists doing research on the issue did not obstruct progress. Mario Molina and Frank Rowland were the only scientists in the 1980s with a good model for ozone depletion, but they had good scientific reputations and they were effective advocates for the cause.

Developing policy-relevant scientific research

One reason for the seventeen-year delay between the Villach Conference and the implementation of the Kyoto Protocol was the absence of *policy-relevant* research. Though there was probably enough climate change research in the 1980s to propose policies to address climate change, there was significant political uncertainty. Quantifiable tools were needed to compare the costs and benefits of different policy options for different constituencies. The first clear indicators were developed between 1970 and 1985, but even in the mid-1980s they were not precise enough to give states a clear picture of what was at stake. There continues to be uncertainty about these issues today. Advancing this type of cost-benefit research would improve governance issues by providing governments with more credible assessments of where their interests lie.

The basic science of geoengineering, such as the effects of aerosols and algae on climate, is at a fairly advanced state. There is a far better understanding of these issues today than there was of climate change in 1980. Scientists have only recently begun to do policy-relevant research, but creating precise policy proposals may be easier than they were for climate change, since those methods already established.

Divisions between the global North and South

Disagreements between the global North and South have been a major problem for climate policy, slowing down the process of . Countries in the Global South see climate change as a problem created by rich countries that they are not responsible for. Initially, many poor countries were skeptical of climate proposals or interpreted them as a Western political ploy designed to curb their development and maintain Western hegemony. These concerns were fuelled by scientific issues, such as the fact that Dr. Tolba selected almost exclusively Western scientists to write the first IPCC report. North-South divisions have persisted, and were initially a significant barrier to the the negotiation of the Kyoto Protocol.

At the time of the first IPCC report, the developing world did not have much scientific capacity, but that has since changed. There are still gaps, but the internationalization of climate change research has given the policy process more authority, legitimacy, and transparency.

In geoengineering, North-South divisions may persist, and slow things down. One could imagine Global South countries drawing the same conclusions regarding geoengineering as they did in climate change. Moreover, the distributional consequences of geoengineering could be uneven, harming poor countries, and that will certainly be argued about. But, if geoengineering is cheap and is perceived to be distributionally neutral, it is possible the political-economic factors that bog down North-South negotiations in climate change may be sidestepped to some degree.

The importance of intermediaries between the scientific and political communities

Another key factor in the science policy literature is that boundary organizations are needed to transfer information between the scientific and political communities. In climate change advocacy, international organizations, bureaucracies (such as DOE and EPA), think tanks, and individual scientists have acted as intermediaries.

The National Academies

The National Academy of Science (NAS), a division of the National Academies, is the main boundary organization for climate change issues in the U.S. It is a small institution that is very prestigious and authoritative. It often works with Congress, translating science into political discourse and vice versa. The NAS wrote a report on climate change in the 1960s that said that there was inadequate information on the issue and that more research funding was needed. The NAS wrote three more reports on climate change in the 1980s, which is when climate change research began receiving significant funding.

Think Tanks

Think tanks can also serve as boundary organizations. The RAND Corporation had a minor role in climate change research. In the 1960s, it was working on a climate change model, though it was unusual for the institution to research natural science issues. The model was defunded because it had serious problems, but parts of it ended up being used in later, more sophisticated and better-resourced models. Forming think tanks could accelerate governance.

Scientific Brokers: Roger Revelle and Jule Charney

Scientific brokers also serve to translate science into politics and vice versa. Roger Revelle and Jule Charney were serious climate scientists who were also public intellectuals. In the 1960s, they realized that climate change would be a politically important issue, but it was still unclear whether there would be global warming or cooling. By the 1970s, it was clear that the trend was rising temperatures, so this was the issue they pursued.

Future Vice President Al Gore completed a course taught by Dr. Revelle in the late 1960s. When he became a congressman in 1976, he continued discussing climate science with Dr. Revelle. Mr. Gore was convinced that climate change was a potentially important political problem and worked to affect climate policy from a very early stage.

Incorporating proposals into an existing discourse

Geoengineering is not considered a legitimate option and often receives negative media coverage, so progress on governance likely depends on incorporating it into some other discursive frame. The climate frame alone, or the "potential climate disaster" frame seem inadequate to ground a serious governance discussion.

Example: climate change

In the 1960s, it was unclear what type of problem climate change was, which made it difficult to fund. The previous twenty or thirty years of climate change research mostly had been done in the military because weather modification was seen as relevant to the Cold War.

In the 1970s, climate change began to be incorporated into the environmental movement. The first major reports to frame climate change this way were the Study of Man's Impact on Climate (SMIC) and the Study of Critical Environmental Problems (SCEP). Incorporating climate change into environmentalism was a good strategy because it led to an increase in funding and positive media coverage. Climate change fit well with the traditional communitarian and anti-capitalist perspective of the environmental movement.

The environmental movement has largely opposed discussion of geoengineering, because it is seen as interfering with nature, rather than restoring it. An alternative framing for geoengineering governance may be the idea of "maintain a world livable for society": The

weather patterns of the past 10,000 years have created an unusually high carrying capacity for the human species, and even in the absence of climate change due to anthropogenic greenhouse gas emissions, a mechanism will be needed to maintain the Holocene temperatures during the next period of natural climate change. This framing of geoengineering presents it as a way to invest in the long-term future of humanity.

All GiveWell conversations are available at http://www.givewell.org/conversations