Haas, P. M. (1992). "Banning Chlorofluorocarbons : Epistemic Community Efforts to Protect Stratospheric Ozone." International Organization 46(1): 187-224.

Abstract: The emergence of scientific evidence that emissions of chlorofluorocarbons (CFCs) were depleting the stratospheric ozone layer prompted an epistemic community of atmospheric scientists and concerned policymakers to push for regulations regarding CFC use. Members of the transnational epistemic community played a primary role in gathering information, disseminating it to governments and CFC manufacturers, and helping them formulate international, domestic, and industry policies regarding CFC consumption and production. Community members contributed to the timing and stringency of CFC regulations through a combination of strategies ranging from the persuasion of individuals to the capture of various decision-making channels. Most important, by influencing the actions of the United States and DuPont, the largest producer of CFCs, the epistemic community changed the external environment in which policy decisions were made by other governments and firms.

This is essentially a neoliberal epistemic community story in which the community provided primarily information and policy alternatives to policymakers, although there is an embedded constructivist story in which they argue for the establishment of a new norm on appropriate responses to uncertainty (act now rather than wait for more data).

The ecological epistemic community

This epistemic community was "composed of atmospheric scientists and of policymakers who were sympathetic to the scientists' common set of values" (p.189) Action was constrained by beliefs in scientific rigor and analysis. Political motivations and strategies in the community varied. The community was transnational; policymakers in the community accepted the scientists' advice because of a "shared interest in conserving environmental quality." (p.190) Different kinds of scientists were represented (chemists, physicists, etc.) - most were atmospheric. Much of this was dominated by the US. The community members operated through int'l bodies and domestic governments. [Note what was later dubbed the precautionary principle: "if we are to err in designing measures to protect the ozone layer, then let us, conscious of our responsibility to future generations, err on the side of caution." (p.191)]

Origins of concern

CFCs were used in many applications, from air conditioning to computer products. At the time of the negotiations, 17 companies produced them in 16 countries; DuPont had 50% of the US market, and 25% of the global market. Ozone layer depletion worries surfaced in the 1970s with the supersonic transport debate; in 1974, Rowland and Molina hypothesized that the chlorine in CFCs broke down ozone molecules; this was not verified until the late 80s. "In effect, modelers were responsible for *creating the world* that they were simulating for decision makers, as no one else had any understanding of the physical area being studied." (p.200, emphasis added)

Policy responses

The Rowland-Molina hypothesis generated an "initial spasm of international regulation." (p.201) The EC adopted production and consumption restrictions in 1976 and 1982. In 1977, UNEP created the Coordinating Committee on the Ozone Layer. CFC production leveled off from 1977-83, but surged with computer manufacture. A broad international consensus among states emerged by 1985 to protect ozone, but suggested methods differed. The subsequent discovery of the ozone hole over Antarctica in 1985 galvanized negotiations. This hole was an anomaly w.r.t. current atmospheric models. A 1986 EPA-UNEP symposium produced a study that "served as the scientific basis for the ensuing international negotiations." (p.204) But the industry group and Euro governments differed over the implications of the findings. DuPont upset this in September by favoring a protocol to limit CFC emissions. Scientists in the epistemic community briefed the EPA and OES (Bureau of Oceans and International Environmental and Scientific Affairs) administrators, who wrote the US position for the Dec 86 Geneva negotiations. LDCs and the EC opposed a consumption freeze, calling for a production freeze. By the Montreal negotiations in Sep 87, the US threat to impose unilateral controls led to the Montreal Protocol, in which a "negative trigger" was established: cuts would occur unless scientists deemed safe.

The epistemic community's role in this was to determine the chemicals covered, the stringency of controls, and the time frame for implementing reductions (p.213).

Environmental bandwagoning

Montreal was ratified and went into force on 1 Jan 1989. By this time, the threat had increased, so many countries called for even deeper cuts; the EU and 123 countries proposed an elimination of CFCs by the end of this century.

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Factors influencing responses to the environmental threat
"The pacing of national responses can be explained largely in terms of the extent of the epistemic community's influence on various governments…" But Haas also says that the time lag in Europe "may also be attributable to differences in political, cultural, and social relations…" (p.215)

Decision making within the United States
In the US, the epistemic community in the EPA and OES managed to overcome the Reagan administration; "EPA and OES officials were in effect implementing US policy at the 1987 international meetings while it was still being reviewed at home."(p.218)

Decision making within the CFC industry
DuPont was also affected by the epistemic community, which "was responsible for rapidly introducing new policy ideas to the company through the research wing of the Freon products division" (p.220) "While DuPont's affinity with the epistemic community increased its propensity for acquiring scientifically qualified input, its decision to act on this input was also a consequence of its experience and position." (p.221)

Conclusions and alternative explanations
The epistemic community disseminated information, persuaded the two major actors (the US and DuPont) of the need for strong CFC controls, who in turn convinced the rest of the world and the rest of the producers of the same. Haas considers two counterfactuals: no epi comm in the US (then the US would have had a different negotiating position), and no transnational epi comm (other nations' policy choices would have been based strictly on domestic considerations). Its influence was part through usurpation of decision-making channels and part through argument. Dramatic reports of the ozone hole also helped.