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Science and Policy: How much do we need to know in order to act?

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Overview

- ▶ Policy learning: Two case studies
- ▶ The relation between expertise and politics /policy making
- ▶ Theoretical frameworks





The problem

- The international expert body (IPCC) advising the UN and governments all over the world has reached a consensus view which is translated into different, even opposing, national policies, especially in the US and European countries.
- Paradox: How can the same scientific advice be used for diverging policies?

Theses

- ▶ The Montreal Protocol of 1987 is widely hailed as the paradigm case for a successful global environmental treaty.
- ▶ Many features of global governance in the case of climate change have been grafted from the case of ozone layer protection.
- ▶ This has led to problematic consequences.



'Learning from Ozone', examples

- ▶ Scientific consensus makes political agreement more likely;
- ▶ If science speaks with one voice politics will not be able to ignore it;
- ▶ Policies for the protection of the ozone layer were based on scientific consensus;
- ▶ In order to mimic the success of Montreal, we need to repeat the procedure;
- ▶ A perception of imminent crisis will galvanize governments into action
 - ▶ Alarm signal (ozone hole → dramatize effects of climate change);
- ▶ Sources and sink approach;
- ▶ No commitment from developing countries;
- ▶ Etc.



Knowledge transfer?

- Linear rational model of science-policy interface (Lasswell 1951; Haas 1990), 'technocratic model'
 - self-description of experts and policy-makers
 - Reducing scientific uncertainty leads to political consensus
- Science and Technology Studies (STS)
 - Latour: Hybridisation and purification; public trials of strength
 - Jasanoff: Co-production of knowledge
- Discourse coalitions, framing (Goffman; Hajer)
 - Scientists, decision makers and public are split
 - Different policy goals supported by different knowledge claims
- Knowledge politics (Beck; Stehr; Stehr/Grundmann)
 - The power of definition
 - Expert knowledge as legitimation for policies



Knowledge politics

- Despite international efforts at consensus building (IPCC) domestic policy decisions of key countries are central
- Example
 - US
 - EU/Germany



Two frames

- **Two opposing frames**
 - 1) damage (to the economy) if we tried to reduce greenhouse gas (GHG) emissions drastically;
 - 2) catastrophic damage (to the global ecosystem) by following the opposite course and not taking action.
- **United States government follows the first, European Union the second**

● ● ● | US domestic policy

- Worldwide largest GHG emitter (per capita emissions 2.5 x EU)
- US concerns about national sovereignty, economic growth and competitiveness
- Fossil fuel lobby against treaty
- Rise of 'contrarian' scientists in US media
- Republican takeover of Congress in 1994
- 37 hearings on climate change in US Congress (1990 - 1997):
 - Ca. 1992 testimonies of conventional natural scientists and administrators of various government agencies and programs dominated the hearings on global warming.
 - Ca. 1997 discernible interest groups (especially industry allies) dominated the hearings, while government administrators and research scientists received limited attention.
 - Industry representatives account for over half of the testimonies in the year of the Kyoto Conference.
 - Results of Congress Hearings follow political agenda
 - July 1997: Byrd-Hagel resolution passed Senate unanimously



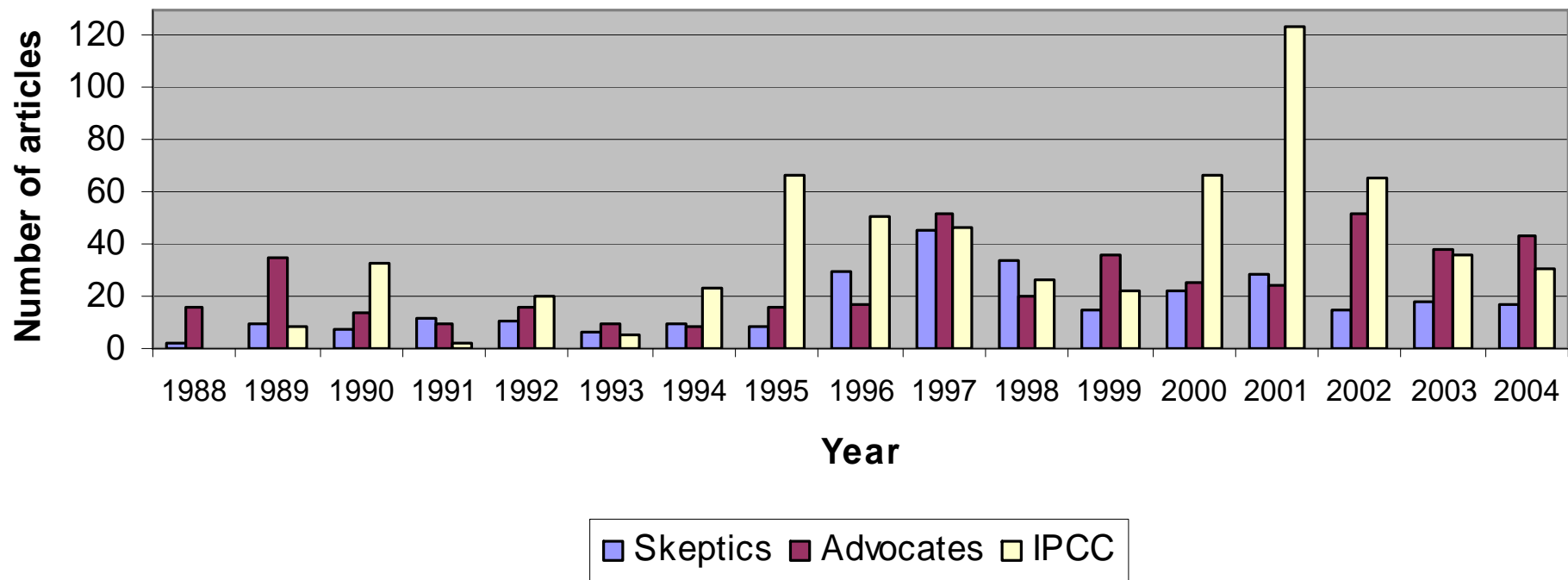
Senate Resolution 98

- also referred to as the Hagel-Byrd Resolution)
- notified the Clinton Administration that the Senate would not ratify any treaty that would:
 - '(a) impose mandatory greenhouse gas emissions reductions for the United States without also imposing such reductions for developing nations, or
 - (b) result in serious harm to our economy.'



Climate change sceptics and advocates in the US print media, 1988-2004

Lexis Nexis US News Data



Source: Lexis-Nexis, Grundmann (2007)

Search terms for skeptics: fred singer OR richard lindzen OR frederick seitz OR patrick michaels

Search terms for advocates: robert watson OR bert bolin OR james hansen OR stephen schneider

Additional search terms: climate change OR greenhouse effect OR global warming



EU leadership

- Lower per capita GHG emissions
- Economic opportunities: leader in carbon-free technologies
- Fossil fuel lobby does not oppose treaty
- Sovereignty issues less important
- EU self-declared leadership role on the climate change issue (McCormick 2001).
 - Broader strategic orientation?
 - EU position not necessarily a reflection of concern for an environmental problem, but perhaps equally important as a stepping stone to stand forth as a strong and unified block on the world scene (Andresen and Agrawala 2002)
- EU wide Variation: Norway, Germany, NL, UK adopted ambitious GHG reduction goals -- others not.
- EU targets, Jan 2008: -20% by 2020



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11. August 1986

Ozon-Loch, Pol-Schmelze, Treibhaus-Effekt: Forscher warnen
DIE KLIMA-KATASTROPHE



Germany: climatic catastrophe

- 1986 working group of scientists from the Energy Working Group (Arbeitskreis Energie, AKE) of the German Physics Society (Deutsche Physikalische Gesellschaft, DPG) drew attention to the 'impending climatic catastrophe'
- 'The possible melting of the West Antarctic shelf ice, presumably within a period of several hundred years, could cause a rise of the sea level by five to ten meters, thus flooding the lower coastal areas such as in the Netherlands and Northern Germany.'
- Metaphor was revoked by scientists but gained life of its own, still widely used (contrast to UK, US, RoW).

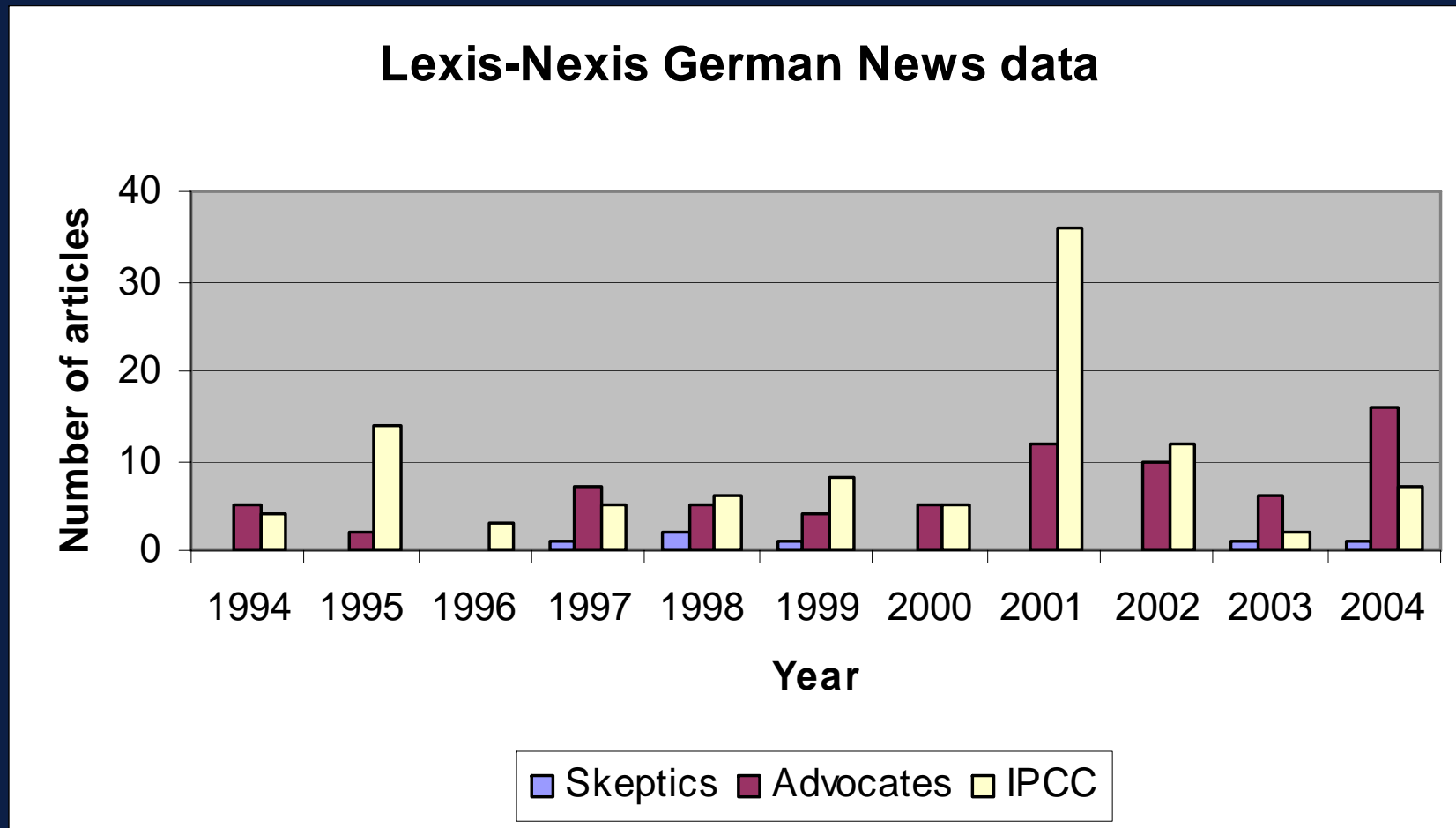


Government advisory body

- Jan 1987 Parliamentary elections: boost to the Green Party
- Nov 1987 Enquete Commission “Vorsorge zum Schutz der Erdatmosphäre” (EC) set up
- Half scientists half politicians
- Commission’s report—unlike other reports of such Enquete inquiries—came to a consensus view about the seriousness of climate change.
- The Commission did not give space to scientific outsiders and climate change sceptics.
- Orchestration across EU
 - “[The EC] was a pilot project that had gained international attention and was much sooner accepted by parliamentarians than anything that is simply official government opinion, because then right off all they think about is self-promotion. Nobody could say that his political movement had jumped ship; Labour, Republicans, Gaullists, they could all say: my people were in it too.” (Interview with government official).



Advocates, sceptics, and the IPCC in the German language print media, 1994-2004



Search terms for advocates: Crutzen OR Klaus Hasselmann, OR Grassl, OR Schellnhuber.
Search term for sceptics: skeptiker. Additional search term: Klima.



Conclusion

1. IPCC important agenda setter - but exaggerated hopes in scientific consensus
2. Climate change policy driven by domestic political agendas
 - US: Congress hearings instrumentalised against treaty
 - Germany: Enquete Commission set up to legitimize treaty
3. Scientific expertise is used to legitimize political goals
4. What can we learn from two cases? How specific are they?