



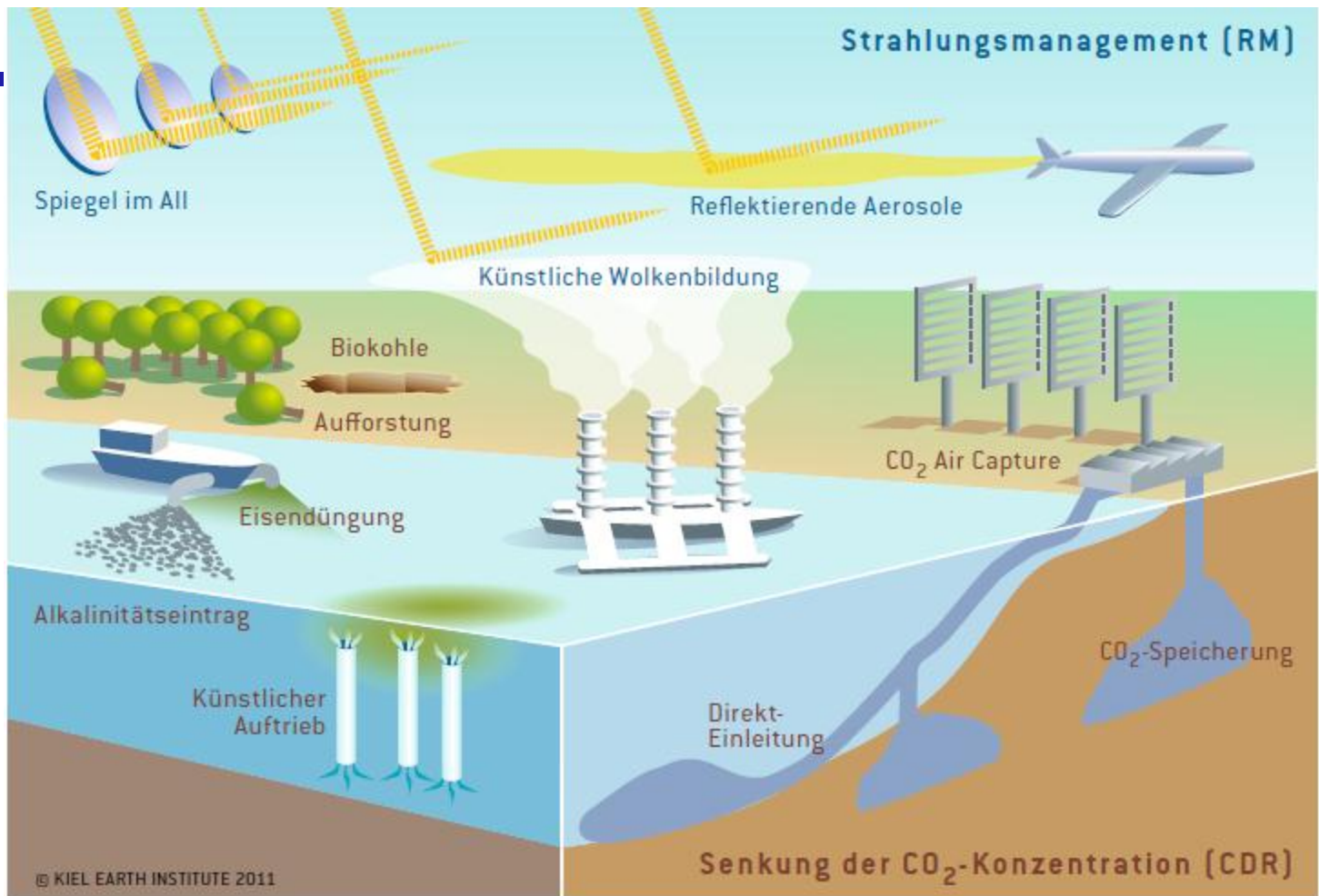
RUPRECHT-KARLS-
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HEIDELBERG

mk MARSILIUS
KOLLEG



The Global Governance of Climate Engineering – Heidelberg's interdisciplinary Research Agenda

IASS Scoping Workshop, Potsdam June 9-10, 2011



Outline

1. The research group
2. The interdisciplinary approach
3. The Research Questions
4. Interdisciplinary Activities and Findings

The research group

Work Packages	Investigators
A: Environmental Physics	Profs. Leisner, Platt, Aeschbach / S. Müller-Klieser
B: Philosophy:	Prof. M. Gessmann / H. Fernow
C: Human Geography	Prof. H. Gebhardt / T. Wiertz
D: Environmental Economics	Prof. T. Goeschl / D. Heyen
E: Psychology:	Prof. J. Funke / D. Amelung
F: International Law	Prof. R. Wolfrum / D. Reichwein
G: Political Science	Prof. S. Harnisch / St. Uther
H: Political Economy	Prof. St. Walter / W. Dietz

The interdisciplinary approach

- Interdisc. Activities
 - Monthly Plenaries
 - Weekly PhD meetings
 - Regul. workshops
 - Summer Schools

- Interdisciplinary Publications:
 - Journal articles
 - CE and Risk
 - CE and Climate Justice

Table 1: Supervision structure "Global Governance of Geoengineering"

		Supervision by researchers from						
		Environmental Physics	Philosophy	Human Geography	Political Science	Environmental Economics	Psychology	International Law
Dissertation topic in	Environmental Physics	S		A		A		
	Philosophy		S	A			A	
	Human Geography			S	A		A	
	Political Science	A			S			A
	Environmental Economics	A				S	A	
	Psychology		A			A	S	
	International Law			A	A			S

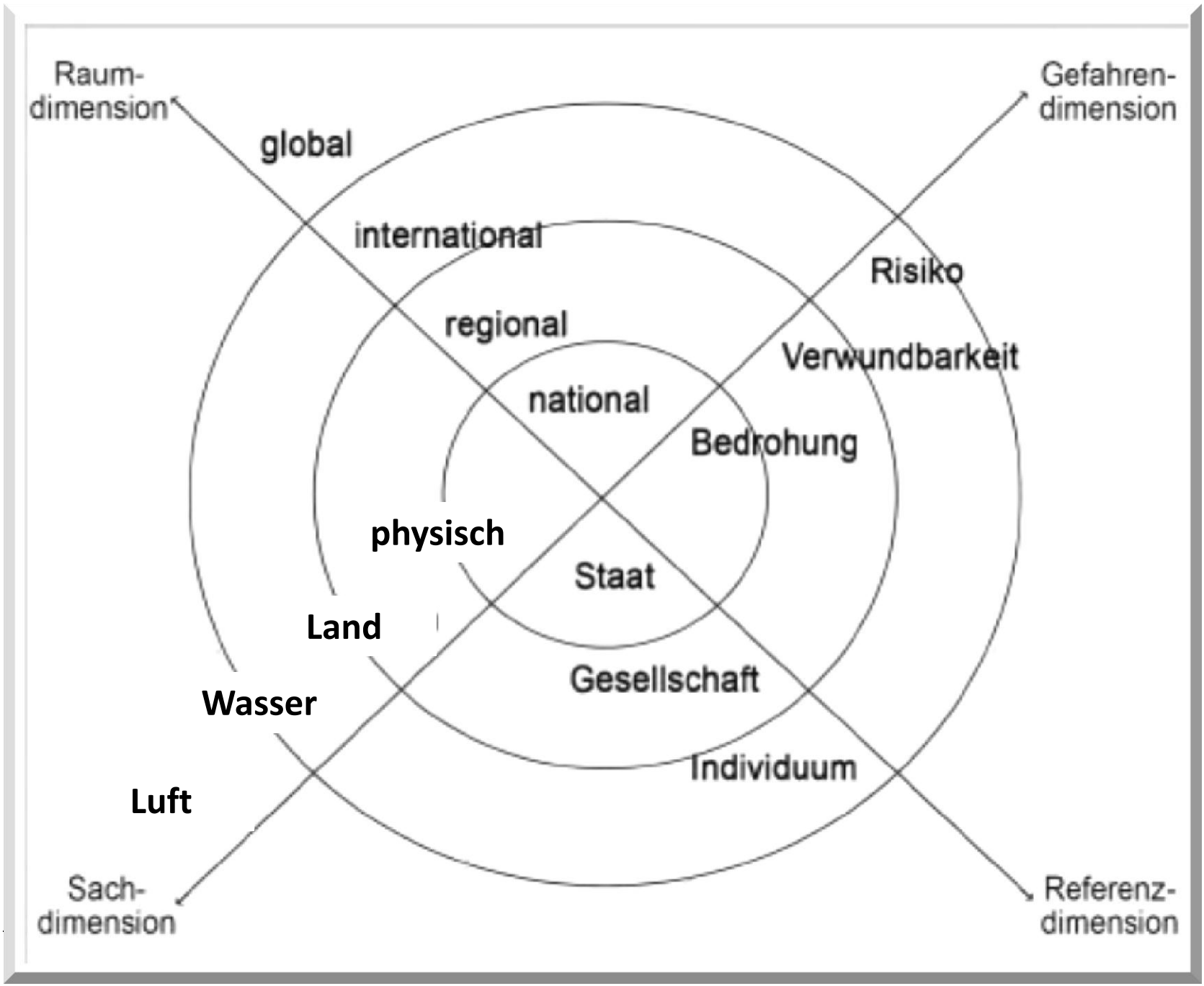
S: Supervisor, A: Advisor

The research questions

- How do the risk-benefit perception of climate engineering technologies differ and evolve
 1. across time,
 2. disciplines and
 3. political actors?
- How may these risk perceptions inform individual, societal and international capacities to foster a global governance of climate engineering?

Climate Engineering and Risk: an interdisciplinary approach

- Findings:
 1. Risk definition: conceptual stretch from minimum (damage x probability) to maximum (the probability of future damage that can be influenced by current action).
 2. Risk dimensions: reference dim.; threat dim.; subject dim.; spatial dim.
 3. Risk and Uncertainty: „differentiation is being understood as the presence or absence of scientifically established and well-understood causal relationship (Reichwein 2011: 26).“
 4. Risk and precautionary principle: As long as uncertainty prevails, precautionary principle absorbs preventive principle/action because the principle strengthens the actors capacity to respond if causal responsibility (risk) is established.
 5. Risk and valuation: „to calculate expected damages, we need probability of every single value climate sensitivity may take on“ (Heyen 2011: 36): a) single actor may hold competing climate sensitivities; b) various actors hold competing climate sensitivities; c) climate sensitivities are interdependent (moral hazard).



Raum-
dimension

Gefahren-
dimension

global

international

Risiko

regional

Verwundbarkeit

national

Bedrohung

physisch

Staat

Land

Gesellschaft

Wasser

Individuum

Luft

Sach-
dimension

Referenz-
dimension

The CE discourse in the US, 2006-2010: approach

- Questions:
 1. What main pro and con arguments regarding the research on and implementation of CE technologies have been being used in the scientific, public and political spheres in the USA since 2006?
 2. Are arguments being used within each sphere reflected in the other spheres?
 3. Have the arguments being used in the three spheres changed/developed over time?
- Data set: 70 docs: 17 con-arg. (568)/16 pro (471) SRM research/deployment.
 - Scientific Scholarship: *Science, PNAS, Technology Review, Climatic Change, Solutions, Oceanography, The Review of Economics and Statistics, Foreign Affairs, Journal of Geophysical Research, Issues in Legal Scholarship, Physics Today, Bulletin of the Atomic Scientists, Journal of Economic Perspectives and The Environmental Forum.*
 - Scientific Conferences: *NASA Workshop on Managing Solar Radiation (April 2007), University of Montana workshop: The Ethics of Geoengineering with Solar Radiation Management, (October 2010), Annual Meeting of the American Political Science Association (Sept. 2009), The Asilomar Conference: Recommendations on Principles for Research into Climate Engineering Techniques (November 2110)*

The CE discourse in the US, 2006-10: Main arguments

- **Pro research**
- The **'need for knowledge' argument**
- The **'control through knowledge' argument**

- **Contra research**
- The **"moral hazard"**
- The **"testing problems" argument**
- The **"unilateral deployment" argument**

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- **Pro deployment**
 - The **"insurance policy" argument,**
 - The **"mitigation failure" argument**
 - The **"buying time" argument**

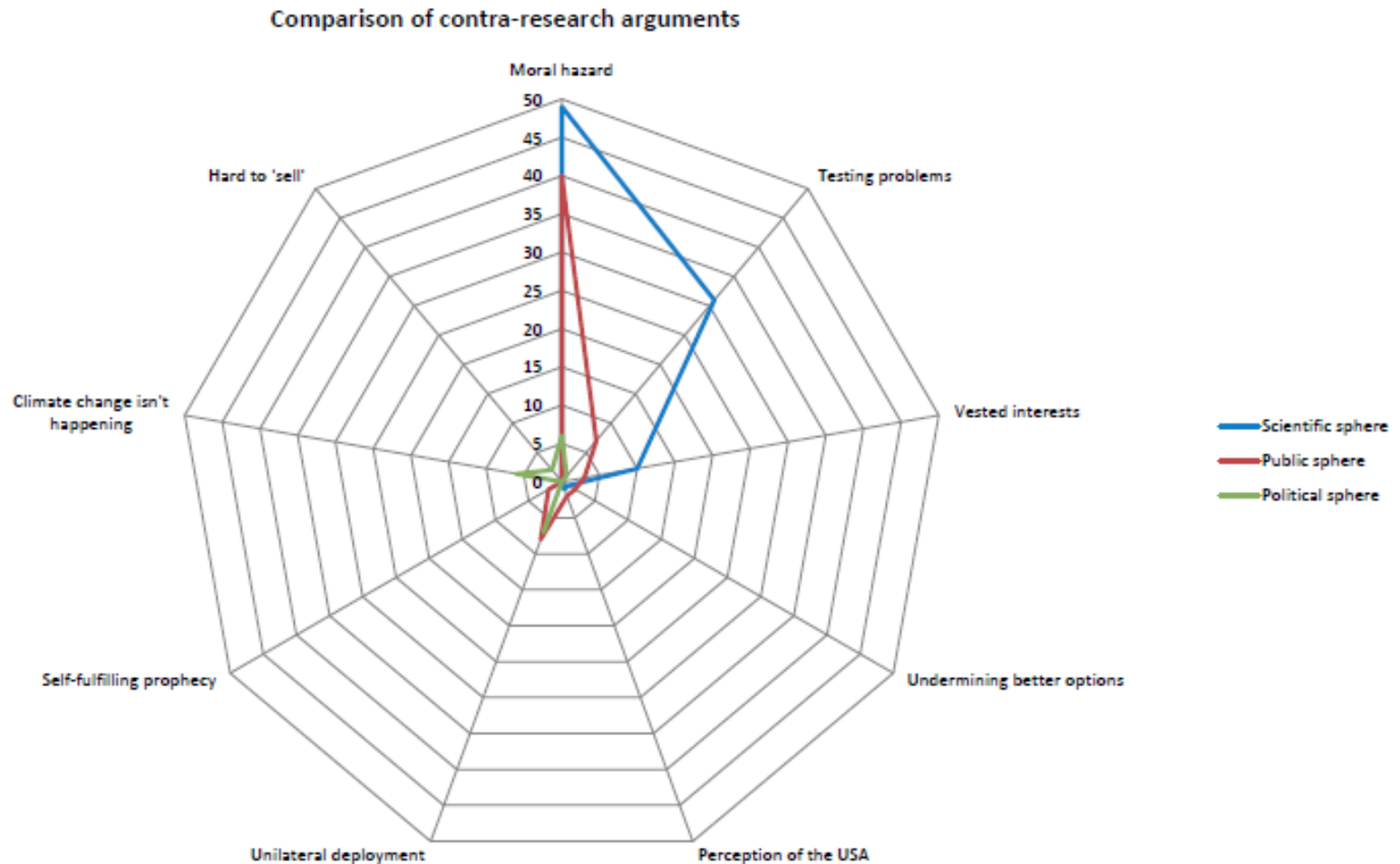
- **Contra deployment**
- The **"negative side effects" argument**
- The **"unknown unknowns" argument**
- The **"conflict potential" arguments**

The CE discourse in the US 2006-10: Findings

Comparison of pro-deployment arguments



The CE discourse in the US 2006-10: Findings



Thank you!