

# Lecture 9: Scientific Advice for Policy

## Episode 1: What Role(s) for Scientific Advice?

Dr. Silke Beck  
Helmholtz Center for Environmental Research (UFZ),  
Leipzig (Germany)

## Lecture 9: Overview

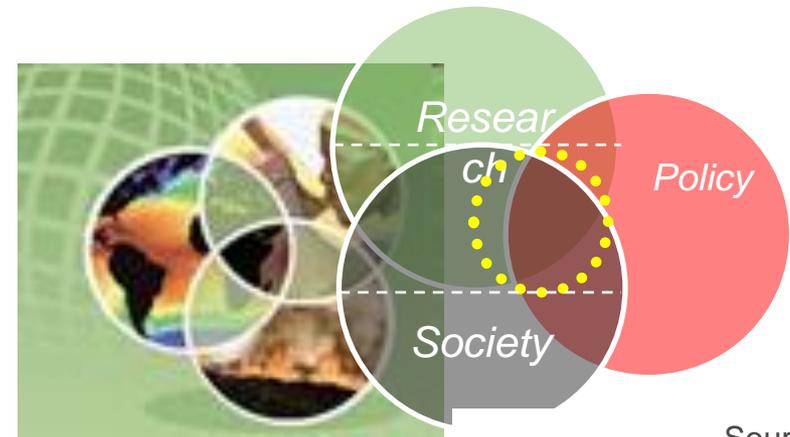
### **Episode 1: What Role(s) for Scientific Advice to Policy?**

Episode 2: How the WBGU works

Episode 3: Interview



- Potential role(s)/ function(s) for scientific advice to policy within the new contract between science and society
- Models of scientific expertise in policy
- Potential contributions of scientific advice to transformative policy-making



Source:  
UFZ Leipzig

## Political Relevance

Rio+20 UN conference:

- Science has been asked to be “relevant”
- Demand for “usable” information for decision-making

Relevance and “usability” of scientific findings?

Need to

- > align research closely to the needs of the transformation process
- > reconcile supply and demands for knowledge in a effective and coherent way



## How to Assess an Assessment?

- What models and criteria are available?
- What standards, benchmarks and approaches? One size fits all?
- Evaluation is dependent on
  - Cases, context, scales, challenges and requirements
  - Assumptions about
    - Nature of the relationship between science and policy
    - Focus
    - Criteria
    - Models of politics
- What choices in order to explore and assess the role of expertise in decision-making?



Model	Nature of the relationship	Focus	Criteria
<i>Linear</i>	Linear, one-dimensional Hierarchical	Outcome/ Impact	Effectiveness Efficiency
<i>Pragmatist</i>	Interactive Recursive	Process/ Procedures	Political relevance Scientific credibility Political legitimacy
<i>Reflexive</i>	Contingent, negotiated, co-production and symmetry	Context/ Cultures	Reflexivity Organizational 'learning'

Source: Beck 2012



## High expectations

Science is expected to determine and compel policy:

“once we agree what the science says, policy will automatically follow. That’s why the Nobel committee awarded Gore and the Intergovernmental Panel on Climate Change a peace prize” (Kuper, FT, November 25, 2011)

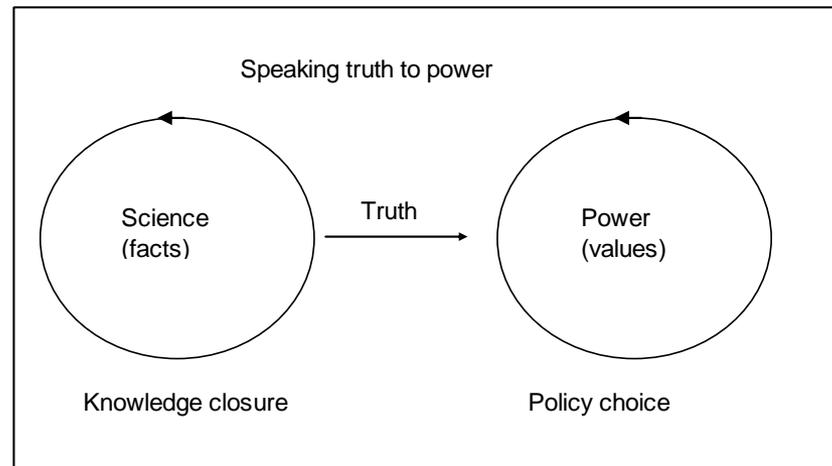
- > Model for expert bodies in the field of biodiversity and food security
- > Booster effect for decision-making



## Scientism

### Assumptions:

- One-dimensional, linear and one-way influence
- More and better information trigger political action and public consent
- Scientific evidence as the only authority to justify policy action
- 'Success' = 'impact on decision making'



Source: Jasanoff & Wynne 1998



- Science plays a critical role in policymaking:
    - ‘We can not act until science is sound’
  - Get the facts right first, than act.
  - Experts speaking with ‘one single uniform’ voice
  - Provide the one and only – ‘silver bullet shot’ – solution
- Science determines policy



# 'Dangerous Assumptions'

The linear model proved as empirically false and politically risky:

- Even if there is a remarkable degree of scientific consensus
- Neither politicians nor the public automatically heed experts' warnings
- Political action does not necessarily flows from the quality of the science alone
- More and better information will not lead to political action and public consent



## Paradoxical consequences for science policy

### **Politicizing** science

- while claiming to be neutral, experts engage in implicit and explicit policy *advocacy*
- compel people to act in a particular way

### **Pe-politicizing** policy

- political inaction and vulnerable to controversy
- experts unlikely to fulfill the expectations of decision maker for 'sound' scientific evidence
- predictions of futures change will be uncertain

> Can we wait until the science is ,sound'?



Source: UFZ Leipzig



## Lessons learned

- The equation between ‘success’ and ‘impacts’ (= trigger) has been shown to be too simplistic in empirical terms.
- More and better information is often part of the problem itself rather than the solution.
- The limitations of this approach, however, have become increasingly obvious.
- One-size-fits-all approach is the wrong tool for addressing the needs of transformation if it is based on a too simple model.
- It also points to a deeper problem, which lies in the way the question at stake is framed.



Introduced by J. Habermas (technocracy debate)

Common features: turn

- from the *linear* to the *interactive*, reiterative nature
- from influence and hierarchy to mutual understanding
- from outcomes to processes and procedures
- ‘Bringing the politics in’
- Raising procedural issues like legitimacy
- normative aspects such as fairness and equity

**What Role(s)?**

- improving policy decision
- empowering civil society



## The Transformative Role

- **Experts perform the function of a *filter*:**
  - they communicate political information needs to scientists
  - they transform scientific findings into policy relevant knowledge

### Requirements

- *problem-oriented*: responsive to information demands of decision-makers
- *science-based*: assessing and presenting the status of current research
- to integrate the piecemeal understanding from disparate knowledge domains and disciplines
- to synthesise complex scientific findings in a comprehensive way
- to translate these findings into policy-relevant message



## Honest Broker of Policy Alternatives

Experts as “honest broker” (Pielke)

- to determine what the possibilities are rather than to decide between the possibilities
- to explore choices and various development pathways to the low-carbon society
- to evaluate options and instruments how to address these goals
- Opening up to alternative approaches



## Political Interpretations of Knowledge

In order to meet the information needs of decision-makers

### Challenges:

- to combine the precise statements of science with contested political interpretations of such knowledge
- to address the policy-relevant implications of scientific findings and link them to the core political and cultural problems

### Requirements:

- Understanding of the socio-economic and political processes
- Opening up to alternative paths not previously identified and alternative options not previously considered



## Relevance by Participation

**Involvement** can take a variety of forms: in

- Identifying research issues & setting research goals
- Research
- Discussion about its findings

**To what end?** Participation enhances

- Relevance to users
- Integration of local, traditional or indigenous knowledge
- Ownership
- Translation and adaptation to the local context

→ Enhance the legitimacy and acceptance of transformation-relevant policies



## Boundary Organisations at the Interface

Need to take account the special nature of the tasks facing a hybrid bodies at the interface

- accountable to different communities

### **Structural Requirements:**

- Maintain credibility and trust
- Reconcile democratic values with the need for expert decision making
- Combine public demands for accountability with requirements for scientific integrity and autonomy



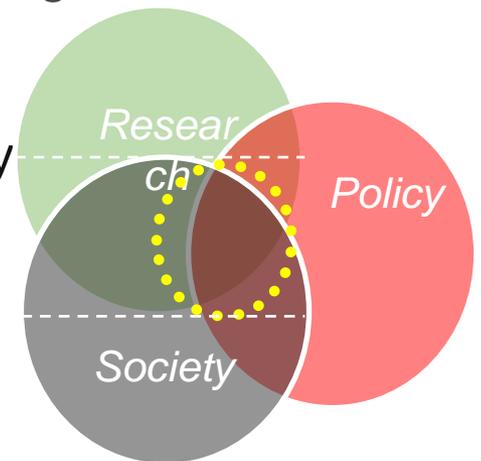
## What Role(s) for Experts at the Interface:

### Boundary organization as sites of hybrid negotiations

- include legislators, technical experts and representatives from other areas of society
  - combine scientific expertise and political representation
  - integrate knowledge, judgment and values
- initiate interdisciplinary, society-wide scientific dialogues

### Requirements:

- Two-way exercise, taking different sides seriously
- symmetrical and reciprocal way
- balance and fair representation



Source: UFZ Leipzig



## The Paradoxical Authority of Expertise

### As a consequence of epistemic and political authority

- experts move to the center of political and public attention
- target for scrutiny

The extent of *politicization* – function/ indicator of their epistemic and political authority.

### Authority and public trust

- open to challenge
- object of negotiation and political choice



## From Truth to Trust

“Under the public microscope”:

- Trust is not just a function of information:
  - “Hey, I’m an expert — you need to trust me”
- > Trust is a function of the authority of institutions and persons
- > Performance and relationship with the public: a willingness to show why experts should be believed (“show your working”)



Source: UFZ Leipzig



## Democratic Accountability

Why should experts respond to public demands for democratic accountability?

- wider public responsibilities of science
- changes in modes of knowledge-making

Demands

- new forms of interdisciplinary scientific judgment and public justification
- accountable, distributed and participatory approach that engages scientists, governments, and publics
- mutual understanding and genuine dialogue



Source: UFZ Leipzig

## Democratic Accountability of Science Policy

### Opening up

- forms of public engagement in understanding the processes and practices
- greater accountability for judgments and choices in organizing science advice
  - improving the quality of the expertise
  - ensuring the legitimacy of the process



## What Roles for Experts?

- The one-size-fits-all model cannot work
- the most appropriate ways vary from case to case and are dependent on the particular context

What role for experts in support transformative policy-making? To

- Compel,
- Inform or
- Empower of decision-making?

How?

- Part but apart of it
- Engaging in public dialogs?



## Open Questions

- What knowledge is relevant?
- What role for social sciences?
- What role for experts?

### *Transformative:*

- To encourage experiments in the sense of common search and learn processes between experts and society
- To be able to seize an initiative and do the unanticipated



## Open questions

Need to

- Distinguish from legitimate and non-legitimate forms of expertise
- Collect examples of “good practices”
- Recognize real life conditions
- Map participation and accountability into the institutional arrangements
- Open up concepts to who design and participate in real-life assessments



## Exercises for self study

1. What characterizes the relationship between science, policy and the public?
2. What are the models and criteria to evaluate the role of experts in transformation governance?
3. What roles can experts play in support of the transformation?
4. What are the major challenges at the science policy interface?
5. What are the requirements for providing effective, relevant and legitimate expertise?
6. How can experts maintain trust and political relevance?
7. Describe the options and approaches for improving expertise.



For more information:

- BMBF-Project 'NESNET – Nested Networks: Neuen Formen der Governance von Forschung' im Rahmen der BMBF-Förderinitiative 'Neue Governance der Wissenschaft' (<http://www.ufz.de/index.php?de=5770>)



### Basic reading:

- Bäckstrand K, Khan J, Kronsell A, Lövbrand E (eds.) (2010): Environmental Politics and Deliberative Democracy. Examining the Promise of New Modes of Governance. Cheltenham: Edward Elgar.
- Jasanoff, S., Wynne, B. (1998): Science and Decisionmaking. In: Rayner, S. und Malone E. (eds.): Human Choice and Climate Change. Vol. 1: The Societal Framework. Columbus, Ohio, Battelle Press: 1-87.
- Pielke RAJ. (2007): The Honest Broker. Making Sense of Science in Policy and Politics. Cambridge, New York: Cambridge University Press; 2007.

### Further reading:

- Beck, S. (2012): The challenges of building cosmopolitan climate expertise - with reference to Germany. Wiley Interdisciplinary Reviews: Climate Change: Vol. 3/1: 1-17.
- Beck, S. (2011): Moving beyond the linear model of expertise? IPCC and the test of adaptation. Regional Environmental Change: Vol.11/ 2: 297-306.

