Dr. Klaus Jacob
Forschungszentrum für Umweltpolitik
Freie Universität Berlin
jacob@zedat.fu-berlin.de
www.fu-berlin.de/ffu

Governance of Research for Society

UAS Spring Campus Berlin: Connecting Communities for Sustainability: Do Universities Matter?

Background: Changing expectations on Science and Research

1. Societal challenges
    1. Mantaining economic prosperity
    2. Achieving Sustainable Development
2. Expectations on science and research
    1. Knowledge based economy
    2. Demonstrating need for action to achieve SD,
    3. options for action for SD:
        1. Innovation: technologies to meet societal challenges
        2. Acceptance for innovation
        3. Social innovation
        4. Evidence based policy making
3. Increased spending: Lisbon agreement, H2020, FONA
4. Re-orientation of research policies: Innovation and Impact

Research with Impact

Examples:

- IPCC, IPBES, IRP, GEO
- Photovoltaic cells, water treatment, waste treatment, fuel efficient cars or e-mobility, …
- Information and communication technologies
- Pharmaceuticals
- GMOs, Climate engineering
- Nuclear fusion
- Car Sharing
- Emission trading

But Research not always lives up to expectations

Failed innovation:

- Contested innovation: technical and economic feasible, large investments undertaken, but contested on the basis of security, social, privacy, ethical concerns
- Unattendend fields of innovation: No immediate economic return, but social needs
- Provision of evidence for decision making: too slow, too narrow, not comprehensive

$\Rightarrow$ reasons:

  - Criteria for evaluation
  - Career pathes
  - Training and incentives

Responsible Research and Innovation

Excellence ⇔ Innovation

+ Science for Society as a third orientation of Research and Research Policies

=> Responsible Research and Innovation (RRI): Science for Society and with Society

- Process to develop collective capacity to be more anticipatory, reflexive deliberative => responsive in terms of goals, directions, trajectories (Owens 2014)
- Key areas of activity:
  - Engagement
  - Gender equality
  - Science education
  - Open Access
  - Ethics
  - Governance

  (EC 2012)

Sustainability Science

⇒ Conceived as applied science to research on SD and options for its achievement on local, regional, national, international level and in different domains (e.g. management, education)

⇒ Specific quality criteria: Knowledge must be sound but also usable

⇒ No accepted quality criteria for usefulness

- Problem orientation
- Interdisciplinary
- Transdisciplinary

Post-normal Science (Funtowicz and Ravetz 1994)

- Issues of health and environment, and related systems: high stakes, high uncertainties and complexities in ethics
- Facts are uncertain, values in dispute, decisions are urgent
- Normal mode of science: Reducing phenomena to simple, atomic elements, controlled experimentation, abstract theory building, full quantification
- Complex systems, context matter: No single privileged point of view for measurement, analysis and evaluation
- Difference between ‚hard facts' and subjective value judgement becomes obsolete

⇒ Extension of the peer communities

⇒ Interactive dialogue between researcher and relevant stakeholder

⇒ Quality criteria are challenged: Credibility, legitimacy and relevancy

Actors and their responsibilities

- Funding agencies (Europe, Member States, private funders): seeking legitimacy for their funding, funding awarded for excellent research or profitable innovation
- Individual researcher: achieving publications, citations, promotion in scientific careers
- Researchers associations: defining criteria for evaluation and promotion
- Universities: promotion of researcher, teaching of young scientists and engineers
- Public and private research organisations: Strategic planning of research, promotion of researcher
- Firms: investing in profitable innovation

⇒ High degree of fragmentation and individual responsibility

⇒ Top down problem solving apparently not an option

Governance

⇒ Steering, regulating individual behaviour and provision of public goods by means of collective action not only from Government but also from private sector and civil society

⇒ Narrow understanding of governance: inclusion of non-state actors in regulation

⇒ Wide understanding: any kind of political regulation/ management of interdependencies regardless of type of actor.

⇒ Refers to structures and process of rule making

- ⇒ Including non state actors (government with society)
- ⇒ Development of structures for regulation in international relations (governance without government)
- ⇒ Increasing importance of multilevel systems (multilevel governance)

⇒ New modes of governance: Policy making without legislation

- ⇒ Self regulation
- ⇒ Co-design of regulation
- ⇒ Delegated regulation
- ⇒ Implementation by publication, reputation mechanisms and learning

Governance of Responsibility: Discourses

Framing the discourse and scoping the challenge:

- Problem and its drivers
- Responsible actors
- Potential solutions

Problems:

- Ethical aspects are insufficiently considered because of lack of training

Vs.

- Research is geared either towards excellence or marketability, neglecting (non-marketed) societal needs which is reflected in the evaluation of research, innovation and the promotion of individual researcher.

Actors and solutions:

- Researchers, their associations and universities: training, checklists, additional funding

Vs.

- Systems of research and systems of innovation: development of a third objective of research and innovation: mainstreaming

Governance of Responsibility: Structures

Top Down:

- Additional Funding
- Further specification of impact criteria and strengthening implementation

Market based:

- Developing a norm for innovation management with explicit consideration of ethical aspects/societal needs
- Voluntary codes of conduct

Networks:

- Platform for research policies
- Platform for funders + public funded research organisations
- Delegation to researchers associations
- Standards for transdisciplinarity

Governance of Responsibility: Processes

Research policies: Reports on/assessment of:

- Policies on RRI: objectives, principles, guidelines for reporting/compliance, standards, roadmaps/action plans, indicators
- Funding schemes

Evaluation of research:

- Integration in evaluation of research programs and performance of research organisations

Inclusion of stakeholder:

- In research programming
- In research projects
- In processes of innovation

Governance of Responsibility: The Demand side

Expectations and preferences of society:

- Gadgets
- Uniformity of science
- Plurality of values
- Opportunities, willingness and abilities to become engaged in scientific inquiries

Expectations and preferences of decision makers:

- Speaking truth to power
- Diversity of science
- Constraints in terms of time, budgets, openness to alternatives

⇒ Demand side research policies needed?

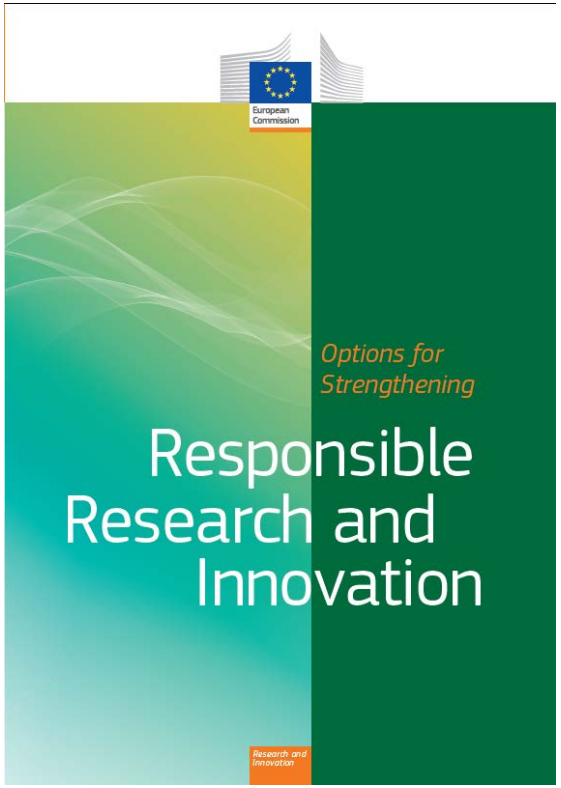
Instruments for Governance of Responsibility

1) Establishing of quality criteria
    - Promotion of researcher
    - Evaluation of research organization
    - Awards
    - Funding decisions
2) Impact measurement (ex post, ex ante)

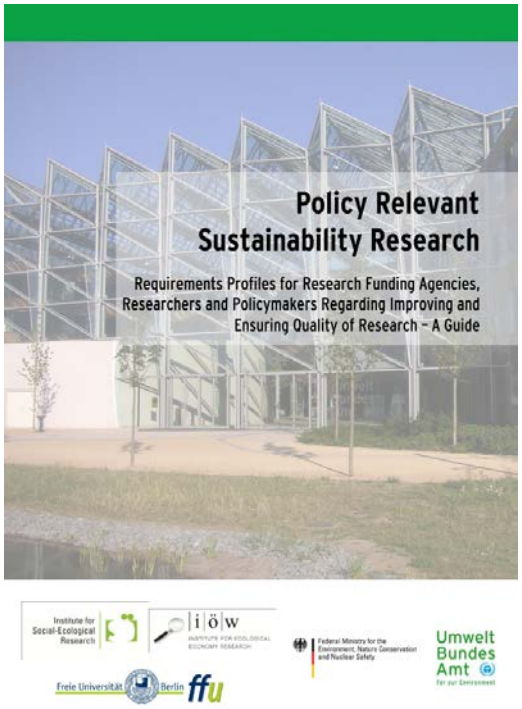
Risks of impact orientation and post normal practices

- No funding for critical science
- Misuse or symbolic use of science
- Credibility of scientists
- Evaluation of scientists and scientific organizations
- Resource requirements for stakeholder
- Resource requirements for scientists

Further Reading



Jeroen van den Hoeven, Klaus Jacob, Linda Nielsen, Francoise Roure, Laima Rudze, Jack Stilgoe (2013): *Options for Strenghtening Responsible Research and Innovation - Report of the Expert Group on the State of Art in Europe on Responsible Research and Innovation.* European Commission, 2013-12



Jahn, Thomas; Florian Keil; Ulrich Petschow; Klaus Jacob (2013): Policy Relevant Sustainability Research. Requirements Profiles for Research Funding Agencies, Researchers and Policymakers Regarding Improving and Ensuring Quality of Research - A Guide Umweltbundesamt