

Politics and governance in sustainable socio-technical transitions

We invite abstracts for papers that discuss the governance of socio-technical transitions to radically more sustainable production and consumption systems. Papers should pay special attention to (A) power & agency, (B) participation & legitimacy, and/or (C) institutions & change. The starting point for discussions is novel recommendations from the ‘transition management’ approach to governing sustainable systems innovation. Our objective is to generate new helpful insights into the complexities of governing sustainable socio-technical transitions.

System innovations for sustainable development

The 2002 World Summit on Sustainable Development in Johannesburg brought forward cross-cutting commitments to a ten-year framework of programmes on sustainable production and consumption systems (i.e. environmentally sound and socially just). An increasing number of governments, businesses and civil society groups are considering how reformed governance might bring such systems into being in areas such as energy, water, housing, food, mobility (e.g. UN Marrakesh-Process).

This commitment for system innovations is based on an understanding that sustainable development requires fundamental structural adaptations to the socio-technical systems that service and co-constitute human needs. The innovation of more sustainable artefacts and practices cannot be effective without changes to the broader contexts in which they are produced and used (e.g. VROM 1999).

Existing sustainability strategies struggle to engage with these complex and extensive socio-technical systems. Existing socio-technical systems are reproduced through the interaction of many different actors, artefacts, institutions and ideas. Structural change tends to be emergent. Steering transitions along pathways that seek the normative goal of sustainability poses considerable challenges. Past transitions have involved contingency, setbacks and shifts. Policies for sustainable transitions need to develop new structures, but often without any clear and well defined consensus about ends or means.

Such complexity begs the questions: is it politically possible to induce and shape sustainable socio-technical transitions, and, if so, how? What kind of governance seems most appropriate for the innovation of sustainable production-consumption systems? How could adequate forms of governance be developed and introduced?

The two sides of the coin: socio-technical systems and their governance

There are two strands of research which are of relevance to the governance of system innovations, but which have had little interaction to date. One deals with the dynamics of socio-technical transitions, and the other with dynamics of governance. Historic

studies of socio-technical transitions are strong on the complex dynamics of structural change, which comprise heterogeneous social, technical and natural actor networks, and cut across multiple levels and scales. However, these accounts tend to underplay the specific conditions for governance given by particular actor constellations, political strategising, discursive orientations and institutional structures, and the political histories that produced them (see, for example, Collingridge 1980; Hughes 1987; Kemp 1994; Rotmans et al. 2001; Rip, Schot 2001; Geels 2002; Geels 2004). Policy recommendations coming from the socio-technical transitions literature tend not to be informed by any analysis of the politics of governance.

Studies of governance, on the other hand, are strong on the intricate working of interests, power, legitimacy and institutions, and how these shape processes and outcomes of policy-making. Explanations help us understand why policies can deviate from initial expectations and scientific recommendations. These analyses, however, tend to view socio-technical change as a black box whose influence upon governance is underplayed (Pressman, Wildavsky 1973; Coutard 1999; Hall 1993; Sabatier 1999; Kenny, Meadowcroft 1999; Knill, Lenschow 2000; Howlett 2004; O'Toole 2004). While providing careful conceptualisations of governance, the dynamics of socio-technical systems appear more simplified and deterministic.

Thus we are presented with a challenge. How to develop more rounded concepts and understandings of governance and socio-technical transitions? How can we incorporate the particular dynamics of governance and the complex ways in which it interacts with ongoing socio-technical change? And how can this more complete understanding help us develop new strategies for governing system innovations for sustainable development?

Exploring the linkages between studies of socio-technical change and governance

The workshop will explore these links. The objective is to foster exchange and understanding between the two research perspectives. Such encounters can generate new insight into the dynamics of the policy process as it interacts with socio-technical change. A consequence, hopefully, will be more politically robust approaches to shaping sustainable socio-technical transitions.

As a point of departure, and in order to cut into the complexity, we suggest taking the specific policy recommendations coming from the socio-technical transitions literature as a starting point. These can be examined in the light of understandings from governance studies.

Research on socio-technical transitions recommends novel policy framings, institutional reforms and intervention mechanisms for initiating and shaping sustainable transformations (Rip et al. 1995; Kemp et al. 1998; Grin, Grunwald 2000; Rotmans et al. 2001; Elzen et al. 2004; Voß, Kemp 2006). On the basis of insights in domains such as energy, water, housing, food, and mobility, suggestions include:

- Creating arenas for civic dialogue between stakeholders, policy domains and professional divisions.
- Developing future scenarios and visions for sustainable production and consumption systems which help orientate innovation activities.
- Nurturing socio-technical experimentation in nascent sustainable niches

- Establishing institutions for first- and second-order social learning that can inform wider systems transformation.
- Maintaining a diversity of options in order to facilitate adaptive capacity.
- Appraising long-term, alternative future scenarios, pathways and constraints for system innovation in an integrated and reflexive way.
- Forming commitments to interlinked processes of social and technological change and co-ordinating strategies amongst stakeholders.
- Processes for monitoring structural change and reviewing commitments.

Implicit in this list is a view of governance that treats policy-making as a fairly rational and self-reflecting ‘black box’, into which information about system sustainability and policy requirements is fed, and out of which flows effective procedures and interventions. It is presumed that the above list can be implemented relatively clearly, and that existing governance arrangements will bend to the logic of the socio-technical transitions perspective.

Yet even with the best will in the world, political systems and governance processes will face considerable challenges in practice. Whilst recent research begins to lift the lid and reveal the complexities of these governance challenges (Berkhout et al. 2004; Meadowcroft 2005; Smith et al. 2005; Grin 2006; Rip 2006; Voß et al. 2006; Smith, Stirling 2006; Newig et al. 2007), much work remains to be done in framing the governance challenges and mapping out research strategies. Clearly, sustainable transition pathways must operate across multiple policy domains; they simultaneously transcend and bring together political jurisdictions at multiple levels; key system dynamics operate beyond the timeframes of electoral cycles; normative discourses around sustainability ‘visions’ and ‘pathways’ confront politically significant interests, and struggle for accommodation within existing institutions; and the essentially contested nature of sustainability suggests that different coalitions will construct the ‘system’ differently and chart contrasting courses for ‘sustainability’.

Workshop organisation: three core themes of governance

The transition recommendations above pose questions about political agency, participatory planning, multi-level governance, reflexive and deliberative policy analysis, and the degree to which political systems can support and learn from diverse pathways towards sustainable production and consumption systems. This touches on core issues that have been of long-standing concern in the study of political systems and the governance of public goods generally, but whose re-consideration with respect to sustainable socio-technical transitions is timely. These core themes are:

(A) Agency & Power: political contests over system innovations

If structural changes to complex socio-technical systems are required, then how do agents try to overcome such complexity and realise strategies for change? How does power permeate and become embedded in socio-technical systems? Alternatively, how do actors come to exercise countervailing power over the system? How does the distribution of power affect capacities for system innovations? How do the dynamics of political systems and policy processes (e.g. electoral cycles, party competition, and bureaucratic politics) relate to transition policy recommendations? How do particular representations of the socio-technical ‘system’ in political interaction come to frame

problem definitions, affect interventions for change, and socially construct the system?

(B) Participation & Legitimacy: cognitive and ethical orientation for system innovations

If new cross-cutting and interactive fora are needed for socio-technical transitions, then how do they relate to established concepts and institutions of democracy (e.g. accountability, concepts of territorial vs. functional representation, input-/output-legitimacy)? What are the bases of legitimacy for different knowledge claims about socio-technical systems and for discourses about pathways to sustainability? How can deliberative processes contribute to a more effective knowledge base for systems innovation? What pitfalls lie in the path of more participatory governance (e.g. governance failure, organisational capacities of societal interests, elitism, and indecision)?

(C) Institutions & Change: conditions of political reform for system innovations

If the introduction of new governance practices is mediated by established institutions, how can reforms allow for genuine innovations in governance (e.g. dynamics of policy change, institutional transformation)? How do existing institutions constrain more reflexive and deliberative governance fora, and how might they be overcome (e.g. institutional path-dependence, policy regimes/paradigms/styles, administrative traditions)? What examples of innovation in governance might offer appropriate lessons for the governance of sustainable socio-technical transitions (e.g. policy learning, institutional reform)?

Practicalities

We are particularly interested in discussing the governance of transitions with respect to core workshop concerns A, B and C. We invite scholars and policy practitioners to present their thoughts and engage in discussion. Papers can be conceptual or empirical in nature, although we encourage both to ground ideas firmly in the practical and normative challenges of sustainability.

Participants will consider how questions of A) power & agency, B) participation & legitimacy, and/or C) institutions & change address the challenges of transforming production and consumption systems. An output of this encounter will be a special issue journal.

The Workshop will take place at “Schloss Blankensee”, a manor-house in a beautiful countryside setting, 30 min by train from Berlin main station. Funds are available to cover the costs of attending the workshop (travel & accommodation).

Abstracts of 500 words that clearly indicate the addressed governance issue of system innovations as well as problem framing, method, and conclusions of the proposed paper must be sent to the organisers by 28 February 2007.

Full draft papers must be made available for circulation among workshop participants by 31 August 2007. Participants are expected to read all papers before the workshop.

Context

The workshop is part of a series of three workshops entitled “System innovations for sustainable development” (see separate flyer attached below) and is endorsed by the working group “Politics & Technology” of the German Association for Political Science (DVPW). The workshop series is funded by the German research ministry’s programme “Socio-Ecological Research” and the Dutch Ministry for Housing, Spatial Planning and the Environment’s “Knowledge Network for System Innovations and Transitions”.

For more information, and to discuss workshop aims and organisation in more detail, please contact one of the workshop organisers. We look forward to hearing from you.

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and Transitions (www.ksinetwork.nl).

Each workshop addresses a key issue of
system innovations for sustainable
development and links up to discussions of
the respective research communities.

Workshop 1 on complexity:

*"Transitions to Sustainable Development:
complexity, co-evolution and governance"*

20-24 November 2006, Egmond aan Zee
organised by Jan Rotmans, DRIFT, and
Karl Matthias Weber, ARC-sys

Workshop 2 on innovation:

*"Innovation and Path Dependency.
Institutions for the management of diversity
in innovation systems"*

16-17 April 2007, Zurich
organised by Bernhard Truffer, EAWAG, and
Harald Rohrer, IFZ

Workshop 3 on governance:

*"Politics and governance in system in-
novations for sustainable development "*

20-21 September 2007, Berlin
organised by Jan-Peter Voß, Öko-Institut,
Adrian Smith, SPRU, and John Grin, UvA

Participation is restricted to 40 participants.
Plenty of time is allowed for discussion on
the issues and themes surfacing across the
presented papers. In addition to facilitating
dialogue, a more tangible outcome of each
workshop will be the publication of an
edited volume or special issue, which draws
upon contributions from the best papers.



System innovations for sustainable development

A series of three international workshops addressing complexity, innovation and governance in restructuring sectoral systems of production and consumption



The challenge

It has been nearly twenty years since the World Commission on Sustainable Development popularised the basic tenets of sustainable development. In the meantime experience has demonstrated that sustainability requires structural change at the overall level of sectoral systems of production and consumption (e.g. in the realms of energy, mobility, water, food, shelter, health care, materials). Such innovation at system level provides a context for more specific innovations on the level of particular artefacts, institutions, ideas, and practices to diffuse and prosper. System innovations will thus become a core concern for sustainability policy.

Pioneers

“Transitions” is a concept through which government, business, science and civil society acknowledge that sustainability demands radical change at a systemic level. In the Netherlands, for instance, transitions towards sustainable systems for energy provision, agricultural production, manufacturing and water management have become a matter of political action, for which the concept of “transition management” is applied. In these transition processes, research activities go hand-in-hand with long-term policy orientation and practical experimentation. Transition management orchestrates these activities that take place in multiple contexts and at multiple levels, aiming to innovate systems of production and consumption and inducing a societal transition towards sustainable development.

These experiences are picked up and mingled with similar approaches by researchers and policy-makers in other

countries and on an international level. As such an international community of “system innovators” is currently emerging at the interface of scientific research, public policy and society.

Integration

Ideas from various scientific streams are being appropriated and adapted in an attempt to help us understand system innovation and transition processes on the macro level of society. Of special importance are complex systems science, innovation studies and governance analysis. Such a multi- and interdisciplinary approach is characteristic for this emerging field of science, which aims to analyse, describe and explain system innovations and transitions.

A purely scientific approach however does not suffice: a trans-disciplinary approach is necessary to gain the input of societal actors on practical knowledge and experience. Moreover, this exchange of knowledge between scientists and societal actors does not follow a linear path, as it rather forms a process of co-production between the parties involved. Social learning therefore forms an important point of departure for this new kind of science: learning in interaction with others, aimed at developing new perspectives on problems as well as alternative practices and patterns of organisation.

Dynamics in focus

Another point of departure for this new kind of science is to take complexity and uncertainty as a starting point, co-evolution being a key notion:

the processes driving system innovations and transitions follow their own internal dynamics and are at the same time interdependent and influencing each other.

Coupling these processes to each other can lead to an irreversible change. Sustainable development also provides a point of departure, as it forms the normative orientation for system innovation research, touching upon the key values in our lives: a balance between social-cultural, economic and ecological values. Thus, a new paradigm is emerging as the basis for a new interdisciplinary, namely that of “system innovation science”, pioneered by transition science and management as an already widely elaborated approach.

Objective of the workshop series

In this rapidly evolving context several research groups from different countries have taken the initiative of organising a series of international workshops on ‘system innovations for sustainable development’.

The objective of this series of workshops is to further explore the content of this new field of science and to make a significant contribution to the dialogue evolving around transitions and system innovations: to analyse overarching concepts, to discuss theoretical building blocks, to study the empirical material that is available, to draw lessons from transition research to date, to debate how a system innovation perspective is reframing the sustainability agenda and to identify key issues for future research.