

# T14P16 / The Role of Public Policymaking in the Termination of Unsustainable Technologies, Products, and Practices

**Topic :** T14 / SUSTAINABLE DEVELOPMENT, ENVIRONMENT AND POLICY

**Chair :** Adrian Rinscheid (University of St. Gallen)

## GENERAL OBJECTIVES, RESEARCH QUESTIONS AND SCIENTIFIC RELEVANCE

Since the 1970s, humankind annually consumes more natural resources than the planet can regenerate. Despite important technological advances in some areas, current ways of doing business are environmentally unsustainable, and the consequences of interlinked processes such as climate change, ocean acidification, deforestation, and environmental pollution could have dramatic impacts for life on Earth. Importantly, a sustainability transformation of the world's economies requires environmentally unsustainable technologies, products, and practices to be terminated.

A focus on the termination of technologies, products, and practices has recently emerged in the technology and innovation studies literature, where these phenomena are described as "phase-out", "exnovation", or "creative destruction" (Heyen et al. 2017; Kivimaa & Kern 2016; Turnheim & Geels 2012). Public policy scholars, on the other hand, have paid scant attention to these problems. This is unfortunate because there is not only wide consensus that public policies are necessary to govern societies into an era of environmental sustainability, but also an apprehension among policy practitioners and stakeholders that strategies to overcome political barriers to termination are urgently needed.

In no other area than in the context of climate change is the necessity of termination more obvious. The Paris climate agreement aims at limiting anthropogenic global warming to well below 2° Celsius compared to pre-industrial levels. This means that 80 percent of the world's coal reserves, a third of oil reserves, and 50 percent of gas reserves must remain in the ground (McGlade & Ekins 2015). However, various studies point to "alarming inconsistencies" between climate targets and public policies enacted so far (Rockström et al. 2017, 1269). In particular, meeting the agreed climate targets means that carbon-based technologies, products, and practices need to be terminated timely (Pfeiffer et al. 2018), which requires "dedicated and well-designed policies" (Edenhofer et al. 2018, 1). Yet, instead of terminating unsustainable technologies, most governments engage in policy layering by implementing support schemes for sustainable technologies, while avoiding to dismantle existing fossil fuel systems (Stokes & Breetz 2018). On the other hand, examples of successfully steered phase-outs exist, such as the Canadian province of Ontario, which became the first North American jurisdiction to terminate electricity generation based on coal-fired power plants in 2014.

The problem of terminating environmentally unsustainable technologies, products, and practices is often boundary-spanning and relevant not only for the energy sector, but also for transportation, agriculture and forestry, and a wide range of industrial sectors. What is needed is a more systematic assessment of the factors that determine the success or failure of termination policies, including a focus on how the design of public policies and policy instruments influences their acceptance among voters and businesses, the configuration of policies as part of entire transformation policy mixes, political opportunity structures, and policy feedbacks.

### References:

- Edenhofer, O., Steckel, J.C., Jakob, M., and Bertram, C., 2018. "Reports of coal's terminal decline may be exaggerated", *Environ. Res. Lett.* 13 024019.
- Heyen, Dirk A., Hermwille, L., and Wehnert, T., 2017. "Out of the comfort zone! Governing the exnovation of unsustainable technologies and practices", *Gaia* 26, 4, pp. 326-331.
- Kivimaa, P., and Kern, F., 2016. "Creative destruction or mere niche support? Innovation policy mixes for sustainability transitions", *Research Policy* 45, 1, pp. 205-217.
- McGlade, C., and Ekins, P., 2015. "The geographical distribution of fossil fuels unused when limiting global warming to 2 degrees Celsius", *Nature* 517, 7533, pp. 187-190.
- Pfeiffer, A., Hepburn, C., Vogt-Schilb, A., and Caldecott, B., 2018. "Committed emissions from existing and planned power plants and asset stranding required to meet the Paris Agreement", *Environ. Res. Lett.* 13,

054019.

Rockström, J., Gaffney, O., Rogelj, J., Meinshausen, M., Nakicenovic, N., and Schellnhuber, H. J., 2017. "A Roadmap for Rapid Decarbonization", *Science* 355, 6331, pp. 1269-1271.

Stokes, L.C., and Breetz, H.L., 2018. "Politics in the U.S. energy transition: Case studies of solar, wind, biofuels and electric vehicles policy", *Energy Policy* 113, pp. 76--86.

Turnheim, B. and Geels, F.W., 2012. "Regime destabilisation as the flipside of energy transitions: Lessons from the history of the British coal industry (1913 – 1997)", *Energy Policy* 50, pp. 35-49.

## CALL FOR PAPERS

The panel on the role of public policymaking in the termination of environmentally unsustainable technologies, products, and practices welcomes both conceptual and empirical papers that advance the state of research. By providing theoretically sound analyses of the key challenges for public policymaking, the choices available for policymakers, the responses taken, and the factors that determine the effectiveness and ensure the social acceptance of termination policies, the panel seeks not only to contribute to current academic debates about the role of public policymaking in sustainability transitions, but also to provide practically relevant insights for policymakers. Given that different technologies, products, and practices are governed by different entities, empirical perspectives might focus on the level of nation-states, but also on the local, regional or transnational level. To build up a promising research agenda for future research, conceptual papers are particularly welcome.

Topics of interest include, but are not limited to the following areas:

- Exploring the usefulness of different theoretical perspectives on the role of public policymaking in the termination of environmentally unsustainable technologies, products, and practices
- Analyzing policy processes in relation to the termination of environmentally unsustainable technologies, products, and practices
- Investigating the impact of legal questions in policy processes related to termination
- Assessing public debates, narratives, and the role of framing over time
- Exploring the political strategies of key stakeholders having an interest in (no) termination (e.g., social movements, incumbent actors)
- Identifying conditions for successful termination

The panel invites advanced as well as young researchers. A variety of disciplinary backgrounds (e.g., Policy Studies, Management, Sociology, Science and Technology Studies) are welcome, as long as the role of public policymaking is an integral part of the analysis. For the nascent line of inquiry addressed by this panel, case studies – potentially also including 'negative' cases – can be particularly valuable, but researchers should reflect well on the selection of cases and the wider implications of their findings in light of their cases. In terms of output, the plan is to put together an edited volume or a special issue of a relevant journal in the field.

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## Session 1

Friday, June 28th 08:00 to 10:00 (MB 2.445)

### Discussants

Giorel Curran (Griffith University)

Silvia Pianta (Bocconi University & RFF-CMCC European Institute on Economics and the Environment)

### A conceptual framework for elucidating how agency shapes discontinuation policies

Mert Duygan (University of Basel)

aya kachi (University of Basel)

Adrian Rinscheid (University of St. Gallen)

### Coalition Building and Normalization dynamics in Ontario climate policy 1998-2018

Heather Millar (University of New Brunswick)

Eve Bourgeois (University of Toronto)

### Policy niche spaces in the termination of unsustainable socio-technical policy regimes: Five lenses to explain the role of local governments in South Africa, 2002-2018

Mapula Tshangela (University of Stellenbosch)

### Political struggles over technology decline: Comparing the discourse on coal phase-out in the UK, Finland and Germany

Jochen Markard (ETH Zurich)

Karoliina Isoaho (University of Helsinki)

### Political feedback effects of coal phase-out

Nicolas Schmid (ETH Zurich)

Egli Florian (ETH Zurich)

Tobias Schmidt (ETH Zurich)