1.1 Enacting Transformative Innovation Policy: A Comparative Study

The world is in transition. Many interlocking environmental, technological, economic, political and cultural trends such as resource depletion, population growth, industrialization, urbanization, inequality or individualization are creating collective challenges (United Nations, 2015) that exceed the ability of any single country, body of governance or scientific discipline to manage them. Our innovation engine is faltering with the fruits of creative destruction increasingly morphing into destructive creation (Soete, 2013). It is amply clear that traditional STI policy has not delivered on these challenges nor are there good reasons to expect that it would do so in the future. Socio-technical systems need to be significantly reconfigured and STI policies re-invented to rise to the grand challenges. What is needed is not just the improvement of existing STI policy but adding a whole new set of rationales and instruments which would amount to a truly transformative innovation policy.

This diagnosis and respective solutions have recently begun to be articulated under many different labels, for example, Responsible Research and Innovation (Stilgoe et al., 2013), inclusive innovation (Agola and Hunter, 2016), social innovation (Joly, 2016) or the governance of sustainability transitions (Grin et al., 2010). While differing in many aspects the basic themes of these approaches seem to be recurrent: attention to alternative futures and the co-production of science, technology and society, emphasis on the non-neutral nature of technology, focus on disruptive socio-technical systems change in addressing societal and environmental challenges, stress on the transformative potential of civil society and attentiveness to the needs and wants of users and non-users alike. This has led to a suggestion that we might be witnessing the emergence of a new framing of STI policy (Weber and Rohracher, 2012; Schot and Steinmueller, 2016), one markedly different from traditional approaches to STI policy-making that have focused on boosting R&D, promoting entrepreneurship or building innovation systems.

While necessary, this shift in focus is also most challenging requiring new skills, new ways of participation, new capability-building, new ways of monitoring, new ways of assessing progress, new ways of managing conflict between stakeholders and so forth. It is therefore informative to conduct an exploratory study on the enactment of transformative innovation policy initiatives. Therefore, the paper focuses on the following research questions:

1. How has the challenge of transformative innovation policy been interpreted in different countries? What kind of initiatives have been undertaken as a response?
2. What are the main opportunities for enacting transformative innovation policy? What are the main barriers?
3. How does the broader national and international context facilitate or hinder specific transformative innovation policy initiatives?

The empirical part of the research is based on case studies of transformative innovation policy initiatives in five different countries, each representing a member of the Transformative Innovation Policy Consortium – Norway, Colombia, South Africa, Sweden and Finland. Cases are selected according to the following principles: 1) directionality: focus on alternative futures associated with technological design choices; 2) goal: focus on grand environmental and/or social challenges; 3) impact: focus on socio-technical systems and system-level issues; 4) degree of learning and reflexivity: focus on second-order learning, problematization of operating routines of different actors and the creation of spaces for experimentation; 5) conflict: focus on disruptive change, possibly resulting in major disagreements between actors; 6) inclusiveness: focus on initiatives with a broad base of participation, including the consideration of non-users as potentially affected parties. The data is collected through semi-structured interviews, innovation history workshops and the analysis of policy documents. We present a comparison of different factors facilitating or hindering the evolution of transformative innovation policy initiatives, including the role of wider context (country-level and international developments) in shaping these dynamics.
References


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