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Transformative Environmental Policy –
An approach for the governance of sustainability transformation(s)?

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Abstract

In this article, we develop the concept of *transformative environmental policy* as a complementary field of environmental policy, which addresses on-going processes of societal change and utilizes them for achieving environmental sustainability. In our view, transformative environmental policies are not replacing other environmental policies that protect natural resources or reduce emissions or such policies that aim to integrate environmental concerns in other domains of policy making. Instead, transformative environmental policy is focused on on-going societal change.

The concept of transformative environmental policy is based on the assumption of limited government's capacities to plan and steer societal transformations. Based on this assumption, it suggests three key elements of governing transformative change: 1) a systematic observation and analysis of processes of societal change, 2) identifying issue areas and action fields which are critical for societal change even if they are beyond the traditional responsibility of environmental departments, and 3) the development, support and review of experiments which have the potential of re-directing societal trends towards sustainability.

The concept is based on the notion of transformation as a co-evolution of different societal systems, and in particular technological systems, culture and institutions. There is no single determinant that is causal for transformation, and certainly not a single governmental intervention. Instead, transformations are the result of a dynamic interplay between different systems and innovation.

The concept seeks realistic opportunities of influencing societal transformations towards sustainability. It is a characteristic of transformations that the direction and the pace of change are disputed. This is also the case for transformations towards sustainability: Different actors compete on the framing of visions which may guide such transformation. They range from green economy-visions of industrialized and globalized societies to post growth-visions and regionalized societies.

The paper is organized as follows: The first section discusses questions on the characteristics of societal transformations, the drivers and actors of transformation based on a review of literature. The second section summarizes findings from an analysis of visions of transformations towards sustainability. The third and final section develops the concept of a transformative environmental policy and discusses the implications for policy making and opportunities to govern transformative changes.

Content

1 What are Societal Transformations?

Societies continuously face incremental and occasionally fundamental changes. What is perceived as 'normal' habits, institutions, technologies or culture is historically and spatially contingent. A given state of a society can be considered as an equilibrium of a system: societal developments take place within a framework of institutions, culture and technologies without questioning their basic design. The different domains of the system are stabilizing each other because they mutually fulfil functions and provide services for each other.

Transformations or transitions are processes of change during which this equilibrium is challenged and that lead to a new equilibrium of technologies, institutions and culture (e.g. Geels 2002, 2004). They are a result of multiple innovations in possibly all of these domains as a result of changes within them and through co-evolution between these different subsystems (Geels 2005; Foxon 2011). There are many examples of such co-evolutions. The analysis of the Industrial Revolution as The Great Transformation by Karl Polanyi is pivotal for this: new technologies, most visible the steam engine, the invention of the liberal state guaranteeing property rights, the emergence of capitalism, rapid increases of population and urbanization were at the same time causes and effects of this transformation. The feudal societies were replaced by and transformed to industrialized societies (Polanyi 1944).

There are many other examples of transformations: the transformation in post-socialist countries (Fischer 2010), the emergence of modern China, the Internet and its far reaching impacts on societies. Other well-studied examples of transformations are system innovations in energy systems (e.g. the shift from wood as the primary source of energy to coal and oil), transport (e.g. the replacement of sailing vessels by steamships), food systems, housing and others. Research on transformation (or transitions) has attracted a large number of scholars (e.g. Elzen et al. 2004; Raven 2007; Grin et al. 2010).

When comparing the different transformations, which have taken place, a number of common characteristics can be identified (e.g. Grin et al. 2010; Geels 2005; Nill 2009; Jacob et al. 2015a with additional references):

- Transformations are the result of the already mentioned **co-evolutionary developments** within and between subsystems of society (objects of change may be societies, sectors, technological systems, organizations, etc.).

- Technological, organizational or social innovations build niches that challenge and potentially de-stabilize the existing landscape and trigger co-evolutionary developments in other subsystems.

- This co-evolution of the different parts of society takes place in phases of **accelerated** change.

- These phases of accelerated change are characterized by a **higher frequency of innovation and experimentation**, as compared to the previous and following states of equilibrium. However, only a **small share of the innovations is successful** in becoming the dominant design and thus shaping the direction of transformation.

- **Old and new** – be it technologies, cultures and institutions – **co-exist and compete** with each other during the transformation.

- Finally, the conclusion of a transformation is marked by a **new equilibrium** with new dominant institutions, cultures and technologies.

The concept of transformation implies that there is no single causal factor that initiates a transformation. Unlike frequent assumptions, it is not one single innovation, e.g. the steam engine, the internet, etc. – but the combination and the interplay of different factors (technologies, institutions, cultural practices, etc.), which are characteristic for a transformation.

Furthermore, the institutions, which are shaping transformation processes in different societal subsystems, are subject of change themselves. This means that planning a transformation on the drawing board or directly steering it is hardly possible. Therefore, given the limitations of modern government, the notion of transition management (Rotmans et al. 2001; Loorbach 2002; Kemp and Loorbach 2006) or expectations of transformations as a strategically steered process appear unrealistic (Smith et al. 2005; Jacob 2007).

This is why some scholars, as well as political actors, are placing emphasis on cultural change as the key driver of transformation and disregard governmental policies almost completely (e.g. Welzer and Wiegandt 2011; Paech 2012). In this understanding, pioneers are demonstrating the feasibility and attractiveness of innovations and are initiating changes. Examples for such pioneers are transition towns, examples of sustainable lifestyles, such as sharing economy, urban gardening, etc. In this view, governments are more likely to inhibit change and stabilize existing regimes than to support change.

2   Competing visions of Sustainability Transformations

The notion of transformation does not necessarily entail change and development towards sustainability. In fact, many transformations have contributed to economic growth output and thus an increase of resource-use and emissions or have challenged social cohesion instead of contributing to sustainability.

An increasing number of scholars and political actors argue that the challenges of sustainability imply fundamental changes to economy, society, culture and governments. In recent years, a number of politicians have argued for a green industrial revolution (e.g. the former president of Germany Köhler, US president Obama, the president of the European Commission Barroso or the former German environmental minister Gabriel) (see also Rifkin 2011; Jänicke and Jacob 2013). The notion of a Green New Deal accompanied the financial

crisis of 2008 and subsequent years. More recently, a "Great Transformation" was called for and a new Social Contract was proposed that carried sustainability requirements at its core (WBGU 2011). Others actors have called for models and visions of economies, which are not based on ever increasing economic growth, but focus on well-being and immaterial human needs (e.g. Jackson 2009; Paech 2005; 2012).

The underlying world views and visions on how future sustainable economies and societies should (or have to) look like, vary considerably. We analyzed a number of forward looking studies, scenarios, visions with regard to their respective perspective on transformation[1]. The questions for the analysis were: What are in the respective contribution the objects of transformation, what are drivers of change, which actors should take what responsibility, in particular: what is the role of governments in the respective approach? The analysis was focused on utopian visions: they all describe desired futures, including social as well as technical-economic visions. They describe a future, which is different from the present and certainly difficult to achieve, but which function as a mirror for present societies and are suitable to link with contemporary discourses in order to identify necessary changes.

A large number of studies and policy documents have been published in recent years, e.g. by the United Nations Environment Programme, European institutions, the Organization for Economic Co-operation and Development, national agencies, advisory councils, think tanks and academics. Many of these studies develop long-term visions up to the year 2050.

Out of the quantity of studies, we selected ten documents, which cover a wide range of different understandings of transformation, for a detailed analysis (see Jacob et al. 2015b for the selection of studies and the methodological approach). Based on the analysis, we identified four different types of visions with different perspectives on how a sustainable future should look like and how this eventually could be achieved.

1) **Green Economy visions:** they put an emphasis on structural change of economies and innovative technologies. By means of policies to internalize external effects, providing incentives to maintain ecosystem services, increase energy and resource efficiency, ultimately a green economy will be established, which serves the needs of consumers in an environmentally sustainable way. The visions expect potentials for economic growth and employment; they do not question individual needs and behavior. Cultural change is not central to these concepts, instead change is caused in an interplay between the economy and its regulatory framework.

2) **Post-Growth visions:** in contrast to visions of a green economy, these concepts question the ability of the current economic systems to adapt to the challenges of sustainable development. They state that short-termism and orientation towards

[1] The selected documents were: AASA 2012; Jackson 2009; Leggewie and Welzer 2009; NEF 2009; OECD 2011; Seidl and Zahrnt 2011; UBA 2010; UNEP 2011; WBGU 2011; Wuppertal Institute 2008.

economic growth dominate the current development paradigm and that the planetary boundaries are not taken into account. Moreover, they criticize that human needs cannot be satisfied by additional goods and (marketable) services only. Additional consumption of goods and services provide little additional marginal utility. Instead a good and satisfactory life and well-being is derived also from immaterial goods, values and culture. According to this perspective, a reduction of consumption and work time, even with losses in monetary income, may still improve the quality of life if and will be supported by an adequate culture that values not only personal relations and community, but also accepts the limits of the planet. In such a culture, voluntary reduction of consumption is not perceived as a loss, but instead acknowledged as an improvement of quality of individual life and a contribution to society. Frequently, a fairer and more equal (re-)distribution of economic resources (e.g. basic and unconditional income) is seen as a prerequisite of post-growth economies. Apart from the redistribution of incomes, governmental policies hardly play an important role in these visions as a driver of change. Further, economic growth is mostly considered an independent variable and a decline of growth rates or even shrinking of the economy is accepted as a result of cultural changes. Few and only academic authors explicitly propose a deliberate de-growth (e.g. Latouche 2004; Schneider et al 2010; Martinez-Alier et al. 2010).

3) **Visions of regionalized economies:** Some studies and concepts focus on globalized economies as the main obstacle for sustainability. Therefore, a re-regionalisation with regional economic cycles should be established. From this perspective, it will reduce pressures on the environment and allow for more citizens participation. Such an economic model would require far reaching cultural changes, which is in many cases similar to the change expected or proposed in post-growth visions. Similarly, the role of governments is hardly substantiated and remains unclear.

4) **Visions of reformed statehood:** Contrary to the other visions, some visions focus on statehood and the way decisions are taken. These visions emphasise the limitations of nation state and representative democratic systems with parliaments in its core to cope with the requirements of sustainable development. Because of the global nature of the challenges and because of the needs for long term policies, they emphasize on the one hand the need for strong international institutions to regulate and preserve the global flow of resources and the global common goods. On the other hand, they propose a strengthening of the sub-national and local level of decision-making. Thus, citizens can better participate in decision-making. Further, it is proposed to better integrate experts in decision-making on all levels. All of these proposals suggest that societies should place more emphasis on the common good and thus focus on long-term and global aspects of decision-making.

These stylized summaries illustrate the range of competing visions for sustainable future societies and economies. Depending on the underlying world views with regard to the cau-

salities of a transformation and the desired direction of change, the visions propose and legitimize different courses of action in today's present. The visions place emphasis on different levers of change (culture, technologies, and institutions), causalities between different domains and they certainly entail different ideas about how a future society should look like. Similarly, individuals, their role in and relationship to society vary as much as between different visions as do the economy and governments.

There is no vision that can be planned and prescribed for a society, which may guide present actions, but instead policy making takes place in the context of competing visions for a sustainable future. In a transformation, it is not possible to foresee which vision will be dominant in a future equilibrium. Policies that aim to influence and to utilize processes of transformation may take up such discourses and processes of societal change for their own purposes. The concept of a transformative environmental policy, as outlined in the following section, starts from the premise to take up societal changes and shape them in a way to advance environmental and sustainability goals.

3 Transformative Environmental Policy: Greening of Societal Change

Environmental policies have been firstly established to preserve the natural environment by limiting harmful emissions and the overuse of natural resources. Institutions have been established to protect air, water, the climate, biodiversity, soils, etc. Secondly, environmental policies are addressing the consideration of environmental concerns in other domains of policy making: patterns of emissions and resource use are largely determined in sectorial policy domains (industry, agriculture, education, infrastructure, energy, housing, transport, etc.). Environmental Policy Integration (EPI) is considered as a necessary and complementary field of environmental policies in order to provide greater coherence.

The transformative logic of addressing and utilizing processes of societal change for a transformation towards sustainability could be a third domain of environmental policy – not replacing but complementing the existing instruments. Processes of societal change cannot and should not be planned and prescribed in liberal societies. However, ongoing changes can be re-framed and influenced by policy measures and thus be utilized for achieving societal goals. Societal changes do not consider the concerns of the environment and sustainability. In fact, many trends in society are initially not related at all or intended to the environment, but have environmental implications. However, there are trends with considerable potential to benefit the environment: changing attitudes about employment and work-life balance, ubiquitously available internet, demographic changes, urbanization, increasing demand and emphasis for high quality in education, etc. The core idea of the concept of transformative environmental policy is thus, to use the limited capacities of government to influence society to take ongoing trends, identify their impacts on the environment and to give them a direction that leads to less environmental degradation and emissions. This can be done by experimenting to create innovations, by identifying those among them that are suitable to be up-scaled from niche to mainstream and thus to ad-

vance sustainability. Demonstrating the feasibility and attractiveness of such (technical and social) innovations can ultimately lead to them becoming mainstream in society.

There are some examples of environmental policies that have successfully made use of on-going societal changes. For example, the increased awareness of and demand for healthy food is partly the result of linking the issues of animal welfare and environmentally intensive agriculture, changing mobility and consumption patterns have led to a growth in bicycle traffic and increased demand for car-sharing and the "Bürgerenergiewende" (citizen-organized energy transition) combines technological changes in energy generation and changes in the market structure (from large to smaller scale structures), accelerated by a criticism towards the 'old' energy policy and its actors and by policy measures (feed-in tariffs). We argue that such an approach can be applied to other domains of environmental policy as well..

The key elements of such an approach are:

- **Observation and analysis of on-going societal changes**: a systematic analysis and monitoring of relevant trends should be part of environmental policy making to understand potentials for influencing on-going societal developments. This would entail social and technological innovations even if there is no immediate relationship to environmental issues. This way, successful pioneers and innovations can be identified that may provide direction to societal change and whose innovations can be amplified. Monitoring relevant processes of societal and technological change would be a task for all areas of environmental policy making.

- **Framing of issue areas**: When moving from analysis to action, it would be necessary to explore possible action fields broadly and certainly beyond the traditional understanding of the responsibility of environmental policies. The challenge is to define issue areas broad enough so that they encompass relevant subsystems in order to make use of potentials for co-evolution. This may be the infrastructures, innovation systems, the culture, the underlying social systems or financial institutions which are enabling factors for societal change at stake. The lever for achieving environmental sustainability may be in many cases beyond the scope of environmental protection.

- **Experimentation**: The implementation of transformative environmental policy should make use of experiments to search for those innovations most likely to be picked up by society while advancing sustainability goals. By demonstrating the feasibility of societal change towards environmental sustainability, such experiments would ideally lead to a co-evolution of different social systems. Experiments may be environmental policies, technologies or social innovations which are addressing trends of societal change and may lead to examples and role models which can be scaled up. However, given the openness of transformations and the competing visions it may very well be the case that experiments fail to effectively impact socie-

tal change and are not taken up. One central challenge for governments is to accept such failure as a necessity to finding better approaches. This approach requires constant reviews of experiments, and maybe, for some, also their termination. The challenge will be to identify the right moment and the right scale when to scale them up or terminate them. For the latter there may be political tension particularly in such cases where actors develop stakes in experiments, and argue for extension and upscaling.

We will now use the field of employments and activities to exemplify the three elements of the concept. There are a number of – partially competing - **trends** suggesting a departure from the 20th century standard model of full-time, indefinite employment. Depending on the worldview of actors, different trends are considered as relevant: Some point to an emerging green economy, with structural changes and a need for new and different types of qualifications. Others argue for a regionalized economy, which again would imply different types of jobs. Demographic changes are an important context in all visions of future employment. Again others point to a cultural shift in attitudes regarding employment: while paid employment was important not only for income but also for gaining social status, well-being is increasingly derived from non-material sources such as the quality of relations. Therefore, people are increasingly favouring non-paid voluntary activities in families and social networks over paid jobs.

Societal trends like this take place on their own and exert relevance **beyond the classic realm of environmental policy,** through which environmental policy can advance sustainability in society more broadly. Regardless whether this future economy is a globalized green economy, a post-growth or a regionalized economy, the field of employment and activities is crucial for it and its sustainability. The trends are enabled (or inhibited) by systems of social security, by the education system, by the culture to award voluntary contributions, by technologies that enable structural change or community work.

Within these action fields, it would be possible to pursue **experiments** to identify innovations demonstrating the possibilities of environmental sustainability of new forms of employment and activities. Just to name a few, specific measures could be: creating a framework that enables people to pursue activities that give meaning in the field of environmental protection; promoting green and decent jobs and ensure that workers are equipped with the necessary knowledge and skills for a green economy; analysing the relationship between greater flexibility in the way we work and the impact on the environment or promoting sustainable life styles in peoples' private lives through practices in their work place. These measures address different aspects of the overall topics – e.g. labour policies, skills and education, lifestyles and consumption culture that are interrelated and are all relevant for the environmental impacts of our economy and way of working. Therefore, these measures should be considered as action fields for transformative environmental policy.

A transformative environmental policy which is based on the three elements (trend analysis, issue framing and experimentation) does acknowledge the limited capacities of governments to influence societal changes and acknowledges that the political process is usually focused on incremental change. Transformative environmental policy in this understanding may not be the decisive factor whether a transformation takes place. However, governments, and in particular the domain of environmental policy, can utilize societal changes as a source of innovation and to make use of innovations in order to foster environmental sustainability.

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