

Energy transitions and deliberate transition management

Implementing the Green Economy

The economic crisis has given new impetus to discussions about green growth and the green economy. But how can the concept of a green economy be translated into concrete action? The field of energy production and consumption provides examples of deliberate transition management.

By Florian Kern

The concept of a green economy combines the promise of continued economic growth with an environmentally friendly direction of travel. Such ideas and terms have recently been very popular with organisations like the United Nations Environment Programme, the European Union and countries such as Germany or the United Kingdom (UK). For example, the British Prime Minister Cameron recently expressed his support for the green economy agenda and declared: “Make no mistake, we are in a global race and the countries that succeed in that race, the economies in Europe that will prosper, are those that are the greenest and the most energy efficient” (cited in: ENDS 2013). Moreover, non-governmental organisations (NGOs) like Friends of the Earth or the Green Alliance promote the concept and the green economy was a key theme in the 2012 Rio+20 Earth Summit. Especially since the notion itself now seems widely shared internationally, it is important to turn to the complex question about how our current economic system can be transformed into a green economy by deliberate policy and political action.

Green economy and energy production

One of the most important challenges of the green economy is the overhaul of the way we produce and consume energy. Current practices in this area are highly unsustainable causing important pressure for change. However, energy infrastructures are expensive and very long lived, as are consumer habits and expectations, and it has proven difficult to develop new business models within the energy sector, sufficiently engage citizens and consumers in the process and widely diffuse low carbon technologies and supporting infrastructures. Over the last few years, several European countries have made attempts at deliberately governing energy transitions towards more sustainable configurations. For example, the UK made a legal com-

mitment in the form of the 2008 Climate Change Act, which requires the government to reduce carbon dioxide emissions by 80 percent by 2050. The government is therefore actively promoting a transition towards a low carbon economy. For that purpose, the government employs a variety of policy instruments including a legal reform of the electricity market to foster investment in low carbon generation capacity and it is currently developing a community energy strategy.

In 2001, the Dutch government committed to the concept of energy transition and has since implemented a variety of activities under the term of ‘managing the energy transition’. In the latest coalition agreement, the Dutch Liberal and Social-Democratic parties agreed that by 2050 Dutch energy supply ought to be fully sustainable. However, progress in terms of the diffusion of renewable energy technologies has so far been slow in the Netherlands. Sustainable energy only accounts for about four percent of the Dutch energy supply (Bosman 2013).

The German Energiewende is perhaps the most successful example of a deliberate attempt to change the current energy system towards a more sustainable configuration. The percentage of renewable electricity has been growing considerably over the last decade and more interestingly, most of this growth originates from small-scale installations, which are not owned by the big utilities. Yet, the Energiewende still faces enormous challenges concerning infrastructure developments, energy storage solutions, costs and the sustainability of jobs, especially in the photovoltaic sector.

Implementing the green economy

How can we analytically understand the challenges of implementing the green economy and derive sensible policy recommendations from this understanding? Previous conceptualisations of green growth or ecological modernisation were often framed in terms of the diffusion of eco-innovations like green products and services (Hemmelskamp/Rennings et al. 2000). The role of governments was often perceived as one of providing favourable regulations and incentives for green innovations in so-called ‘lead markets’ which would capitalise on ‘first mover’ advantages when the greener product or process diffuses more widely (Jänicke/Jacob 2005). While such conceptualisations are helpful, it also became apparent that achieving a green economy requires systemic change of production and consumption systems rather than the relatively straightforward diffusion of new products and services.

*“Broad political coalitions
are required
to empower alternative
greener systems.”*

In light of this acknowledgement, scholars started to focus on the socio-technical regimes fulfilling needs such as mobility, food provision or energy, the dynamics through which such systems change and how they might be governed (Geels 2002; Smith/Stirling et al. 2005). The main claim is that systemic transformations of such systems require changes in markets, institutional frameworks, policies, consumer practices, infrastructures, industrial structures, technologies and culture – rather than just the diffusion of greener products. In this context, a group of Dutch scholars developed a ‘Transition Management’ (TM) model (Rotmans/Kemp et al. 2001). Central to Transition Management is the development of shared visions of the future, the setting up of stakeholder arenas and conducting experiments to explore possible pathways towards more sustainable systems as well as putting the existing regime under pressure. Transition Management has received praise for being an innovative way of thinking about sustainability challenges. Its long-term sustainability orientation, its focus on learning and innovation, its elaborate process architecture, its theoretical underpinnings in a sophisticated understanding of processes of socio-technical change all contributed to the appeal of the Transition Management model.

However, in terms of the implementation of this model in the Dutch Energy Transition project, led by the Ministry of Economic Affairs, the results were less encouraging. One major concern was the democratic disconnect of the project and its capture by the dominant energy industry (Kern/Smith 2008). Hendriks criticised a lack of inclusivity of the project, which is dominated by industry and government elites, neglecting broader democratic engagement. Institutional changes which resulted from the project, such as the setting up of the transition task force, were criticised as being “reminiscent of neo-corporatist (Dutch polder model) policy-making” and “in practice transition management replicates the very kind of network structures that transition scholars suggest we avoid” (Hendriks 2008: 1017). Despite the suggested focus on frontrunners, policy makers fell back on ‘the usual suspects’ and implemented the Energy Transition project according to the dominant administrative culture. This meant focussing on energy regime incumbents, narrowing down the choice of experiments and transition pathways and focussing on technological issues rather than wider socio-technical change processes. The new policy ideas also clashed with the dominant liberalisation agenda promoted by the Ministry of Economic Affairs (Kern/Howlett 2009). As a consequence, it has been argued that it is doubtful whether the Energy Transition project will achieve its original ambitions (Kern/Smith 2008). While initially the project survived several changes in government and influenced at least energy innovation policy, the programme was eventually abandoned in 2011.

Equally, the implementation of the Transition Management model in Flanders, Belgium in two different policy fields (waste & materials policy and housing & building) proved to be challenging (Paredis 2013). While enthusiasm for this approach

by policy makers and stakeholders prevailed initially and a new discourse and new networks of actors were created, tangible results have been difficult to obtain and it has been demanding to influence ‘regular’ policymaking processes and existing institutions. Paredis argues that after guiding the initiation of the transition process, Transition Management has little to offer in terms of how to gain wider influence and change structures. He concludes that actors “have to show active agency that looks for couplings with ongoing trends and processes, that tries to change regime rules, that searches confrontation with dominant discourses, and that engages with institutionalisation. All this has to be realised while trying to cope with institutional inertia and existing power relations. This is no longer the terrain of transition management, because neither the theory nor the practical guidelines have anything to say about this kind of agency” (Paredis 2013: 333).

Accelerating the transition process

This experience illustrates several challenges, which are prevalent features of governing transitions towards the green economy. One of the challenges is to understand how green niche innovations can be ‘nurtured’ and upscaled to overturn existing socio-technical systems (Smith/Raven 2012). What are successful strategies by green advocates to gain political support, funding, attract new actors to build coalitions, develop supply chains, etc.? Is such nurturing necessarily temporary or will sustainability criteria need to be engraved into the institutional system more permanently as has happened in the past with supportive policy and institutional environments for fossil fuel and nuclear power based electricity or for the car mobility paradigm?

As Germany is currently experiencing, it is no easy political task to phase out powerful incumbent industries, which have been supported for many decades and for which current socio-technical arrangements have been optimised. This feature suggests that powerful and broad political coalitions are required to overcome such inertia and to shield and empower alternative greener systems. The Dutch experience also shows that institutionalisation is crucial to avoid de-railing with every change in government. Finally, the experience with the Transition Management model suggests that institutional settings and history matter when trying to implement a change pro-

cess of this nature (Kern 2011). The Dutch Transition Management model might be too much informed by the Polder model culture to serve as an exemplary experience for other countries (Heiskanen/Kivisaari et al. 2009). Despite the fact that Transition Management proponents developed the model intending to break with the consensus orientation of the Dutch Polder model and arguing instead that a focus on frontrunners is necessary, the implementation followed this consensus-oriented tradition clearly demonstrating the weakness of this governance model. A wide-ranging consensus-based coalition including the incumbent industry players will probably not bring forward any visions for radical change.

Overall, there might be no 'one size fits all' model of how to govern transitions towards green economies. Instead, research needs to focus on the specific opportunities a particular political system provides. The experience in Belgium further indicates that the Transition Management model might be good at initiating the difficult journey towards the green economy by developing visions for alternative futures and bringing together coalitions of like-minded actors, but that other kinds of policy mechanisms and institutional processes might be required to really drive forward and accelerate such processes. While transitions are deeply political and therefore require transparent political deliberation and negotiation (Lehtonen/Kern 2009), a widely shared consensus might not always be the best way forward. Transitions towards a green economy will often produce winners and losers and compensating losers might be part of the political bargain.

Conclusion

Overall, the argument is that systemic change is crucial in implementing the green economy. Relying purely on the diffusion of new and existing green products and services is insufficient. Therefore, research on how to implement the green economy in energy and other sectors should engage not only with the technical and economic challenges of the innovation and diffusion of green technologies but also pay attention to the political difficulties, the cultural obstacles, the infrastructural challenges, the required changes in markets, new business models and social practices. Studying the green economy requires working and collaborating in interdisciplinary teams including expertise in engineering, economics, policy analysis, sociology, psychology and other disciplines with relevance to the transition.

Transition governance towards a green economy calls for powerful and broad political coalitions, societal negotiation processes about desirable directions and actions by a variety of actors including governments, civil society, non-governmental organisations, businesses, consumers and citizens. A social science research programme aimed at assisting the transition to green economies should facilitate such learning processes and provide independent expertise and advice to decision makers, stakeholders and the general public.

References

- Bosman, R. (2013): Big ambitions, little action. Energy transition in the Netherlands. <http://www.renewablesinternational.net/energy-transition-in-the-netherlands/150/537/62014/>.
- ENDS (2013): Cameron talks up energy efficiency and green economy, 6 February 2013. <http://www.endsreport.com/index.cfm?go=37372>.
- Geels, F. W. (2002): Technological transitions as evolutionary reconfiguration processes: a multi-level perspective and a case-study. In: *Research Policy* 31/8-9, S. 1257–1274.
- Heiskanen, E. / Kivisaari, S. / Lovio, R. / Mickwitz, P. (2009): Designed to travel? Transition management encounters environmental and innovation policy histories in Finland. In: *Policy Sciences* 42/4, S. 409–427.
- Hemmelskamp, J. / Rennings, K. / Leone, F. (Eds.) (2000): *Innovation-oriented Environmental Regulation: Theoretical Approaches and Empirical Analysis*. Heidelberg, New York, Physica-Verlag.
- Hendriks, C. M. (2008): On Inclusion and Network Governance: The democratic disconnect of Dutch Energy Transitions. In: *Public Administration* 86/4, S. 1009–1031.
- Jänicke, M. / Jacob, K. (2005): Ecological Modernisation and the Creation of Lead Markets. In: Weber, M. / Hemmelskamp, J. (Eds.): *Towards Environmental Innovation Systems*. Berlin/Heidelberg/New York, Springer, S. 175–194.
- Kern, F. (2011): Ideas, institutions, and interests: explaining policy divergence in fostering 'system innovations' towards sustainability. In: *Environment and Planning C: Government and Policy* 29/6, S. 1116–1134.
- Kern, F. / Howlett, M. (2009): Implementing Transition Management as Policy Reforms: A Case Study of the Dutch Energy Sector. In: *Policy Sciences* 42/4, S. 391–408.
- Kern, F. / Smith, A. (2008): Restructuring energy systems for sustainability? Energy transition policy in the Netherlands. In: *Energy Policy* 36/11, S. 4093–4103.
- Lehtonen, M. / Kern, F. (2009): *Deliberative Socio-Technical Transitions*. In: Scrase, I. / MacKerron, G. (Eds.): *Energy for the Future. A New Agenda*. Basingstoke/New York, Palgrave Macmillan, S. 103–122.
- Paredis, E. (2013): *A winding road. Transition management, policy change and the search for sustainable development*. PhD, Universiteit Gent.
- Rotmans, J. / Kemp, R. / Asselt, M. V. (2001): More evolution than revolution: transition management in public policy. In: *Foresight* 3/1, S. 1–17.
- Smith, A. / Raven, R. P. J. M. (2012): What is protective space? Reconsidering niches in transitions to sustainability. In: *Research Policy* 41/6, S. 1025–1036.
- Smith, A. / Stirling, A. / Berkhout, F. (2005): The governance of sustainable socio-technical transitions. In: *Research Policy* 34/10, S. 1491–1510.

AUTOR + KONTAKT

Dr. Florian Kern ist Co-Direktor der Sussex Energy Group und Lecturer am SPRU-Science and Technology Policy Research an der University of Sussex.

SPRU-Science and Technology Policy Research, University of Sussex, Jubilee Building, University of Sussex, Falmer, Brighton BN19SL, Großbritannien.



Copyright © 2013, IÖW und oekom Verlag. Die Nutzung des Artikels ist Abonnenten von Ökologisches Wirtschaften vorbehalten. Nachdruck und Vervielfältigung des Artikels einschließlich Speicherung und Nutzung auf optischen und elektronischen Datenträgern nur mit Zustimmung der Redaktion von Ökologisches Wirtschaften (<http://www.oekologisches-wirtschaften.de>).