

Organization / Institutions / Governance

1

Chair

Rolf Künneke

Presentation 1

Urban situative governance and electricity projects in Germany

Dr. Gerhard Fuchs, University of Stuttgart

Gerhard.fuchs@sowi.uni-stuttgart.de

A characterizing feature of the presently ongoing electricity transition in Germany is its strong decentralizing character. Many urban and regional actors for a long time now have been addressing the problem of a possible redesign of the energy system. Political decisions like the German *Energiewende* do not only symbolize a possible turn away from a fossil (and nuclear) fuel based energy system and the search for new energy resources but they also highlight that existing governance structures have to change, which coordinate the provision and distribution of energy, the development and diffusion of new technologies, property relations and investment decisions as well as regulatory frameworks and usage patterns.

Energy transitions were in the past a project based on social movement actors, which built up coalitions with municipal actors. The rationale developed in these coalitions soon went beyond a narrow focus on energy and in many cases dealt more with possibilities to strengthen municipal influence on economic activities. Insofar it went straight against liberalization and new public management strategies.

Renewable energies in Germany are predominantly small-scale installations owned by private citizens, farmers, local companies etc. Local governments both try to re-engage themselves in the area of energy as well as they are playing a pivotal role in spatial planning, determining over potential sites for electricity generation. Due to the historical development of the electricity field in Germany local governments furthermore play an important role in handing out local and regional network concessions. The activities of local action groups and local governments challenge the position of the big utilities and are difficult to bring in line with changing political priorities on the state and federal level. Energy thus has become an important contentious policy field on the local level in Germany.

The activities of urban governments are somewhat in between small scale local experiments (e.g. the bio-village movement), which try to involve whole communities and large scale operations (e.g.

off shore wind farms; solar farms) managed by the bigger utilities. The urban level is usually strongly fragmented and lacks central actors to organize coordinated transition efforts. Insofar situated governance structures are developing around specific topics (e.g. intelligent infrastructures), local organizations (e.g. urban utilities), citizen grass root initiatives (e.g. green city) etc.

Local, urban and regional initiatives are often interpreted in the literature as small experimental 'niches': constrained, but also enabled, by wider social and political structures and developments. Niche innovations may lead nowhere – or even serve to reinforce the status quo. Equally, however, they can have far wider implications as well. Implications which are hard to predict in advance, since they are dependent on new cognitive frames, changing economic and political power constellations and innovative measures to become effective. Insofar it is of eminent importance to look at the actors and their resources, the importance of their position within the field under investigation for evaluating their actions and their potential contribution to a transformation of the electricity system towards more sustainability.

The proposed paper will analyze the situated character of urban energy governance in four cases: energy contracting, intelligent infrastructures, power to heat schemes and green energy citizen initiatives.

The analytical approach is based on case studies. The case studies are based on document analyses and expert interviews.

Presentation 2

Anticipatory hybrid governance – a model for peer-to-peer urban futures

Authors: Joni Karjalainen, Sirkka Heinonen

Affiliate: University of Turku, Finland Futures Research Centre, Korkeavuorenkatu 25 a 2, Helsinki, Finland

Corresponding author: joni.karjalainen@utu.fi

Keywords: Anticipatory governance, Decision-making, Hybridity, Peer-to-Peer, Sustainability

Cities are influenced by fast-changing ways in consumption, housing and work. This paper examines a conceptual model of anticipatory hybrid governance in the context of peer-to-peer urban futures. It draws on two recent foresight projects for liveable, economically viable and ecological future cities. The conceptual model draws on the potential of peer-to-peer (P2P) networks in shaping urban futures (Fattah 2002; Kostakis & Bauwens 2014). In a peer-to-peer society, self-organising citizens act and cooperate through voluntary cooperation as a distributed network of equal partners, aided by ICTs. Peer-to-peer principles align with demands for civil society participation for

creating liveable cities and tackling wicked problems, including climate change and energy transition. At the same time, the speed of technological change (Mega 2010) challenges governance strategies and practice. Hence, the futures of cities need to be better anticipated (Fuerth 2009, 2011, 2012). Self-governed peer-to-peer approaches add legitimacy to governance with grassroots experimentation and spontaneous behaviour, with the potential for cities to better meet the needs, values, cultures and expectations of their citizens (Fattah 2002). Peer-to-peer enables the do-it-yourself (DIY) attitude of citizens, aligning with the ideals of deliberation (Dryzek 2000, 2010). The model for anticipatory hybrid governance proposed in the paper is elaborated through three principles (foresight, partnerships, digitalisation) and two conditions (renewable energy in a circular economy and ecological limits). Anticipatory hybrid governance as a conceptual lens clarifies the principles of governing city spaces, while responding to emerging pressures. The aim is to refine the governance model for enabling transformations for ecologically smart and liveable cities.

Presentation 3

Distributed Renewable Energy in Chinese Cities – the role of rooftop PV in low-carbon, smart city projects

Marius Korsnes, marius.korsnes@ntnu.no

Keywords: Distributed renewable energy; China; Socio-technical perspective; Rooftop-PV

Could fit with panel: Debizet; Yalicin & Tabourdeau: Urban energy transitions: emergent intermediaries and the need to connect energy flows

This paper presents initial findings from a recent three-month field study conducted in one urban (Beijing) and one rural (village in Shandong) location in China, between April and June 2018. The research focuses on the role of rooftop PV systems in Chinese smart eco-city projects, and contrasts these with more rural application of these systems. China's investments in solar PV have been explosive, with an astounding 53 GW in solar installations added in 2017, of which 20 GW was distributed PV projects (rooftop PV and ground mounted). This rapid development has continued in 2018, and within the first quarter China added 9.65 GW of PV, and distributed solar PV accounted for the majority of new installations at 7.69 GW (CNREC 2018). Making use of in-depth interviews with policy makers, urban planners, grid-operators, as well as site-visits with industry and commercial rooftop PV, the paper goes into more detail investigating the reasons for increased use of urban, rooftop PV in Beijing, as well as consequences this development has for operating local grid-networks and implications on energy use. Using this bottom-up perspective, the paper finds that, contrary to expectations, the use of distributed renewable energy systems such as rooftop PV is only very marginally connected to the over 400 smart, eco-city projects in China. Although rooftop PV is relatively prevalent in Chinese cities, these have emerged mainly due to considerations for 1) higher electricity prices for industry and commercial businesses making the investment interesting, 2) large degree of curtailment in centralized large-scale PV projects, lowering profits, and 3) much of the best solar sites for large-scale PV have been taken, making urban, rooftop-locations more

attractive. Based on these initial findings, the paper discusses the low-carbon implications of this distributed PV development in China, and contrasts them with rural PV projects. This discussion is taken as a point of departure to offer concrete policy lessons and suggestions for improved integration of distributed solar energy, applicable also outside of China.

Presentation 4

Strengths and constraints of municipal utilities acting in support of distributed renewable energy. Munich utilities' activities as an extreme case.

Key words: Municipalities, ownership, governance, democracy, communication strategy

Laura Müller & Philipp Späth*, Freiburg University

* corresponding author, , spaeth@envgov.uni-freiburg.de

A shift to decentralized renewable energy systems may also foster democratic development of societies: by decentralizing economic and political power; by normalizing public control of energy production and consumption and by developing new organizations, ownership models and financial investment systems (BURKE & STEPHENS, 2017).

In this context, Germany with its national renewable energy law and strong public support is often mentioned as a role model (GEELS u. a., 2017, S. 201). However, as continuing struggles about the development of German energy legislation indicate, our understanding of the interests involved and of the underlying economic and political processes still needs to be significantly improved.

While the German Energiewende since the early 2000s became famous for the active involvement of citizen groups in energy investments, recent changes in the law have significantly limited the role of civic and small scale actors. In the future, digitization will open up new avenues for aggregation, organization and intermediation. All these developments translate into a great need for research of different actor constellations and their possible contributions on two levels: a) changes in material infrastructures, investments and ownership constellations and b) changes in ways of governing and controlling such changes. While small-scale, "bottom-up" initiatives can very importantly contribute to a sense of ownership among participating actors and function as a learning ground for democratic conduct (level b), municipal utilities can achieve significant shifts in financial flows and investment strategies (level a).

The Capacity Build-up Strategy (Ausbauoffensive) of Munich's utilities SWM are an outstanding example in this regard. With this strategy, SWM aims to become the first energy provider of a large city that produces energy 100% out of renewable resources in self-owned facilities.

Aim: We want to understand the potential of such an investment strategy of a municipal utility with regard to levels a) and b), whether there are trade-offs and what factors determine such potentials.

Methods: As a first inroad to answering such questions, we focus on strategies of communicating and shaping such ambitions within the utility organization and to external stakeholders.

Specifically, we try to understand communicative processes that lead to one specific policy outcome (the “Ausbauoffensive” as it was implemented until now.) on basis of in-depth interviews with involved professionals.

Expected results: Overall, this research shall provide an inside-out –actor-perspective on the evolution and implementation of a specific DDRE policy as a basis for a better understanding of the agency and constraining factors that shape DDRE transformation processes in general.