Sustainable urban regime adjustments

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ABSTRACT

The endogenous agency that urban governments increasingly portray by making conscious and planned efforts to adjust the regimes they operate within is currently not well captured in transition studies. There is a need to acknowledge the ambiguity of regime enactment at the urban scale. This directs attention to the transformative implications of conscious strategic maneuvering by incumbent regime actors, when confronting regime structurations. This article provides insight to processes of regime enactment performed by local governments by applying a flow-oriented perspective on regime dynamics, inspired by Actor-Network Theory to demonstrate that regime incumbent actors *can* induce gradual regime adjustments at the urban scale. This is done through a case study of an urban development project, where the Municipality of Egedal in Denmark has successfully promoted energy efficient buildings through adjustments in existing planning and building procedures.

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1. Introduction

Urban governments are increasingly adopting transition inspired policy discourses and actions, as the security of ecological resources and climate change have become issues at the urban scale (Hodson and Marvin, 2009). Nevertheless, the urban scale of the city remains implicit or underdeveloped in transitions approaches generally (Bulkeley et al., 2011; Hodson and Marvin, 2010). This is although it is acknowledged that the sustainability challenge is entrenched in the way modern societies have structured their production and consumption of societal functions, such as energy, food, housing, transport and water (Geels, 2011a), which include important structures and practices pertaining to urban contexts.

The conceptualization of the urban scale has especially been addressed in relation to studies of low carbon transitions (see e.g. Broto, 2012; Bulkeley et al., 2011; Schreurs, 2008; Bulkeley and Kern, 2006). A key challenge in this regard is to break with the tendency to conceptualize cities as merely being sites for receiving transition initiatives (Hodson and Marvin, 2010). An example of

this is that cities are conceptualized as early seedbeds for experimenting with and learning about low carbon innovations, hereby providing the location, where different actors interact (Geels, 2011b). This reflects a niche-driven typology of transition processes, where the transition is conceptualized as a process of technological substitution, where technologies first emerge in particular markets or technological niches, where they are nurtured and developed in order to break through in mainstream markets and replace existing systems (Geels and Schot, 2007; Geels, 2006). This niche-driven typology directs attention to regime exogenous dynamics, since newcomers and fringe actors represent the important drivers for transitions, which reduce the ability to conceptualize the more purposive strategies of incumbent regime actors (Geels, 2006).

There is a need to further develop regime endogenous transition perspectives, where the transition process is conceptualized as the result of incumbent regime actors (urban governments) making conscious and planned efforts in response to perceived pressures, using regime-internal resources (Smith et al., 2004). This perspective is especially relevant in relation to low carbon transitions at an urban scale, since the transformative potentials of routinely performed strategic activities of urban governments tend to be overlooked. An endogenous transition perspective is also relevant to consider in the light of studies that show that urban governments, as incumbent regime actors, increasingly make conscious and planned efforts to change existing routines and practices through existing resources within the system (Späth and Rohracher, 2011; Hodson and Marvin, 2010). This endogenous

perspective suggests a need for more institutionally entrenched transition typologies.

In a niche-driven transition perspective, the strategy making performed by local governments, as incumbent regime actors, would traditionally be conceptualized as rule-following activities aimed at stabilizing a prevailing regime. An explanation for this is that the reproduction of shared rules and abstract forms of knowledge is conceptualized at the level of the regime, whereas novelty is conceptualized in the local projects at niche level (Geels, 2006; Geels and Deuten, 2006). This reproductive character of the regime level is also reflected in practice, where strategy making tends to be performed as a rigid sequence of steps, which end up transporting ideas and materials, rather than transforming them (Bryson et al., 2009). Strategy making performed at the urban scale is seldom geared to change direction, to open up new possibilities and potentials, and to move away from previous positions (Healey, 2009). This can explain why there seems to be more talk about cities generating their own energy, than concrete action, as Geels (2011b) critically notes. In order to challenge this discouraging perspective, emphasis is shifted towards the transformative potentials of strategy making performed by regime incumbent actors, like local governments. One way to do that is to bring the performative character of strategy making (and regime enactment) to the fore. This performative perspective helps to recognize that strategy making can also take the form of a socially performed practice, which involves transformative navigating in complex cognitive, behavioral, social and political contexts (Bryson et al., 2009).

The aim of this article is to challenge the rule-based conceptualization of regimes that tends to black box the potential transformative implications of conscious strategic maneuvering by incumbent regime actors. To do that a more flow-oriented conceptualizing of regime structuration processes is suggested by applying Actor-Network Theory as a method for studying regime endogenous agency in transition processes. These flow-oriented conceptualizations are applied on the specific case study of an urban development performed by the Municipality of Egedal in Denmark, since this case illustrates how local governments may creatively adjust regimes through strategic efforts. This demonstrates that at the urban scale regimes may not always be strategically paralyzing.

2. Regime adjustments through endogenous agency

A flow-oriented conceptualization of regimes allows to study regime adjustments in a more performative perspective, compared to the traditional multi-leveled analyses of niche-innovations. In the following, this alternative take on regime dynamics is presented, and it is argued why Actor-Network Theory is useful in developing this approach. The methodological approach in relation to the choice of case study is also presented.

2.1. A flow-oriented perspective on regime dynamics

In order to conceptualize socio-technical structuration processes at the regime level, much transition theory relies on the notion of rules. The concept of rules was introduced in the early formulations of the regime notion, which suggested that technological evolution progresses along trajectories, and that actors are entrenched in the evolutionary dynamics of such trajectories. On this basis, Rip and Kemp (1998:338) argued that: *"A technological regime is the rule-set or grammar embedded in a complex of engineering practices, production process technologies, product characteristics, skills and procedures, ways of handling relevant artifacts and persons, ways of defining problems — all of them embedded in*

institutions and infrastructures". Drawing on this argument the notion of rules has been used to account for reproduction along regime trajectories. For example, it has been suggested that rule-sets pertaining to socio-technical regimes form the 'grammar' or 'deep structures' that accounts for the stability of existing socio-technical systems (Geels, 2004). These deep structures are e.g. constituted by shared technical knowledge, which provide global orientations to local design choices (Geels and Deuten, 2006). More broadly regime rules includes: cognitive routines and shared beliefs, capabilities and competences, lifestyles and user practices, favorable institutional arrangements and regulations and legally binding contracts (Geels, 2004). A consequence of the emphasis put on rules is that the traditional regime concept tends to overlook that incumbent regime actors do have much space to respond to the uniqueness of events in concrete situations, as e.g. demonstrated by Hård (1994). These unique responses and confrontations within the regime represent, what Geels (2006) terms as 'gradual regime adjustments', where new technologies *follow*, rather than drive, regime developments in contrast to the technological substitution path.

It has however been recognized that regime rules are not entirely coherent, since a regime has also been conceptualized as a semi-coherent set of rules that orient and coordinate the activities of the social groups that reproduce the various elements of socio-technical systems (Geels and Schot, 2007). The recognition that regime-rules are only partly aligned draws attention to the ongoing generation of ambiguities, contradictions, and conflicts, in the operation of regimes, and to actor's opportunity of exploiting these. How the semi-coherent connections and interdependencies among regime rules may be strategically exploited by regime-incumbent actors to challenge the established socio-technical architecture of regimes has, however, not been systematically investigated.

In order to develop the argument that semi-coherent rules may sometimes be exploited strategically by incumbent regime actors, we propose to understand regimes as coordinated flows of socio-technical elements. This implies that the regime should not be understood as rigid and static structures. Rather, the regime should be portrayed as dynamic and living flows of socio-technical association. We choose to address regimes as coordinated flows of socio-technical elements in order to bring attention to the continuous activity of coordination that is necessary to make a regime perform (or enact a regime). In this perspective, the regime rules still represent important means to enable the regime incumbent actors to interpret and discipline the ongoing production of ambiguities, conflicts and contradictions as they associate, manage and control socio-technical flows across time and space. The flow-oriented perspective on regime structuration processes, however, effectively dispenses with a mechanistic understanding of regime reproduction. As a result, this perspective recognizes that it involves situated interpretation and creativity to coordinate and manage flows of socio-technical elements. This holds the seeds, we argue, to understanding the potential of incumbent regime actors as orchestrators of transitional change. By means of their skills in situated interpretations and creativity, such actors may also use regime rules to consciously modify traditional patterns of associations among flows of socio-technical elements.

In developing this argument inspiration can be taken from Actor-Network Theory, which is developed on the basis of a relational ontology (Law, 1992). In line with the flow-oriented perspective of regime structuration processes introduced above, Actor-Network Theory conceptualizes social reality and patterns of associations among social and technical entities. More specifically its object of study is the concrete performances of such association. The theory hence rejects generalized and abstracted explanations of socio-technical structuration rooted in notions such as 'rules',