



# Discontinuation of the automobility regime? An integrated approach to multi-level governance



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## ABSTRACT

The case study at hand investigates a largely neglected phenomenon: the discontinuation of incumbent socio-technical regimes by means of deliberate governance. Comparing actor constellations and policy measures in four different countries (the UK, Germany, France and the Netherlands) and on the EU level, we identify strategies and measures that have been applied to challenge the automobility regime. Instead of creating a new analytical framework for studying the governance of discontinuation, we propose to use three existing concepts, namely the multi-level perspective (MLP), multi-level governance (MLG) as well as actor-centred approaches, combining them into one integrated concept labelled “multi-level governance of socio-technical regimes”. From this perspective, the European Union is the most active actor in attempts to restrict automobility, especially exerting pressure at the landscape level. However, in spite of various challenges, the automobility regime still remains considerably stable.

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## 1. Introduction

Environmental problems, such as climate change or rising greenhouse gas emissions, have been debated throughout the last decades in many countries of the world (cf. [Loorbach et al., 2011](#)). Since about one fourth of the EU's energy consumption results from road transportation ([Eurostat, 2015: 57](#)), several measures have been developed by EU countries to make the transport system more sustainable (cf. [Banister and Hickman, 2013](#); [Hickman et al., 2013](#)). Many of these measures addressed the private passenger car with internal combustion engine (ICE), which constitutes the technological core of the global automobility regime and represents the dominant mode of personal mobility, yet has been identified as one of the most harmful causes of environmental problems (cf. [Geels, 2012](#)). Hence, the current transportation regime is being increasingly called into question by different actor groups, e.g. political authorities or social movements (cf. [Kimberlee, 2014](#); [Babb, 2016](#)), who have developed various concepts to terminate the established socio-technical regime and to promote alternatives.

Research on socio-technical transitions has predominantly focussed on innovation policy (see e.g. [Loorbach, 2007](#)): technological breakthroughs, radical novelties, and innovation networks have been regarded as key success factors for creating new socio-technical systems capable of competing with the incumbent one and, ultimately, of replacing it (cf. among others [Geels and Schot, 2007](#)). However, due to the inertia – and partial resistance – of highly institutionalised actor constellations,

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infrastructures and routines, socio-technical systems cannot be changed by merely developing innovative alternatives. Hence, the analysis of regime change also requires developing concepts of deliberate discontinuation of socio-technical regimes, i.e. a variety of political efforts to bring an end to a well-established, stable and socially embedded regime, including most of its technological, industrial, political, cultural, etc. elements. This issue of discontinuation has so far been neglected in transition research.<sup>1</sup> However, it is an important aspect of analysis especially in open-ended cases, where the transformation process has just started and shows ‘discontinuation in the making’.<sup>2</sup>

In order to better understand the discontinuation of established socio-technical regimes, our case study of the automobility regime investigates political attempts of discontinuation and analyses them by means of an approach labelled “multi-level governance”. Empirically, we focus on actor constellations and policy measures in four different countries (the UK, Germany, France and the Netherlands) and at the EU level to identify various actors and strategies for challenging the global regime of ICE-based automobility and achieving sustainable mobility.<sup>3</sup> Analytically, we put emphasis on the governance of socio-technical regimes by actor networks at different levels (niche – regime – landscape and/or regional – national – supranational). Our findings will show that in spite of mostly ambivalent national politics, the interplay between national levels and the supranational EU level has produced a dynamics that may open a window of opportunity for dismantling the global regime of ICE-based automobility.

Section 2 will present a short outline of the concept of multi-level governance of socio-technical regimes, which takes the multi-level perspective (Geels and Schot, 2007) as a starting point, complemented by two other concepts: actor networks and (multi-level) governance. We will then test this approach by means of an empirical case study (Sections 3 and 4), and come back to the theory discussion in Sections 5 and 6, in which we will critically assess the usefulness of combining these different analytical concepts.

## 2. Multi-level governance of socio-technical regimes

### 2.1. Definition of basic terms

We will use the following terms as defined below: First, the *socio-technical system* is a specific combination of technical, social and institutional elements that work together while performing a certain task, thus constituting a trajectory or path (Hughes, 1987; Ottens et al., 2006; Geels, 2011: 31). Secondly, the *socio-technical regime* is a “standardized way of doing things” (Geels, 2011: 31; Nelson and Winter, 1977), i.e. a shared belief of different groups of actors at a certain time about which path to follow and which socio-technical system to promote in future. Finally, the *actor network* is an alliance of different actor groups (mostly organisations) that support and promote the socio-technical system, thus creating path dynamics and, ultimately, reinforcing the regime (Weyer et al., 1997).

### 2.2. The MLP and the socio-technical regime of automobility

The *multi-level perspective* (MLP) has been developed in order to study regime shifts – mostly from an innovation-oriented viewpoint. It has proved to be a valuable tool for social studies of technology since it depicts regime change as the result of an interplay of developments at three different analytical levels: niche, landscape and regime (Geels and Schot, 2007: 399 f.). While the regime is constituted by dominant structures, cultures, routines, and conventions (Geels, 2012: 473), niches serve as an incubator for developing and testing innovative alternatives. The socio-technical landscape represents the wider context, which influences developments at regime and niche levels; these developments can either be of stabilising or destabilising nature.<sup>4</sup>

The MLP’s main assumption is: A destabilisation of the incumbent socio-technical regime may come about through a concurrence of (1) growing landscape pressure, (2) increasing erosion of the incumbent regime, and (3) growing competition from niche innovations as they gain importance.

Referring to his critiques, Frank Geels has invited scholars to further develop the MLP concept, to mobilise “insights from other theories” (Geels, 2011), to add “auxiliary theories” (p. 34), e.g. from political science or network analysis (p. 30), and, finally, to apply new methods such as agent-based modelling (p. 36). He argues that MLP should be complemented among others by

- a more in-depth consideration of the social mechanisms of interaction and networking of actors (p. 30) and the way they produce and reproduce social reality (p. 29),

<sup>1</sup> Several on-going research projects have recently addressed this issue (cf. Stegmaier et al., 2014; Turnheim and Geels, 2013).

<sup>2</sup> Unlike other cases of discontinuation which have been agreed upon or partially implemented, e.g. the German energy transition, the ban of incandescent light bulbs in the European Union, or the worldwide ban of the insecticide DDT (cf. Stegmaier et al., 2014), the transformation of automobility is still at stake.

<sup>3</sup> We refrain from debating normative issues here, but take for granted that modern industrialised nations have put sustainability on their political agenda (cf. Shove, 2004; Banister, 2008), with the objective to achieve a less resource-intensive, socially acceptable, equitable, low-carbon and eco-efficient society.

<sup>4</sup> Although developments at the landscape level are usually assumed to be slow-paced (e.g. long-term cultural changes), rapid changes may also occur and accelerate the pace of transition processes (e.g. shocks and far-reaching events; cf. Geels and Schot, 2007: 404; Geels, 2011: 36). In this context, Geels and Schot conceptualised different ideal-typical “transition pathways” that capture various timings and degrees of change (2007).

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