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Do institutional structures matter? A comparative analysis of urban carbon management policies in the UK and Germany

Greg Marsden [a,*], Stefan Groer [b]

[a] Institute for Transport Studies, University of Leeds, UK
[b] Fachgebiet Verkehrsplanung und Verkehrstechnik, TU Darmstadt, Germany

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ABSTRACT

The paper addresses the important question of how institutional structures matter to the delivery of climate change policy for urban transport. It examines the strategic goals, policy tools in operation and initial progress towards carbon emission reduction in seven cities across the UK and Germany where different institutional structures exist. The UK has the presence of a strong national carbon target and strong hierarchical national–local government relationships whilst Germany has a more integrated system of local transport provision in a context where local and regional government is stronger. Our findings show that the carbon agenda has made very little difference to what is happening on the ground in the cities. Across all sites, progress is being made but largely through technological improvements which are being almost completely offset by population growth. Even in the more integrated city environments there has not be an additional stimulus to manage the demand for travel.
Contrary to previous research therefore, we cannot conclude that institutional structures are paramount in delivering effective carbon reduction policies. The institutional structures in the UK and in Germany are not perfectly aligned to carbon management but, given the cross policy impacts of most transport interventions, this is perhaps inevitable. We can clearly conclude however that "better" structures are not sufficient to achieve the implementation of more effective carbon policies. Whilst institutional structures must matter, it is the broader governance environment and the resources and politics involved in transport policy that currently seem to dominate the importance of the carbon agenda and implementation paths that emerge.

1. Introduction

The debate about climate change mitigation is not about whether we should take action but how much, in what sectors and over what timescales. The proposition here is becoming much sharper. In order to limit warming to 2 °C there is a requirement for governments in developed economies to achieve significant cuts in their total emissions in the period to 2020 as part of a pathway to very substantial decarbonisation of the whole economy by 2050. The European Commission for example is committed to a 20% reduction in CO_2 emissions by 2020 and has an objective to reduce such emissions by 80–95% by 2050 compared to 1990 levels (EC, European Commission, 2011a, 2011b). The COP21 agreement of late 2015 suggests even more stringent emission reduction goals (UNFCC, 2015).

In the European Union "transport is responsible for around a quarter of EU greenhouse gas emissions making it the second biggest greenhouse gas emitting sector after energy. Road transport alone contributes about one-fifth of the EU's total emissions of carbon dioxide (CO_2), the main greenhouse gas. While emissions from other sectors are generally falling, those from transport have increased 36% since 1990" (EC, 2014, p1). Whilst it is not the case that all sectors have to decarbonise at the same rate or to the same extent, the relative importance of transport emissions and the trajectory of progress to date suggests the need for an urgent emphasis on decarbonisation of the transport sector as part of this. The 2014 Intergovernmental Panel on Climate Change report concluded that "A range of strong and mutually-supportive policies will be needed for the transport sector to decarbonise and for the co-benefits to be exploited. (Robust evidence: high confidence)" (Sims et al., 2014, p6).

The pathway to carbon reduction from transport will necessarily involve "a complex policy mix involving new technologies, reformed pricing structures and new forms of behaviour" (Marsden et al., 2014). The delivery of such a complex mix will require the coordinated action of the state and the private sector at a range of spatial scales in ways which are accepted and understood by the public. Governance of the system will be particularly important. Banister et al. (2012, p. 486) suggest that the necessity for action may not be well matched to the current organisational and institutional structures which "may be inappropriate when it comes to addressing climate change and transport". If correct, this is a critical issue. However, there are relatively few cross-national comparisons of progress against specific shared policy

* Corresponding author.
E-mail addresses: G.r.marsden@its.leeds.ac.uk (G. Marsden), sgnet@web.de (S. Groer).

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goals (see Rietveld and Stough, 2004 for discussion) on which to base claims that particular structures are necessary or better in some way. On climate change, whilst Marsden et al. (2014) have compared climate change policies between England and Scotland in the UK, the delivery environment is very interconnected (Mackinnon et al., 2008) and so limited in some respects for comparative analysis. Anderton (2010) explores the differences between EU and US, but does not shed significant light on the issue of how institutional structures matter.

This paper reports on a comparative analysis of the progress of cities in the UK and Germany on climate change policy. In doing so, it examines the policy goals, the policy tools, their perceived effectiveness and the views of the actors engaged in the process. Cities are chosen as the spatial scale of analysis as they are the key focus of transport planning in a wide range of European Countries (EC, 2013) and, as major generators and attractors of trips, are a key contributor to the climate change problem causing approximately 40% (EC, 2007) of the road transport and 25% (EC, European Commission, 2011a, 2011b) of all transport-related GHG emissions in the EU. There is also evidence that cities in different contexts are adopting different types of climate change strategies (Hickman and Banister, 2014).

Whilst both countries sit within the same overarching European policy framework and framing for climate change, the formal institutional structures through which policies are delivered are quite different, with the UK having a much stronger top-down governmental influence than Germany where the regional Länder are more significant. The UK also has a more fragmented and liberalised public transport market. Technological opportunities such as vehicle innovation and the potential for behavioural and infrastructural interventions would appear to be broadly similar (GHG TransPoRD, 2012). The paper therefore addresses the question of where, when and how institutional structures matter to the delivery of climate change policy in the transport sector. Whilst the findings reflect a comparative analysis within the EU, the framework for analysis is generically applicable.

2. Analytical framework

Climate change is an externality requiring the action of agencies and people today to prevent significant impacts in places which may be distant from those of the source of the pollution and where the benefits may be some time in the future. This may be particularly true when considering urban transport mitigation policy where the contribution of a city to even the total national emissions burden can be small.[2] Giddens (2009) sees the role of government as being critical to resolving such problems both as an important actor itself but also as one that steers the critical inputs from private sector actors and quasi-state actors such as the infrastructure monopolies. Steering is very much done through a network of stakeholders rather than a command and control process (Rhodes, 2007).

There are many different aspects of the policy making and delivery environment that could form the start point for an investigation of the role of the state in delivering an effective climate policy but, as identified above, institutional structures seem to be at the fore of current debate. Our definition of institutional structures for this paper follows from Williamson (1985) who proposed four different dimensions of institutions which can be seen to shape the delivery of policy:

- Governance institutions (structures through which government operates);
- Informal institutions (values, norms, practices, customs, traditions);
- Formal institutions (statutes, constitutional provisions, laws, regulations); and
- Actions of actors in the decision environment (management behaviour, voting, lobbying).

Institutional structures are, for us, Williamson's governance institutions and formal institutions, i.e. the formalised organisations, mandatory reporting mechanisms and the policy development powers that reside with different organisations. It has long been posited that integration of transport and land-use policy and co-ordination of all modes of transport is central to effective achievement of urban policy goals (May and Roberts, 1995; Givoni and Banisteri, 2010). This paper therefore explores the role of institutional structures by taking a comparative analytical perspective between the UK (less integrated) and Germany (more integrated) to identify differences in policy approach. It would be anticipated that a more integrated set of institutions with greater delivery powers would be better placed to progress more radical policy measures. Other dimensions of institutions and how and why policy choices are made are an important part of the empirical work but did not form the basis of determining to undertake the comparison between the UK and Germany.

In the context of environmental decision-making in the EU, actions could be taken at EU, nation state, region or local level (Jordon and Adelle, 2012 and Kern and Bulkeley, 2009). The extent to which each tier might be engaged in such processes will vary substantially. For example, the EU and nation states are jointly engaged in setting the parameters for fuel tax, with local government not an actor in the network. By contrast, urban transport policy and mode shift is a 'reserved matter' for nation states (Marsden and Rye, 2010). Here, the extent to which the national government plays a role in local transport management will vary considerably. In Germany, for example, the regional tier is the most important interface for local government whilst in the UK the national tier is important. The scale of investigation is therefore an important variable to be clear on.

In this paper we focus on urban transport policy through a cross-national comparative study of seven cities in the UK and Germany. As identified in Section 1, cities are important to the mitigation pathway as they are a key determinant of the patterns of local journeys (93% of trips by car in the UK are under 25 miles and contribute 64% of car-based CO_2 (DfT, 2009)). They are also important as the interface of national and international initiatives with the public. For example, whilst the funding and regulation for the roll out of electric vehicles are strongly influenced by the actions of manufacturers, the EU and member state governments, local authorities still send important signals by taking up grants for public charge points, greening their own fleets and allocating priority parking for ultra low emissions vehicles. In this paper therefore, the role of regional, national or European governments is not ignored, but those influences and the related issues for the implementation of local carbon-policies are seen through the lens of the city actors.

In order to explore the degree to which the different institutional structures make a difference to carbon mitigation we examine the policy tools which are deployed and the planned or measured performance of the policy packages in play. In summary, the institutional structures can only be said to matter to implementation if we see significant differences in policy approaches adopted (means) and expected outcomes (ends) on the ground (Howlett and Cashore, 2009). To do this, we deploy a classification of modes of governing to organise the comparative analysis of implementation. The classification was initially developed by Bulkeley and Kern (2006) for a broad range of city led environmental policies which included transport. They define four different modes:

- Self governing—which relates to the capacity of the government to manage its own activities, which here would relate to emissions of its own estate and vehicles.
- Governing by authority—which uses regulation and direction to effect a reduction in emissions such as the establishment of a low emissions

[2] It is important to note that interventions which work for climate mitigation (such as mode shift) may have other benefits and vice-versa (often referred to as co-benefits). The extent to which this is reflected in approaches to date emerges in the data analysis.