

## **Multilevel governance featuring local and regional carbon markets**

Insights from theory and the cases of Tokyo and the US Northeast

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### **Extended Abstract**

Despite of the Kyoto II agreement, the Copenhagen Accord's pledge and review approach, and the most recent declaration of China and the US to accept absolute limits to their greenhouse gas (GHG) emissions, a new and stringent global climate treaty is still far from being sufficiently probable. The same is true for ambitious federal level carbon pricing schemes in major emitting countries such as Japan and the US but also in other industrialized states such as Canada and Australia or in developing countries such as Brazil, Mexico, or India. Nevertheless, many economists and policy makers still call for carbon pricing and even carbon cap-and-trade to become the major cornerstone of climate policy, mainly due to its efficiency and effectiveness properties (e.g. Ranson/Stavins 2012, Tietenberg 2006). So can bottom-up initiatives such as regional or local carbon markets represent a valuable supplement to global and national level market-based climate policy?

This questions is discussed in the paper by, first, reviewing the literature on multilevel governance with a special focus on environmental federalism. The environmental federalism debate focusses on the question whether and if so how government functions should be allocated across different government levels such as, national, regional, or local (Oates 2004). In spite of Tiebout's call for competition amongst local governments for public goods (Tiebout 1956), early arguments in the environmental federalism debate supported the notion of centralization, the major arguments being cross-jurisdictional externalities and the deregulation race-to-the-bottom (e.g. Stewart 1977). More recent contributions from the second generation of authors on environmental federalism argue for decentralizing environmental governance, emphasizing sub-national jurisdictions to be experimental laboratories and the "voting by feet" on environmental protection issues to prevent the "race to the bottom" (e.g. Adler 2004; Revesz 1992, 1996). These hypotheses call be for evaluation in terms of sub-national carbon pricing strategies.

Despite some failures on the national level in countries such as the US or Australia, carbon markets have been spreading globally since the beginning of the new millennium. And besides supra-national (e.g. the EU Emissions Trading Scheme (EU ETS)) and national (e.g. the New Zealand ETS) programs, regional (e.g. the Regional Greenhouse Gas Initiative (RGGI) in the US Northeast or the California Cap-and-Trade Program) or even local schemes (e.g. the Tokyo Metropolitan Government Emissions Trading Scheme (TMG ETS)) are now in operation. And internationally linking these domestic programs, as most recently in the case of California and Quebec, is even still considered a possible bottom-up supplement to global climate action (Ranson/Stavins 2012).

So second, against the background of the environmental federalism hypotheses, the paper analyzes two major sub-national carbon markets, the TMG ETS and RGGI. In view of megacities' share of energy-related carbon dioxide (CO<sub>2</sub>) emissions already being high with an increasing trend, climate policy could greatly benefit from local level mitigation strategies (World Bank 2010). Hence, with a national level carbon market having failed in 2010 (Rudolph/Schneider 2013), Japan's capital Tokyo, still the biggest metropolis, started the world's first local carbon market in 2010, the design of which is unique and promising in many ways (Rudolph/Kawakatsu 2013, TMG 2010). In the US, also federal level carbon trading finally failed in 2010, but the Northeastern states continued RGGI, which started in 2009, and even revised it in 2013 in a most beneficial way (Rudolph/Lerch 2012). Again, RGGI features some interesting design characteristics, which, as in the case of the TMG ETS, reflect the intention of aligning the program to local requirements and circumstances. For both programs, the data only now available allows for an analysis of the environmental and economic effects as well for testing the hypotheses of the environmental federalism debate.

Altogether, the paper argues that sub-national carbon pricing is a valuable supplement to global and national level climate policy. The paper gives an overview of major arguments in the modern multilevel governance and environmental federalism debates and provides respective empirical evidence on the performance and usefulness of regional and local carbon markets. It also offers a description and an analysis of two of the most important sub-national carbon markets in countries where federal level carbon pricing has failed, Japan and the US. The paper thus adds new insights to the theoretical discussion on multilevel governance and provides policy lessons for the implementation of effective and efficient climate policy.

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