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## Policies for social learning: Bounded Socio-Technical Experiments

Most cities around the world are highly unsustainable, either due to social problems (poverty, inequality,) or due to over-consumption and production. These problems are highly persistent due to structural lock-in and due to the dominant culture and value systems. A transition to more sustainable cities implies deep changes in technology, infrastructure, institutions, consumption patterns, lifestyles and values.

Traditional policies often fail to address these issues and lack the instruments to engage in such deep change processes. New instruments and new coalitions of actors are necessary in order to bring about the necessary socio-technical and economic changes. In many places in the world the contours of these new coalitions are visible: they connect business with civil society and governance, they connect local with global issues, and they connect seemingly disconnected issues. However, many of these efforts are fragmented and many lessons learned get lost because of discontinuity and fragmentation.

The central question to be addressed is how to initiate and facilitate deep change processes in cities in the direction of sustainability. These change processes, often called 'regime shifts' or 'transitions' are multilevel, multi-scale, multi-actor, and multifaceted. They are by definition difficult to manage centrally, and thus are decentralized and often bottom-up. They consist of many activities in policy making, social and technical innovation, planning, infrastructural change, social movements, etc.

This paper makes the point that social learning is the essence of transition processes towards sustainability. Social learning occurs often through external crises but also in and through small-scale experimentation with new technologies, services, and social arrangements. In this paper we present a conceptual framework for social learning in so-called Bounded Socio-Technical Experiments, based on Schön, Fischer, and Grin and Van de Graaf, and apply this to cases in personal mobility and green housing in cities in the Netherlands and the USA. We conclude by making the case for multi-level policies aimed at fostering learning in small-scale experiments and at connecting and diffusing this learning across different scales and local situations.