



Urban Transition Labs: co-creating transformative action for sustainable cities



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ABSTRACT

In a general mindset of 'local elaboration' of sustainable development, cities are logical loci for action: they do not only concentrate (future) consumption and production – and are hence at the origin of unsustainability 'symptoms' –, they simultaneously are the operational units in which concrete actions can be envisaged, designed, (politically) facilitated and effectively rolled out. Whenever cities engage in this innovative, ambitious and responsible task of change for integrated sustainability, an undoubtedly major amount of learning emerges; and vice versa, sound knowledge/best practices on how to proceed with local sustainability oriented change processes could be a firm support for local actors in their quest for effective and efficient action. In this paper, we present 'Urban Transition Labs' (UTL) as settings in which real life trajectories of sustainable development in cities are deployed and at the same time carefully observed; in a co-creative collaboration between actors and researchers (transdisciplinary research). Thereby, a transition management approach is applied, resulting in a cycle of five distinct phases: (a) process design and system analysis, (b) problem structuring and envisioning, (c) back casting, determining major pathways and agenda setting, (d) experimenting and (e) monitoring and evaluation. The process is guided by a 'Transition-team' that co-designs the process and feeds in relevant information to the city transition 'arenas'. These arenas are the actual initial incubators of change; they are crewed by local frontrunners that are considered as engaged visionary people with diverse backgrounds. The findings of arenas feed a further participatory process to engage the relevant city stakeholders into action. In this paper, we want to present the UTL as a potentially valuable concept to support a 'walking-the-talk' of sustainable development by cities; and we share the first impressions on specific barriers and enablers that could determine the effectiveness of the envisaged approach.

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1. Introduction

1.1. Cities as loci for addressing (un)sustainability

In 2008, humanity crossed a milestone when the global urban population exceeded the rural population for the first time in history (Seto et al., 2010); since then more than half of the world's population lives in cities (Crossette, 2010). In Europe, this was already the case since the 1950s, in 2009 the urban population was already about 70% (DESA, 2009). As a consequence of the urbanization trend, energy demands, buildings, waste and water services, industrial processes are centred in and around cities. Madlener and Sunak (2011) state that –worldwide– cities are responsible for

almost 75% of the global resource consumption. A logical consequence is their high attributed proportion of environmental impacts (e.g. by undesirable emissions). In that sense, urban areas in the developed world are the primary source of GHG emissions (Grimm et al., 2008), accounting for more than 70 per cent of energy-related global greenhouse gases from a production-based allocation viewpoint. From a consumption-oriented perspective (where emissions are allocated to the persons whose consumption caused the emissions), total GHG emissions shares would even be higher (Hoorweg et al., 2011). As such, cities are the locations where most of the (un)sustainability issues find their origin.

At the same time, cities are the basic units for policies that have significant environmentally beneficial consequences (both local and global), including those that shape individual environmental behaviour such as garbage collection, water and sewer treatment. Moreover, city managers have great purchasing power as they are making decisions on a daily basis on issues such as building

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infrastructure facilities, transportation systems, purchasing politics. Some cities even own (or steer) key industries relevant to GHG emissions or other environmental impacts (Bai, 2007). Recently, the issue of climate change (mitigation as well as adaptation) has reinforced the recognition of the urban environments as critical arenas for addressing sustainability issues (Bulkeley et al., 2011); cities can even be considered as potential 'motors' for sustainable development (Rotmans et al., 2000) or 'hubs' for extreme innovation (Ernstson et al., 2010a; Bulkeley and Broto, 2012). While municipalities were once viewed simply as providers of services such as waste collection and utility provision, a shift has occurred in which the municipalities act as leaders on sustainability issues (Burstrom and Korhonen, 2001); and hence the urban sphere is increasingly considered as a potentially effective leverage point for action with regards to major challenges such as climate change (Betsill, 2001). And although they might not be the exclusive loci to advance sustainability and sustainability transitions, cities can at least play two important roles: as actors with regards to local transport, waste and water systems; and as providers of location to low carbon innovations (Geels, 2011). Moreover, local communities are the scale at which the behaviour of individuals can most directly be influenced (Bulkeley and Betsill, 2005). There seems to be a growing consensus on the critical role of cities in advancing the necessary transformations towards 'Green Growth' (Hammer et al., 2011) or climate action (ICLEI, 2010).

However, despite the necessity, potential and effectiveness of addressing global issues at the city level, there are obstacles to bringing solutions for global issues to the local level. Although cities might be obvious loci for (e.g.) climate change related action, a number of (often interwoven) barriers exist and hence create inertia. Addressing sustainability in the city level does not reduce the generic complexity neither the uncertainty that comes along the multiple actors, interests, interactions, processes involved in it (Ernstson et al., 2010b). Complexity and persistence of challenges are also pervasive and severe at a city level. In order to contribute to solving major issues, cities need to transcend the (perceptive) barriers of spatial scale (global issues do not relate to action 'not on my turf'; national governments should tackle them), temporal scale ('not in my term'; global issues go beyond classic terms of local policy cycles) and institutional scale ('not my business', local autonomy is too restricted to act effectively) (Bai, 2007).

At the same time, sustainability of a city or in a city bring forward its contested nature: the place manifests with different meanings of sustainability; entailing that sustainability as a target contains different meanings and aspirations for every city, making it even more challenging to search for governance actions and mechanisms to achieve it. Thereby, local authorities might be moving away from a strictly regulatory or service provision role to one of enabling action on environmental and sustainability-related major issues (Bulkeley and Betsill, 2005). According to Seto et al. (2010), the ongoing worldwide rapid urbanization can actually accelerate a transition to sustainability owing to forces of agglomeration, increased innovation and increased wealth. However, urban growth needs good governance structures in order to achieve this. Global or overarching definitions of sustainable cities converge to icons of self-sufficient cities, a goal that seems rather utopian (Roy, 2009). Therefore, the term 'sustainable urban development' seems to fit better to this methodological approach as it strongly refers to the process towards the achievement of the goals set (Theodoridou et al., 2012).

1.2. Transition studies

Transitions are considered as societal processes of fundamental change in culture, structure and practices (Frantzeskaki and de

Haan, 2009). Where examples of historical transitions often boil down to radical and structural change processes without a well-defined and pre-set objective (Geels and Schot, 2007), the contemporary notion is explicitly connected with a specific objective of sustainable development (Grin et al., 2010). Transitions deal with systemic innovations, not only entailing new technologies but also with changes in markets, user practices, infrastructures, cultural discourses, policies and governing institutions. Between these elements, there are continuous dynamic interactions and co-evolutionary processes between different structures and practices of the system and its subsystems (Kemp, 1994; Geels and Schot, 2007). Owing to these characteristics, transitions are long-term processes (transitions approach thinks in 'generations'), guided by inspiring visions on desirable, sustainable system configurations.

Recent research on historical transitions shows how people's ideals catalysed transitions (e.g. the role of Mansholt's ideals and ideas in the agriculture transition in the Netherlands, Grin, 2012) and how technological inventions stimulated broader socio-political (Tabara and Ilhan, 2008), infrastructural (automobile transition, Nykvist and Whitmarsh, 2008; aviation transition, Kivits et al., 2010) and environmental transformations. Research on transitions offers insights about processes, events and agents and their role in influencing or building-up on a transition as well as how processes, events and agents interact throughout a transition. Van Buuren and Loorbach (2009) argue that pilot projects can act as seeds of transformation in a policy context when their benefits and outcomes are well shared and communicated and when they yield innovations that are aligned with future policy interests. These elements are seen as the fundamentals for inspiring action to influence, initiate or stimulate processes and conditions that can steer on-going or new developments towards a sustainable pathway. Transition management is a process-oriented framework that builds on these elements.

The transition management approach tries to empower and mobilize the undercurrent of sustainable development by offering a coherent framework for systemic change (Loorbach, 2007). It is characterized by long-term thinking, considers multiple domains and different actors, focuses on learning and on system innovation while maintaining a wide playing field (Rotmans et al., 2001). Initially, the transition (management) approach was mainly deployed in research and empirical experience at national levels and mainly sectoral policy transformations (e.g. energy, water, mobility, building and living, material use).

1.3. Urban sustainability transitions: an intersection to investigate

Transition studies had focused on system transformations such as energy systems or mobility systems with an increasing number of publications (Markard et al., 2012) and a book series depicting the founding empirical grounds of transition studies (Grin et al., 2010; Verbong and Loorbach, 2012). Over the past few years, the application at regional and urban level is being explored (Frantzeskaki et al., 2011, 2012; Jefferies and Duffy, 2011; Loorbach, 2009; Vergragt and Szeijnwald Brown, 2010). This evolution aligns with the growing emphasis on the critical importance of local action for major sustainability related issues such as climate change; and a concurrent need for cities (e.g.) for sound scientific knowledge on how to take effective and efficient decisions related to combating climate change (Rosenzweig et al., 2011). Thereby, not only content-related matters are crucial (technology deployment, behavioural change incentives), although equivalently process-related essentials (governance, participation/co-creation, collaboration) are part of the innovative approaches. Recently, the aspect of space has been introduced as a new empirical ground to transition studies. The recent scholarship on urban transitions, has mainly

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