

## SEMINAR SERIES: MANAGING ENVIRONMENTAL AND ENERGY TRANSITIONS FOR REGIONS AND CITIES

### SEMINAR 2: Managing environmental and energy transitions in cities

7 June 2019; 9:30 - 17:00

OECD Headquarter, Chateau Room E, 2 rue André Pascal, 75016 Paris

## Background

Cities and urban areas play an increasingly important role in environmental and energy transitions. They are responsible today for 70% of greenhouse gas emissions, two-thirds of global energy consumption and for a major part of economic activities. Three quarters of people currently living in Europe live in urban areas; and urbanisation creates further pressures but also possibilities for more efficient use of resources. On the path towards 2050, cities will play a key role in transforming their building stock, mobility systems and land use, enterprises and industries, and urban infrastructure such as energy, water and solid waste management. This will require significant investments but also could lead to many positive impacts on urban sustainability, such as more business opportunities locally, better air quality, better mobility, improved public service, and increased growth and well-being for all.

Climate mitigation is one of the key areas cities can play a crucial role. If the current trends continue, global urban primary energy use would grow by about 70% and global urban CO<sub>2</sub> emissions by about 50% between 2013 and 2050 (IEA, 2016). The currently submitted Nationally Determined Contributions (NDCs) in aggregate are reported to be insufficient to limit the global temperature increase to 1.5 °C (IPCC, 2018), thus more ambitious actions are needed. Cities will be able to play a key role not only because they are responsible for large percentages of environment and climate-related spending and investment, but also because they may easily identify and combine complementary cross-sectoral co-benefits than higher levels of government. Urban transport is a good example which can demonstrate such co-benefits, as investment in urban public transport can not only reduce CO<sub>2</sub> emission but also improve air quality and urban mobility which may generate strong social and economic impacts. A recent OECD study demonstrated that subnational governments were responsible for 55% of environment and climate-related spending and 64% of environment and climate-related investment between 2000-16, on average (OECD, n.d.). However, there are a number of challenges to accelerate subnational climate actions. They are often institutional, financial or technical in nature, including limited municipal capacity, knowledge or resources; restricted monitoring and reporting; lack of local engagement or authority; non-existent multi-level coordination; and insufficient data (GIZ, 2017). In some cases, national governments are not well aware or informed of innovative local actions and may thus neither provide the most effective support to local governments nor facilitate the replication of good practices to other places and contexts. Such disconnects represent one of the barriers for cities to contribute meaningfully to the effective implementation of the Paris Agreement with innovative climate action (OECD, n.d.).

Cities should also play a key role in climate adaptation, as the impacts of climate change have a strong local dimension. For instance, sea-level rise will disproportionately affect coastal areas, with average global flood losses estimated to increase from USD 6 billion in 2005 to USD 52 billion by 2050 in 136 of the world's largest coastal cities, even in the absence of climate change (Hallegatte et al., 2013). Climate change will also increase local urban heat island effects, which alter small-scale meteorological processes thereby increasing the risk of heat-related morbidity and mortality (IPCC, 2014; 2018). In addition, climate change is poised to exacerbate the effects of structural inequalities in cities. While wealthier populations have more assets at risk from climate change, vulnerable populations are more exposed to its impacts due to several factors, including increased exposure to climate risk and hazards, higher susceptibility to damage, and lower ability to recover (IPCC, 2014; OECD, n.d.). Cities are well-positioned to mainstream climate resilience into their spatial planning, infrastructure, local policies and investments through locally tailored climate strategies in line with national objectives (OECD, n.d.). But there are some misalignments with climate adaptation including regulatory regimes for infrastructure that deter investment in resilience, planning policies that encourage development in vulnerable areas and under-pricing of natural resources. Effectively implementing adaptation measures remains a challenge across a range of countries and policy contexts.

It is also important for cities to use and reuse resources more sustainably. While cities are major producers of wealth, they are also major consumers of natural resources and the cause of negative environmental externalities. Globally, cities are responsible for up to 50% of global wastes (UNEP, 2013). Urban residents are also exposed to health risks caused by air pollution, which may impose substantial social costs and negatively affect long-term economic growth. Urban eco-systems are at risk, including productive agricultural land, forests and biodiversity, partly due to poorly planned urban expansion. Moreover, considering urban and rural continuum and promoting urban-rural partnership is key in effectively managing resource in urban areas. The idea of the circular economy is a concept that aims to improve economic and resource efficiency by linking production processes so that a side or waste product of one production process is used as an input to another production process. Today, less than 10% of the global economy is circular (Circle Economy, 2018). As cities make key decisions on public services, transport, solid waste, the built environment, water and energy, they can contribute to circular approaches by developing a forward-looking vision promoting synergies across sectors (water, waste and energy). Unlocking the potential of the circular economy in cities implies going beyond solely technical aspects and putting the necessary governance in place to create incentives, stimulate innovation and generate information. It would also mean looking at the barriers for businesses, to “close the loop” by rethinking business models towards the transition from linear to circular ones, and analysing the economic instruments that could support the transition in several sectors, including waste, food, built environment and water.

This seminar aims to synthesise academic evidence and practical examples in relation to managing environmental and energy transitions in cities. It sheds light on issues such as the challenges and opportunities for cities resulting from the transitions, best practices for managing the transition, and collaboration across sectors and levels of government. The first part of the seminar will focus on a more theoretical discussion on what we know about environmental and energy transitions in cities, including emerging perspectives that can enable new thinking and new approaches for managing environmental and energy transitions in cities. It will also discuss potentially different pathways to transition between cities and rural areas and in different types of cities. The second part of the seminar

during the afternoon will concentrate on practical experiences and examples of policies used to help regions and cities to manage the transition, including the policy barriers in different types of cities, examples of relevant policies, and its caveats in implementation. Discussions will aim at providing different policy options for managing environmental and energy transitions in cities and assess their success and caveats. The outcome of the seminars will feed into an OECD publication to inform urban and regional policy makers on how to best manage environmental and energy transitions for cities and regions.

**Questions to address: How can cities manage environmental and energy transitions?**

- What are environmental and energy challenges cities are facing? Are there specific challenges for cities?
- What are roles that cities can and should play in environmental and energy transitions?
- What are institutional, financial or technical barriers in different types of cities in managing environmental and energy transitions? How can they be overcome?
- What is the role of management and governance in sustainability transitions and what are emerging perspectives?
- What are the barriers that need to be overcome to environmental and energy transitions and how are these related to policy?
- How can technology and social innovation support the environmental and energy transitions in the “smart cities” of the future?
- How can cities prepare for and make the most of these transitions to promote inclusiveness and improve residents’ wellbeing?
- How can EU and national urban policies help cities manage this transition?