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Framing Urban Sustainable Development:

*Features, Challenges and Potentials of urban SD from a multi-level
governance perspective*

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Framing Urban Sustainable Development: Features, Challenges and Potentials of urban SD from a multi-level governance perspective

by

[Umberto Pisano](#), [Katrin Lepuschitz](#) & [Gerald Berger](#)

This ESDN Quarterly Report (QR) provides an overview of the concept of urban sustainable development (SD) as well as initiatives and programmes of urban SD on the global and European level.

In the first chapter, we approach urban SD from a conceptual point of view and portray the reasoning and the trigger behind this ESDN Quarterly Report. Therefore, we look at terms and concepts, and define the basic understanding of urban SD. We then describe the main features, challenges and potentials that make it easier to narrow down the concept of urban SD. Furthermore, we present a reflection on the necessity of multi-level governance approaches to manage the development and transformation of cities and urban areas towards a more sustainable future.

In the second chapter, we guide the reader through several policy initiatives and programmes as well as the main actors that define the arena of urban SD on the global and European level. Therefore, we provide an overview of international and European policy efforts on urban SD and the work of various city networks on this topic. We also review and present several concrete initiatives and institutions engaged in urban sustainability on a global and European level. Finally, we present several city networks, differentiating again between city networks acting on a global and on a European scale.

In the closing third chapter, we briefly reflect on the main points touched in the first two chapters and offer several points for discussion, especially for a further elaboration on the topic of urban SD.

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1 The concept of Urban Sustainable Development

In this chapter of the Quarterly Report, we provide an overview of the concept of 'urban sustainable development'. Firstly, we portray the reasoning and the trigger behind this report. Secondly, we will look at terms and concepts, and will define the main idea of urban SD. Then, we will describe the main features, challenges and potentials that make it possible to narrow down the concept. Thirdly, we will reflect on the necessity of multi-level governance approaches to manage the development and transformation of cities and urban areas towards a more sustainable future.

1.1 Introducing the overall picture

Let us start by reflecting on the following statements derived from the "World Urbanization Prospects: The 2011 Revision" by the United Nations Department of Economic and Social Affairs (UNDESA, 2012):

- *Between 2011 and 2050, the world population is expected to increase by 2.3 billion, passing from 7.0 billion to 9.3 billion (UNDESA, 2011). At the same time, the population living in urban areas is projected to gain 2.6 billion, passing from 3.6 billion in 2011 to 6.3 billion 2050. Thus, the urban areas of the world are expected to absorb all the population growth expected over the next four decades while at the same time drawing in some of the rural population.*
- *Most of the population growth expected in urban areas will be concentrated in the cities and towns of the less developed regions. Asia, in particular, is projected to see its urban population increase by 1.4 billion, Africa by 0.9 billion, and Latin America and the Caribbean by 0.2 billion.*
- *Population growth is therefore becoming largely an urban phenomenon concentrated in the developing world (David Satterthwaite, 2007).*
- *Urbanization is expected to continue rising in both the more developed and the less developed regions so that, by 2050, urban dwellers will likely account for 86 per cent of the population in the more developed regions and for 64 per cent of that in the less developed regions.*
- *Overall, the world population is expected to be 67 per cent urban in 2050.*

When reading these bullet points, it becomes immediately clear how crucial cities and urban areas will be in the future and how important it is to reflect on the processes of urbanisation, especially in the context of sustainable development. In 2050, if in a world of 9.3 billion people, two thirds of them will be living in urban areas, we need to make sure that those cities and urban areas are sustainable and independent from business-as-usual paths of development and growth, mainly because pressure on environmental and social systems is mounting.

It is important to highlight, though, that, cities are already considered as engines of growth and development (Keivani, 2010); they already contribute up to 55% of gross national product (GDP) in low-income countries, 73% in middle-income countries and 85% in high-income countries (UN-

Habitat, 2006). However, cities consume 75% of the world's resources and produce 80% of CO₂ emissions (UN-Habitat 2005). Other issues are also very pressing, especially socially: for instance, in the developing world, UN-Habitat (2006) estimated that almost a billion people are living in slums, approximately one third of city dwellers.

Consequently, as Revi and Rosenzweig (2013) put it, cities have an **extraordinary potential for transformational change** due to their:

- concentration of economic activity,
- potential for social transformation,
- high levels of annual investment in infrastructure and buildings,
- high degree of innovation,
- nimble local governments,
- connection to surrounding rural and natural environments,
- ability to reduce eco-footprints by densification, and
- suitability for systems-based solutions.

In line with Williams (2010), we therefore stress that an **'integrated approach'** is necessary and required if we want to tackle the "huge urban challenges" ahead. Furthermore, we argue that an effective integration needs to take into account all the diverse dimensions that characterise urban challenges and potentials under the guidance and steering of urban sustainable development.

1.2 Defining Urban Sustainable Development

Numerous concepts seem to be out there that relate to cities and sustainable development; though, many terms are used often interchangeably and the question emerges: What is 'sustainable urban development?' What is 'sustainable cities'? And what about 'green cities'? Or what 'urban sustainability'?

For instance, very similarly to the issues related to the notion of sustainable development, the notion of sustainable cities seems to many of us "immediately appealing, yet complex and intangible" (Williams, 2010, p.129). Arguably, "most disciplines working in the field of sustainable cities construct their own notion of what the concept means for them" (Williams, 2010, p.129). Again very similar, indeed, to the general sustainable development discourse.

What also complicates the issue examined here is that the **diversity of cities and urban realities** makes it difficult to define what 'urban sustainable development' is in particular and in a comprehensive way, and that is able to include all the numerous issues related. Therefore, defining urban SD should be considered as very much **context-dependent**. For instance, cities or urban areas in developed countries face very different problems compared to those in developing countries. In addition, cities with a very long history, in contrast to recently urbanised cities, might face very different challenges and will unlikely follow similar approaches. We will treat this aspect in more detail in section 1.3 on features of urban sustainable development.

Coming back to our initial effort, we wanted to clarify the concept of 'urban SD'. First and foremost, in our understanding, we do not consider urban SD as a synonym or a substitute of what is most commonly known and referred to as 'sustainable urban development'. In fact, with the use of urban

SD, we consciously include the sustainable urban development in our reasoning. To be clearer, on the one hand, we consider the term ‘sustainable urban development’ as mainly associated with city planning and economic development. Yet, on the other hand, sustainable urban development can be conceptualized as that kind of urbanization process that leads a city or urban areas “towards a desired status of urban sustainability” (Shen et al., 2011, p.17).

Therefore, **we define urban sustainable development** as the extent of all those practices and activities that:

- Relate with sustainable development within cities (e.g. promotion of organic farmers markets, access to sustainable mobility, reduction of electricity consumption in buildings, recycling and waste prevention, attention to inclusive urban development, etc...);
- Take into consideration the processes of urbanisation of cities in light of sustainable development (e.g. reduction of urban sprawl, construction of bike lanes, promotion of pedestrian areas, provision of affordable housing for disadvantaged residents, etc...);
- Reflect on the throughput of cities with a sustainable development perspective (e.g. prevention of landfilling, attention to water consumption, etc...)

In simple words, we can think about **urban SD as everything relating to SD in an urban context**. Additionally, urban SD is seen as intrinsically connected to and influenced by the broader economic and political frameworks that in many ways shape cities (Bulkeley and Betsill, 2005).

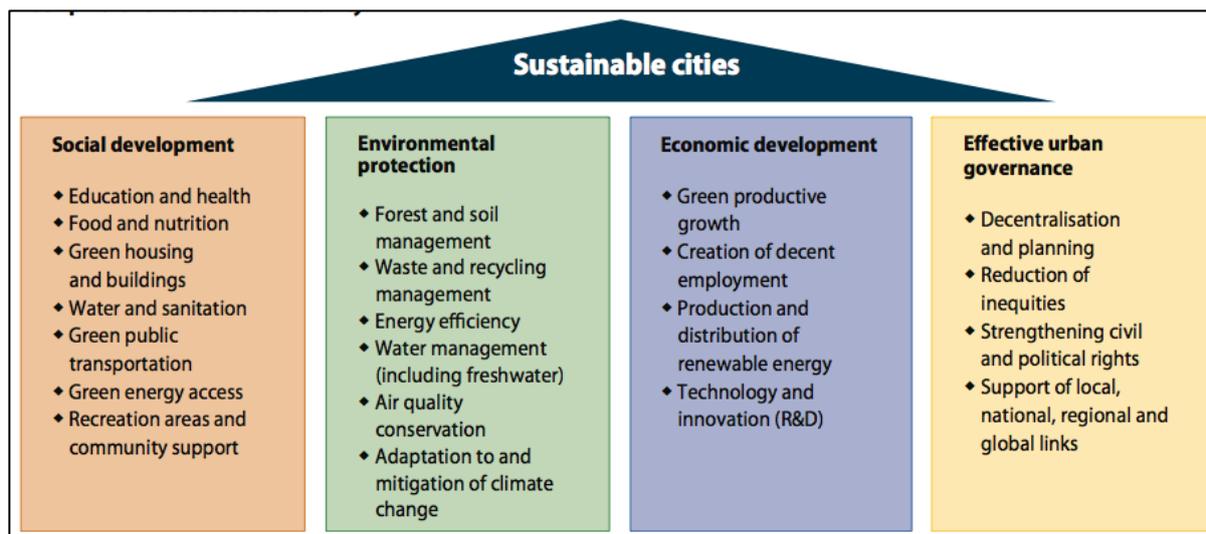
However, we want to argue here that urban sustainable development also needs to be seen as the sum of on-going **transformative processes**, all working to help transitioning cities (or urban areas) **towards a more sustainable future**. These processes that happen at the urban level will have effects not only on the city itself, but also ‘outside’ the city and, hence, have a more widespread effect – locally, regionally, nationally, and globally – thus, requiring a **multi-level governance approach**. Moreover “problems of translating the policy rhetoric of urban sustainability into practice cannot be explained by factors confined to a local arena of governance, or by struggles between the central and local state, but reflect argumentative struggles occurring in multiple sites and spaces to define and defend particular notions of what urban development ought to be (Bulkeley and Betsill, 2005, p.51).

1.3 The main features of urban sustainable development

Adding to our broad definition of what we mean by ‘urban SD’, we also need a number of features that can be considered general enough to comprehend the largest number of cities/urban areas possible. In many ways, these features can be retrieved from the overwhelming literature on sustainable development, but need to be tied down to the urban contexts.

In this effort, we find the conceptualisation offered by UN-DESA (2013) very useful of what sustainable cities should take into consideration. **Figure 1** below shows the four pillars that would enhance the sustainability of cities: i) Social development, ii) Environmental protection, iii) Economic development, and iv) Effective urban governance, including various examples for each pillar.

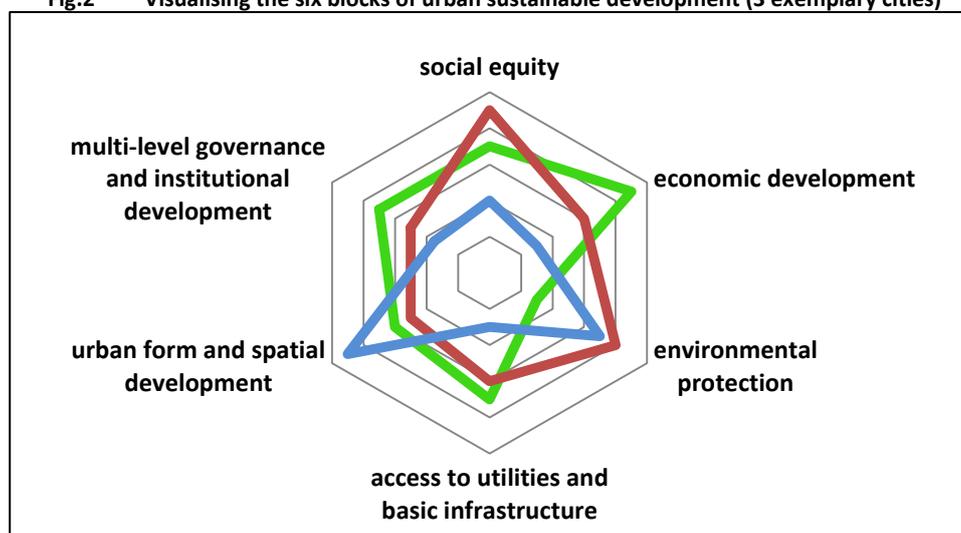
Fig.1: Sustainable Cities



Source: UN-DESA 2013

In order to complement this picture, the paper by Keivani (2010) addresses a number of challenges that cities and urban areas face and will continue to face, and which are all very relevant for urban SD (2010). We here try to summarise these challenges and reflect upon them, adding a visual representation that aims to help to present the arguments: the three coloured lines represent how three exemplary cities could be evaluated in respect to urban SD (Fig.2).

Fig.2 Visualising the six blocks of urban sustainable development (3 exemplary cities)



Source: ESDN diagram (based on Keivani, 2010)

Six blocks of issues can be described that assist in describing urban SD:

1. the **social** perspective;
2. the **economic** development;
3. the **environmental** aspects;
4. the viewpoint of **access to utilities and infrastructure**;
5. the connections derived from **urban form and spatial development**; and,
6. the inclusions of **multi-level governance and institutional development**.

Firstly, from *the social perspective*, “cities are prone to huge intra-urban social inequalities” (Keivani, 2010, p.7). In many cases, social issues and inequalities – such as, for instance, low income, poverty, crime, or social exclusion of particular sectors of society – are common features in cities in the more developed world as well as in the developing world. Nevertheless, the degree of these issues is, of course, much stronger and more problematic in the ‘South’, where cities are faced with a “far more severe context of relative and absolute levels of poverty and exclusion” (ibid.), such as, for example, the enormous number of people living in slums (that was estimated by UN-Habitat, in 2006, as approx. one billion people worldwide).

Secondly, in the context of *economic development*, “cities in the North are struggling with the after effects of large-scale economic restructuring (...) striving to reinvent themselves” (Keivani, 2010, p.8). In the South, cities are more attentive towards “addressing severe levels of income poverty through sustained policies for local economic development and income generating opportunities for low-income households” (p.8). An additional and mutual concern of cities around the world is that of municipal finance, which is generally needed to support economic activities, to ensure provision of essential city services, and to offer social support activities.

As with regard to *environmental aspects*, there are many issues to be addressed although they might be again different in magnitude depending on the context of the city. In general, it is a fact that cities are by far the largest contributors to GHGs emissions, they are therefore decisive actors towards global warming and climate change, and, hence, triggering the increase of climate instability, floods, heat waves or hurricanes that impact back on cities and their citizens. Consequently, at the city level, great efforts must be concentrated to reduce GHG emissions and tackle pressures of climate change (Keivani, 2010, p.9). Other environmental concerns are described by Keivani (2010) in relation to “general environmental pollution, resource management (particularly water) and loss of agricultural land arising from urbanisation, urban sprawl and industrial activities” (p.9).

As fourth block of challenges to urban sustainable development, many issues relate with the need of ensuring *access to utilities and basic infrastructure*. This issue is especially felt in the cities of the developing world, where “lack of access to basic utilities is not only a major impediment to sustainable economic growth and productivity but also a major cause of urban inequity and ill health” (Werna et al. 2009).

As a fifth aspect, Keivani argued that *urban form and spatial development* have “major consequences on the sustainable development encompassing not only environmental issues but also social and economic aspects” (2010, p.11). Therefore, planning and urban development have to be taken into account very consciously if we want to encourage and enhance urban SD.

Finally, *multi-level governance and institutional development* are of crucial importance in all the aspects described above and, therefore, are essential requirements for addressing the main challenges of urban SD. We will treat this aspect in more detail in the next section (1.4).

1.3.1 An urban SDG for the post-2015 agenda

The [Sustainable Development Solutions Network \(SDSN\)](#), an initiative launched by UN Secretary General Ban Ki-moon in August 2012, has recently released its report suggesting that one

sustainable development goal (SDG) should be dedicated to urban areas and cities to highlight their importance. The title of the suggested SDG is “empower inclusive, productive, and resilient cities”:

Make all cities socially inclusive, economically productive, environmentally sustainable, secure, and resilient to climate change and other risks. Develop participatory, accountable, and effective city governance to support rapid and equitable urban transformation. (SDSN, 2013, p.30)

For the SDG, these three targets were proposed:

- a) End extreme urban poverty, expand employment and productivity, and raise living standards, especially in slums;
- b) Ensure universal access to a secure and affordable built environment and basic urban services including housing; water, sanitation and waste management; low-carbon energy and transport; and mobile and broadband communication;
- c) Ensure safe air and water quality for all, and integrate reductions in greenhouse gas emissions, efficient land and resource use, and climate and disaster resilience into investments and standards.

More specifically, the SDSN thematic group “sustainable cities: inclusive, resilient, and connected” worked on this topic and released a background paper that fed into the SDSN report mentioned above. This paper, by Revi and Rosenzweig (2013), especially underlined the so-called ‘urban opportunity’ for a post-2015 agenda: “the ongoing transformation to a global urban society offers an unprecedented opportunity to use the urbanization process as a catalyst for sustainable economic and social development” (p.9). In the box below, we portray their main arguments.

Box 1: An Urban SDG for an Urban Opportunity towards SD

- a. **Cities concentrate and can accelerate economic activity.** The concentration of economic activity in cities contributes significantly to national and global output and employment. Across countries, the urban share of national GDP ranges from an average of 55 per cent in low-income developing countries to an average of 85 per cent in high-income developed countries. In each case, urban share of GDP exceeds the urban share of population (Weiss, 2005). Hence, cities are key drivers and participants in a sustainable development transition.
- b. **Urban infrastructure investment can enable growth, employment, and poverty reduction.** Annual urban infrastructure and building investments are expected to rise globally from \$10 trillion today to more than \$20 trillion by 2025, with urban centers in emerging economies attracting the majority of this investment (Dobbs, 2012). Investment decisions in sustainable long-term urban infrastructure can have far-reaching impacts on the social and economic welfare of urban dwellers, environmental sustainability, and climate resilience.
- c. **Urban areas are sites of social transformation.** In many parts of the world, urban areas have enabled social transformation and inclusion through processes such as investment in human development, addressing asymmetries of gender, race, age and ethnicity and the participation of citizens in governance.
- d. **Local governments are nimble.** Local city governments often have the ability to respond more rapidly to the needs of their populations. They can therefore more quickly and flexibly adapt their policies and actions to follow sustainable development pathways.
- e. **Cities are sites of innovation.** Cities are the crossroads where diverse cultures meet, contest, evolve, and change. They represent and offer rich opportunities for creativity, new ideas, and synergy between groups. The geographic concentration of cities promotes new knowledge generation and the spread of ideas and creativity. Cities are therefore prime locations for demonstrating emerging technologies, as well as innovative social and cultural institutions.
- f. **Cities are interconnected with rural areas.** The development of sustainable urban centers has synergies with surrounding rural areas and communities via economic and employment linkages. Urban poverty reduction can positively impact rural poverty reduction. Rural areas help provide the ecosystem services and food security essential to urban functioning and sustainability.

- g. **Cities are interconnected with the natural environment.** Sustainability requires that urbanization occur within regional and planetary limits of ecological and other life- support systems. Sustainable development actions taken at the city level can significantly impact the natural environment and health, and help reduce greenhouse gas emissions and environmental change.
- h. **Cities have the potential to minimize our environmental footprint.** Well-managed cities that are highly connected and use technology effectively can generate greater levels of societal wellbeing and economic growth at lower rates of resource use and greenhouse gas emissions. A dense urban lifestyle can be “greener” than its rural counterpart especially in high- and many middle-income countries. Urban residents drive less and live and work in smaller footprints that require less energy, water, and materials per person.
- i. **Cities are suited for systems-based approaches.** Cities are amongst the most complex and dynamic of human systems. Sustainable urban development requires a systems-based approach to transformation via economies of scale and scope and facilitating rapid social and institutional innovation. Smart new technologies for managing energy, transportation, and communications are ideally suited for networked and dense urban environments, and have the potential to transform urban areas and their surrounding regions in beneficial and sustainable ways.

Source: based on Revi and Rosenzweig, 2013

1.4 Multi-level governance for urban SD: effective integration and holistic approaches

From the facts and figures outline above, it becomes clear that **local governments are important actors for urban SD**, but there also exist **important links with other tiers of government in a multi-level governance regime** to achieve urban SD in a broader sense. Partnerships and coordination are, therefore, of great importance between the different tiers of government (e.g. national, regional, European or international) and other forms of organisation within society (e.g. districts administrators, city networks, private sector, civil society organisations, NGOs, etc.). But also transparency, accountability and participation are crucial, especially for raising trust, increasing engagement, and the empowerment of citizens. Bulkeley and Betsill (2005) suggest “to **step beyond the local as a frame of reference**, and to engage with the processes which shape local capacity and political will for sustainable development at **multiple sites and scales of governance (...)**” (our emphasis, p.48). Therefore, they argue that “taking a multilevel governance perspective entails engaging with the multiple tiers of government and spheres of governance through which urban sustainability is being constructed and contested” (p.48).

Keivani (2010) also addresses multi-level governance and institutional development as crucial aspects of urban SD. Furthermore, Keivani points at two other important aspects: on the one hand, **subsidiarity** as necessary approach to ensure effective urban management, together with the **competence and coordination among vertical levels of government**. On the other hand, Keivani refers to “**horizontal levels of governance** both in terms of transnational and intra-city linkages and patterns of governance between different city government structures as well as power relations and networked interaction between different public, private and community actors in decision making and policy setting at local and metropolitan levels and the way that they feed into higher levels of decision-making” (Keivani, 2010, p.12; see also McGuirk, 2000; Rakodi 2004a; Rakodi, 2004b; Corfee-Morlot et al., 2009). This aspect is especially critical for ensuring an inclusive, responsive and accountable governance process.

Revi and Rosenzweig (2013) also stressed the need for multi-level governance, particularly by mentioning **city governance** and emphasising how much “metropolitan areas and urban local

governments will be at the center of decision-making” (p.5). Particular attention is dedicated to linking and working with **many stakeholders** (e.g. national governments, local authorities, businesses, knowledge institutions, and civil society) that together “must mobilize the needed financial, institutional and human resources across a broad range of urban issues, such as jobs, housing, services, and infrastructure” (p.5). From the point of view of the European Union, Member States are still “largely responsible for urban policy, and more generally for setting the frameworks within which local authorities function. However, national ministers responsible for urban policy have been collaborating at European level for nearly 20 years, resulting in some common ‘intergovernmental’ approaches. They work particularly closely with DG Regio. Their joint activities are highly influential in shaping opportunities for Structural Funds spending in urban areas – and by local authorities” (Mills, 2013, p.2). This is an important example to emphasise how crucial the interconnections are, both vertically and horizontally, and the coordination and cooperation with actors outside of traditional government institutions, such as e.g. communities, NGOs, or private sector. As developed by Smith and Wiek (2012), what follows is an example of how an **urban sustainability governance framework** could look like (Fig 1.3), while taking care of several general governance principles such as:

- *Social learning;*
- *Integrative, consensual decision making;*
- *Adaptive capacity;*
- *Openness to creativity and innovation;*
- *Accountability and transparency.*

Fig. 1.4 Components of an urban sustainability governance framework and related success criteria

Governance component	Criteria for successful initiation
Sustainability vision	Identifies a desired future state that complies with sustainability principles Cuts across sectors (environment, economy, and society) Acknowledges current unsustainable trends
Sustainability targets	Indicate a sustainable state, rather than a reference state or benchmark Outline appropriate indicators to measure target Are collaboratively devised by multiple, relevant actors
Governance principles	Have full buy-in from all staff Encourage inclusive processes that are open to adaptation/innovation Encourage partnerships among government, business, and the public
Sustainability actions	Are devised for short-term impacts and long-term targets Are devised through common objectives, trade-offs, and incentives
Sustainable impacts	Are measured with evaluative tools to compare against outlined targets Are measured at local and regional levels Are used to revise and adapt current strategies and policies
Organization	Sustainability Office or interdisciplinary team cutting across departments Display horizontal coordination through participatory processes

Source: Smith and Wiek, 2012, p. 432

2 A guide through urban SD initiatives

This chapter provides an overview of international and European policy efforts on urban sustainable development and the work of various city networks on this topic. Firstly, we review and present several concrete initiatives and institutions engaged in urban sustainability on a global and European level. In the second part of the chapter, we present several city networks, differentiating again between city networks acting on a global and on a European scale.

2.1 The international level

In this section, we portray UN bodies and contexts in which urban sustainable development is taking shape on the international level. In general, sustainable development is one of the corner-stones within the UN-system. Various UN institutions and initiatives capture the urban dimension of SD thus highlighting its importance in this context. Many documents, mechanisms, initiatives, policy briefs and institutions at the UN level have been dealing with urban sustainability topics already since many decades.

2.1.1 UN Bodies dealing with urban SD

UN Habitat is the main institution responsible for urban SD within the UN system and for implementing the Rio+20 contents on sustainable cities, besides UN bodies like UN DESA, UNEP and UN Global Compact.

2.1.1.1 UN-HABITAT

The [United Nations Human Settlements Programme \(UN-HABITAT\)](#) is the UN lead agency on urban sustainable development and related work in this area can be traced back several decades. It is mandated by the UN General Assembly and has the [mission](#) to promote socially and environmentally sustainable human settlements development and the achievement of adequate shelter for all. Furthermore, the focus of UN-HABITAT is on urban areas in developing countries, especially emphasising poverty and sanitation issues. The main documents outlining the [mandate](#) of UN-HABITAT are the Vancouver Declaration on Human Settlements (1976)¹, Habitat Agenda (1996)², Istanbul Declaration on Human Settlements (1996)³, the Declaration on Cities and Other Human Settlements in the New Millennium (2001)⁴, and Resolution 56/206 (2002)⁵.

To address urban SD challenges, UN-HABITAT's Governing Council in 2005 asked the agency to prepare a Medium-Term Strategic and Institutional Plan. The [vision](#) of the plan is to help create by 2013 the necessary conditions for concerted international and national efforts to minimize the growth of slums and to set the stage for the subsequent reduction in and reversal of the number of slum dwellers. The plan's overall strategic goal is to support governments and their development

¹ http://www.unhabitat.org/downloads/docs/924_21239_The_Vancouver_Declaration.pdf

² http://www.unhabitat.org/downloads/docs/1176_6455_The_Habitat_Agenda.pdf

³ http://www.unhabitat.org/downloads/docs/407-ISTANBUL_DECLARATION_ON_HUMAN_SETTLEMENTS-Istanbul_Declaration.pdf

⁴ <http://www.unhabitat.org/content.asp?cid=2071&catid=1&typeid=25&subMenuId=0>

⁵ <http://www2.unhabitat.org/about/documents/gae.pdf>

partners to achieve more sustainable urbanization. It aims to promote policy and institutional reform in order to have impacts at the appropriate scale.

Moreover, UN-HABITAT has currently 5 priority themes: governance; environmental planning and management; urban economy; education, training and research; and urban planning. UN-Habitat's initiatives on these themes include projects⁶ (e.g. Local Government Association And Urban Development Capacity Building Project in Iraq and Governance And Development Support Programme in Afghanistan) to reports⁷ (e.g. UN-HABITAT Climate Change Strategy 2010-2013 to programmes made in cooperation with other UN bodies (e.g. Sustainable Urban Development Network, Best Practices and Local Leadership etc.).

Currently, much emphasis in the context of urban SD is put into the upcoming [3rd United Nations Conference on Housing and Sustainable Urban Development \("HABITAT III"\)](#), which will take place in 2016. After the United Nations General Assembly convened the Habitat I conference in Vancouver in 1976, its commitments on sustainable human settlements were reconfirmed at the Habitat II in Istanbul in 1996. The Habitat Agenda was adopted as a global plan of action for adequate shelter for all. In 2016, world leaders aim to elaborate on the contents of the first two conferences by taking further steps at Habitat III. The third conference should offer the opportunity to member states to discuss a New Urban Agenda focussing on policies and strategies. It will address following key elements:

- **National Urban Policy** as an instrument to establish a connection between the dynamics of urbanisation and the overall process of national development;
- **Laws, institutions and systems of governance** which create the normative basis of action underlying the process of urbanisation; and
- **Urban economy** in order to strengthen urban economic development worldwide.

This conference is a recent proof that the importance of urban sustainability is further increasing within the UN. With Habitat III, the UN hopes to bring the relevant actors together and to link results with national legislation in order to provide boost and ownership to implementation of urban sustainable development.

2.1.1.2 UN-DESA

The [United Nations Department of Economic and Social Affairs \(UN-DESA\)](#), is involved in several joint initiatives on sustainable cities and policy briefs on smart cities. For instance, the **"Integrated Strategy for Sustainable Cities"**⁸ is a policy brief on the integrated approach to build sustainable cities that involves the coordination of objectives and programmes between different city stakeholders as well as the linkages between and within socio-economic sectors. UN-DESA also manages the **UN Office for SD (UNOSD)**⁹ and together they organised an **"International Symposium on Sustainable Cities: Empowering Local Governments through Capacity Building and Knowledge Sharing"**¹⁰ which took place in Incheon, Republic of Korea.

⁶ <http://open.unhabitat.org/projects/>

⁷ <http://www.unhabitat.org/categories.asp?catid=555>

⁸ http://www.un.org/en/development/desa/policy/publications/policy_briefs/policybrief40.pdf

⁹ <http://www.unosd.org/index.php?menu=17>

¹⁰ <http://www.unosd.org/index.php?page=view&type=13&nr=17&menu=177>

UN-DESA has an own [Division for Sustainable Development](#) dealing with sustainable cities and human settlements. The Division for Sustainable Development (DSD) provides leadership in promoting and coordinating implementation of the sustainable development agenda of the United Nations mainly referring to the United Nations Conference on Sustainable Development (Rio+20). The [homepage](#) of this division provides information on Sustainable Development Action Networks which are action-oriented communities where stakeholders may collaborate and share information on certain sustainable development topics in order to implement concrete policies, plans, programmes projects in support of the objectives of the network. One of the **Sustainable Development Action Networks is on Sustainable Cities**. In order to provide information for potential project partners, UNDESA presents projects of stakeholders related to sustainable cities online. Moreover, it organises events, such as the special event on Sustainable Cities with Local Authorities Major Groups.

2.1.1.3 UNEP

The [United Nations Environment Programme \(UNEP\)](#) has an urban environment unit which aims to integrate the urban dimension in UNEP's work dealing with issues that have a local and international dimension, such as air pollution, coastal areas, waste, biodiversity and climate change. Also, in cooperation with other partners, UNEP supports governments to address key urban environmental issues at national, regional and global levels¹¹, runs several urban key programmes, such as the “**Sustainable Cities Programme**” with UN-Habitat, and also works closely with city networks, such as Cities Alliance and GEO-Cities. Another example to mention is the “[Global Initiative for Resource-Efficient Cities](#)” which aims to reduce pollution levels, to improve resource efficiency and to reduce infrastructure costs in cities on a global scale.

2.1.1.4 UN Global Compact

The [UN Global Compact](#) is a strategic policy initiative for businesses that commit themselves to aligning their operations with principles in the areas of human rights, labour, environment and anti-corruption. It is also considered as a practical framework for the development and implementation of sustainability policies and practices offering work streams, management tools and resources in order to help advance sustainable business models and markets.

In terms of urban SD, the [Global Compact Cities Programme](#) represents a large corporate responsibility initiative providing a framework for translating UN principles on Human Rights, Labour Standards, Environment and Anti-Corruption into day-to-day urban governance and management. The Cities Programme supports a holistic approach to sustainability that considers, plans for and measures impact across four social domains: the economic; ecological; political; and cultural dimension.

2.1.2 International policy documents related to urban SD

The following two subchapters give an overview of the international policy documents that are directly related to urban SD and include urban SD issues (among other SD issues).

2.1.2.1 Local Agenda 21

Local Agenda 21 specifically refers to sustainable development in local communities and cities. It is a comprehensive action plan with global, national and local considerations set up by organisations of

¹¹ http://www.unep.org/urban_environment/index.asp

the UN System, governments, and major groups in every area in which humans have impacts on the environment. The Local Agenda 21 is the result of [Agenda 21](#), which was decided at the UN Conference on Environment and Development held in Rio de Janeiro in 1992. The “local” refers to the municipal implementation of Agenda 21.

Chapter 7 of Agenda 21 deals with “**Promoting Sustainable Human Settlement Development**” and provides objectives, programme areas, activities and means of implementation around the topic of human settlements. The following aspects point out the **most important objectives** of the document (UNCED, 1992):

- to improve the social, economic and environmental quality of human settlements and the living and working environments of all people, in particular the urban and rural poor (paragraph 7.8);
- to ensure sustainable management of all urban settlements, particularly in developing countries, in order to enhance their ability to improve living conditions of residents (paragraph 7.15);
- to provide for the land requirements of human settlement development through environmentally sound physical planning and land use (paragraph 7.28);
- to ensure the provision of adequate environmental infrastructure facilities in all settlements by the year 2025 (paragraph 7.38);
- to adopt policies and technologies and to exchange information on them in order to enable the construction sector to meet human settlement development goals (paragraph 7.68);
- to improve human resource development and capacity-building in all countries by enhancing the personal and institutional capacity of all actors, particularly indigenous people and women, involved in human settlement development (paragraph 7.76).

Europe has led the way in realizing **Local Agenda 21 (LA 21) initiatives**. Since 1992, more than 5,000 European communities have launched LA 21 initiatives. However, they are marked by national differences in the rate at which LAs 21 are implemented.

Following the Rio Conference in 1992, the “**European Campaign for Sustainable Cities and Towns**” has been launched in Aalborg in 1994. On the basis of the Rio Agenda 21, the issue of realisation at the local level was treated in greater details and specifically for Europe. The final document, the **Aalborg Charter**, has since been signed by several thousand European communities that have thus committed themselves to realizing Local Agenda 21 processes.

2.1.2.2 Rio +20 Outcome Document

In 2012, the United Nations Conference on Sustainable Development (UNCSD) Rio+20 produced the outcome document, ‘The Future We Want’. The document includes four paragraphs to ‘**Sustainable cities and human settlements**’ within the fifth chapter of ‘Framework for action and follow-up’. These paragraphs emphasize the UN commitment to and the importance of sustainable cities:

- “Cities can promote economically, socially and environmentally sustainable societies. In this regard, we recognize the need for a holistic approach to urban development and human settlements” (para.134);
- “We commit to promote an integrated approach to planning and building sustainable cities and urban settlements” (para.135);

- “We emphasize the importance of increasing the number of metropolitan regions, cities and towns that are implementing policies for sustainable urban planning and design, involvement of multiple stakeholders, important role of municipal governments in setting a vision for sustainable cities” (para.136); and
- “We recognize that partnerships among cities and communities play an important role in promoting sustainable development” (para.137).

After Rio+20, the UN launched a process to develop a set of **Sustainable Development Goals (SDGs)** building on the experience of the Millennium Development Goals (MDGs). In this process, a Sustainable Development Goal on Sustainable Cities and Human Settlements specifically for cities has been also proposed¹² (for more details, please see chapter 1.3.1 above).

2.2 The European activities

Within the EU policy system, responsibilities on urban sustainable development are shared by several Directorate Generals and included in various policy documents, also comprising initiatives on sustainable cities. Thus, various parallel policy mechanisms exist which are not always directly linked to each other, but pursuing the same or similar objectives. Furthermore, funding schemes as well as tools are provided by EU institutions to enhance sustainable development in European urban areas.

In the following sections, we provide an overview of how urban sustainable development issues and activities are addressed in various EU policy strategies, by different EU institutions, and by funding schemes.

2.2.1 Policy strategies

Europe 2020 Strategy: the EIP SCC

As part of the Europe 2020 framework, urban sustainable development issues are addressed in as part of the Innovation Union Flagship Initiative. In 2012, the European Commission launched the **European Innovation Partnership Smart Cities and Communities (EIP SCC)**¹³ which is one of the EIPs launched within the Innovation Union Flagship Initiative. The Partnership follows the Smart Cities and Communities Initiative which was launched in 2011. The EIP SCC is a partnership across the areas of **energy, transport, and information and communication**, with the objective to enhance progress in areas such as energy production, distribution and use, mobility, transport and information and communication technologies. With the aim of coming up with scalable and transferable solutions to contribute to the EU’s 20/20/20 climate action goals, it looks to reduce high-energy consumption, green-house-gas emissions, bad air quality and congestion of roads. The EIP SCC focus will thus **support existing and future EU initiatives for urban areas in the field of environment and climate policies**. It ultimately looks to establish strategic partnerships between industry and European cities to develop the urban systems and infrastructures of tomorrow. With the aim of boosting the development of smart technologies in cities, the European Commission pools research resources from energy, transport and ICT supporting demonstration projects in cities. Each demonstration project financed under the same scheme must combine all the three sectors in order to create synergies. For 2013, 365 million Euro funds have been provided for these urban

¹² See for instance: <http://urbansdg.org>

¹³ http://ec.europa.eu/research/innovation-union/index_en.cfm?pg=eip

technology solutions. The Smart Cities and Communities EIP brings together four DGs: Move, Energy, Research and Innovation and Connect. However, DG Environment and DG Regio are also engaged in EIP projects on smart cities as well¹⁴.

The EIP SCC consists of the **High Level Group** and the Smart Cities Stakeholder Platform. In the High Level Group, there are high level representatives from industry, research and cities. Each High Level member elects an associate from their company/organisation to support them in their work (Sherpa Group). Together they are responsible for the Strategic Implementation Plan (SIP), which helps define how concepts promoting Smart Cities are put into practice. It also looks at how the European Commission can support these measures during the next Research Framework Programme – Horizon 2020. The **Smart Cities Stakeholder Platform** is the collaborative, networking and knowledge sharing tool of Smart Cities and Communities. It collects and analyses input from all stakeholders in order to: give advice to the High Level Group to feed into the Strategic Implementation Plan; and provide detailed feedback to stakeholders who can use it to create their own activities and projects. Ultimately the High Level Group and the Smart Cities Stakeholder Platform work together to encourage and support Smart Cities concepts to be embraced on a wide scale¹⁵.

The 6th and 7th Environmental Action Programme

Besides the Europe 2020 Strategy, there are various European policy mechanisms that have at least one section dealing with urban sustainable development or sustainable cities. For instance, the **7th Environmental Action Programme** sets a strategic agenda for environmental policy-making with objectives to be achieved by 2020. It identifies cities as crucial engines for addressing environmental problems and risks. Thus, in order to enhance the sustainability of EU cities, the 7th EAP includes the goal for the majority of cities in the EU to be implementing policies for sustainable urban planning by 2020. The main responsible body to support these targets within the European Commission is DG Environment¹⁶. However, other DGs are involved in urban initiatives, such as DG Energy, DG Digital Agenda, DG Regional Development and DG for Regional and Urban Policy.

EU Sustainable Development Strategy

The renewed EU Sustainable Development Strategy of 2006 includes several key challenges and required actions. Sustainable transport is one of these key challenges in the EU SDS and ensuring transport systems meeting society's economic, social and environmental needs. In the EU SDS, one of the actions to tackle transport systems is to develop and implement urban transport plans and systems taking into account technical guidance provided by the Commission and considering closer cooperation between cities and surrounding regions. Moreover, the EU SDS in the section on mobilizing actors and multiplying success refers to the role of cities in SD (para 29):

“With regard to the important role of local and regional levels in delivering sustainable development and building up social capital, it is the overall aim to build sustainable communities in urban and rural areas where citizens live and work and jointly create a high quality of life. Approaches like the Local Agenda 21 and other processes with broad public

¹⁴ See also: European Commission. 12 b. Press Release: Commission launches innovation partnership for Smart Cities and Communities. Available at: http://europa.eu/rapid/press-release_IP-12-760_en.htm

¹⁵ See also: Communication from the Commission Smart Cities and Communities – European Innovation Partnership. Available at: http://ec.europa.eu/energy/technology/initiatives/doc/2012_4701_smart_cities_en.pdf

¹⁶ <http://ec.europa.eu/environment/europeangreencapital/about-the-award/policy-guidance/index.html#sthash.DyLSIfgN.dpuf>

participation must be further strengthened and promoted. Municipalities, cities and towns should be invited to sign and implement the Aalborg Commitments. Networks at different levels should support these activities.”

2.2.2 EU institutions and examples of projects

Within the European Commission, several Directorate-Generals (DGs) of the European Commission have responsibilities that include urban SD and sustainable cities, including various programmes and projects. Some of the DGs charged with urban SD issues are: DG Move, Energy, Research and Innovation, Connect, Energy, and Regional Development. They are involved in the Smart Cities and Communities EIP. In the following section, projects and funds of DG Environment, Regional Development, Mobility and Transport and Energy are presented in order to show how the DGs include engagement in smart and sustainable cities into their agenda.

DG Regional and Urban Policy

The mission of the [DG for Regional and Urban Policy](#) is to strengthen economic, social and territorial cohesion by reducing disparities between the levels of development of regions and countries of the EU.

Examples of DG Regio projects related to urban sustainability are:

- [URBACT](#) is a European exchange and learning programme promoting sustainable urban development. It tries to enable cities to work together to develop solutions to major urban challenges, reaffirming the key role they play in facing increasingly complex societal changes. Furthermore, the project helps cities to develop pragmatic solutions that are sustainable, and that integrate economic, social and environmental dimensions.
- [JESSICA Joint European Support for Sustainable Investment in City Areas](#) is an initiative of the European Commission developed in co-operation with the European Investment Bank (EIB) and the Council of Europe Development Bank (CEB). Its mission is to promote sustainable urban development and regeneration through financial engineering mechanisms. JESSICA supports projects in areas, such as urban infrastructure, heritage or cultural sites, redevelopment of brownfield sites, university buildings and energy efficiency improvements.

DG Regio also funds sustainable urban projects mainly through its **Structural Funds scheme**, the European Regional Development Fund (ERDF) and the Cohesion Fund:

- [ERDF](#) aims to strengthen economic and social cohesion on the European Union by correcting imbalances between its regions. The ERDF focuses its investments on several key priority areas. This is known as ‘thematic concentration’: (a) Innovation and research; (b) the digital agenda; (c) support for small and medium-sized enterprises (SMEs); and (d) the low-carbon economy. Since many years, sustainable development is included in the Structural Funds regulation as a cross-cutting theme that has to be included in all programming documents. The ERDF also gives particular attention to specific territorial characteristics. ERDF action is also in fact designed to reduce economic, environmental and social problems in **urban areas**, with a special focus on sustainable urban development. At least 5 % of the ERDF resources are set aside for this field, through ‘integrated actions’ managed by cities.

- The **Cohesion Fund** is aimed at Member States whose Gross National Income (GNI) per inhabitant is less than 90 % of the EU average. It aims to strengthen economic and social disparities and to promote sustainable development, and it is now subject to the same rules of programming, management and monitoring as the ERDF and ESF though the Common Provisions Regulation. Among its **investment priorities** (Art.4) , the Cohesion Fund¹⁷ takes into consideration the urban environment and supports:
 - 1) the shift towards a low-carbon economy in all sectors by, among others, “promoting low-carbon strategies for all types of territories, **in particular for urban areas**” (our emphasis);
 - 2) climate change adaptation, risk prevention and management;
 - 3) the environment and promoting resource efficiency by, among others, “taking action to improve the **urban environment, to revitalise cities**” (our emphasis); and,
 - 4) sustainable transport and removing bottlenecks in key network infrastructures.

DG Environment

DG Environment¹⁸ has the objective to protect, preserve and improve the environment for present and future generations. Among these, the policy on sustainable development also takes into consideration the [theme of ‘sustainable cities’ and the ‘urban environment’](#). The division on SD policy undertakes work on smart cities and developed the **Thematic Strategy on the Urban Environment**, which was adopted in 2006 with the collaboration of the EU Expert Group on the Urban Environment and several other stakeholders.

Moreover, DG Environment deals with the urban environment by linking main European Commission policies on urban issues, such as air pollution, noise, clean urban transport, energy efficiency in buildings and urban regeneration.

Support for cities is provided by projects or tools and urban environment data. In order to illustrate what is done, two projects are exemplified:

- The **European Green Capital Award** enables cities to inspire each other and share examples of good practices in situ. The award is given to cities that as a consistent record of achieving high environmental standards, can act as a role model to inspire other cities, and promote best practices to all other European cities. It is the result of an initiative taken by 15 European cities and the Association of Estonian cities in 2006 which was launched by the European Commission in 2008¹⁹.
- **European Mobility Week Award** scheme rewards the local authority that raise public awareness of sustainable mobility issues and make achievements towards sustainable urban transport. The winning city is chosen by an independent panel of transport experts²⁰.

DG Environment makes [funding](#) available through two different programmes:

- 1) The **LIFE fund** is the European Union’s financial instrument supporting environmental and nature conservation projects throughout the Union and in some candidate and neighbouring

¹⁷ See also: <http://new.eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32013R1300&from=EN>

¹⁸ http://ec.europa.eu/environment/urban/thematic_strategy.htm

¹⁹ <http://ec.europa.eu/environment/europeangreencapital/about-the-award/>

²⁰ <http://www.mobilityweek.eu/home/>

countries. As part of this funding scheme, projects on urban SD can also be funded. Since 1992 LIFE has co-financed some 2,750 projects for a total of €1.35 billion.

- 2) The **Competitiveness and Innovation Framework Programme – Entrepreneurship and Innovation Programme (CIP-EIP)** supports projects in eco-innovation through three initiatives: [financial instruments, network of actors and pilot and market replication projects](#).

DG Energy

DG Energy has launched initiatives that address smart cities and are exemplified here:

- [CONCERTO Initiative](#) aims to demonstrate that the energy-optimisation of districts and communities as a whole is more cost-effective than optimising each building individually, if all relevant stakeholders work together and integrate different energy-technologies in a smart way. It started in 2005 and has co-funded more than 175 Million Euro, 58 cities and communities in 22 projects in 23 countries. CONCERTO is an initiative within the European Research Framework Programme (FP6 and FP7);
- [The Platform Smart Cities and Communities](#) has been set up on behalf of DG Energy as part of the Smart Cities and Communities Initiative under the SET-Plan to make information accessible on potential technologies to enable cities and local governments to find and finance suitable technological solutions. In finding suitable technologies, four working groups are involved in following topics: Energy Supply Networks, Mobility and Transport, Finance Group, Smart City Roadmap Group and ICT4 Smart Cities Group. The objective is to develop formalized information of technology solutions. Moreover, the Platform is a key component of the European Commission's strategy to support Smart Cities.

DG Transport and Mobility

[DG Transport and Mobility](#) is responsible for the work on a series of inter-modal transport issues and addresses a wide range of transport themes, such as passenger rights, security and safety, sustainable transport and clean and urban transport. Within the [theme Clean and urban transport](#), DG Transport is responsible for the **Urban Mobility Package**²¹, which reinforces supporting measures in the area of transport by: (i) Sharing experiences, show-casing best practices, and fostering cooperation; (ii) Providing targeted financial support; (iii) Focusing research and innovation on delivering solutions for urban mobility challenges; and, (iv) Involving the Member States and enhance international cooperation.

The main initiatives by DG Transport on smart cities are:

- The [CIVITAS Initiative](#) helps cities across Europe to implement and test innovative and integrated strategies, which address energy, transport and environmental objectives. So far, projects in 59 cities have been or are being supported. The annual CIVITAS Forum brings together practitioners and politicians from the CIVITAS cities. The initiative runs until 2016 and thanks to an EU-funded investment of well over EUR 200 million, the project has guided cities to introduce improvements measures. Examples include a public transport ticketing system in Tallinn, Estonia, a 100% clean bus fleet in Toulouse, France, waterborne goods transport in Bremen, Germany and a new traffic control system in Bologna, Italy;

²¹ See also: [http://ec.europa.eu/transport/themes/urban/doc/ump/com\(2013\)913_en.pdf](http://ec.europa.eu/transport/themes/urban/doc/ump/com(2013)913_en.pdf)

- The [Eltis project](#) facilitates the exchange of information, knowledge and experiences in the field of urban mobility in Europe. Eltis supports the creation of urban transport systems, which use less energy and produce fewer emissions, while improving the competitiveness of urban areas and the mobility and quality of life of its citizens. Created more than 10 years ago, Eltis is now Europe's main portal on urban mobility. It organizes regular events and frequently provides best practice examples of European cities in terms of sustainable transport.

DG Connect

The [DG for Communications Networks, Content and Technology \(DG CONNECT\)](#) works with digital technologies that can help deliver the growth that the EU needs. ICT for Sustainable Growth is a Forum within the Digital Agenda Flagship Initiative that addresses energy efficiency, water management and climate change adaptation. It deals with several policy areas such as energy efficiency of the ICT Sector, Energy Efficient Buildings, Smart Grids, Waste Management and Smart Sustainable Cities. In regard of [Smart Sustainable Cities](#), ICT is identified as a significant means to enable a better use of energy in buildings, transport, street lightning and in other areas.

2.2.3 Tools and mechanisms

Tools and mechanisms to enhance urban sustainable development in a multi-level governance approach comprise ‘**knowledge exchange platforms**’ and ‘**top-down implementation projects**’. In this section, top-down exchange platforms are described.

[Reference Framework for European Sustainable Cities \(RFSC\)](#)

The RFSC is a joint initiative of EU Member States, the European Commission and European organisations of local governments and serves as online toolkit for European local authorities that work towards integrated sustainable development approaches. It contributes to urban sustainable development by helping cities to promote their work and by providing space and support to the community of cities.

[European Urban Knowledge Network](#)

The [European Urban Knowledge Network](#) is an inter-governmental urban network and was launched at the informal ministerial conference on urban policy “Cities Empower Europe” in 2004. The aim was to develop a pilot project for a European urban knowledge exchange network with the voluntary participation of Member States and the support of URBACT.

2.3 City networks on urban SD

The establishment of city networks goes back to the 1950s and, nowadays, a myriad of such alliances exist on a global as well as on a European scale. In order to gain support and knowledge sharing, cities come together and exchange important information regarding city planning and management, economic development, environmental protection and social concerns. Usually, these alliances are created by members for members, hence they are considered as bottom-up movements. Some, however, are founded by European institutions to foster exchange among European cities through networking, knowledge exchange and sharing of best-practices, these networks favour the processes

of achieving important goals, such as EU targets regarding CO₂ emissions or energy related goals. Thus, city networks can also be considered as important implementation tools for urban sustainable development objectives.

In the following sections we present a selection of city networks that operate on the global or European level, and that focus exclusively or include sustainable development issues. For an overview of more city networks and a more in-depth description of the ones you find below, please see [ESDN Case Study No. 15](#).

2.3.1 Global networks

The most important city networks operating at a global scale are **ICLEI** (Local Governments for Sustainable Development), **UCLG** (The Global Network of Cities, Local and Regional Governments), **Cities Alliance** and **C 40 Cities**. Please note that ICLEI has a global and a European section and thus will be considered as a global as well as a European network in this chapter.

[ICLEI \(Local Governments for Sustainable Development\)](#) is a membership association consisting of 12 mega-cities, 550 large cities and urban regions, 450 small and medium-sized cities and towns in 86 countries dedicated to sustainable development. It receives its mandate from its members' local governments and municipal organizations and is managed by an ICLEI Council, Global and Regional Executive and a Management Committee. Beyond its global outreach, ICLEI has a European section with its own European Secretariat. The global alliance encompasses a number of initiatives: 1) a network of local governments that facilitates city-to-city cooperation; 2) thematic networks that bring together cities; 3) self-assessment tools for cities, such as Local Authorities Self Assessment of Local Agenda 21, 4) tools like eco-budget etc.

[UCLG \(The Global Network of Cities, Local and Regional Governments\)](#) is present in 140 UN member states. Its members include individual cities and national associations of local governments. More precisely, over 1,000 cities across 95 countries as well as 112 Local Government Associations are direct members of UCLG. This city network has a decentralised structure with 7 regional sections covering Africa, Asia-Pacific, Euro-Asia, Europe, Latin America, Middle East and West Asia, North America, and one metropolitan section. These regional and metropolitan sections are independent legal entities which conduct their own regional activities. UCLG supports international cooperation between cities and their associations, and facilitates programmes, networks and partnerships to build the capacity of local governments.

[Cities Alliance](#) is a global partnership for urban poverty reduction and the promotion of the role of cities in sustainable development. Members comprise local authorities, national governments, NGOs and multi-lateral organisations, such as the EU, UN-Habitat and the World Bank. This network's objectives are to support cities in enhancing national policy frameworks to address urban development needs, developing and implementing local inclusive strategies and plans and developing mechanisms to engage citizens in city or urban governance.

[C 40 Cities](#) is a global network of large cities taking action to address climate change by developing policies and programs that generate measurable reductions in greenhouse gas emissions and climate risks. It offers direct access, peer-to-peer exchange and research and communities to cities. More precisely, it helps cities to advance significant climate policies and initiatives through increased local

capacity. Moreover, it provides expertise to cities to design and implement climate policies and projects. Through creating networks, C 40 is building a community of practice to identify solutions, share lessons learned and provide assistance to policymakers to adapt approaches to local conditions.

Besides the mentioned networks, there are several others, such as [Eco Compact Cities Network](#) and the [World Mayor Council on Climate Change](#), which aim to foster knowledge exchange on topics and projects related to sustainable development.

2.3.2 European networks

City networks also operate on a European scale in order to reflect European objectives on urban sustainable development. Among the most well-known European networks are the **Covenant of Mayors, Eurocities, ICLEI Europe and CEMR (Council of European Municipalities and Regions)**. In the following paragraphs, we briefly provide their main information. More detailed information on each one of those and other city networks can be found in [ESDN Case Study No. 15](#).

The [Covenant of Mayors](#) has been portrayed by European institutions as an exceptional model of multi-level governance. It was launched in 2008 by the European Commission and interacts with a wide range of projects, policies and initiatives from European institutions. Its operating office is lead by several city networks, such as Energy Cities, Climate Alliance, Eurocities. It aims to meet the EU's goal of a 20% CO₂ reduction by making signatories to commit to territorial Sustainable Action Plans. In order to reach this goal, the Covenant of Mayors offers assistance towards the implementation of Sustainable Energy Action Plans.

[Eurocities](#) was founded by the mayors of six cities in 1986 and is a network of large European cities (all over 250,000 inhabitants). It covers a wide range of urban topics and activities ranging from culture, economy, environment, knowledge society, mobility to social affairs. However, it focuses on climate actions, social inclusion projects and recovery in terms of sustainable economic development. Its main aim is to provide broad exchange of knowledge and experiences to cities also serving as a political platform for politicians. In order to gain membership to Eurocities, individual member cities have to pay a membership fee.

[ICLEI Europe](#) is the European section of the global city network ICLEI. It deals with a great number of areas related to sustainability, including biodiversity, climate change and adaptation and mitigation, but also with urban governance issues. ICLEI Europe represents local governments in all relevant policy processes for sustainability in Europe and works together with other European networks, the European Commission, the Committee of the Regions and many other organisations involved in formulating EU policies and strategies. Since 1992, its secretariat is situated in ICLEI's member city Freiburg, Germany.

[CEMR](#) or Council of European Municipalities and Regions was founded by European mayors in 1951 and is the oldest and most wide-ranging European association of local and regional governments from 40 European countries, including all levels of territories: local, intermediate and regional. Its aim is to enhance the local and regional contribution by influencing European policy and legislation in all areas related to municipalities and regions and providing a form for debate between local and regional authorities via their national representative associations. The areas of CEMR related to

sustainable development covered have a more local character and include air quality, energy efficiency, employment and local life.

For some concrete examples on how urban SD is applied in practice, please see the [ESDN Case Study No.16](#). It focuses on the experiences of three cities: Copenhagen, Newcastle and Vienna.

3 Conclusions and reflections

In this closing chapter, our intention is to briefly reflect on the main points touched in the first two chapters and to offer five points for discussion, especially for a further elaboration on the topic of urban sustainable development:

First, as Revi and Rosenzweig (2013) put it, cities have an **extraordinary potential for transformational change**. However, what seems lacking at the moment is an effective integrated approach to urban sustainable development. Therefore, during the report and in line with Williams (2010), if we want to tackle the “huge urban challenges” ahead, we stressed that **an ‘integrated approach’ to urban sustainable development is necessary and required**. An effective integration needs to take into account all the diverse dimensions that characterise urban challenges and potentials under the guidance and steering of urban sustainable development. Additionally, the definition of urban SD is very much **context-dependent**, and this feature makes it very difficult to define what ‘urban sustainable development’ is in a general and comprehensive way that is also able to include all the numerous issues related to it.

We refer to **urban SD as everything relating to SD in an urban context**. However, we defined **urban sustainable development** more specifically as the extent of all those practices and activities that: (i) *Relate with sustainable development within cities*; (ii) *Take into consideration the processes of urbanisation of cities in light of sustainable development*; and, (iii) *Reflect on the throughput of cities with a sustainable development perspective*.

Urban SD needs to be seen as intrinsically connected to and influenced by the broader economic and political frameworks that in many ways shape cities (Bulkeley and Betsill, 2005), but it is also the sum of on-going **transformative processes**, all working to help transitioning cities (or urban areas) **towards a more sustainable future**. These processes that happen at the urban level will have effects not only on the city itself, but also ‘outside’ the city and, hence, have a more widespread effect – locally, regionally, nationally, and globally – thus, requiring a **multi-level governance approach**.

Based on work by Keivani (2010) and UN-DESA (2013), we described the challenges of urban sustainable development as a visual representation (**Fig.2**) of the six blocks of urban SD features: 1. social perspective; 2. economic development; 3. environmental aspects; 4. viewpoint of access to utilities and infrastructure; 5. connections derived from urban form and spatial development; and, 6. inclusions of multi-level governance and institutional development.

The second important point that needs to be raised refers to **multi-level governance**: throughout this QR, it becomes clear that local governments are crucial actors for urban SD. Nonetheless, important links with other tiers of government are also fundamental in a multi-level governance regime to achieve urban SD in a broader sense. **Partnerships** and **coordination** are, therefore, of great importance between the different tiers of government (e.g. national, regional, European or international) and other forms of organisation and aggregation of individuals within society (e.g. districts administrators, city networks, private sector, civil society organisations, NGOs, etc.). But also **transparency, accountability and participation** seem crucial, especially for raising trust, increasing engagement, and the empowerment of citizens. Furthermore, Keivani (2010) points at two other important aspects: on the one hand, **subsidiarity** as necessary approach to ensure

effective urban management, together with the **competence and coordination among vertical levels of government**; and, on the other hand, Keivani refers to **horizontal levels of governance** as especially critical for ensuring an inclusive, responsive and accountable governance process.

Thirdly, with regards to the European Union, the national level is still “largely responsible for urban policy, and more generally for setting the frameworks within which local authorities function. However, national ministers responsible for urban policy have been collaborating at European level for nearly 20 years, resulting in some common ‘intergovernmental’ approaches” (Mills, 2013, p.2). This is an important example to emphasise **how crucial the interconnections are both vertically and horizontally**, and the coordination and cooperation with actors outside of traditional government institutions, such as e.g. communities, NGOs, or private sector.

As a fourth point, we want to reflect on regards mostly what we presented in chapter 2. As described very extensively, we showed a **large number of initiatives, institutions and networks that somehow work and relate to urban sustainable development** both on the international level and on the European level. In the majority of these cases, urban sustainable development as such and its numerous features are often addressed only partially and using concepts that are somehow similar, but at the same time very different, therefore making the complex issues of urban SD even more difficult to grasp fully. More efforts should be taken to close these conceptual gaps because they inevitably create practical difficulties that influence the effectiveness of measures and solutions on urban SD that, at the end of the day, impact on the everyday lives of those who live in cities.

In conclusion, considering all these points, we believe that urban sustainable development is a hot topic in the international agenda. Especially considering the discussions at Rio+20 and on the post-2015 agenda, and reflecting on the ongoing transformation to a global urban society, Revi and Rosenzweig (2013) underlined the so-called **‘urban opportunity’** as an unprecedented opportunity to use the urbanization process as a catalyst for sustainable economic and social development. For this reasons, the **proposal for an urban SDG** has been advanced with the title “Empower inclusive, productive, and resilient cities” in order to (i) make all cities socially inclusive, economically productive, environmentally sustainable, secure, and resilient to climate change and other risks; and (ii) develop participatory, accountable, and effective city governance to support rapid and equitable urban transformation.

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A light blue silhouette map of Europe is centered on the page. The acronym 'ESDN' is overlaid on the map in a large, white, bold, sans-serif font. The letters are slightly transparent, allowing the map's outline to be seen through them.

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