# HABITAT III REGIONAL REPORT ON HOUSING AND URBAN DEVELOPMENT FOR THE UNECE REGION

## TOWARDS A CITY-FOCUSED, PEOPLE-CENTRED AND INTEGRATED APPROACH TO THE NEW URBAN AGENDA

DRAFT 8

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Foreword
(by J. Clos and C.F. Bach)

To be added

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## INTRODUCTION

The United Nations Conference on Housing and Sustainable Urban Development (Habitat III) is to take place in 2016 in Quito, Ecuador. In resolution 66/207, the UN General Assembly decided to convene the Habitat III Conference to reinvigorate the global commitment to sustainable urbanization and to focus on the implementation of a´New Urban Agenda'.[1]

The objective of the Conference is to secure renewed political commitment for sustainable urban development, assess accomplishments to date, address poverty, and identify and address new and emerging challenges. It will result in a concise, focused, forward-looking and action-oriented outcome document. It will be one of the first UN global summits after the adoption of the Post-2015 Sustainable Development Agenda. It offers a unique opportunity to discuss the important challenge of how cities, towns and villages are planned and managed, in order to fulfil their role as drivers of sustainable development.

The Conference is aimed at all UN Member States and relevant stakeholders, including parliamentarians, civil society organizations, regional and local government and municipality representatives, professionals, researchers, academia, foundations, women's and youth groups, trade unions, and the private sector, as well as organizations of the UN system and intergovernmental organizations.

Within this context and under the coordination of the Habitat III Secretariat, the United Nations Regional Economic Commissions, and the United Nations Human Settlements Programme (UN-Habitat) Regional Offices, in consultation with other UN agencies and stakeholder organizations and experts, have prepared regional reports for the five regions – Europe, Latin America and the Caribbean, West Asia (the Arab countries), Africa, and Asia and the Pacific, coinciding with the respective UN Commissions' groupings[2].

This Report has been prepared by the HABITAT III Secretariat, the UN Economic Commission for Europe (UNECE) and the UN-Habitat Office for the ECE Region. The UNECE has appointed the secretariat of the Committee for Housing and Land Management (CHLM) to assume the lead in preparing the Report. From the UN-Habitat side, the liaison offices of Brussels and Moscow have been involved.

## REPORT OBJECTIVES

This Regional Report looks back on changes and trends since Habitat I in Vancouver in 1976, with particular emphasis on the 20 years since Habitat II in Istanbul in 1996.

[1] This introduction is based on the Terms of Reference issued by the Habitat III Secretariat to the Regional Report writers for each of the five UN regions.
[2] These regions correspond to the responsibilities of the UN Regional Commissions. For the overview of this division, see http://www.regionalcommissions.org/about/

The work underpinning this Report has sought to identify common issues and challenges, as well as formulate conclusions, future trends and scenarios, to inform the preparation of a new urban agenda in the context of Habitat III.

The Istanbul Declaration that adopted the Habitat Agenda in 1996 marked a turning point in international efforts to promote socially and environmentally sustainable cities embarking on a search for experience and best practice that demonstrate practical ways of meeting the challenges of urbanization.

When the international community adopted the Agenda, it set twin goals to ensure that cities are inclusive and that the shelter needs of the urban poor are given priority. Today, this effort transcends the welfare state model to embrace partnership, enablement and participation in order to 'enable local leadership, promote democratic rule, exercise public authority and use public resources – in all public institutions at all levels – in a manner that supports and ensures transparent, responsible, accountable, just, effective and efficient governance of towns, cities and metropolitan areas'.

At its heart, the Agenda strives to achieve the 'Inclusive City' as a place where everyone, including the vulnerable, can contribute productively and enjoy the benefits of urban life. The Inclusive City is just, pluralist, sustainable and productive. As globalization continues, diversity will become more, rather than less, important. And the successful governance of diversity will distinguish the most accomplished and creative cities from all the rest.[3]

This Report reflects on the trends influencing the cities of the UNECE region in the 20 years since Habitat II, and looks forward to the next two decades and the positive contribution that might be made to the 'essence of the city', to the 'New Urban Agenda'.[4]

## METHODOLOGY

The structure and content of the Report have been developed based on the guidelines provided by the Habitat III Secretariat.[5] The approach, as reflected in the guidelines, is based on four key operational principles:

- Knowledge – review lessons learned and best practice within the UN system and the Post-2015 Development Agenda. Conduct analysis of the available data, including, information in the national reports, outcomes from official meetings of the regional roadmap towards Habitat III, and draft relevant regional analytical chapters based on this analysis;

[3] The Habitat Agenda in the urban millennium, Special Session of the General Assembly for an Overall Review and Appraisal of the Implementation of the Habitat Agenda, New York, 6-8 June 2001.
[4] A New Urban Agenda for the 21st Century, Habitat III Third United Nations Conference on Housing and Sustainable Urban Development, Partners Consultation Paper. July 2012.
[5] The guidelines for the preparation of the Regional Report are in Annex 1.

- Engagement – consult widely with UN divisions, commissions and partner agencies to ensure that the process is integrated and inclusive, and the result concise and compelling;

- Policy – the content, in the form of analysis, synthesis and illustration, will be accompanied by a suite of draft recommendations that will be considered at a Regional Conference of Member States in early 2016[6];

- Operation – the implementation of the New Urban Agenda following the Habitat III Conference.

The Report is based on available data, Habitat III national reports prepared by countries in the UNECE region, and substantive contributions from regional and thematic meetings. To develop it, three Expert Group Meetings[7] were organized.

The steps of the preparation of the Report included:

### STAGE 0 – Initial Preparation (January–May 2015)

Task 0.1: Initial Considerations (January–March 2015)
- Collect Short National Reports on Housing and Urban Development: Comprehensive Study in ECE Region
- Prepare initial draft structure for the Report based on the Habitat III guidelines
- Assemble preliminary list of organizations and experts who will contribute.

Task 0.2: Initial Impressions (April–May 2015)
- Present structure and key messages for the Report to the first Expert Group Meeting (EGM1)
- Collect comments and suggestions from the participants of EGM1.

### STAGE 1 – Information Assembly, Consultation and Preliminary Draft (June–September 2015)

Task 1.1: Data Assembly (June 2015)
- Assemble initial information and bibliographies on the 56 member States of the region
- Prepare working papers on the four subregions within the region[8].

Task 1.2: First Peer Review (July 2015)
- Convene the second Expert Group Meeting (EGM2)
- Present process to date, hold workshop with participants to brainstorm key issues facing the region
- Collate and disseminate comments.

[6] European Habitat – Habitat III Regional Meeting, Prague, Czech Republic, March 2016.
[7] On 29 May 2015 in Milan, Italy (http://www.unece.org/index.php?id=39600#/); on 8 July 2015 in Geneva, Switzerland (http://www.unece.org/index.php?id=40035#/); and on 21 September 2015 in Brussels, Belgium (http://www.unece.org/index.php?id=40292#/).
[8] To assist the process of data assembly and analysis, the Expert Group advised that working papers be prepared for the four subregional groups of countries of the UNECE: (i) US/Canada; (ii) EU/EFTA; (iii) Russia, the Caucasus and Central Asia; and (iv) Turkey, SEE and Israel.

Task 1.3: Strategic Consultations (July–August 2015)
- Conduct a series of strategic consultations with heads of divisions in the UNECE and the World Health Organization (WHO)
- Summarize and disseminate key issues
- Prepare for EGM3.

Task 1.4: Prepare First Synoptic Content of Issues (September 2015)
- Prepare first draft structure and annotated version of key issues document
- Prepare initial proposal concerning illustrated content
- Issue to UN Client Working Group[9]
- Issue to Expert Group.

Task 1.5: Second Peer Review (September 2015)
- Conduct EGM3
- Collate and disseminate comments.

### STAGE 2 – Draft Report (1 and 2) (September–October 2015)

Task 2.1: Prepare First Draft Report (September–October 2015)
- Prepare first coherent draft of content
- Prepare schedule of illustrations, brief graphics team
- Finalize working papers on four subregions within the region.

Task 2.2: Issue and Consult on First Draft Content (October 2015)
- Issue for comment to UN Client Working Group
- Issue content to UNECE divisions and partner agencies for comment
- Issue for comment to Expert Group
- Collate and disseminate comments.

Task 2.3: Prepare Second Draft Report (October 2015)
- Prepare second draft of content
- Develop schedule of illustrations.

### STAGE 3 – Final Draft Report (October–December 2015)

Task 3.1: Prepare Final Draft Report (November 2015)
- Prepare final draft of content
- Prepare illustrations.

Task 3.2: Issue and Consult on Final Draft Content (November–December 2015)
- Issue for comment to UN Client Working Group
- Issue content to UNECE divisions and partner agencies for comment
- Issue content to UN-Habitat thematic branches for comment
- Issue for comment to Expert Group
- Collate and disseminate comments.

Task 3.3: Issue Draft Report to CHLM (December 2015)

[9] The UN Client Working Group comprises representatives from the UNECE region (the CHLM secretariat); the Habitat III Secretariat, New York and Nairobi; the Habitat Office, Brussels; and the Habitat Office, Moscow.

- Issue for comment to Expert Group.

### STAGE 4 – Prepare Final Report (January–March 2016)

Task 4.1: Prepare and Print Final Report (January–February 2016)

Task 4.2: Prepare for and Attend Regional Conference (March 2016)

## KEY MESSAGES

### 1: INTRODUCTION

A. The region covered in the HABITAT III Regional Report comprises 56 countries in North America, Europe and Central Asia. For the purpose of this Report only, a division into four subregions is used: North America; Western and Central Europe (comprising the EU, the EFTA, and three micro states); Eastern Europe (Belarus, Moldova and Ukraine), Russia, the Caucasus (Armenia, Azerbaijan and Georgia) and Central Asia (Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan) (EERCCA); and South East Europe (SEE) (Albania; Bosnia and Herzegovina; the Former Yugoslav Republic of Macedonia; Montenegro; and Serbia), Turkey and Israel.

B. The region is home to 1.3 billion people, some 17% of the total global population. It contains at least 263 cities of 500,000 or more inhabitants, and contributes to more than 40% of the world's GDP. The countries are very diverse in almost all features: size, geography, economy and culture. It corresponds mostly to what has been referred to as the Global North'.

### 2: TRENDS AND PATTERNS OF URBANIZATION AND DEMOGRAPHY

C. By 2050, almost three quarters (66%) of the world's population will live in urban areas – this will be the Century of the City. The UNECE region currently has a large proportion of its population living in its cities – between less than 50% in Central Asia and up to more than 80% in North America and Western Europe. The region's urban population is growing, albeit slowly.

D. Within the urban population, there is a trend towards urban concentration and agglomeration into super-cities, i.e. clusters of thriving cities in close proximity to one another, such as the metropolitan regions from Boston to Washington, or London through the Randstad and the Ruhrgebiet to the cities of Northern Italy.

E. There is a countervailing trend towards shrinking cities within less successful and more remote regions. These cities are losing population due to outmigration, which often goes along with ageing, as the young and/or highly qualified leave. Almost all of the world's countries that are currently experiencing population shrinkage, or are expected to do so, are situated in this region.

F. There is a general tendency towards urban sprawl, not only in cities experiencing population growth. This poses problems for social dynamics and environmental sustainability, such as high levels of car dependency, soil sealing, and expenditure for sustaining oversized infrastructure. These problems are likely be exacerbated by the consequences of the ageing of the population.

G. A rapidly ageing population is most prominent in Western, Central and Eastern Europe and in Russia. Ageing will be a major challenge in the coming decades. Population ageing and population decline both pose serious challenges for cities, particularly in regard to diminishing local tax revenues, the provision of services, transportation, housing, and accessibility of public space. At the same time, Central Asian countries in the region are experiencing growth in the young population, which poses difficulties related to providing jobs and housing for them.

H. Migration is a key issue throughout the region. Its magnitude and significance has increased in the past 20 years. Migrants settle mainly in large cities. This has led to urban polarization, as best-performing cities or neighbourhoods tend to attract population growth, youth and economic activities, leaving other areas in a state of economic stagnation and demographic shrinkage which, in turn, reduces opportunities for positive social interaction and cohesion. Migration has led to increased diversity in many cities, a process that boosts social innovation, but also brings challenges for social cohesion. To lower migratory pressure on cities and allow them to plan and manage urbanization processes, vibrant rural areas can play an important role. There is a continuing need for policy to address the integration of migrants into human settlements, particularly cities.

## 3: THE ECONOMY OF CITIES

I. A very substantial part of the region has undergone economic transition over the last few decades, from centrally-planned to market economies. In general, large and capital cities have prospered, with GDP now returning to pre-1990 levels, while smaller ones have fared less well, economically, physically, environmentally and culturally. Economic restructuring during the transition held huge challenges for old industrial cities, company towns in particular, in EERCCA.

J. The manufacturing industry has declined in the region in the 20 years since Habitat II. However, the manufacturing sector remains important. There is a shift to cleaner, greener manufacturing that has smaller spatial demands in cities. The rise of the knowledge economy in North America and Europe, built on a digital revolution, is bringing about massive opportunities and challenges for cities. Changing manufacturing and the growing knowledge economy demand different forms of space and use that better suit the new conditions of economic production, social requirements and cultural institutions. While globalization remains significant, the local qualities of cities become ever more important.

K. The digital revolution comes with challenges and opportunities for all governments in the region. Technical innovation offers new opportunities for urban planning and development, land use (e.g. driverless vehicles), interaction with the public (e.g. crowd sourcing), public participation in decision-making, and transparency of urban management. However, data privacy, security and ownership are challenging the capacity of governments to utilize these technical innovations in defence of the public interest.

## 4: LIVING IN CITIES

L. The global financial crisis that started in 2008 has led to more inequality in the region, lowering the income of a substantive part of the population, and affecting many aspects of people's lives.

M. Lack of affordability of housing is a critical matter, leading to problems of accessibility to adequate housing, and increased spatial segregation in cities. Despite being a prosperous part of the world, homelessness and informal settlements are issues, although they are less acute than in other regions. The housing sector needs to respond to these changes, securing new sites for housing provision, and meeting new aspirations, such as energy efficiency and customer-adjusted design, along with the provision of additional services (e.g. for elderly, homeless and migrant people).

N. The past two decades have witnessed a general trend towards increasing home ownership and reinforcing housing markets in the region. The total stock of, and investment in, social and public housing is decreasing. The total stock of social housing in advanced economies has been reduced, while the former public housing in the countries with economies in transition has largely been privatized. In general, the housing sector has seen limited engagement of national authorities in the market, but increased involvement of the private sector, both profit and non-profit organizations.

O. The transition towards market economies of large parts of the region was accompanied by a very rapid and almost total privatization of housing. Generally, the process was too fast for many local governments and individuals (especially owners) to adapt to. In the eastern part of the region, the phenomenon of ´poor owners' has become endemic, as a result of the privatization of public housing, a lack of maintenance, and energy inefficiency. Delays caused by collective decision-making by owners of large housing estates, whether in´affluent' or´poor' areas, have increased costs and often resulted in the deterioration of apartment blocks, particularly in Eastern Europe and Central Asia.

P. Social interactions in cities have changed over the past 20 years. There has been, on the one hand, a tendency to develop closed communities and shopping malls, and, on the other, a reaffirmation of the central role of public spaces as frameworks for innovation and social interaction.

Q. Many of the factors that support equity in a city also support the health and well-being of all its citizens. These include access to housing, transportation, energy and water supplies, public services, public participation in decision-making, availability and access to safe and healthful food, green spaces, and the reduction of emissions. There is a growing recognition of these issues in countries throughout the region.

## 5: ENVIRONMENT AND RISK

R. The region is among the largest emitters of greenhouse gases (GHGs) per capita, particularly in cities and urban areas. Environmental threats are often also health threats. Action taken to secure the environment in respect of pollution reduction will also help secure public health and well-being.

S. Air pollution, flooding and heat-waves are the most prevalent environmental issues of the region, with cities being most vulnerable. Disaster risk reduction (DRR) is an issue more pressing in some parts of the UNECE region, with additional threats of earthquakes, landslides, volcanic eruptions and wildfires, which have a negative impact on the quality of life in urban areas and, in some circumstances, imperil lives.

T. Concerns about environmental problems and quality of life are increasing among the public and governments of all scales in the region. Urban sprawl has increased and has resulted in growing consumption of land and pressure on green spaces. The extension of road networks and increasing traffic congestion have further affected the availability of urban land and contributed to urban emissions. There is a need to limit the negative impact of housing on the environment and enhance the energy efficiency of the housing sector. Numerous programmes have taken initiatives to improve urban environmental conditions and the impact of cities on the global climate. However, urban areas, while having high ambitions in this regard, still lag behind.

## 6: GOVERNANCE

U. Since HABITAT II, there has been an increase in the importance of the role of local governments, with a corresponding growth in that of city networks, electronic access to information, and public participation.

V. Urban governance has experienced decentralization in some parts of the region, although there is a wide variety of governance modes and institutional structures across the individual countries. These differences reflect both the local context and the history. Municipalities in the western part of the region benefit from a strong institutional tradition that has been built over several centuries. Those in the countries with transition economies are working to raise their capacities to address multiple challenges simultaneously. Successful governance modes and institutional structures often cannot be simply transplanted from one part of the region to another: context is crucial.

W. In many countries, federal/national governments concentrate on formulating policies and legislation, establishing norms and standards, and providing subsidies for housing and infrastructure from the urban to the territorial scale. In most of the countries, the management of urban planning issues is in the hands of local governments within the framework of larger territorial strategies.

X. Many challenges for urban governance remain, such as the effectiveness in limiting urban sprawl, the creation or reinforcement of socially-cohesive and culturally diverse neighbourhoods, the secure management of urban technology, the management of urban functional areas that extend over several administrative jurisdictions, the resistance to change of highly fragmented institutional frameworks, the harmonization of norms, and the role of participatory frameworks and platforms for inhabitants' involvement in urban governance.

Y. The private sector plays a central role in the development and transformation of urban areas, and in the financing and realization of housing, urban infrastructures, urban services and even urban management. In general, an erosion of the public sphere was observed since Habitat II, resulting in more opportunities and responsibilities for the private sector.

Z. The growing use of e-Government, e-Governance, e-Participation and e-Inclusion at city level has been driven by the supply of new information and communication technology (ICT) services in the absence of dedicated consolidated policies. Local authorities' capacity to maximize the benefit of the digital revolution without undermining their democratic mandate is a challenge that remains to be addressed. The progress of e-Governance is variable and in some countries – for instance, in Central Asia – it is underdeveloped.

## 7: OUTLOOK AND FUTURE TRENDS

AA. The cities of the region are subject to the processes of urban concentration, sprawl and shrinkage brought about by market forces and events such as the recent financial crisis. In some parts, clusters of the most successful cities are coalescing into urban areas or 'super-cities' with many millions of inhabitants. In an era of ageing and migration, favouring compactness over sprawl is not only a managerial issue for the city, it is a key means to supporting equity, integration and cohesion in society.

BB. Across the region, the shift to a post-industrial, knowledge economy, and the increasingly important role of services, are changing the structure and character of the economy, introducing demands for enhanced qualifications from the labour market and placing different spatial demands on the city. The knowledge economy and the digital revolution flourish around centres of scientific and educational excellence, and are placing new demands on the physical structure of the city.

CC. ICTs play a growing role in the development of smart, sustainable cities, with initiatives aimed at sustaining and improving quality of life in urban areas. The digital revolution has brought many opportunities for individuals, communities and companies, but also a variety of challenges, particularly in the area of urban data management (privacy, security, defence of public interests, etc.).

DD. Social and spatial inequality within and among the cities in the region has been growing, making high quality urban areas affordable only to the most affluent. This is a result of demographic and economic processes and their territorial and spatial manifestations, such as urban sprawl, concentration and shrinkage. The demographic ageing in many countries and the recent wave of migration exacerbate the complexity of the growing inequalities.

EE. There is widespread consensus for inter-governmental action on the environment and climate change. In the cities of this region, this will mean an accelerated trend to further curbing pollution and faster de-carbonizing urban development and life, requiring more stringent environmental regulations and high volumes of public and private investment.

FF. International standards in housing and international development are driving action towards resilient, connected, spatially- and socially-integrated and compact cities in an equitable partnership with rural areas for the overall achievement of sustainable development. There is a trend towards people-centred and integrated planning through urbanism, the active process by which cities are designed, developed and managed.

GG. These aims and processes will continue to require collaboration, consensus and positive action among national and city governments, technical stakeholders and the communities they serve and lead. Addressing these ever more complex social, economic and environmental challenges will require new paradigms and a redoubling of effort from the governance systems to achieve sustainable urbanization.

# 1. ABOUT THE REGION

## 1.1 Geographical coverage of this Report

The region extends around the globe. It includes most of the Global North. Cities in the region range from Anchorage to Ankara, Archangel to Astana, Tel Aviv to Tashkent, Vancouver to Vladivostok, and are homes to diverse cultures, ancient urban civilizations and medieval city-states. Among its 56 member States, the UNECE region embraces the great continental countries of Canada, the US and Russia, and the micro states of Andorra, Monaco and San Marino. All these countries lie in the northern hemisphere. The territory encircles the Arctic Ocean – a massive repository of natural resources, with the polar ice cap at its heart, and a vast store of fresh water. The Arctic is the global centre of climate change – all of the signatories of the Arctic treaties lie within the UNECE region.

The southernmost part of the region touches the Tropic of Cancer. At this point, it extends over 36,765 km around the globe and crosses both the Atlantic and Pacific Oceans. But at the northern edge of the region, the distance shrinks to under half that, at the Arctic Circle (17,685 km). As the Earth tapers to the North Pole, so the distances across the Pacific and Atlantic Oceans diminish until the continents almost touch: from Vancouver to Vladivostok is 7,500 km by sea, but the Bering Strait between Siberia and Alaska is a mere 85 km.

The region is home to nearly 1.3 billion people[10], some 17% of the total global population. It contains over 263 cities of 500,000 or more inhabitants. This Report covers the whole of the UNECE region. However, for the purposes of clarity, analysis and comment is often made on four distinct subregions: (i) North America; (ii) Western and Central Europe (EU, EFTA and micro states); (iii) Eastern Europe, including Russia, the Caucasus and Central Asia (EERCCA); and (iv) South East Europe (SEE), Turkey and Israel. The Report draws on the commonalities and differences among the subregions, and draws out where there are things to learn and share within the region and, more widely, with the other regions of the world.

## 1.2 The subregions

The region sits on two major continental land masses: North America, and Western and Central Europe. Of the four subregional groupings of countries, three extend across the Eurasian massif.

The North American subregion is made up of the United States of America (US) and Canada. These two countries are of similar size: the US extends to some 9,147 million km$^2$, and Canada is just a little smaller at 9,093 million km$^2$. They are both on a continental scale, extending between two oceans (Atlantic and Pacific – and, in Canada's case, three, with the Arctic). Together they make up 41.5% of the landmass of the UNECE region.[11] In 2013, the population of the US was 318.9 million; Canada was just a little more than 10% of this, at 35.5 million. Both countries have over 80% of their peoples living in cities.[12,13]

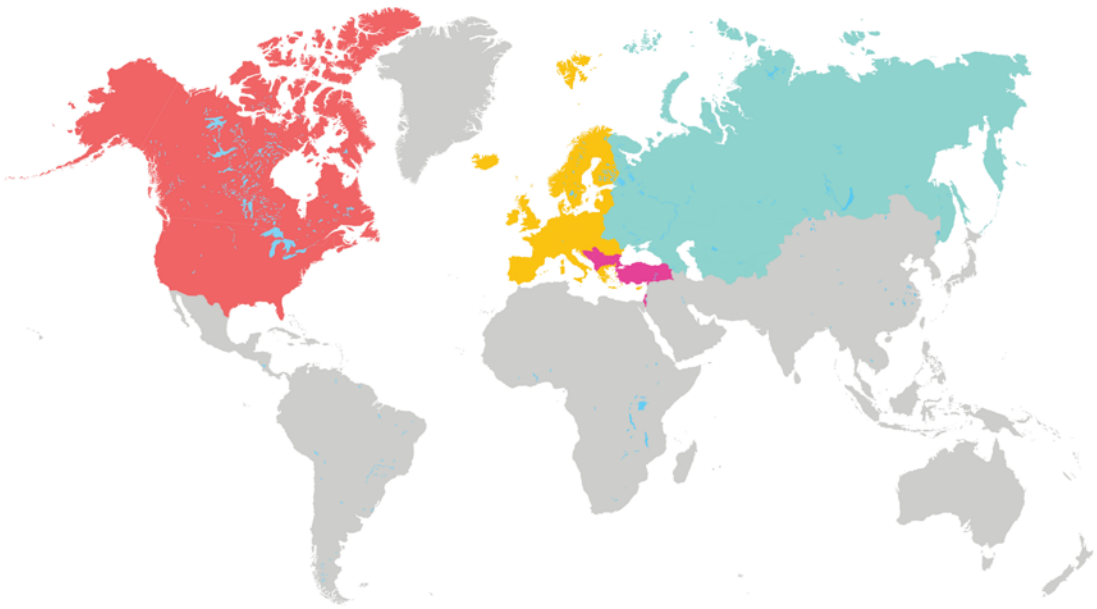
[10] UN, 2015.
[11] www.data.worldbank.org
[12] World Bank, ibid.
[13] In work to come, we will examine this index for other parts of the UNECE region and against the trend lines for 1976 and 1996. It is intended that we illustrate this graphically and comment on whether the literature supports a proposition that there is a maximum threshold for urban population expressed in percentage of the population.

The EU/EFTA or Western and Central European subregion includes the 28 countries of the EU, the 4 members of the EFTA and the 3 European micro states (Monaco, San Marino and Andorra). This is over 60% of the UNECE's member States. Europe covers an area of over 4 million km² in Western and Central Europe, with a total of 520 million inhabitants. Since the end of the Second World War in 1945, efforts have been made towards a European economic and political union. This project was accelerated in 1993 and 2007, with treaties aiming for greater integration, and by a growing number of countries joining the EU.

The subregion of EERCCA contains 12 former Soviet countries outside of the EU. Combined, these countries cover a substantial territory in the north of Eurasia – over one sixth of the Earth's land surface. Its total population was 287 million in 2014, with Russia being by far the largest country in terms of population and territory. 11 of the EERCCA countries form the Commonwealth of Independent States (CIS) since 1991. This is a regional intergovernmental association – a form of cooperation of co-equal independent states. The geo-positioning of the EERCCA across many climatic zones creates a large diversity of physical landscapes and habitat conditions. The distribution of the population is uneven, with greater densities around major urban centres, as well as in more temperate climate zones or regions. In contrast to Europe, the densities of population in this subregion are lower, while average distances between cities are much greater, creating a spatial context of relatively dispersed and isolated cities. The EERCCA countries share a common history from the days of the Soviet Union, and the Russian Empire before that.

The SEE countries include the Republic of Turkey, the State of Israel, and the Western Balkans (Bosnia and Herzegovina; Montenegro; the Former Yugoslav Republic of Macedonia; Serbia; and Albania). They share geographical proximity, climate, coastlines on the Mediterranean Sea, and a function as transition zones between Europe, the Caucasus and the Arab countries. They are, however, culturally diverse, unlike the other three subregions. The Western Balkan countries share a comparable political history, characterized by a transitional economy to a post-socialist system, and relatively young state construction after an experience of civil war (Bosnia and Herzegovina; Montenegro; the Former Yugoslav Republic of Macedonia; and Serbia). SEE has an area of 1,005 $km^2$ and a population of just under 100 million.

**Figure 1: Map of Sub-regions in UNECE**



**EU/EFTA or Western and Central European Sub-region**

**EU countries**

- Austria
- Belgium
- Bulgaria
- Croatia
- Cyprus
- Czech Republic
- Denmark
- Estonia
- Finland
- France
- Germany
- Greece
- Hungary
- Ireland
- Italy
- Latvia
- Lithuania
- Luxembourg
- Malta
- Netherlands
- Poland
- Portugal
- Romania
- Slovakia
- Slovenia
- Spain
- Sweden
- United Kingdom of Great Britain and Northern Island

**EFTA countries**

- Iceland
- Liechtenstein
- Norway
- Switzerland

**Non EU countries**

- Andora
- Monaco
- San Marino

**North American Sub-region**

- United States of America
- Canada

**Countries of South East Europe**

- Albania
- Bosnia and Herzegovina
- Israel
- Montenegro
- Serbia
- The former Yugoslav Republic of Macedonia
- Turkey

**Sub-region of Eastern Europe, Russia, Caucasus and Central Asia (EERCCA)**

- Armenia
- Azerbaijan
- Belarus
- Georgia
- Kazakhstan
- Kyrgyzstan
- Republic of Moldova
- Russian Federation
- Tajikistan
- Turkmenistan
- Ukraine
- Uzbekistan

## 2: TRENDS AND PATTERNS OF URBANIZATION

'Why are people moving to urban areas at such a rapid pace? There are many reasons, but the short answer is – opportunity.'[14]

### 2.1 The process of urbanization

By 2050, almost three quarters of the world's population will live in urban areas. This will be the Century of the City. The trend towards increasing urbanization is clear across the entire territory, but the character, nature and pace of this change varies between subregions and member States.

Globally, more people live in urban areas than in rural ones. In 1950, the figure was 30%. By 2050, it is projected to be 66%. But this change is not evenly spread across the world. The most urbanized region of the world is North America, with 82% living in urban areas in 2014. Europe is close to this at 72%. But both are in contrast with Africa at 40%. The rural population of the world has grown slowly since 1950 and is expected to peak at just over 3 billion, whereas the urban population has grown rapidly since that time, from 746 million to 3.9 billion in 2014.[15] Continuing population growth and urbanization are projected to add 2.5 billion people to the world's urban population, although little of this growth will take place within the UNECE region. Nearly 90% of it will be concentrated in Asia and Africa.[16]

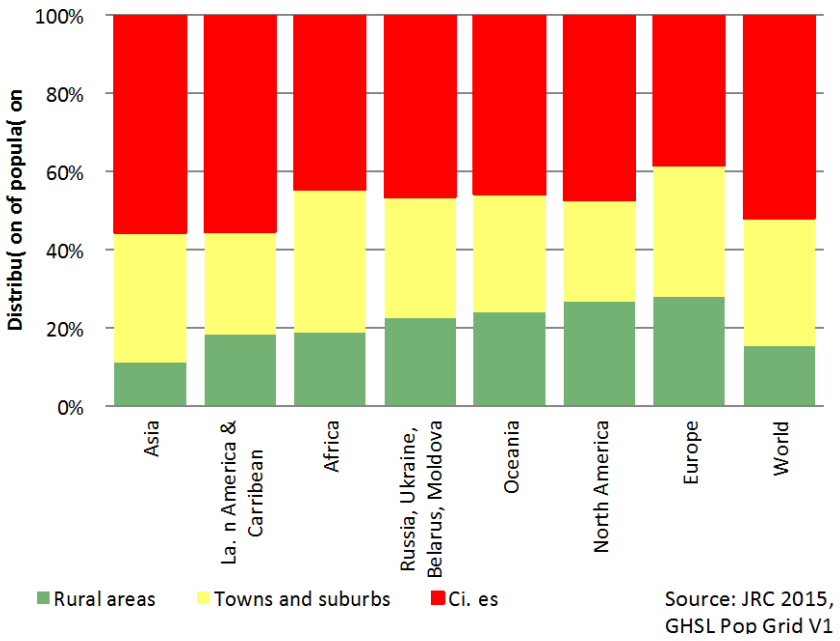



**Table 1: Population share by degree of urbanization per part of the world, 2015**
Source: JRC 2015 GHSL Grid V1

[14] US Draft National Report for Habitat III, April 2015.
[15] UN Department of Economics and Social Affairs, World Urbanization Prospects, 2014.
[16] Ibid.

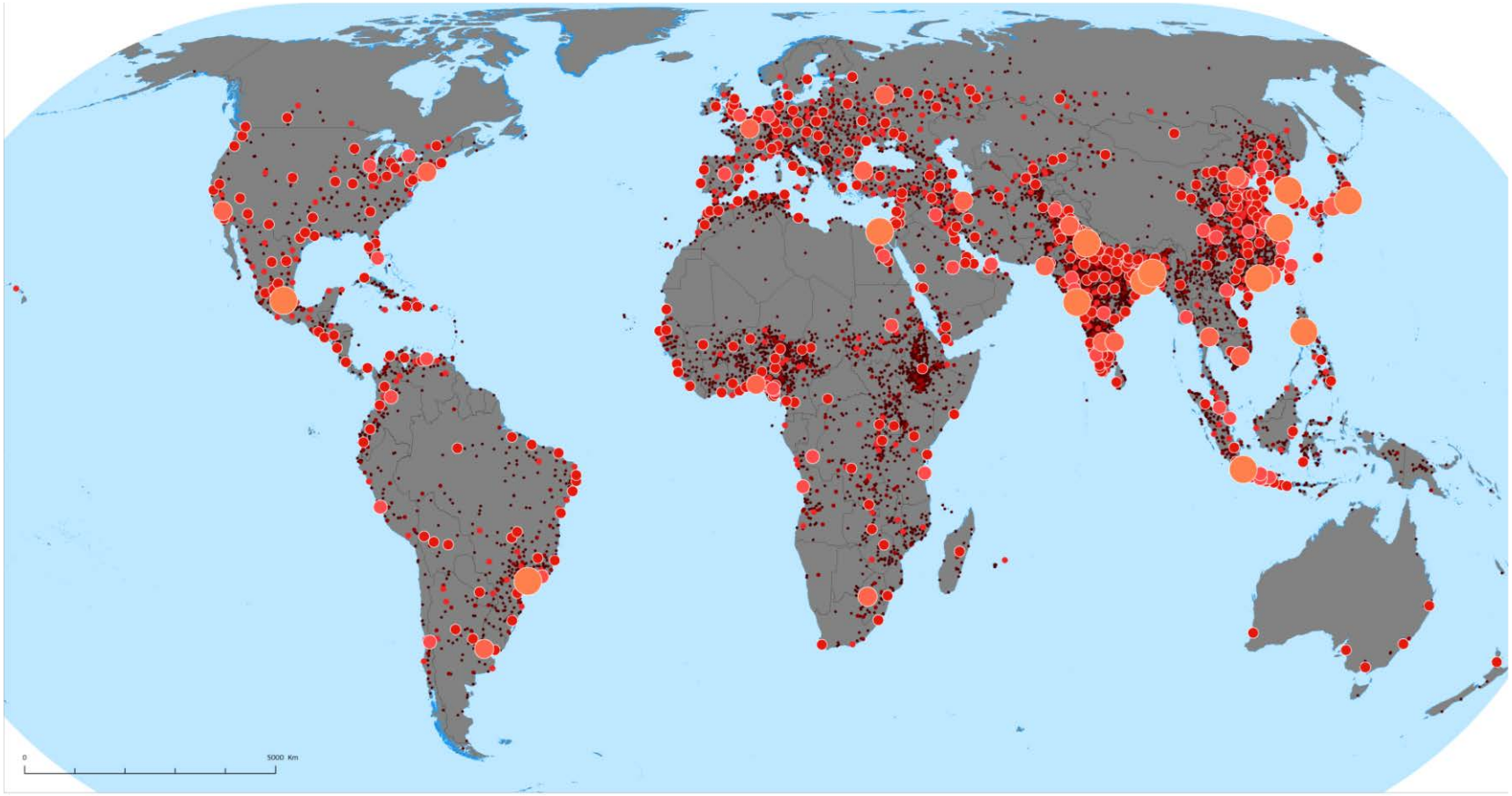
By 2030, the world is projected to have over 40 mega-cities.[17] If the metropolitan region is added to the core city population, the UNECE region has 7 – Los Angeles, New York, Chicago, London, Paris, Moscow and Istanbul.

These, and the other mega-cities of the world, sit at the top of the global urban hierarchy – they are world cities and world famous, but they are relatively few in number. In the region, over 263 cities have a population of between 500,000 and 10 million.[18] Almost half of the population lives in relatively small settlements of 500,000 or less.

Many medium-sized cities are growing rapidly into urban agglomerations, but many others are shrinking as a consequence of changing economies and demographics. Some of the biggest challenges for cities in the region lie, not with the cities at the top of the urban hierarchy that are generally faring well in terms of economic performance and population influx, but with smaller cities that are struggling to maintain current population levels.

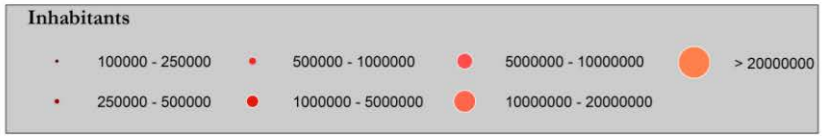


[17] Cities with more than 10 million people. Ibid.
[18] UNECE Housing and Land Management analysis based on the data at http://data.worldbank.org/




**Urban Centres in the world by population size, 2015**

Source : JRC (GHS - POP Global Settlement Model)



In the Century of the City in the Global North, there are large, medium-sized and small cities.[19] There are, however, other revealing strands to the urban story, and these concern urban concentration, density and growth or decline.

In the northern hemisphere, the 'jet age' (the era of ubiquitous air travel) has combined with the 'net age' (the era of the Internet) to create a tendency towards urban concentration.[20] Since the time of the earliest cities in the Tigris-Euphrates valley, people have been prepared to travel for up to one or even two hours each day to get to work.[21] But, as the technology of mobility has improved, the distance people cover in one hour has greatly increased – today it is around 500 km by air. Every day, the greatest number of return flights to and from any destination is around this distance – up and down the Eastern and Western seaboards of the US, between Moscow and St. Petersburg, and among the central capitals of Europe. Some of the biggest and most successful cities of the world are part of regional concentrations. This has given an impetus to the growth of cities within close proximity to one another that has led to the formation of massive urban agglomerations, or super-cities, of 20, 30, and, in the US, 50 million people.[22]

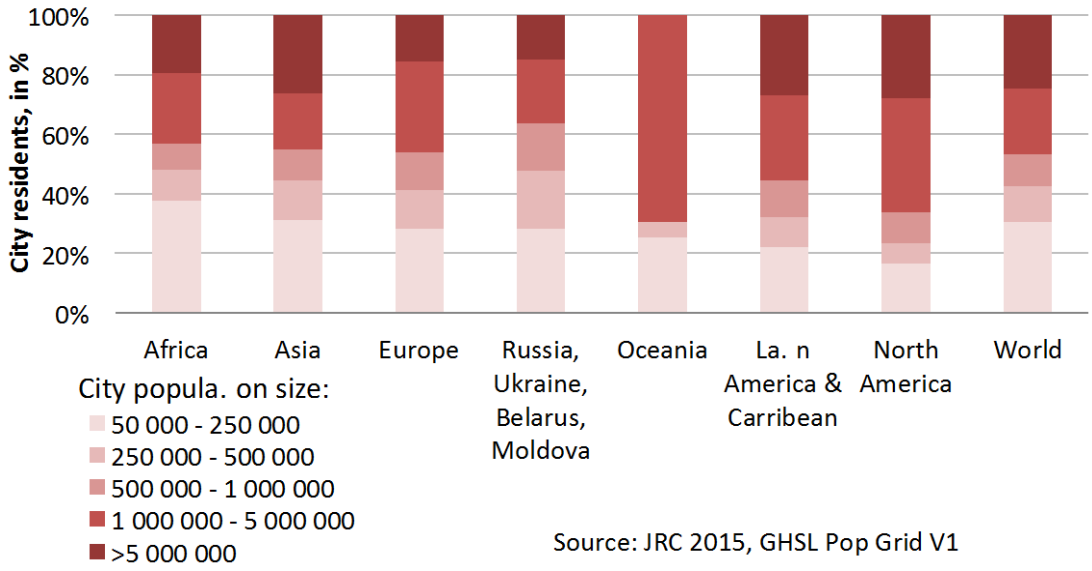



**Table 2: City population share by city size per part of the world, 2015**
Source: JRC 2015 GHSL Grid V1

[19] Refer to maps 1,2 and 3.
[20] 'Aerotropolis – The Way We'll Live Next'. J.D. Kasarda and G. Lindsay.
[21] 'The 'Marchetti Constant' holds that 'time is fixed but space is elastic'. After the Italian physicist Cesare Marchetti. The principle used in France and Japan to 'shrink' distance through the introduction of high-speed train networks, now widely replicated.
[22] World Bank, 2014.

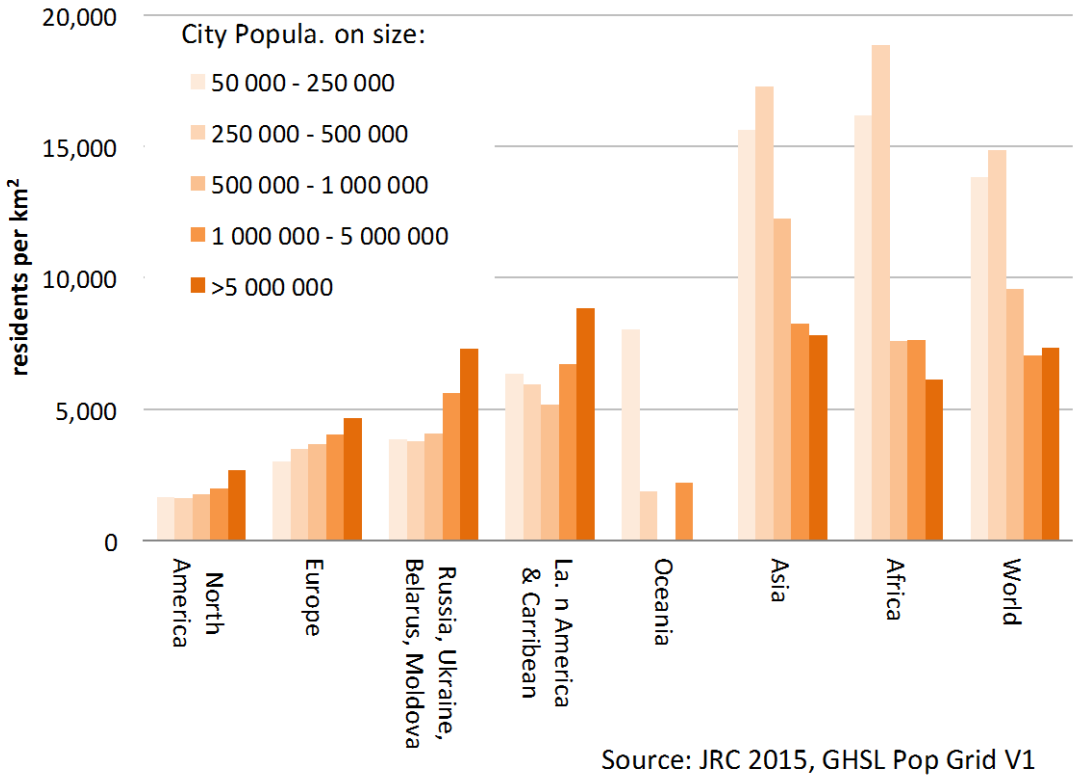



**Table 3: Population density by city size class per part of the world, 2015**
Source: JRC 2015 GHSL Grid V1

In 2013, the population of the US was 318.9 million. Canada was just a little more than 10% of this, at 35.5 million. Yet both countries have over 80% of their people living in cities.[23,24] The population of the US is predicted to grow by 80 million by 2050, and 75% of these new citizens will live in cities.[25,26] In the US, the New York-Newark area is the nation's most populous metropolitan area, with over 18 million residents. Los Angeles-Long Beach-Anaheim is the second most populous (12.15 million), followed by the Chicago area (8.60 million).[27] However, much of the growth occurring in urban areas does not take place strictly within city limits, and regional partnerships and bodies of governance are, therefore, extremely important for managing the consequences of urban agglomeration.

In the US (as well as in Canada), there is a trend towards the megalopolis or super-city, where metropolitan areas are in the process of agglomerating into multi-metropolitan megacities. The most well-known is 'BosWash'[28], the region extending from Boston south along the Atlantic seaboard to Washington, D.C., and embracing the cities of New York,

[23] World Bank, 2014.
[24] In work to come, we will examine this index for other parts of the UNECE region and against the trend lines for 1976 and 1996. It is intended that we illustrate this graphically and comment on whether the literature supports a proposition that there is a maximum threshold for urban population expressed in percentage of the population.
[25] US Draft National Report for Habitat III, April 2015.
[26] US Draft National Report for Habitat III, April 2015.
[27] Ibid, p 2.
[28] 'BosWash' was given its name in the 1960s by the futurist H. Kahn, http://www.prb.org/Publications/Articles/2011/us-megalopolises-50-years.aspx

Philadelphia and Baltimore, with a population of around 50 million (some 16% of the population) on less than 2% of the landmass of the US.

By 2010, three urban agglomerations, 'BosWash' ,'Chi-Pitt', the urban region from Chicago to Pittsburgh along the Great Lakes and the Ohio River, and 'San-San', the California coastal development stretching from San Francisco to San Diego, were home to approximately one third of US residents. However, other agglomerations, unknown in the 1960s and 1970s, have become prominent, such as the Texas agglomeration of Houston, Dallas-Fort Worth, San Antonio, and Austin.[29,30]

There are marked differences between the liveability and sustainability of these different agglomerations in North America. The New York agglomeration is more sustainable in the sense of energy use per capita and higher use of mass public transport, but affordability and the cost of living are much higher than in urban agglomerations, such as that in Texas. This highlights the challenge of choice for working families who could afford a much higher standard of living but a less sustainable lifestyle in Texas than they could aspire to in New York.[31]

The experience of the large cities of North America is in marked contrast to smaller ones. Not all US cities are growing. Many smaller metropolitan areas – 277 with less than 500,000 residents – are experiencing rapid decline. This attributed structural shifts in regional economies accelerated by the economic recession of 2008-2011.[32] These economic forces have changed the map of poverty in the US that, for several decades, had been focused on inner urban poverty and deprivation that was seen in sharp contrast with suburban and out-of-town affluence. The economic recession changed that paradigm and brought about a new condition of suburban poverty. [33,34]

In Europe, the proportion of the population living in urban areas has stabilized at around 72%, with a rate of urbanization that is lower than 0.5% per year on average.[35] The average population density in Europe (EU28) is about 116 inhabitants per square kilometre.[36] This population is not, however, evenly distributed across the territory. Higher concentrations are found along what has been described as the 'blue' or 'dynamic banana'[37], an area that stretches from North West England to Northern Italy, with high concentrations of people, money and industry – a burgeoning super-city region evocative of those in North America.

[29] M. Mather, co-author of PRB's Reports on America: First Results from the 2010 Census.
[30] Add in the map and table that accompanies the graphic of US super-cities.
[31] Triumph of the City: How our Greatest Invention makes us Richer, Smarter, Greener, Healthier and Happier. E. Glaeser, Macmillan, 2011. http://www.economist.com/node/18111592#sQrAW9eheY05O4RQ.99
[32] US Draft National Report for Habitat III, April 2015, p 2.
[33] Confronting Suburban Poverty in America, E. Kneebone and A. Berube, Brookings, 2013.
[34] W.H. Frey.˙A Population Slowdown for Small Town America'. Brookings, 31March 2014. http://www.brookings.edu/research/opinions/2014/03/31-population-slowdown-small-town-america-frey [Accessed 29 March 2015.]
[35] UN Population Division, 2015.
[36] Eurostat.
[37] Roger Brunet, 1973.

An alternative spatial vision to the 'blue banana' (which portrays Europe as having a core and a periphery) is the 'bunch of grapes'. This reflects a more open, diversified and polycentric Europe, based on the promotion of secondary cities and city-regions, more decentralized, with strong networks, and support to less developed regions. These concepts are the ones that are put forward in the European Spatial Development Perspective.[38]

The European model of the city aspires towards a dispersed polycentric network of medium-sized, human-scale and compact settlements that are culturally diverse, socially inclusive, environmentally friendly, economically vital, and peacefully and democratically governed, while providing high-quality public spaces, public services and carbon-free mobility solutions. The fundamental principle underlying this model is to account for all dimensions of sustainable development in an integrated way, and is often described as the compact city model.[39] Yet, the reality on the ground shows new challenges in urban poverty, social polarization, concentration in the largest metropolitan areas, an ageing demographic structure, and cultural hyper-diversity, as well as those brought about by territorial dynamics such as suburbanization, urban sprawl and, in some parts, urban shrinking.

Shrinking cities (cities that experience a loss of population) is a unique phenomenon in the UNECE region, and contrasts with the fast growth of cities in other continents. It currently occurs mainly in smaller cities in Eastern Europe and, to a lesser extent, in Western Europe.[40] It is estimated that 40% of European cities with a population of 200,000 or more have lost some of their population.[41] Shrinking cities face declining tax revenues, rising unemployment, outward migration of the working-age population, surplus land and buildings, and an oversized physical infrastructure. However, statistics can sometimes be deceptive, for example when the urban core loses population because residents move to the suburbs. In this case, the urban area as a whole is not necessarily shrinking.

Urban sprawl brings with it many problems, notably soil sealing, as more and more agricultural or natural land is covered with buildings, streets, and other infrastructure, often as a consequence of weak planning and enforcement systems. Sprawl also exacerbates challenges in providing services to a diminished population that is spread over a large area.[42]

The compact cities concept referred to above is one means to combat both sprawling and shrinking cities. The tension between shrinking, sprawling and compact cities is clearly important, not only in Western and Central Europe.[43]

In EERCCA, the period of the Soviet Union was one of intensive economic development and urbanization, when the majority of contemporary cities were established and historic cities were greatly expanded. As a consequence, the cities in the countries of the

[38] http://ec.europa.eu/regional_policy/sources/docoffic/official/reports/pdf/sum_en.pdf
[39] European Commission, 2011, OECD publication on compact cities.
[40] Attach map from EU subregional report (blue regions are shrinking, orange and red regions areas are witnessing population growth).
[41] Schlappa et al., 2013.
[42] UN-Habitat, 2013.
[43] Schlapp et al., 2013.

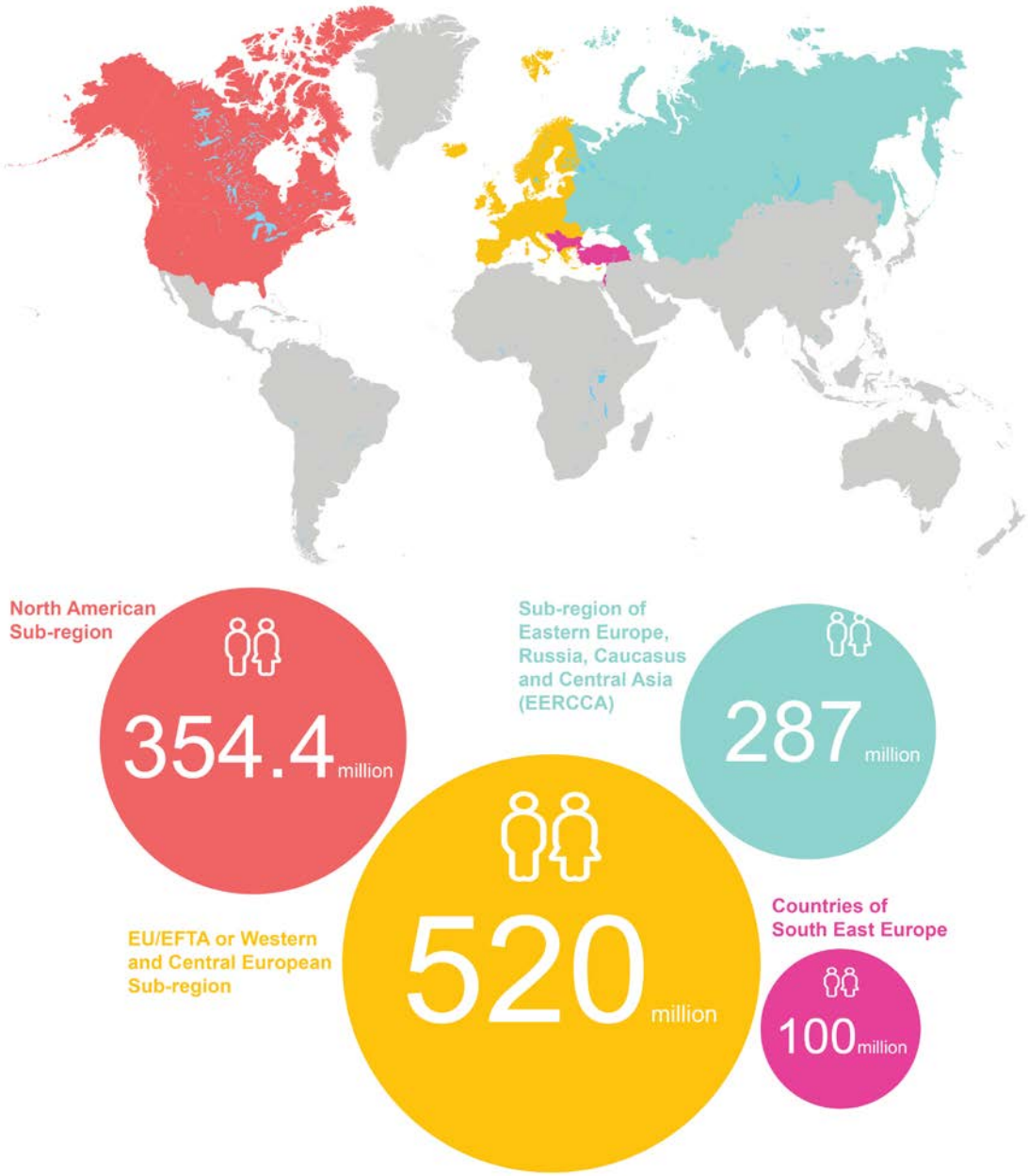
former Soviet Union have many commonalities with regard to their institutional, planning, and socio-cultural systems. Although there is variation in the degree to which the countries of this subregion are urbanized, cities play a key role in the development of all of them. In this group of countries, a centripetal effect has also created a tendency towards concentration, agglomeration and sprawl that is most pronounced in the larger cities, particularly national capitals that have been the winners in the period of economic transition over the past 25 years, carrying forward the economic benefit of hosting government offices and jobs that these cities enjoyed in the Soviet period.[44]

A diverse range of forces influences urbanization within the group of countries in the SEE subregion. Although geographically close, there are very significant differences between the urban processes of Turkey, Israel and the Western Balkans. With Istanbul, Turkey has a growing world metropolis that spans two continents across the Bosporus. The countries of the Western Balkans share the challenges of transition from planned to market economies and, with the exception of Albania, face the trials of overcoming civil war and an exodus of their peoples. In the face of many difficulties, Israel strives for thriving cities, like Tel Aviv, in which high quality of life and environmental responsibility have been developed, albeit with significant affordability challenges for its residents. Nevertheless, Israel recognizes that a new city agenda needs to be pursued in terms of policy and practice.[45]



[44] O. Golubchikov and A. Badyina, UN-Habitat, 2015.
[45] Movement for Israeli Urbanism - www.miu.org.il

**Figure 2: Populations by Sub-regions, in million**



## 2.2 Demographic trends

The population of the region is experiencing very low population growth compared to other regions in the world, such as Africa and Asia. Among the world's countries that are already shrinking or are projected to lose substantial parts of their population in the coming 20 years, almost all are situated in the UNECE region. The trends are caused by a combination of low fertility and/or outmigration in some countries, and lower life expectancy in others. A rapidly ageing population (due to a combination of low fertility rates and increased life expectancy) is most prominent in Europe, but is prevalent in almost all UNECE countries, and will be a major challenge in the coming decades.

Population ageing is usually defined as a shift in the composition of the age of the population towards the older generations, and is a consequence of established decreases in fertility and increases in life expectancy. Ageing is normally measured by the proportion of the population aged, depending on the country, 60 or 65 years and older. In the last two decades, the ageing population of the region has grown relatively slowly, at 2.3% annually, reaching 14.1% in 2010. However, it is expected to grow faster in the coming decades to reach approximately 20% by 2030 and 26% by 2050.[46]

Ageing has a direct impact on cities, as it changes the demands made on the infrastructure (e.g. the transportation system) and social services (e.g. healthcare, risk of social isolation), while simultaneously leading to a shrinking tax revenue from local and national taxation, as people live on less and pay less tax once they retire.[47] In turn, demographic ageing is paralleled by a relative decrease in the active labour force, further lessening the tax take and putting pressure on housing accessibility and affordability. This poses potential problems for all segments of the population, either through an increased need for social housing or because older cohorts of the population remain longer in larger housing units.[48]

The increasing percentage of older people in the population creates a further challenge for public transportation in cities in terms of adaptation and frequency. A diminishing local revenue base, concessionary travel for older people, and lower densities caused by urban sprawl may put pressure on affordable public transport for all segments of the population and may, in turn, undermine this core aim of sustainability.[49]

The need to ensure the accessibility of public space by all becomes obvious in this context. Therefore, it is important that local governments and the private sector are prepared for the population's ageing, and adjust to it. Increased walkability of cities allows for greater mobility of older and vulnerable people, and for all age groups in the city. Equally, increased levels of walking and active travel have had an important health dividend, as active

[46] Population Trends and Policies in the UNECE Region: Outcomes, Policies and Possibilities, Chapter 1: Population Dynamics: Past and Future Trends, p. 4.
[47] OECD, 2015:49.
[48] See for example http://www.insidehousing.co.uk/older-people-hoard-family-homes/6518478.article
[49] OECD, 2015.

populations are healthier than excessively sedentary ones. In many parts of the region, cities and local communities have developed innovative mechanisms related to housing and social relations to respond to the challenges detailed above.

Ageing is more prominent in Europe than in most other regions of the UNECE and the world. Since the 1960s, Europe has experienced lower birth rates, coupled with increased life expectancy, both of which lead to older populations. Both trends are here to stay. According to all contemporary projections, replacement rates are declining – i.e. birth rates will remain lower than death rates, even allowing for the effects of ageing.[50] The European population has grown by only 5% from 1996 to 2015, although the age structure of the population varies across cities in Europe. Most capitals attract a younger population than the national average (e.g. Copenhagen and Helsinki). However, there are some exceptions, such as Lisbon, Warsaw and Bratislava. In 2012, the majority of the cities with an age-dependency ratio of 35% or more were located in Italy and Germany. These two countries together had over 100 cities in this category.[51]

In North America, recent and predicted demographic changes make responding to the needs of the ageing population an increasingly important issue, as the number and proportion of over-65s has dramatically increased. Between 2002 and 2012, the number of Americans in this category increased by 21% (7.6 million people).[52] By 2040, projections indicate that this will double, and account for 20% of the population.[53]

With the large increase in this part of the population in the US, the need for age-friendly housing is growing, as the overwhelming majority of older adults prefer to 'age in place'. This allows older people to stay in their homes and communities with an active lifestyle, avoiding an institutional life for as long as possible. The US Government has several programmes that aim to increase the supply of housing available to low-income seniors and provide services that allow them to stay in their homes for longer.[54]

In EERCCA, there is also a reduction in birth rates, but this has been paralleled by increased mortality since the 1990s, leading to a shrinking population.[55] The rate of change of Russia's natural population only turned positive in 2013 for the first time since 1991. In Belarus, it was still negative in 2014, although the rate has picked up from its nadir of -5.9% in 2002 to -0.8% in 2013. Four countries in this subregion are seeing an increase in their total population in recent years, including Russia (since 2009), Belarus (since 2013), and Georgia (in

[50] European Commission, 2015:14.
[51] Eurostat.
[52] Administration on Aging. 'Highlights'. http://www.aoa.acl.gov/Aging_Statistics/Profile/2013/2.aspx [Accessed 29 March 2015.]
[53] Administration on Aging. 'Future Growth'. http://www.aoa.acl.gov/Aging_Statistics/Profile/2013/4.aspx [Accessed 29 March 2015.]
[54] Such as the U.S. Department of Health and Human Services' Community Innovations for Aging in Place Initiative (CIAIP) from 2006 to assist community efforts to enable older adults to sustain their independence and age in place in their homes and communities. US Draft National Report, 2015.
[55] The difference between the two types of demographic behaviour can also be traced to different ethnic groups within the countries. For example, Russians as an ethnic group have been decreasing in an otherwise growing Kazakhstan while, within the Russian Federation, the population of traditionally Muslim ethnic groups (e.g. in the North Caucasus) have experienced a positive natural increase.

2009-2012 and 2014).[56] Armenia, Moldova and Ukraine, on the other hand, still have a shrinking population. Nonetheless, life expectancy is increasing across the subregion, after a drop in the 1990s.

Demographic trends are also divergent. They are characterized by declining and older populations in Russia, Ukraine, Belarus, Moldova, Georgia and Armenia, compared to the growing and younger population in the group of Turkic countries, although demographic differences between the members of this latter group were already evident during the Soviet era.

There are variations across the subregion. The share of the population aged over 65 now ranges from 10% in Armenia to 15% in Ukraine and Georgia. To respond to the challenge, Armenia, for example, adopted a special strategy addressing the issues of an ageing population and the social protection of the elderly in 2012.[57] The ageing situation is also geographically localized in economically vulnerable areas that experience outmigration of the younger population.

The concentration of populations in many primary cities of the EERCCA that benefit from international migration adds to a cosmopolitan character and diversity. However, demographic processes bring about other challenges within the subregion. A rapid influx of poorer migrant workers into some major cities can produce negative reactions and associated social tensions.

All the Western Balkans countries also face ageing populations. It is estimated that, by 2050, more than 20% of inhabitants will be over 65.

Demographic trends in Israel are not clear from aggregated national statistics. The country has a higher fertility rate than most other countries in the UNECE region, and this is a driver of population growth. As a consequence, it has a younger population, with 28% under the age of 15 and only 10% older than 65, compared with European proportions of 16% and 16%, respectively.

In addition to ageing, there is a general trend towards the individualization of lifestyle which, in combination with lower birth rates leading to smaller families, has led to a higher consumption of apartment space per person.



[56] Based on the World Bank data (check with Oleg and Anna).
[57] The draft national report on human settlements in Armenia for Habitat III.

**Figure 3: Ageing in the UNECE Sub-regions, in percentage**

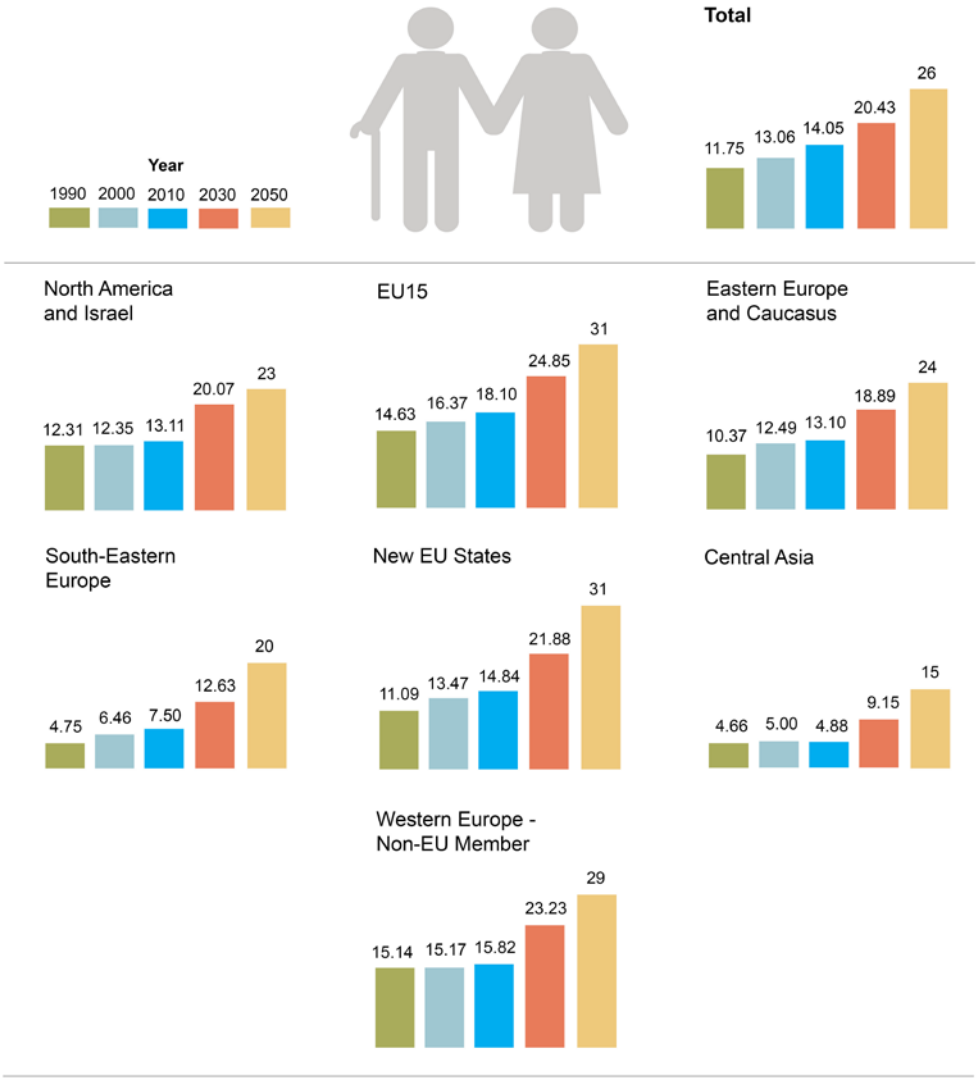
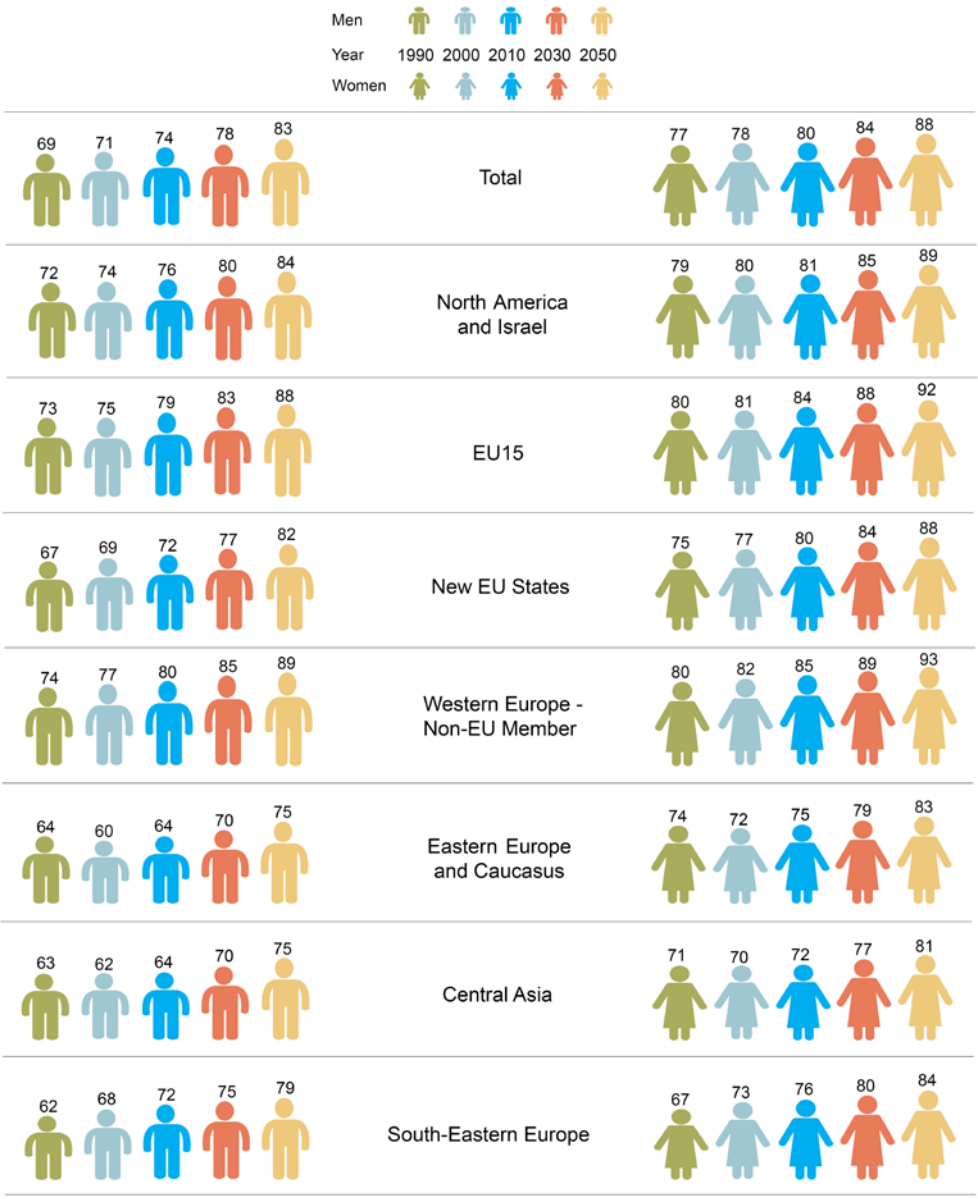


**Figure 4: Life expectancy in the UNECE Sub-regions, by age**



## 2.3 The challenges and opportunities of migration

In the last few years, international migration flows have risen to levels unprecedented since World War II. Both internal and international migration has substantially increased in the entire region due to globalization, increased inequalities within and between countries, the discontinuation of population movement control in many Eastern countries, and the introduction of the free movement zone in the EU.

Increased population mobility leads to higher urban polarization, as best-performing cities or neighbourhoods tend to attract population growth, youth and economic activities, leaving other areas in a state of economic stagnation and demographic shrinkage that, in turn, reduces opportunities for positive social interaction and cohesion. Another effect of increased migration is that many cities face the challenge of managing growing social and cultural diversity. While increased diversity presents many positive sides, it challenges the local identity and the social consensus on the urban development model to be followed.

Europe has become a continent of immigration. The main migration flows have been from south to north and from east to west, both within Europe and for migrants moving from non-EU countries. In 2014, over 50 million foreigners resided in the EU, of which 33.5 million were born outside of the EU, and 17.9 million were born in a different EU Member State from the one where they were resident. These trends are projected to persist and increase. The total net immigration for the region is estimated to increase by 20 million in the period 2010-2030.[58]

Local authorities are often an important official contact point of immigrants. While cities do not have a say on national or European migration regulations and general social and age-related policies, some cities have done better than others to successfully integrate migrants. Examples include a cultural festival to raise awareness and strengthen intercultural coexistence in Bilbao (Spain), a one-stop-shop for immigrant entrepreneurs, offering business counselling in many languages in Vienna (Austria), and a project on mayoral leadership to bring together religious communities to create a forum for dialogue and community mediation in Marseille (France).[59]

In North America, there is continued migration northwards from Central and South American countries, into east coast cities from the countries of Eastern Europe and the Caucasus, and lower migration flows from Eurasia that continue into west coast cities. A substantial part of the US population growth can be explained by the fact that immigrants and their descendants tend to have more children compared to the rest of the population.

[58] Eurostat.
[59] Maytree Foundation, Toronto, Canada. 2012. Available at: www.maytree.com. See also: http://citiesofmigration.ca/wp-content/uploads/2012/03/Municipal_Report_Main_Report2.pdf

In EERCCA, there has been ongoing migration for many decades – primarily from east to west and from smaller to larger cities, as well as internationally within the subregion. The scale of international labour migration can, to some extent, be assessed from remittances, which are now an important source of income for the national economies of poorer countries, making up almost half of the GDP of Tajikistan, a third of that of Kyrgyzstan, a quarter of that of Moldova, and a fifth of that of Armenia.

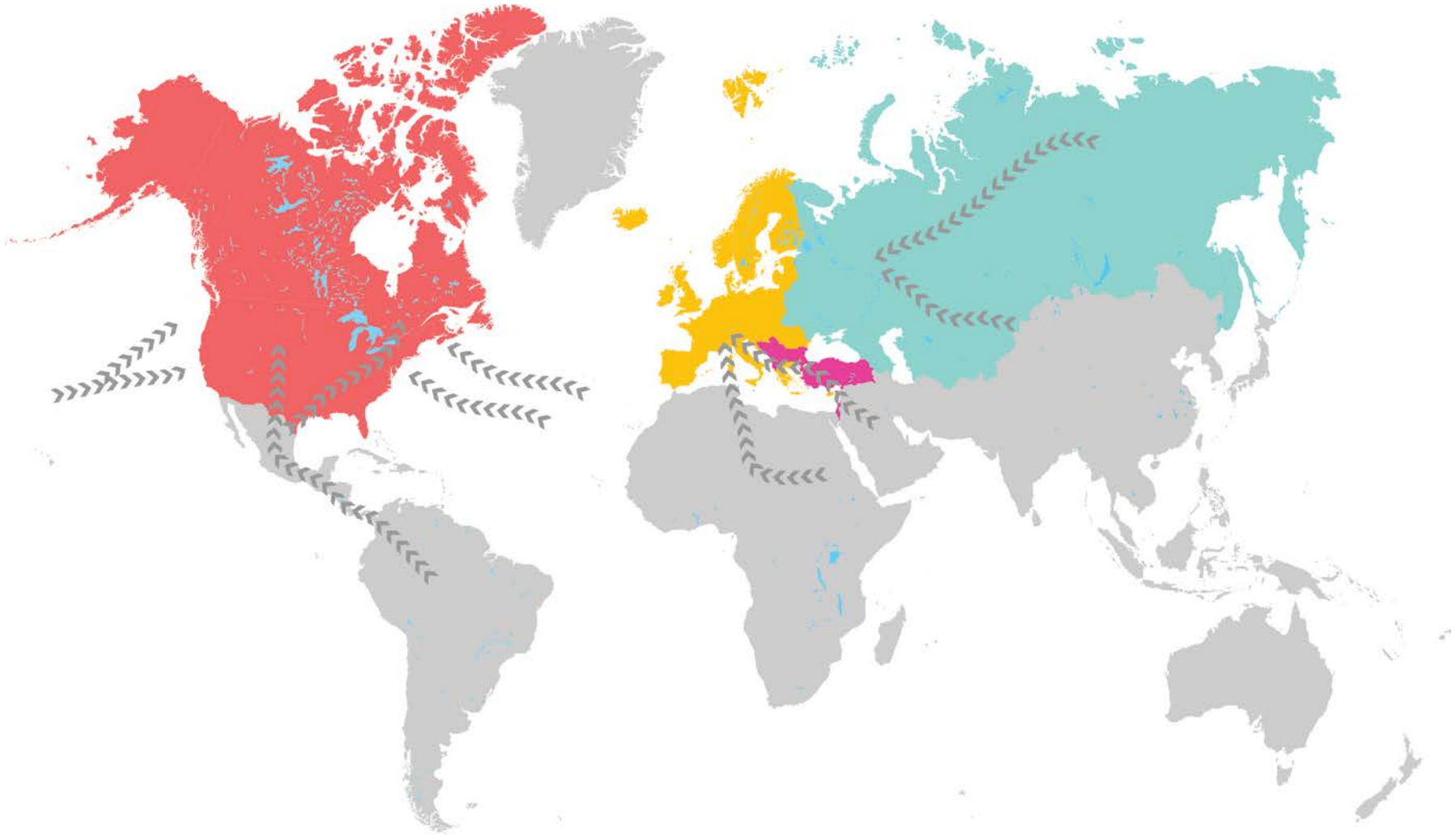
The crises in the Balkans in the 1990s caused the movement of about 4 million people to Germany, Switzerland and Austria. Between 2001 and 2008, the level of net immigration in the EU was even higher than that in the US – traditionally a country of immigration.[60] SEE has experienced the largest refugee crisis since World War II, with a major concern for the Roma community who do not belong to any of the major ethnicities of the Balkans. By 1995, the region witnessed the displacement of more than 2 million people, creating unique housing challenges.

Throughout its history, Turkey has been affected by diverse forms of migratory movements and refugee flows, such as labour emigration to Western Europe since the 1960s, return migration to Turkey, and transit migration from Asia and the Middle East towards Europe. The country is currently hosting over 2.5 million Syrian nationals in need of international protection due to the civil war in their country.



[60] Gebhardt, 2014.

**Figure 5: Migration flow in the UNECE region**



## 2.4 Conclusions

The most important trends in urbanization affecting the cities of the region are urban concentration, sprawl and shrinking. Concentration and sprawl affect the most successful city-regions, whereas shrinking and sprawl affect many remoter, isolated and less successful cities.

The two most important demographic trends concern ageing, which is a pan-UNECE region issue, and successive waves of migration through Eurasia and North America.

The trends in urbanization and migration are reinforcing and accelerating one another, creating ever greater but differing pressures between the most successful super-city regions compared to dispersed and isolated smaller cities.

# 3. THE ECONOMY OF CITIES

## 3.1 Overall trends

'Cities are the engines of regional economies … urban living, though not without challenges, is rich with economic, educational, and social possibilities that appeal to a very wide range of people.'[61]

In 2014, the cumulative GDP (purchasing power parity (PPP)) of the 56 members of the UNECE was, according to the World Bank, over $42.5 trillion, approximately 43.1% of the world's GDP: with North America at 24.7%, EU/EFTA at 25.3%, EERCCA at 3.2% and SEE, Turkey and Israel at 1.5%.[62] The two decades since Habitat II have been marked by economic uncertainty and downturn, greatly exacerbated by the financial and economic crises that began in 2008 and impacted on cities in a profound way, through declining revenue from residents who pay less tax in periods of unemployment, and diminishing productivity from industries when they sustain a period of business downturn. At the same time, inequality has been growing in cities across the entire region.

Nonetheless, the last 20 years have seen a remarkable transition in the urban economies. The last two decades have been characterized by two macro trends:

- the transition from centrally-planned to market economies – primarily in the former socialist countries, although western countries have also seen a transition through privatization and retrenchment of the welfare state; and
- the changes brought about by the shift to the knowledge and digital economies.

The principal driver of city economies in the region since Habitat II is the combined effect of the knowledge economy and the digital revolution. The former concerns the production and trading of knowledge through universities, spin-off companies, and the like. By and large, these institutions and their supporting 'ecosystems' are an important part of agglomeration economies and they are concentrated in cities. The digital economy has seen explosive growth over the past 20 years, and it has underlined and accelerated the importance of the knowledge economy. These aspects of economy – knowledge and digital production, trading, consumption, and their agglomeration – have replaced manufacture and industry as the primary forces of economic development, and they have permanently morphed the service sector as the principal driver of the economy of the region's cities. These economic forces concentrate and strengthen the importance of cities and clusters thereof, and provide the economic imperative to build on the geographic and demographic trends identified in Chapter 1 to underline the reality: the 21st century is the Century of the City.

[61] US Draft National Report for Habitat III, April 2015.
[62] World Bank. Note: Monaco, Liechtenstein and San Marino were not included.

**Figure 6: The GDP PPP per person in the UNECE sub-region**

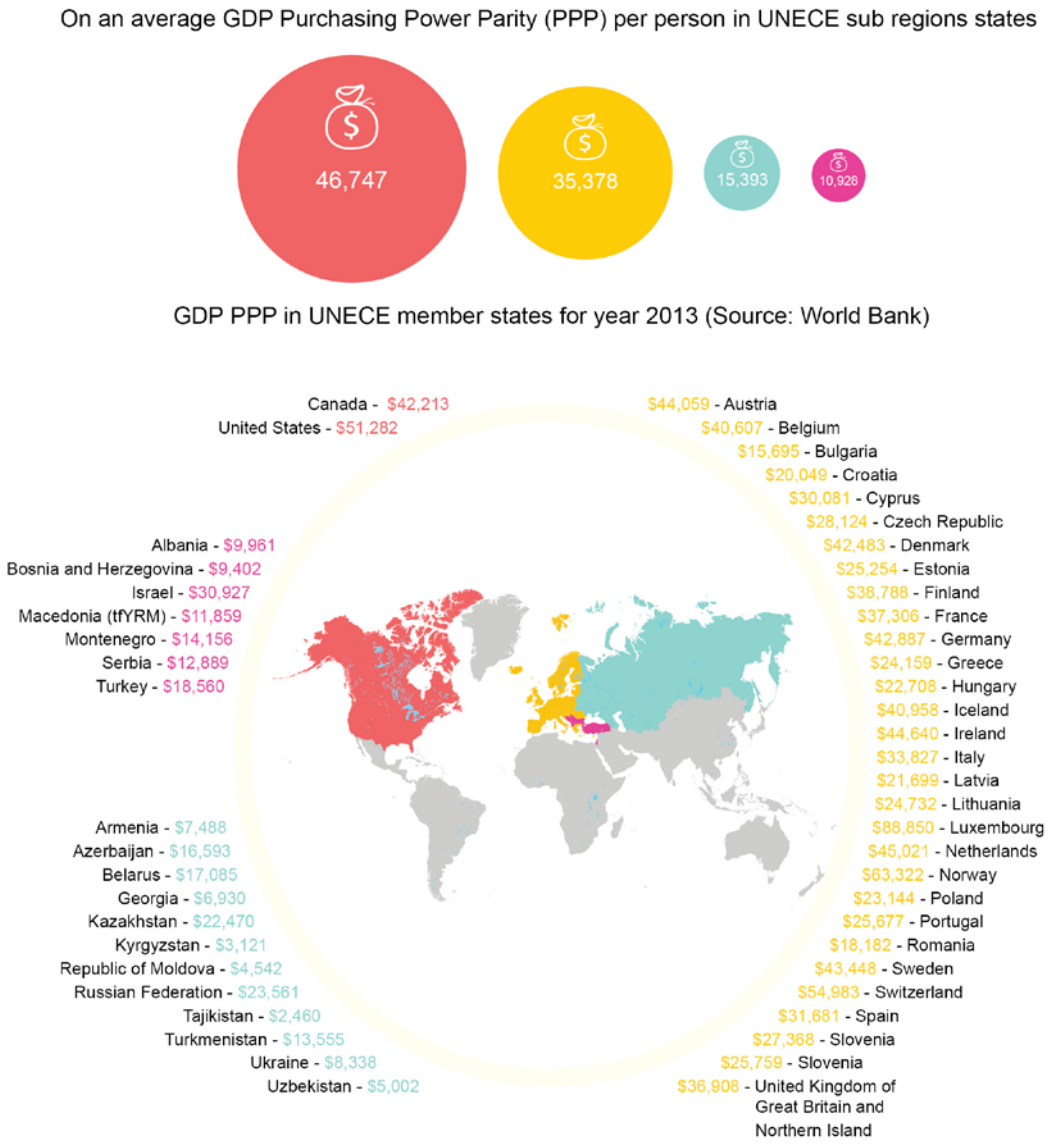


**Table 4: The GDP PPP of sub-regions 1990-2013 for the EERCCA Region**

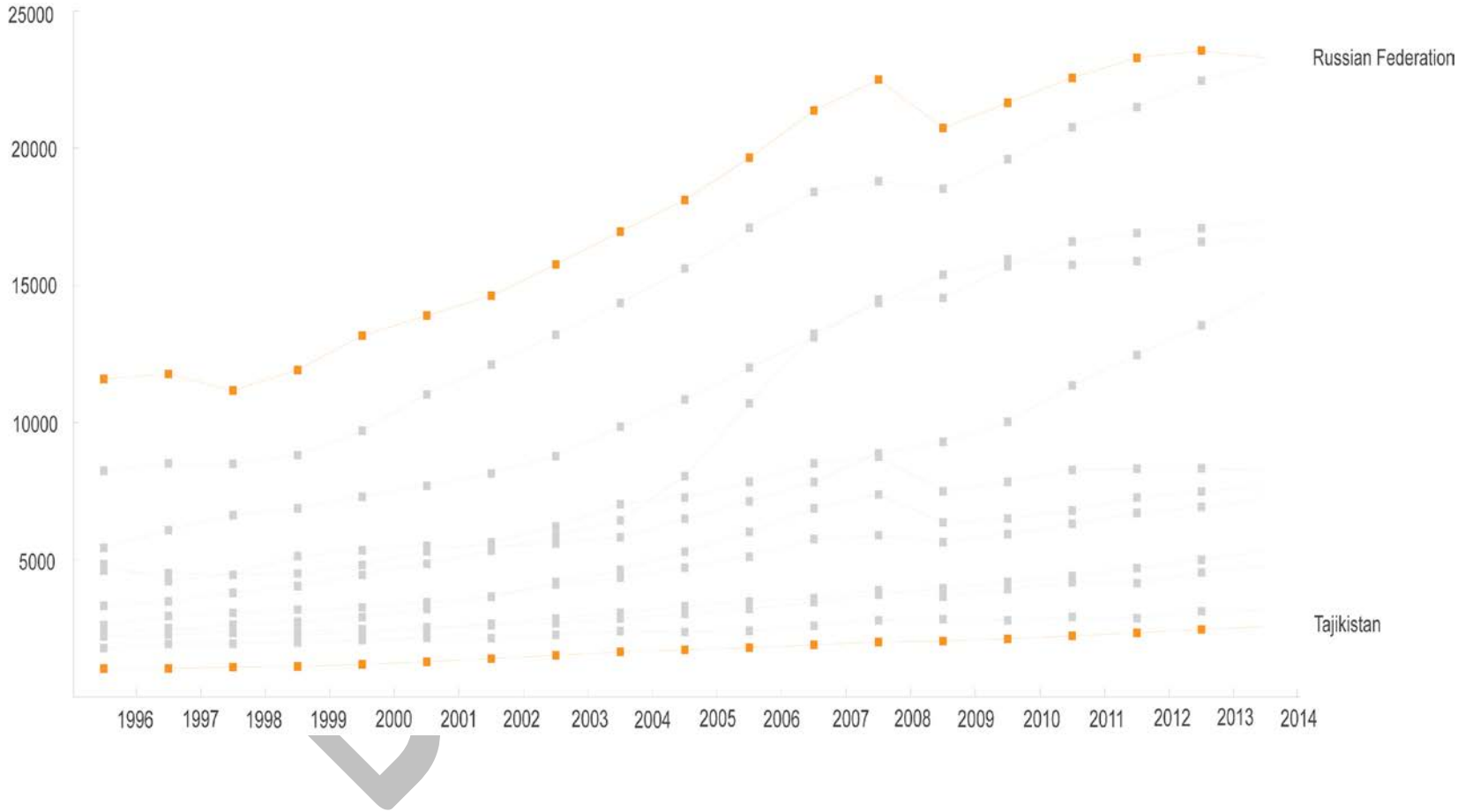


**Table 5: The GDP PPP of the sub-regions 1990-2013 for the EU Region**

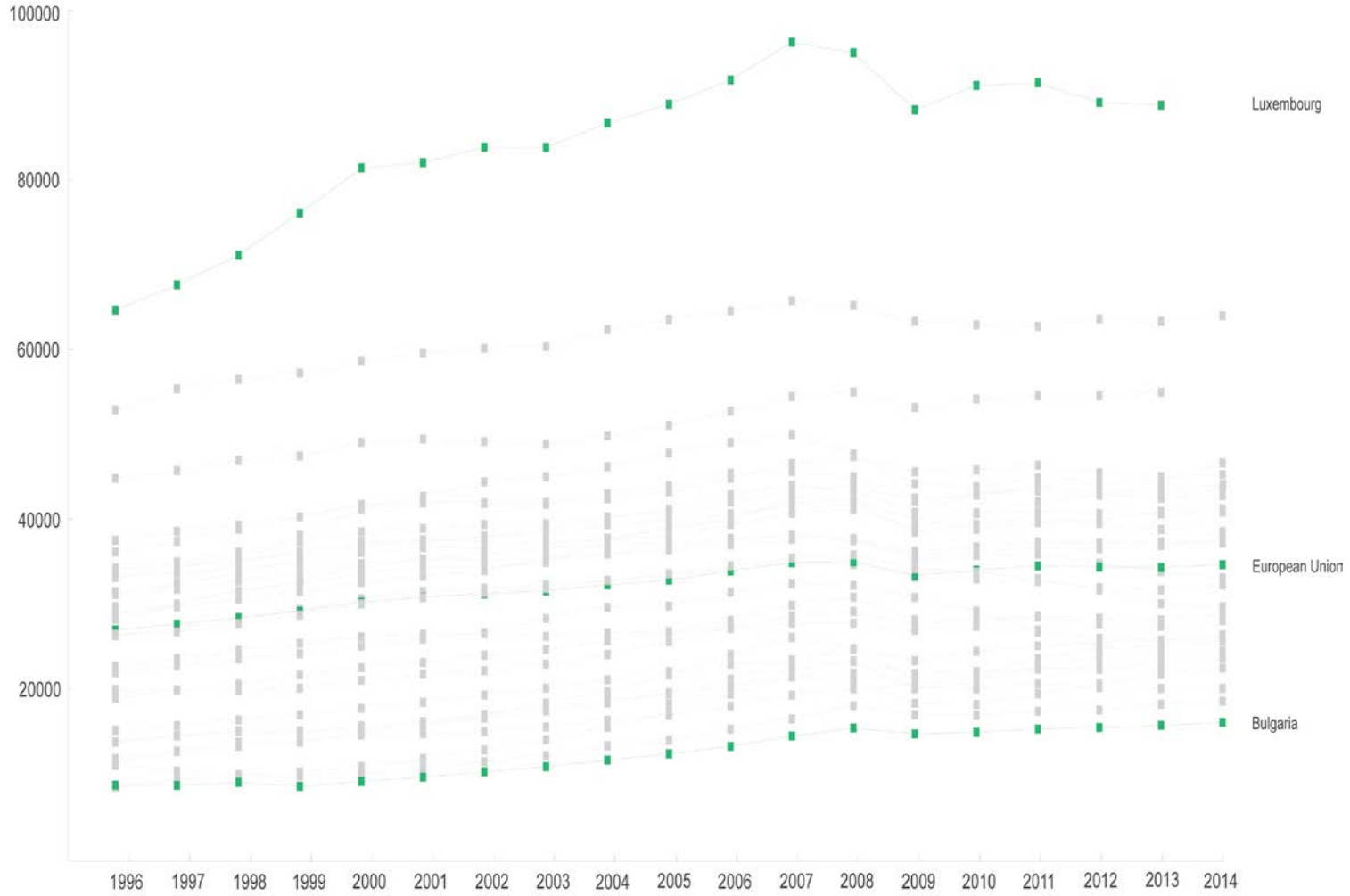


**Table 6: The GDP PPP of the sub-regions 1990-2013 for the SEE Region**

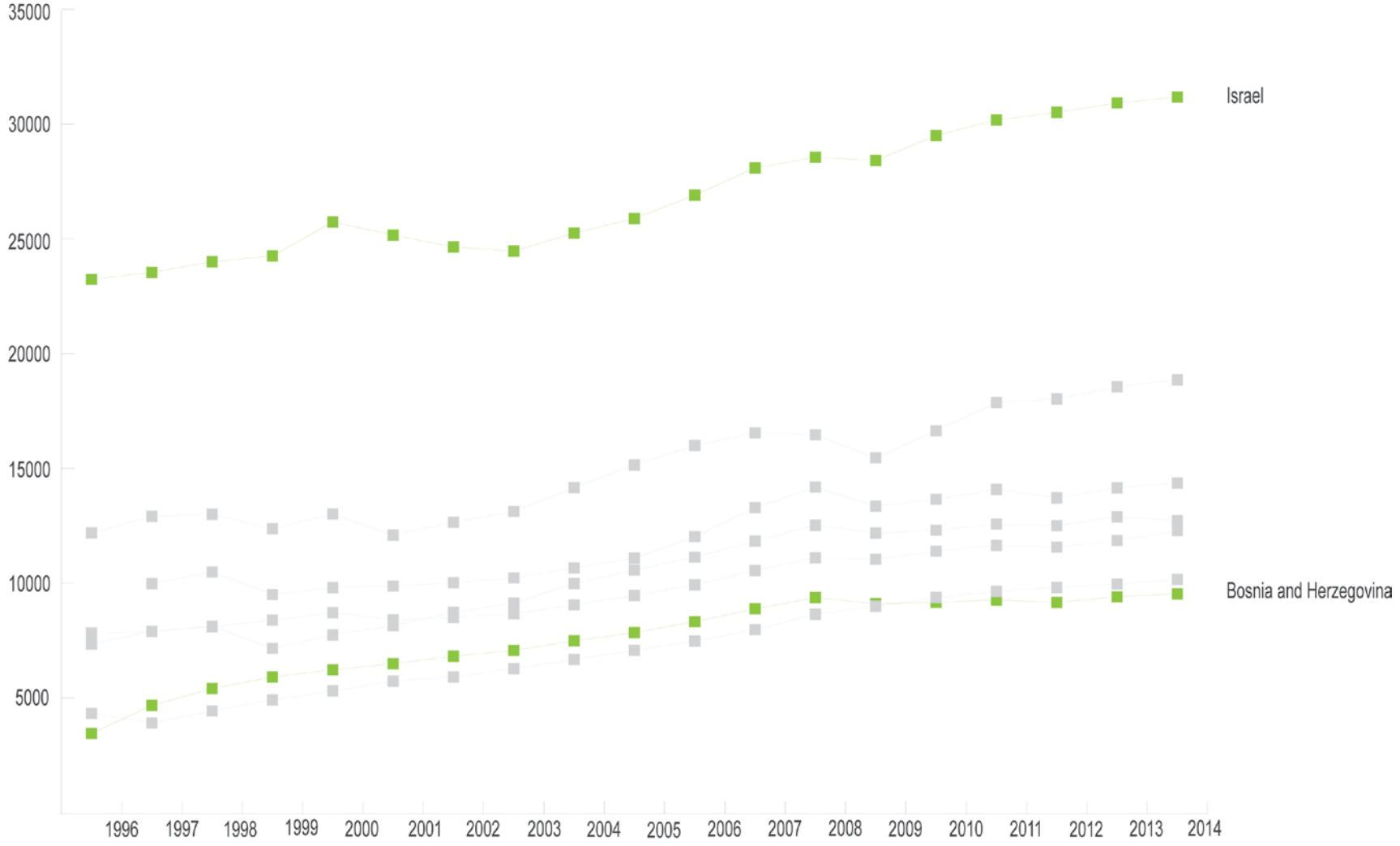
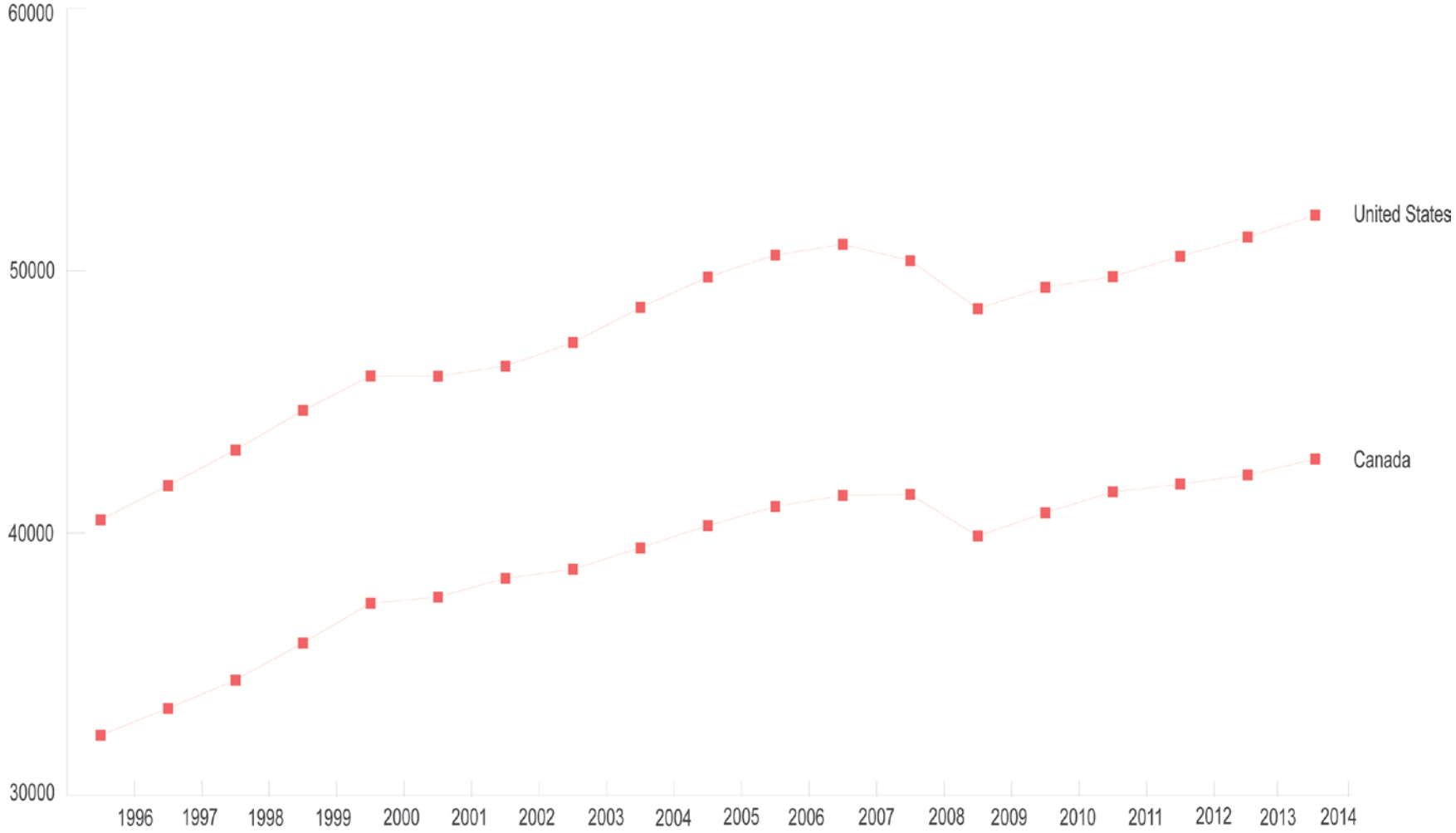


**Table 7: The GDP PPP of the sub-regions 1990-2013 for USA and CANADA**



## 3.2 Economic transition: from planned to market economies

Countries within the region that were previously governed by the principles of central economic planning and provision of services by the state have, over the last 20 years, been marked by the transition to a market economy. This is true of the former socialist countries of EERCCA and the former Yugoslav republics. Over these years, some of these countries have accelerated their modernization and economic transition, and have sought and achieved membership of the EU.

This process of transition has had a profound impact on cities that abandoned central planning and state-owned housing, and decreased investments in public transport. Cities also witnessed outmigration and suburbanization. At the same time, those in the expanded EU benefited from direct investment from EU programmes for infrastructure, rehabilitation and research projects, to encourage poorer regions to improve their economic and social situation.[63]

The cities of these countries have faced a double challenge in the last 20 years: the transition to a market economy; and the effects of the financial crisis of 2008-2011. While some cities have flourished (mostly the capitals and the larger prominent cities), smaller ones and those with a mono-industrial basis have lost population and economic activity.[64]

The collapse of the Soviet Union was the key factor in shaping the spatial reconfigurations in EERCCA in the last 25 years. All of these countries, which had previously had no living memory of a free market economy in contrast to many countries in Western and Central Europe, faced the challenges of building market economies, combined with the processes of nation-building and political transitions. The favoured mechanism for structural reform in some countries in the 1990s – the 'Shock Therapy' – proved, in part, to be socially and economically corrosive. Rapid price liberalization and welfare cuts devalued savings and incomes; privatization redistributed national wealth in favour of a small elite; and the liberalization of international trade and exposure to globalization left many enterprises with little opportunity to adjust to the market. The situation was aggravated by broken production chains that previously stretched across the whole Soviet Union and beyond.

Consequently, all the economies formerly within a state socialist system experienced a precipitous decline in the early 1990s. For example, at its lowest point in 1994-1995, Georgia's real GDP was 70% smaller than in 1990. At their lowest point, Azerbaijan and Ukraine lost almost 60% of their economic potential, while Russia, Kazakhstan and Turkmenistan lost 40%. Uzbekistan was the only one to sustain relatively moderate losses of less than 20%.

Restorative growth eventually happened when re-established institutional order, relative political stability, accumulated learning, entrepreneurship, and certain external economic conditions enabled countries and metropolitan economies to become innovative and entrepreneurial.

### 3.1 BOX: Economies of the EERCCA

Since the end of the 1990s and prior to the global financial crisis of 2008, these countries

[63] UN-Habitat, 2013.
[64] UN-Habitat, 2013.

experienced a robust but uneven recovery, but by 2014, the GDP indices of Ukraine, Moldova and Georgia were still far below their 1990 levels. In contrast, the economies of Azerbaijan, Turkmenistan, and Uzbekistan turned out to be more than 2.5 times wealthier in real terms than in 1990, when adjusted for population size and purchasing power.[65] Accounting for the size of the population and adjusting GDP to PPP in constant values (so that the data are comparable longitudinally and cross-country), it is clear that Kyrgyzstan and Tajikistan also remain worse off than in 1990, while Armenia, Kazakhstan and Belarus have performed relatively well. Most remarkably, Kazakhstan has been able to catch up with Russia in GDP per capita in PPP terms – a considerable achievement, given the outflow of high-skilled individuals after independence, although this is driven partly by hydrocarbon exploitation. The per capita gap between the richest and the poorest countries in the former state socialist system of Russia, Tajikistan and Kyrgyzstan, grew from 5 times in 1990 to nearly 10 times in recent years. All of the above caused further outmigration in countries.



The market reforms provoked strong levels of polarization and uneven development within the majority of the countries. Different regions demonstrated divergent trajectories of economic performance, creating a clearly pronounced dichotomy in economic performance between the centre and the periphery. These processes of spatial differentiation have proven to be self-perpetuating and hard to change, especially within a market economy.

The agglomeration or concentration effects described in Chapter 2 are a key factor of spatial differentiation that has favoured larger cities, particularly national capitals. As Soviet model cities, capital cities were desirable places in which to live, with concentrations of key research, educational, healthcare, cultural, and other social facilities, including transportation systems. They also received a greater share of public investment. For example, Minsk, in Belarus, attracted a fifth of the republic's capital construction budget in the second half of the 20th century.[66,67] Now capital cities, together with a few other major metropolitan centres, have a concentration of public administration functions, such as major taxpayers' headquarters, branches of national and foreign firms, and financial and informational services. They have become key hubs for trade, entrepreneurship, modern technology, and innovation, enjoying diversified and agglomerative economies that offer better standards of living and opportunities for personal development. They also command a substantial share of national budget transfers and, as a consequence, attract a great deal of national wealth and investment, as well as internal and international migrants.[68]

There has been a notable increase in the concentration of national populations in the capital cities of Russia (Moscow), Ukraine (Kiev), Belarus (Minsk) and Moldova (Chisinau), in contrast with shrinking national populations – these cities have thus increased their relative demographic importance. In Kazakhstan, both the old capital and the country's

[65] O. Golubchikov and A. Badyina. UN Habitat. 2015.
[66] The draft national report on human settlements in the Republic of Belarus for Habitat III.
[67] The draft national report on human settlements in the Republic of Belarus for Habitat III.
[68] O. Golubchikov, A. Badyina and A. Makhrova (2014) 'The Hybrid Spatialities of Transition: Capitalism, Legacy and Uneven Urban Economic Restructuring', Urban Studies 51 (4): 617-633; O. Golubchikov (2006) 'Interurban Development and Economic Disparities in a Russian Province', Eurasian Geography and Economics 47 (4): 478-495.

largest city, Almaty, and the new capital, Astana, are growing very rapidly. Astana, since being conferred with its new capital status, has grown threefold – from 275,000 inhabitants in 1997 to 853,000 by 2015. In five of these countries, their largest cities now accommodate more than 10% of the national population. When the surrounding suburban territories are factored in, these city-regions are home to at least 20% of the national population, even in Russia. The primary cities continue to draw population into their spheres of influence, leading to the creation of expansive commuting suburban zones.

While the majority of countries have no non-capital cities of over one million inhabitants, Russia and Ukraine do. In Ukraine, other cities are still shrinking in favour of Kiev's growth, but Russia's cities of more than one million inhabitants have been reporting growth in population since the mid-2000s, mainly as a result of in-migration. Statistically, the number of such cities in Russia grew from 13 in 1990 to 15 by the end of 2012. Similarly, the majority of cities with over 500,000 inhabitants in Russia and 250,000 in Belarus have been growing in population, especially since the second half of the 2000s. Some of the growth of these cities has been attributed to the incorporation of adjacent territories within the metropolitan area. Nonetheless, the trends of population concentration are undeniable.

While economically successful, the larger metropolitan areas face important constraints for development, including: land and environmental constraints, pollution, expensive and inefficient infrastructure, overpriced housing, social polarization, underinvested public transport, and traffic congestion.

At the same time, the economic performance of smaller and secondary cities now depends on their opportunity to capitalize on certain competitive advantages (sometimes at the expense of neighbouring cities of similar size), and establishing new relationships with capital from external investment. Many of them have found themselves vulnerable in the context of the new economy. Crisis conditions can be particularly pronounced in mono-functional towns that rely on one company or a localized cluster of enterprises in one industry. In the Soviet era, the establishment of new towns corresponded with major industrial programmes – such as new towns in regions, and major industrial programmes associated with energy generation and mineral resources. To attract human capital, these cities offered good salaries and a readily-available consumer goods supply. Such cities were closely integrated in pan-Soviet production chains, rather than being embedded in extended local economies. Because of economic disintegration and the downscaling of production chains at the start of the economic transition 20 years ago, many of these cities found themselves uncompetitive. They face high levels of unemployment and social problems, especially if the city's main industrial employers experience troubles.[69] Such cities are consequently losing their most dynamic population.[70] In some cases, however, they constitute the essence of the newly emerged economies. In mineral-rich Russia, three quarters of the country's total export value in 2012 was produced by a few of the largest exports: crude oil (34.4%), oil products (19.7%), natural gas (11.8%), ferrous metals (4.3%), coal (2.5%), inorganic chemistry products (1.5%), and raw aluminium (1.2%).[71] These mineral and metal exports, as well as many other exported products, are overwhelmingly produced in smaller cities and mono-towns. Across the whole subregion, those cities that specialize in such export-oriented economies with simple production chains have been economically

[69] O. Golubchikov and A. Makhrova, (2013)' Faktory neravnomernogo razvitiya rosiyskikh gorodov', Vestnik Moskovskogo Universiteta: Seriya Geografiya, 2013 (2), pp. 54-60.
[70] The draft national report on human settlements in the Republic of Belarus for Habitat III.
[71] Calculated from the data of Rosstat (2013) Torgovlya v Rossii [Trade in Russia]. Moscow. Available at: http://www.gks.ru/bgd/regl/b13_58/Main.htm

advantaged.[72] For example, areas of oil and gas extraction in Russia, Kazakhstan, Azerbaijan and Turkmenistan have seen existing cities grow and some new towns established. However, the assets generated as a consequence of these programmes have been accumulated in national and regional capitals, offshore, and in more distant global financial centres, and not in the cities themselves.

Other relatively successful urban economies in the subregion include those based on import-substitution: ports, transportation and cross-border trade; smaller cities attractive for recreation or pilgrimage; and urban places around larger centres. As large cities have become major destinations in themselves, proximity has become decisive for other smaller cities and territories. One specific group of towns that performs relatively well, due, in large part, to their highly skilled human capital, include former 'science towns'. For example, in Ukraine, 5 of the 10 cities with a growing population (besides Kiev) are nuclear power plant cities.[73]

A key question for the long-term prosperity of smaller cities is not, however, only economic. It is also a matter of the extent of attractive physical, environmental and cultural assets and educational opportunities, that make people feel comfortable living there in the longer run, especially in the context of post-industrialization and associated lifestyles and aspirations.

Whereas this trend has been focused on EERCCA and the Western Balkans, the second great economic trend of the last 20 years – the emergence of the knowledge economy and the digital revolution – has affected the whole of the UNECE region.

## 3.3 The emergence of the knowledge economy

European and North American cities flourished during the era of industrialization, but the manufacturing industry is now in relative decline[74], and it is possible, if not likely, that after an exceptional period of prosperity, the growth of these urban economies could remain weak in the future, at least under the current conditions of very low population growth.[75] In spite of this trend, however, the rise of the knowledge economy in these areas, built on a digital revolution based on the Internet, fast computers and networking, is bringing about massive opportunities and challenges for the cities of UNECE region.

The knowledge economy is the successor to the industrial economy. The latter has reshaped cities and regions in several major waves of development and redevelopment, producing its own space, that differed radically from the predecessor agrarian and mercantile economies. Manufacturing industries reorganized access to raw materials and markets, created and controlled transport networks, attracted large numbers of workers to cities, and set up rigid routines of work, all reflected in the patterns of spatial and social organization. The knowledge economy is expected to exert its own spatial requirements, through reshaping the industrial city to new forms that suit the new conditions of economic

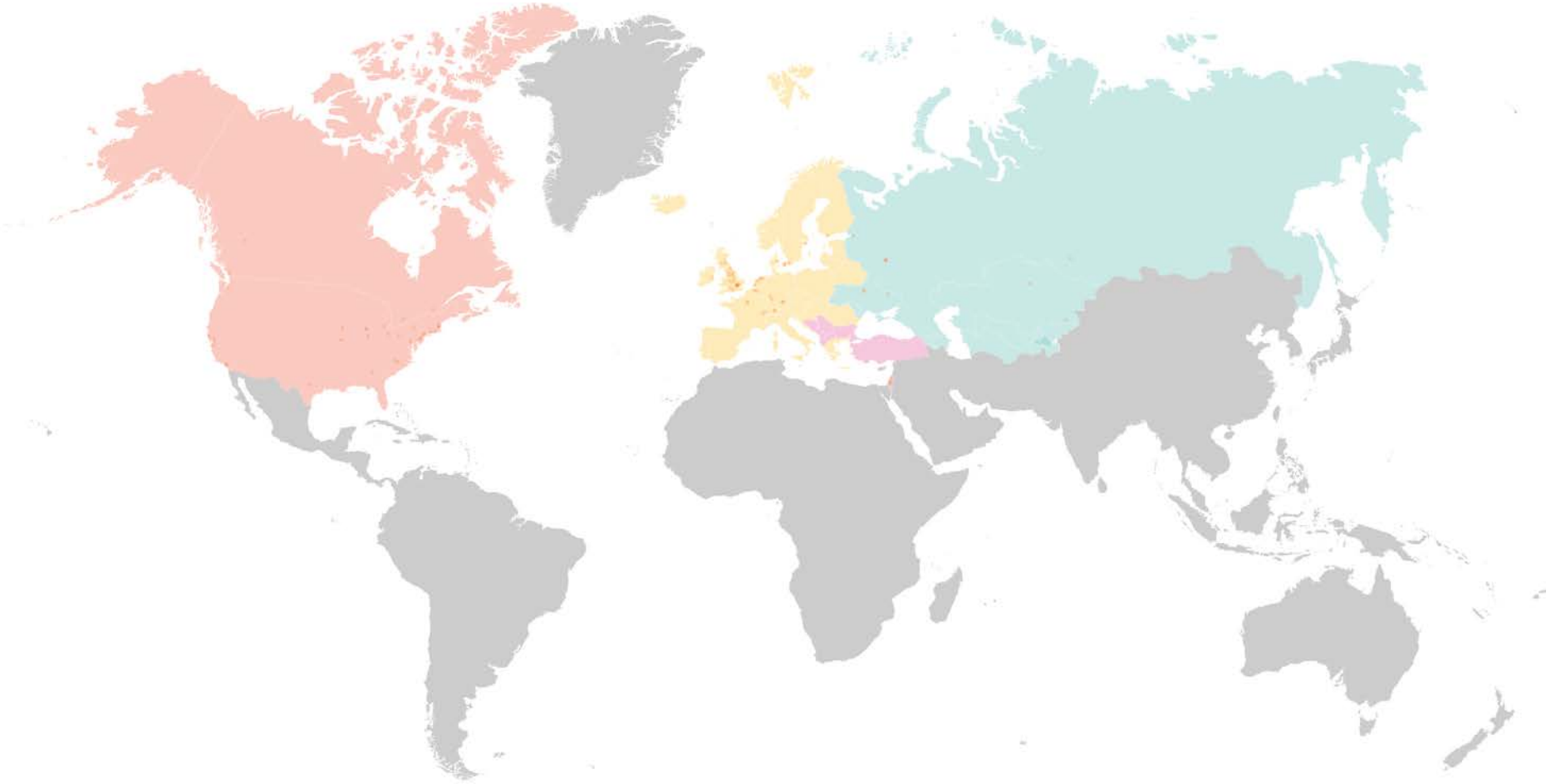
[72] O. Golubchikov, A. Badyina, A. Makhrova and I. Brade, (2015)' Uneven Urban Resilience: The Economic Adjustment and Polarization of Russia's Cities', in T. Lang, S. Henn, W. Sgibnev and K. Ehrlich (eds) Understanding Geographies of Polarization and Peripheralization: Perspectives from Central and Eastern Europe and Beyond, Palgrave Macmillan.
[73] L. Rudenko (2013)' Glavnye tendentsii razvitiya gorodov Ukrainy', in L. Rudenko (ed) Izmeneniya Gorodskogo Prostranstva v Ukraine, Kiev: Referat.
[74] The manufacturing industry contributed only 15% to the EU's GDP in 2014. European Commission, 2014.
[75] Piketty, 2014.

production, social requirements and cultural institutions.[76] The spatial expressions of the knowledge economy are likely to be the model for cities for the foreseeable future.



[76] Knowledge Economy and the City - Spaces of Knowledge, Ali Madanipour, Routledge, 2011.

**Figure 7: The creative clusters in the UNECE region**



The knowledge economy has changed the nature of products that we need. The emergence of knowledge itself as a productive capacity and output has no particular spatial requirements other than the proximity of those engaged in its production and a new division of labour. This is changing the nature of sites for production and consumption in cities, where new clusters of activity are formed, while others are dismissed or dispersed. The new spaces of production are the spaces of knowledge: universities, science parks and cultural quarters, which are created side by side with the new spaces of consumption and new patterns of social inequality.[77]

The knowledge economy has altered the dynamics of urban economics, encouraged the growth of agglomerations, and increased the importance of spaces for encounter and their role in innovation on the campuses of Silicon Valley in the US, Cambridgeshire in England, and Kirkstra in Finland. These are new forms of economy clusters, formed either by public policy or by individuals and firms, including universities, science and technology parks, creative economy clusters, and office clusters, as well as home-working. The clustering of knowledge enterprises has reinforced the urban concentration effects described in Chapter 2 and the agglomeration economies that thrive in the super-cities. Whether these respond to the needs of the knowledge economy or to the demands of the development industry – or both – is unclear, but many are located at the edge of city centres and around airports and have, in this way, both fragmented urban space further and contributed to the effects of sprawl described in the previous chapter.[78]

An early conclusion by many in the emergent years of the knowledge economy was that place was no longer of importance: all the world's citizens needed was a good cable connection to bring the entire globe within easy reach. The consequence of this 'death of distance' was said to be that the city of streets, squares, stations, shops and restaurants would be replaced by a 'city of bits', a virtual city with a street pattern consisting of digital information highways.[79] In fact, the converse has proven to be the case. New ideas and innovative solutions come into being through intensive communication and exchange of knowledge with others. The proximity of people is very important. It makes more sense for knowledge workers to pop into a colleague's office than to work via email on a new project with an unknown person on the other side of the world.[80]

People still need physical contact with others, not only in their work but also in their free time. And cities, with an Experience Economy of cafes, restaurants, cinemas, galleries, venues and shopping centres, offer all these services on demand. This is the underlying reason why innovative cities such as Stockholm, Barcelona, Munich, Toulouse, Dublin and Louvain have blossomed in the knowledge economy.[81]

In fact, knowledge development, globalization and 'authentic' cities are mutually supportive. As the knowledge economy takes hold in both the developed and transition countries of the UNECE region, the cities that are able to adapt early to the new economic requirements will also be able to maximize on their local distinctiveness, as localization (the increasing importance of city distinctiveness, authenticity and identity) becomes as

[77] Madanipour, ibid.
[78] Aerotropolis – The Way We'll Live Next', J.D. Kasarda and G. Lindsay.
[79] W.J. Mitchell. City of Bits: Space, Place and the Infobahn. Cambridge, MA, 1995, MIT Press.
[80] A.L. Saxenian. Regional Advantage: Culture and Competition in Silicon Valley and Route 128. Cambridge, MA, 1994, Harvard University Press.
[81] Madanipour, ibid.

important as processes of globalization.[82] The emergence of the knowledge economy has revealed an apparent contradiction between cities and globalization as a 'global-local paradox': in a world that is becoming increasingly more integrated, cities must rely more on their specific local characteristics – expressed by some as 'authenticity'.[83] These unique characteristics help to determine what a city excels in, and the ways in which it can distinguish itself in the competition with other cities. The European knowledge economy and the related global-local paradox mean that cities, as in the past, compete for the favours of inhabitants, companies and visitors. Every city derives benefits by drawing in knowledge workers and knowledge-intensive activities and, as a result, gains competitive advantage.

In the homogenous and prosperous region between London and Milan (Europe's 'dynamic banana') or the region of the North-East seaboard of the US (BosWash), cities have come to resemble one another more and more over time. Convergence of this nature has major consequences. It means that small details, such as the city's image, can be decisive in decisions taken by companies or individuals looking for a place to settle or to visit. In order to maintain and increase their attractiveness to knowledge workers and other target groups, cities must reflect on what sort of profile they should have, and many have developed a competitiveness strategy as a consequence. Thus inter-city competition for knowledge and innovation requires cities to become 'creative'.[84]

The essence of creativity is the capacity to think up original solutions to day-to-day problems and challenges, and the cities that have been successful in exploiting this economic development are those with access to leading academic institutions within an urban concentration that demonstrate the qualities of diversity and flexibility. Innovation is a key long-term driver of competitiveness and productivity. Universities are central to 'innovation ecosystems' – the networks of institutions in the public and private sectors whose activities and interactions initiate, import, modify and diffuse new technologies.

Due to the effect of agglomeration within metropolitan regions, these networks result in higher economic productivity. Universities also spur stronger economic growth through fostering innovation in several ways, including research partnerships with businesses, technology transfer, spin-off companies, and the entrepreneurial pursuits of students, graduates and faculty. In the UK, many venture capital firms have close links with technology transfer units at universities. The availability of finance, particularly private equity and venture capital, is crucial, and finance will follow the locational decisions of people and firms with the most promising and lucrative ideas. Importantly, universities often have deep historic links with their cities, whereas other resources for economic growth – such as residents, workers, firms and investors – are more mobile. However, in attracting people, businesses and investment, cities benefit from strong universities, and universities benefit when their metro economy prospers and offers an attractive quality of life.[85]

### 3.2 BOX: City Growth Commission - UK

The City Growth Commission in the UK has examined how businesses and the Government can enable stronger growth in the UK's largest metropolitan regions to drive the long-term investment, job creation and output of the overall economy. A cornerstone of this strategy is

[82] P. Cooke, K. Morgan. The Associational Economy: Firms, Regions, and Innovation. Oxford 1998, Oxford University Press.
[83] Hospers.
[84] Hospers.
[85] Three of the top four factors which were influential in determining where multinational companies located their enterprises related to the university sector (BIS 2009).

the contribution made by the key institutions of the knowledge economy – universities that are overwhelming concentrated in cities. University education is a substantial economic activity within metropolitan areas. In the UK, it is one of the largest and fastest-growing industries in recent decades. However, the impact of universities on metro economies is much broader, and there is a long historic precedent. Many universities were founded with the mission to contribute to the local economy.[86] In the UK, universities, including Oxford and Cambridge, have spawned locally-based clusters in fields such as bio-technology and medical devices. The Hull School of Art and Design has fuelled the growth of creative industries in the city, while the University of Lincoln is working with Siemens in developing its new engineering department. The University of Bristol has made joint part-time appointments with Toshiba, accelerating knowledge transfer. In the US, industrial clusters with a technology focus have been fed by research, graduates and spin-outs, most notably around Boston and Raleigh-Durham.

## 3.4 The digital revolution

The digital economy now drives many and various aspects of the world economy, including banking, retail, energy, transportation, education, publishing, media and health. ICTs are transforming the ways social interactions and personal relationships are conducted, with fixed, mobile and broadcast networks converging, and devices and objects increasingly connected to form the Internet of Things. The manufacturing of ICT and the services it offers are drivers of the global economy. The trade between West and East in services and manufacturing related to ICTs has been one of the principal drivers of the world economy over the last 20 years. Broadband markets are expanding, with an increase in wireless broadband subscriptions – reaching close to one billion in the OECD area – resulting in a decrease in fixed telephony.[87]

The expansion of the digital economy has acted as a driver of economic growth in recent years. It is growing quickly and transforming society as a whole.[88] It permeates the world economy, including retail (e-commerce), transportation (automated vehicles), education (online courses), health (electronic records and personalized medicine), social interactions and personal relationships (social networks). ICTs are integral to professional and personal life; individuals, businesses and governments are increasingly inter-connected through a host of devices at home and at work, in public spaces and on the move. These exchanges are routed through millions of individual networks, ranging from residential consumer networks to networks that span the globe. The convergence of fixed, mobile and broadcast networks, along with the combined use of machine-to-machine communication, the 'cloud', data analytics, sensors, actuators and people, is paving the way for machine learning, remote control, and autonomous machines and systems. Devices and objects are becoming increasingly connected to the Internet of Things, leading to convergence between ICTs and the economy on a grand scale.

Up-to-date, accurate and easy-to-find geo-referenced environmental information can also empower public officials, entrepreneurs, workers, and consumers to take informed

[86] A. Torrens and A. Thompson. The social impact of research conducted in Russell Group universities. 2012.
[87] OECD executive summary.
[88] OECD, 2013a.

decisions that impact on the urban environment and their personal well-being. While e-Government, Open Data, and other similar initiatives have set a trend towards greater openness regarding information, there remain challenges with effective public access to environmental information that may still undermine the protection of the environment and hamper the sustainable development of urban areas.

Cities are best placed to maximize the opportunities of the digital economy, and these economies of scale also reinforce the urban trends in the UNECE region, such as urban concentration described in Chapter 2. Furthermore, with manufacturing now largely located in other continents, cities throughout the region are particularly well-placed to combine the effects of proximity, higher education and innovation to accelerate growth in the knowledge economy through the digital revolution. The clusters of digital start-up companies in Silicon Valley, London, Stockholm, Stuttgart and many other UNECE cities are exploring new business models based on collaborative production methods, such as crowdfunding platforms, and the 'sharing economy' that challenge the existing regulation of established markets and may, in time, require balanced policy responses to enable innovation on one hand while protecting the public interest on the other.[89]

The digital revolution has been one of the biggest changes since Habitat II, and will be an ongoing driver for the next 20 years. Key developments will include the transition of Internet oversight from the Government of the US to a wider global Internet community.[90] The UN has launched the Post-2015 Development Agenda, setting Sustainable Development Goals that include increased access to ICTs and the Internet to create an inclusive and global digital economy.

The scope for further uptake is significant for individuals. Activities such as sending emails, searching for product information or social networking show little variation across countries of the OECD, but differences are large for activities associated with a higher level of education, such as e-Government, e-commerce and online banking. The breadth of Internet activities carried out by users with tertiary education is, on average, 58% higher than for those with lower secondary education and below.[91]

Many countries are adopting national digital strategies, recognizing that governments can act as catalysts for the digital economy. This is noticeable in the case of Open Data initiatives, where the public sector can stimulate data-driven innovation by opening up public sector information, including different types of data, and by providing easy access to environmental information for all stakeholders. E-Government initiatives are also used to stimulate the adoption of a wide range of applications needed for e-Health and e-commerce. Governments are relying on digital technologies to move from a citizen-centred to a citizen-driven approach, and aim to achieve public sector transformation through the use of ICTs to make this shift, implying that the public and businesses determine their own needs and address them in partnership with public authorities.

### 3.3 BOX: Key elements of digital economy strategies

The following list reflects the key pillars of many present national digital strategies, with the majority emphasizing demand-side objectives (3-8).

[89] OECD.
[90] OECD.
[91] OECD, 2014a.

1. Further develop the telecommunications infrastructure (e.g. access to broadband and telecommunication services) and preserve the open Internet.
2. Promote the ICT sector including its internationalization.
3. Strengthen e-Government services, including enhanced access to public sector information (PSi) and data (i.e. open government data).
4. Strengthen trust (digital identities, privacy and security).
5. Encourage the adoption of ICTs by businesses, and SMEs in particular, with a focus on key sectors such as (i) healthcare, (ii) transportation, and (iii) education.
6. Advance e-inclusion, with a focus on the ageing population and disadvantaged social groups.
7. Promote ICT-related skills and competences, including basic and specialist ICT skills.
8. Tackle global challenges such as Internet governance, climate change and development cooperation.

**3.4 BOX:**

Some national digital strategies have an international dimension. Among those that do, key issues are Internet governance, climate change and development cooperation. Germany's Digital Agenda 2014-2017 recognizes the lack of confidence exhibited among elderly people in ICTs, and has called for an examination into ways to increase their skills and trust. It has called for multi-stakeholder engagement around issues addressed in the Agenda, and active involvement in international policy debates held at the International Telecommunication Union (ITU), the Internet Governance Forum (IGF) and the OECD. Germany's Agenda also addresses development cooperation issues, such as the need for 'cyber capacity building' and 'cyber security capacity building' in developing countries. It also calls for the Government to examine and consider the potential of digital technologies in Germany's Africa strategy. Sweden also highlights international development cooperation in its strategy, ICT for Everyone – a Digital Agenda for Sweden. Strategic areas include the role of ICTs in societal development, with a focus on ICT for global development and related issues such as research and innovation, ICT for the environment, gender equality, freedom on the Internet, and copyright.

**3.5 BOX: The sharing economy**

Sharing economy businesses are platforms that offer, for example, short-term rental of space, mostly homes. Although home exchanges are not new, the speed and scale at which platforms have made commercial home-sharing a common practice is unprecedented. This trend is paralleled in urban mobility. Shared mobility options range from the rental of private cars, rides and parking spaces to that of free-floating and station-based cars and

bikes. These services are enjoying strong success among users, although their impact on urban mobility remains to be fully worked through in the coming years.[92] The market for mobile health and wellness apps (m-Health) has developed rapidly in recent years. The number of these apps has more than doubled in only 2.5 years, to more than 100,000.[93] In 2012, 69% of US smartphone owners reported tracking at least one health indicator, such as weight, diet or exercise.[94] A number of mobile applications and web resources were also developed to provide consumers additional information about chemicals in products and other environmental information to enable them to make informed environmental choices.

## 3.5 The Internet of Things

While use of the Internet as a digital platform has enabled the creation of the sharing economy, the ability to connect any smart device or object to any other is enabling the Internet of Things. This will have a profound impact on multiple sectors of the economy and urban life, including industry automation, energy provision and transportation. The Internet of Things consists of a series of components of equal importance – machine-to-machine communication, cloud computing, Big Data analysis, and sensors and actuators. Their combination, however, engenders machine learning, remote control, and eventually autonomous machines and systems, which will learn to adapt and optimize themselves.

A number of governments have introduced regulations that depend on the Internet of Things to achieve policy goals. For example, the Internet of Things enables governments to manage public spaces in more efficient, more effective or different ways. Remotely monitoring traffic lights or water systems allows them to optimize traffic flows or to better understand flooding risks. It also allows them to achieve policy goals in new ways. For example, reducing congestion using road pricing, calculated on time of day and distance travelled, is possible via GPS and mobile communication, but more difficult to achieve through conventional means. Similarly, smart energy meters lead to more decentralized energy markets and higher consumer awareness of energy use. Analysts and governments have high expectations of e-Health devices that will allow remote monitoring of patients at home or at work. However, only a few such devices are available on the market – a situation that appears to be due not to a lack of research or government commitment, but rather to difficulties in implementation that are yet to be overcome.[95]

### 3.6 BOX: The Internet of Things

All individuals have the right to seek, receive and impart information and ideas of all kinds through the Internet. The UN Special Rapporteur has underscored the unique and transformative nature of the Internet not only to enable individuals to exercise their right to freedom of opinion and expression, but also a range of other human rights, and to promote the progress of society as a whole.[96]

[92] OECD, Chapter 3.
[93] Research2guidance, 2014.
[94] Fox and Duggan, 2013.
[95] OECD.
[96] UN, General Assembly, Human Rights Council, 17th Session, Report of the Special Rapporteur on the promotion and protection of the right to freedom of opinion and expression.

46 countries and the EU are parties to the Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters (Aarhus Convention) that require to ensure that public authorities at the national, subnational and local levels possess and update environmental information which is relevant to their functions, and that environmental information becomes progressively available in electronic databases which are easily accessible to the public through public telecommunications networks (e.g. Internet). The requirements of public accessibility of environmental information are further detailed through the Protocol on Pollutant Release and Transfer Registers (Protocol on PRTRs) to the Convention and the recommendations on more effective use of electronic information tools to provide public access to environmental information adopted through decision II/3 of the Meeting of the Parties to the Convention.[97]

## 3.6 Conclusions

A very significant part of the region has undergone economic transition in the last 20 years from centrally-planned to market economies, and there have been winners and losers among the cities involved in the transition. Generally, large cities and capitals have done well, with GDP now returning to pre-1990 levels. Smaller cities have fared less well than the larger ones, since the transition requires economic, physical, environmental and cultural change, and they are less well-equipped to effect this comprehensive change as a result of many factors, including geography and outmigration.

The manufacturing industry has declined throughout the region since Habitat II. However, the rise of the knowledge economy in North America and Europe, built on a digital revolution based on the Internet, fast computers and networking, is bringing about massive opportunities and challenges for cities.

The knowledge economy is reshaping industrial cities to a new form that suits the new conditions of economic production, social requirements and cultural institutions. The emergence of knowledge as a productive capacity and output with few spatial requirements is changing the nature of sites for production and consumption in cities. New clusters of activity are formed, while others are dismissed or dispersed. The spaces of knowledge include universities, science parks and cultural quarters, which are created side by side with the new spaces of consumption and new patterns of social inequality.

The knowledge economy has altered the dynamics of urban economics, reinforced the growth of agglomeration economies, and increased the importance of spaces for encounter and innovation. It has also reinforced the importance of place. The´death of distance' and the replacement of the city of streets, squares, stations, shops and restaurants with a´city of bits', i.e a virtual city with a street pattern consisting of digital information highways, has been unfounded, and the converse has proven to be the case. New ideas and innovative solutions come into being through intensive communication and exchange of knowledge with others. The proximity of people is very important.

Knowledge development, globalization and 'authentic' cities are mutually

[97] http://www.unece.org/env/pp/mop2/mop2.doc.html#/ (See document ECE/MP.PP/2005/2/Add.4).

supportive. As the knowledge economy takes hold in both the developed and transition countries of the UNECE region, the cities that are able to adapt early to the new economic requirements will also be able to maximize on their local distinctiveness, as localization (the increasing importance of city distinctiveness, authenticity and identity) becomes as important as processes of globalization.

The knowledge and digital economies now drive many and various aspects of the world economy, including banking, retail, energy, transportation, education, publishing, media and health. ICTs are transforming the ways in which social interactions and personal relationships are conducted, with fixed, mobile and broadcast networks converging, and devices and objects increasingly being connected to form the Internet of Things.

Cities are well placed to maximize the opportunities of the digital economy, and the economies of scale they possess reinforce the urban trends, such as urban concentration (described in Chapter 2). Furthermore, with manufacturing now largely located in other continents, the cities of the UNECE region are well-placed to combine the effects of proximity, higher education and innovation to accelerate growth in the knowledge economy through the digital revolution. The latter has been one of the biggest changes since Habitat II and will be an ongoing driver for the next 20 years.

**BOX: Snapshot of the key characteristics of housing in the UNECE region key trends and challenges**

- **The UNECE region has a relatively old housing stock.** The majority of housing in the UNECE region was built after the Second World War coinciding with increasing urbanization at the time (UN-Habitat, 2011).
- Majority of the UNECE countries have relatively large percentage of historical housing stock in use (pre-IIWW) in comparison to other world regions.
- In Eastern frontiers of the UNECE region, the dominant housing typology are large scale-multi household housing in urban areas and today this kind of housing in urgent need of upgrading (UN-Habitat, 2011, p. 30, see also UN-Habitat, 2013).
- **The property construction technology is one of the most advanced in the world** with the engineering and technological solutions exported and sought after in other world **regions**. The overall quality of housing is high, although there are significant intercountry disparities as well as differences within each country (UN-Habitat, 2011, p. viii).
- The provision of the new housing is limited and does not meet the housing demand in neither of three main tenures (home-ownership, private rent and social housing) (UNECE, 2015). This leads (among other factors) to increase in housing prices in heated housing markets such as global and capital cities, lack of access to decent affordable housing.
- **In the UNECE region there are at least 100 million people who are housing cost overburdened**, they spend more than 40 percent of their household income on housing (UNECE, 2015).
- The occurrence of un-serviced slums is very low. However, **the population in serviced albeit self built, informal and illegal settlements reaches over 50 million** (UNECE, 2009).
- Key challenges in the housing stock in the UNECE region are increasing of the quality

and energy efficiency of the existing stock, increasing provision of the new housing stock across tenures in sought after cities and improvement of access to decent affordable housing for all.

**Source: UNECE, 2015, UN-Habitat, 2011, UN-Habitat, 2013.**

## 4. LIVING IN CITIES

'Sustainable housing has a key role in the quality of human life'.[98]

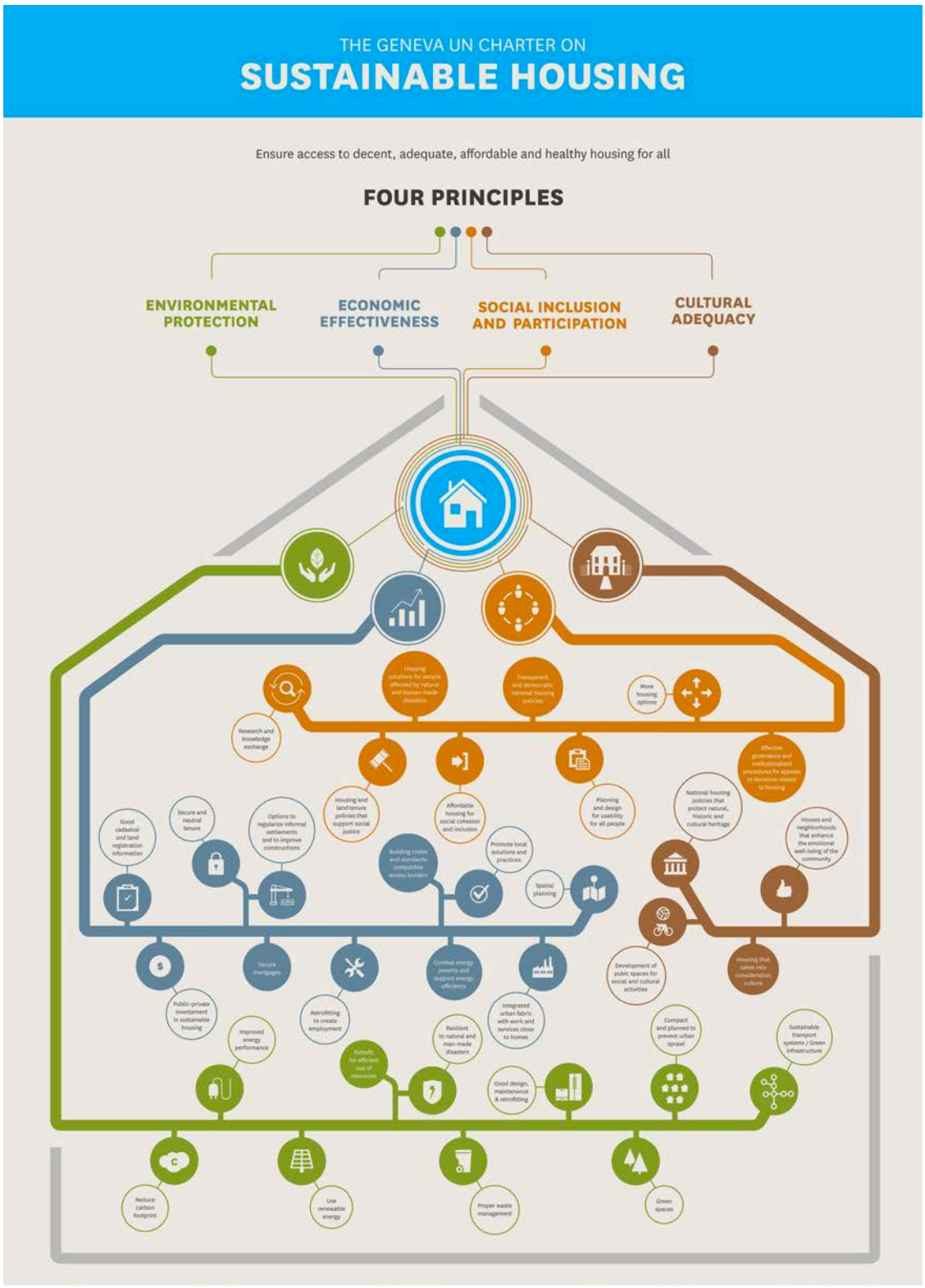



Figure 8: UN Geneva Charter on Sustainable Housing, 2015

[98] UN Geneva Charter on Sustainable Housing, 2015.

## 4.1 Introduction

This chapter deals with many aspects of life in cities, but 'decent adequate, affordable and healthy housing'[99] is the bedrock upon which to build healthy lives, strong and resilient cities, and thriving national economies. Compared with those in Asia, Africa, and Latin America and the Caribbean, the housing sectors in the UNECE region function relatively well.[100] The proportion of informal un-serviced slums is very low.[101] Urbanization is reaching peak levels and the urban population will remain relatively stable (Chapter 2). The average quality of housing is relatively high. However, housing challenges stem from the nature of urbanization and aspects of housing affordability that are less prevalent in other parts of the world.

The UN Geneva Charter on Sustainable Housing[102] stressed that the development of sustainable housing in the UNECE region faces multiple challenges, resulting in a complex interplay of trends related to globalization, demographic changes, climate change and the economic crisis. As a result of the global financial crisis that commenced in 2008, these concerns culminated in increased attention to the lack of housing affordability and a decline in access to decent and healthy housing that exacerbates social inequality and segregation in urban space.[103]

The UNECE study[104] highlighted that at least 100 million low- and middle-income people in the region spend more than 40% of their disposable income on accommodation. This 'housing cost overburden' limits resources for other basic needs, such as food, health, clothing and transportation. More fundamentally, however, high housing costs relative to income increase the occurrence of material deprivation, poverty and, in the most extreme cases, homelessness. The existence of social housing has, in many cases, broken the link between poverty and poor housing conditions. However, this sector has seen a significant decrease in the past 20 years.

Housing systems in the region are diverse and context-specific, although they share certain characteristics. In nearly all countries, there is some support for those who cannot afford housing costs. Although each country defines social and affordable housing differently, these are an integral part of the housing system designed to fulfil the housing need for those who cannot afford to own or rent decent housing in the private market. When the owner-occupied and rented sectors suffer, as in the recent crisis, the demand for affordable housing increases.[105] During the financial crisis of recent years, unemployment rose, incomes fell, and households cut back on non-essential and discretionary spending in order to reduce debt to manageable levels to meet mortgage and living expenses. This led to a decrease in consumer spending, and further exacerbated the economic slowdown.

As the result of widespread housing policies prior to the financial crisis, home ownership is the dominant tenure. The economic growth that preceded the crisis enabled a focus on this tenure while reducing the investment in social housing. However, the crisis has

[99] Key elements of sustainable housing as noted in the UN Geneva Charter on Sustainable Housing, 2015.
[100] UN-Habitat, 2011, p.vii.
[101] UNECE (2009) shows that 50 million people are in informal and illegal settlements. However, these are not un-serviced slums, rather they are mostly serviced homes built without planning permission or not according to the local planning regulations. UN-Habitat, 2011, p. vi.
[102] UN Geneva Charter on Sustainable Housing, 2015.
[103] UNECE, 2015.
[104] UNECE, 2015.
[105] UNECE, 2015, p.12.

changed the way housing systems operate, while markedly increasing the need for social and affordable housing. Even in the countries with a significant tradition of, and funding for, social housing, waiting lists have reached historical highs.

The financial crisis also constrained the housing supply across all tenures. This is felt in the areas where it is needed the most – i.e. large metropolitan areas. Moreover, housing need has diversified in groups that are traditionally considered vulnerable, such as the low- and no-income population, refugees and the homeless, and additional categories of the population are now in need of affordable housing options, such as the elderly, the young, key workers and middle income households.

Lack of housing affordability leads those on lower incomes to seek housing that is cheaper and often of lower quality. This can, in turn, lead to and perpetuate segregation in cities and regions. Declining living conditions due to lack of housing maintenance and energy inefficiency also cause additional housing-related hardships. Although available data are limited, it is estimated that over 52 million people in the EU cannot adequately heat their homes, and over 40 million face arrears with their utility bills. Lack of maintenance and poor housing conditions have a critical impact on health, and a recent WHO study showed that the physical and mental health of residents is directly influenced by the quality of their home and the security of their tenure.[106]

Cities need to respond to these needs by securing necessary housing provision, adjusting to the new dynamics of the housing markets, and meeting new aspirations including energy efficiency. The UNECE has found that the majority of its member States are searching for innovative solutions while reassessing their housing policies. The UN Geneva Charter for Sustainable Housing has an important role to play in bringing housing to the forefront of the urban agenda in the UNECE countries: an important step is to draw political attention to housing and bring it to the centre of international, national and local urban agendas.

**4.1 BOX: Housing as a human right**

Access to decent affordable housing is a fundamental human need and a human right. The Universal Declaration of Human Rights (1948) states in Article 25.1: 'Everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing and medical care and necessary social services'.

It is recognized as a human right because of its multidimensional impact on human life. The UNECE (2015) stresses that housing has social, environmental and economic dimensions, which are closely interrelated. It is, therefore, much more than providing people with a place to live. Housing is an integrative good that has a significant impact on the quality of residents' lives; and, more profoundly, it affects people's physical and psychological health, their economic and energy security, and access to transportation, education and employment. The location of decent affordable housing relative to other urban functions

[106] WHO, 2011.

may result in successful spatial cohesion, while its lack may result in spatial polarization and reproduction of inequality in urban space.[107]

**4.2 BOX: Snapshot of the key characteristics of housing in the UNECE region key trends and challenges**

- **The UNECE region has a relatively old housing stock.** The majority of housing in the UNECE region was built after the Second World War coinciding with increasing urbanization at the time (UN-Habitat, 2011).
- Majority of the UNECE countries have relatively large percentage of historical housing stock in use (pre-IIWW) in comparison to other world regions.
- In Eastern frontiers of the UNECE region, the dominant housing typology are large scale-multi household housing in urban areas and today this kind of housing in urgent need of upgrading (UN-Habitat, 2011, p. 30, see also UN-Habitat, 2013).
- **The property construction technology is one of the most advanced in the world** with the engineering and technological solutions exported and sought after in other world **regions**. The overall quality of housing is high, although there are significant intercountry disparities as well as differences within each country (UN-Habitat, 2011, p. viii).
- The provision of the new housing is limited and does not meet the housing demand in neither of three main tenures (home-ownership, private rent and social housing) (UNECE, 2015). This leads (among other factors) to increase in housing prices in heated housing markets such as global and capital cities, lack of access to decent affordable housing.
- **In the UNECE region there are at least 100 million people who are housing cost overburdened**, they spend more than 40 percent of their household income on housing (UNECE, 2015).
- The occurrence of un-serviced slums is very low. However, **the population in serviced albeit self built, informal and illegal settlements reaches over 50 million** (UNECE, 2009).
- Key challenges in the housing stock in the UNECE region are increasing of the quality and energy efficiency of the existing stock, increasing provision of the new housing stock across tenures in sought after cities and improvement of access to decent affordable housing for all.

**Source: UNECE, 2015, UN-Habitat, 2011, UN-Habitat, 2013.**

## 4.2 The relationship of trends in urbanization and housing

Most of the UNECE countries are highly urbanized and the proportion of informal un-serviced slums is very small.[108] Further urbanization and population growth will remain

[107] UNECE, 2015, p. 101. See also O. Rosenfeld, 2014.
[108] UNECE (2009) shows that 50 million people are in informal and illegal settlements. However, these are not un-serviced slums, rather they are mostly serviced homes built without planning permission or not according to the local planning regulations.

relatively low in comparison to other world regions in the coming decades.[109] Most countries are expected to have low relative population growth (or even decline) in the coming decades.[110] The countries have high per capita housing ratios, with some of the highest 'number of dwellings per thousand inhabitants'.[111] Finland and France top the list, with over 500 units per 1,000 residents, followed very closely by Greece, Sweden and Portugal. The countries with economies in transition are slightly lower, but still have relatively high ratios. For example, 318/1000 in Slovakia, followed by Poland with 314/1000. The lowest rate was noted in Albania (254/1000).[112]

However, pan-national and national trends mask the complexity of housing trends and that of urban change within cities and regions. The movement of the population to large cities and metropolitan areas has resulted in some areas with very high housing demands whereas others are quite low. High housing demand (so called 'pressure zones' or 'heated markets') and low housing demand (so called 'shrinking areas') often coexist within the same country.[113] This means that shortages of housing in one city may be accompanied by empty properties in another.

The region, therefore, faces two challenges: firstly, management of the low demand areas (i.e. shrinking areas/cities) where housing vacancies are increasing and housing prices decreasing; and secondly, access to housing and housing affordability[114] in heated markets, as economic success and migration in search for employment continue, particularly in cities such as London, Paris, New York, San Francisco, Vancouver, Moscow and Tel Aviv, where housing prices continue to increase disproportionately to average local incomes, thereby impairing housing affordability. While these cities are key contributors to the national GDP, they are creating issues of intra-metropolitan, regional and national polarization. There is a consequential concern for business in these cities because limited access to affordable housing limits labour mobility.

The presence of low and high housing demand areas highlights the complexity of the housing need, as well as the diverse nature of such need within cities and within individual country's housing markets.[115] Housing shortages are often localized, and associated with a particular scarcity of specific housing types, tenures, locations and qualities, rather than with an absolute shortage in general terms. The fragmentation of national markets stresses the importance of cities and city regions in the future, and the need for more sophisticated and locally responsive housing policies to influence present and future housing market trends, while being compatible with and supporting sustainable urbanization.

## 4.3 An overview of housing stock and housing provision

[109] UN-Habitat, 2011, p. 30.
[110] UNECE, 2015. See also UN-Habitat, 2011 and UN-DESA, 2014.
[111] UN-Habitat uses the general ratio of dwellings per thousand inhabitants as a crude indicator of the adequacy of housing provision. UN-Habitat, 2011, p. viii.
[112] UN-Habitat, 2011, p. 2.
[113] UNECE, 2015, p. xvi.
[114] UNECE, 2015. See also UN-Habitat, 2011.
[115] UNECE, 2015, p. xvi.

In the region, the existing housing stock is relatively old.[116] Available data indicate that the majority was built after the Second World War. The oldest portion of it, built before 1919 in Western Europe, constitutes nearly 20% of the total housing stock, with Greece, Finland and Spain at nearly 50%. In most countries with economies in transition, pre-1919 stock constitutes only about 4-5% of total housing, as a consequence of significant investment programmes in the decades of communism. A large proportion of the housing stock that exists today in the cities of Eastern Europe and Central Asia was built between 1960 and the mid-1980s. The exceptions are Poland, Slovenia, Romania and the Czech Republic, where a greater share was built between 1946 and 1970. Housing production since the 1990s has added less than 10% to the stock in most countries in transition. Elsewhere in Europe, countries such as Spain, Ireland and Cyprus stand out, with high rates of construction adding more than 15% to the stock since 1990.

The financial crisis from 2008 to 2011 has constrained housing supply. While there may be housing availability at a national level, census data at city level suggests that many capital and large cities experience housing shortages and overcrowding, with a lack of social and affordable housing provision and a need for diversification of the housing options and choice that responds to emerging demographic trends.

The UNECE[117] has shown that there is a sizable shortfall in net housing supply as a result of the financial crisis, and also because of a longer term trend of inadequate supply. This lack is evident in cities in France, Finland, Ireland, the United Kingdom and Sweden, among others. There is also a shortage in new EU States, such as Slovakia and Poland. Housing construction in many EERCCA countries today has yet to reach levels even 50% of those achieved in the 1980s, and there is, according to national reports, a housing shortage in Belarus, the Russian Federation, Ukraine, Israel and Turkey. The shortage in Turkey has been significantly reduced over the last decade, although continuing urbanization, population growth and reconstruction in disaster-prone areas lead to a continuing need. The constrained supply of housing has been related to further increases in housing prices in areas of high demand, and reduced access to decent affordable housing (even for populations with medium and medium to high incomes).

It needs to be stressed that investment in social housing was an important part of the recovery programmes in a number of countries in Europe and North America as a response to the financial crisis of the late 2000s. However, this has not been sufficient to make up for the decrease in social housing provision and the reduction of social housing stock since the 1980s. After the initial investment, funding for the social housing sector has decreased or is presently being reassessed in face of austerity measures and welfare reforms.[118]

In general terms, the quality of the housing stock in the region is higher than in other regions of the world.[119] For instance, access to water and adequate sanitation is one of the

[116] Section adopted from UN-Habitat, 2011, p. 25-26.
[117] UNECE, 2015, p. 100.
[118] UNECE, 2015, p. 43. See also Housing Europe, 2015.
[119] UNECE, 2015 and UN-Habitat, 2011.

highest in the world, at an average of 94% for water and 93% for sewerage. Available data show that the quality of the new housing stock is among the highest in the world, with high standards of sustainability, especially in the EU and North America.[120] However, given the age of the majority of the existing stock, as well as the relatively low rate of new construction, the question of its quality and maintenance remains a key issue.[121]

The quality of the housing stock differs between countries and within them, with two predominant concerns: adequate energy efficiency of the new and existing stock (across the whole region), and maintenance of the existing stock (primarily, but not only, related to multi-apartment housing blocks, see the box below).[122] Maintenance is of concern, as the quality of housing stock has a direct effect on residents, and influences their health, productivity at work or school, and energy consumption, among other issues.[123]

Energy efficiency of the existing housing is a twofold concern: (i) inefficient housing is responsible for high carbon emissions (on average, 20-30% of total emissions come from the residential sector)[124]; and (ii) inefficient stock leads to increased energy consumption and requires more spending per household. Energy-inefficient housing, combined with higher energy prices, presents a critical challenge, causing low-income families to overspend on energy and, in extreme cases, fall into energy poverty.[125]

Investing in the maintenance and refurbishment of existing housing, and the setting of standards for new construction, are key to reducing housing-related energy demands and costs. Failure to address these issues can also influence health problems associated with low-quality housing, and can perpetuate segregation in urban spaces. Where available, good quality, low-cost housing has, in part, broken the link between poor housing conditions and poverty. However, in the past two decades, the number of social housing units in the western countries of the region has been reduced through privatization, reduced provision and demolition. In eastern countries, the amount of state public housing has also been significantly reduced through privatization.



### 4.3 BOX: Existing multistorey apartment blocks as a policy concern

Prefabricated multi-household apartment blocks present significant concerns in a number of countries with economies in transition.[126] These structures have been found to age prematurely, lack maintenance and repair, and fail to meet contemporary energy-efficiency standards. The rapid privatization of socialist public housing since the 1990s has not been supported by adequate post sale management and maintenance. UN-Habitat points out that these structures have deteriorated significantly, and that failure to carry out repairs results

[120] UN-Habitat, 2011. See Annex for data on basic services (bath/shower, piped water, central heating) for the 56 countries of the UNECE region.
[121] UNECE, 2015, p. 85.
[122] UNECE, 2013.
[123] UNECE, 2015, p. 85.
[124] UNECE, 2012, p. xiii.
[125] UNECE, 2015.
[126] UN-Habitat, 2011, p. 27. See also UN-Habitat, 2013.

in structural problems in over 40% of this stock. The repair and energetic upgrade of this stock can benefit occupants' health, and reduce household energy spending (and national demand for energy). The management and maintenance of multistorey apartment blocks presents one of the major concerns in the countries with a high proportion of this type of housing.

## 4.4 Brief overview of housing tenure trends

The housing systems of the UNECE countries are diverse and context-specific. They are dominated by three core tenures[127]: home ownership, private rental housing and social housing.[128]

As the result of housing policies before the financial crisis, home ownership is the dominant tenure. In the late 1990s and early 2000s, North America and Europe enjoyed the longest uninterrupted period of general economic and housing market growth. Easy access to loans made home ownership easily realizable, and fuelled a housing market boom. In the same period, countries with economies in transition also enjoyed sustained growth.[129] EU accession countries, countries in Eastern and South Eastern Europe and Central Asia achieved record levels of home ownership through mass privatization of public housing. These economic trends were followed by housing policies with home ownership as the preferred tenure.

Over the same period, the extent of social housing has been reduced. In countries with a mature social housing sector, there was a tendency to reduce it through changes in subsidies, that resulted in reduced supply through the disposal of existing stock to tenants or through demolition. In countries with emerging social housing sectors, new state supported initiatives are either in the early stages of development and implementation, or are limited in scale. The UNECE study showed that the majority of member States use a residual allocation model that increasingly focuses on provision to vulnerable groups.[130]

Private housing tenure has generally been neglected in national policy statements. The World Bank has pointed out that, whereas a significant percentage of the population lives in rental housing in most countries, it had been uncommon for rental stock to be considered as part of a country's national housing strategy[131].

As with other housing indices, the figures for housing tenure at national levels mask the reality at the city and local levels. Home ownership is the dominant tenure in most UNECE countries. Data at the city level presents a different trend, where private rental is the predominant tenure.[132] For example, in Brussels, some 57% of homes are rented, while the

[127] Beyond these three types, other forms of tenure exist, such as: cooperatives, shared equity schemes, and community-led housing initiatives, among others. The scope of this Chapter does not allow for more detailed examination of these.
[128] 'Social housing' does not have one definition. Each country defines this tenure in their own terms. For extended discussion about the social housing terminology and definitions in the UNECE region, see UNECE, 2015.
[129] EBRD, 2010.
[130] See UNECE, 2015, for more details.
[131] Peppercorn and Taffin, 2013, p. xv.
[132] IUT statistics, 2015.

national statistics for Belgium, as a whole, show over 68% home ownership. Germany has 58% of privately-owned properties at the national level, but Berlin and Hamburg have 86% and 80% of properties in the rental sector, respectively. Perhaps the most striking contrast between the national and city levels is in the US, with 65% of home ownership at the national level. However, in New York, the rental sector is the predominant tenure at 65%, echoed in Los Angeles and San Francisco with 62%.

The financial crisis of 2008-2011 has changed the way housing systems operate, and has brought into stark relief the challenges inherent in pushing home ownership for all. With homes going into foreclosure and credit tightening in many countries, the need for social and rental housing increased dramatically.[133] Home ownership unarguably brought benefits to those who could access and sustain it.[134] Reliance on, and disproportionate support to, one tenure model proved to be unsustainable in the long term, to be insensitive to local housing market volatility, and to be exposed to national and international financial market fluctuations. The evidence from cities points to different tenure needs in metropolitan areas, that can better support labour dynamics in the areas that are key to national economic growth.

These trends pose questions about the future of national housing policies in terms of tenure balance, compared to the need at regional and city scales.



[133] Peppercorn and Taffin, 2013, p. xv.
[134] Peppercorn and Taffin, 2013, p. 11.

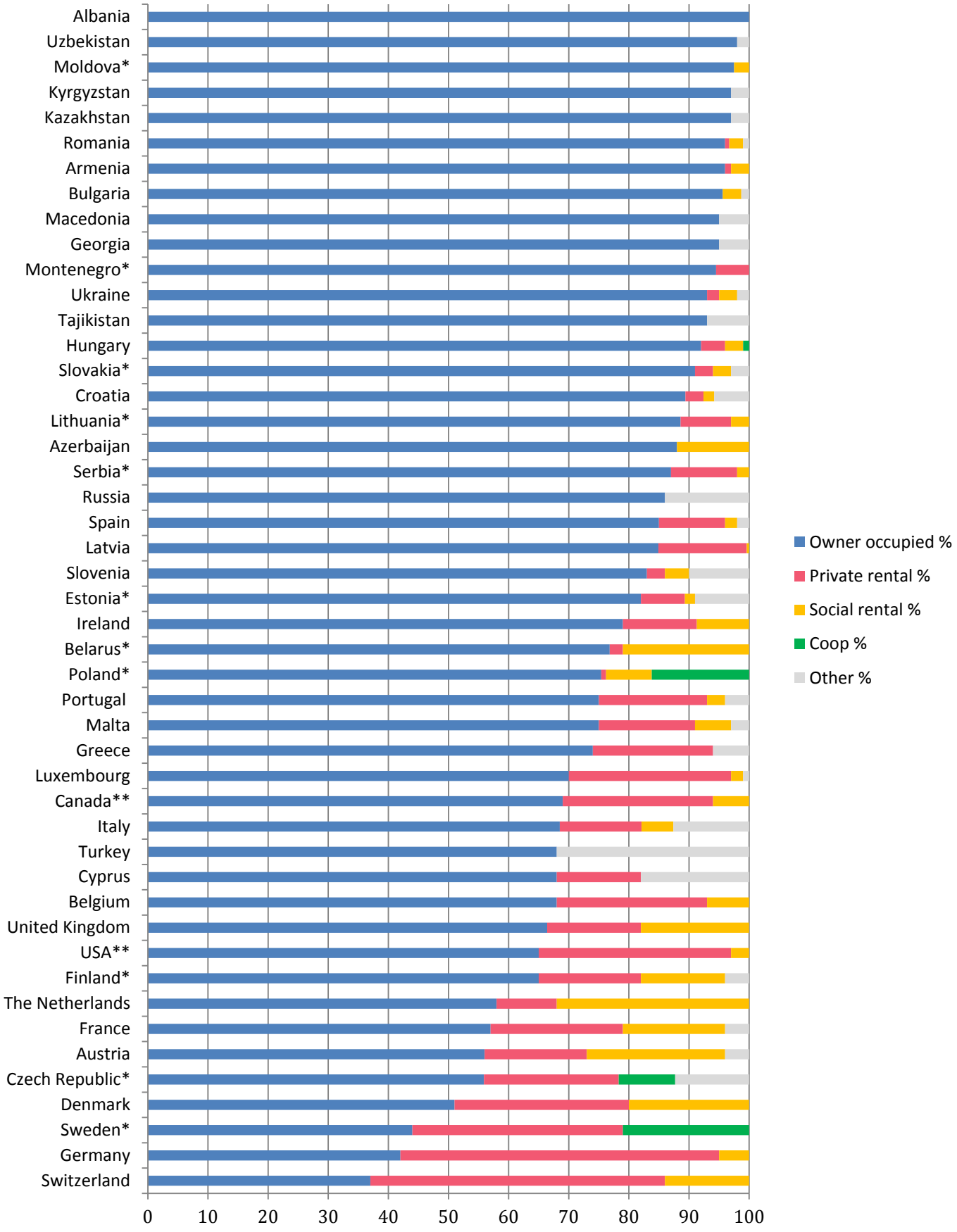



Figure 9: Tenure breakdown in the UNECE countries

## 4.5 Emerging housing need

Lack of housing affordability is increasingly affecting large sections of the population. Widening income inequality is an important factor. Although there are considerable differences between the nature and expression of the housing need across the region, there are also shared points of concern, such as a general need for social housing, a rise in homelessness, and a lack of housing affordability due to housing cost overburdens. Past policies that favoured home ownership and reduced the provision of social housing, compounded by the financial crisis, has meant that there is growing unemployment and underemployment and, as a consequence, housing need and overcrowding has increased.[135]

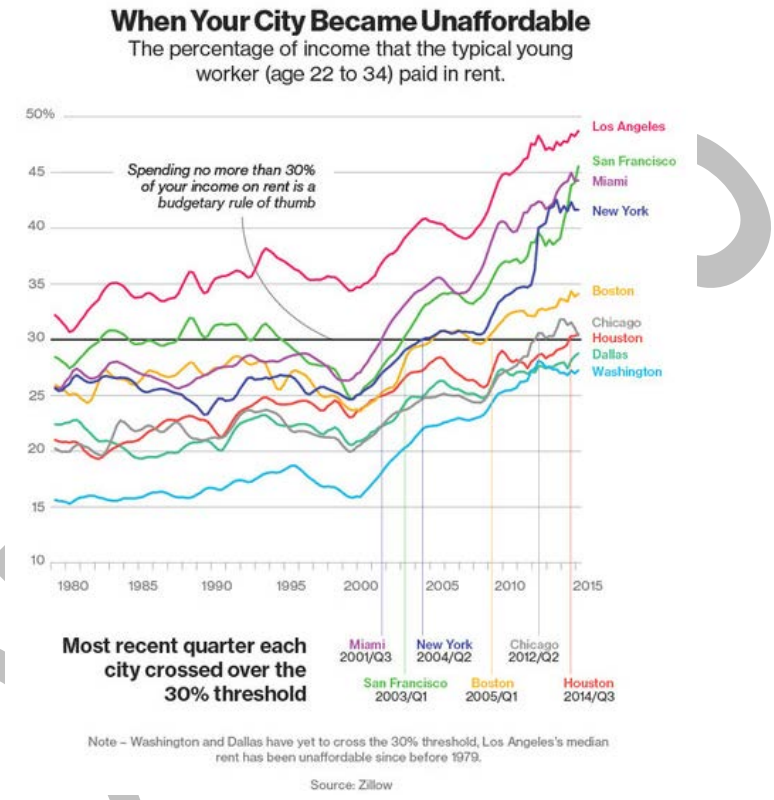



**Figure 10: The cost of private rent in comparison to average income of 22-34 years olds in US**
Source: Bloomberg Business, 2015

Some specific examples are helpful in this context. For example, in 2014, there were more than 1.8 million households waiting for social housing in England,[136] and 1.7 million applications in France.[137] The US is experiencing a shortage of 5.3 million affordable housing units[138], and the need for social housing[139] in Ireland has increased by 75% since 2008.[140] In recent years, the funds for the social housing sector have decreased or are being reassessed

[135] UNECE, 2015, p. 52.
[136] According to the UK Government (2014).
[137] Data provided by the representative of l'Union Social pour l'Habitat, interviewed for this research.
[138] According to the Joint Center for Housing Studies of Harvard University (JCHS, 2013a).
[139] Referred to as 'local authority housing' in Ireland.
[140] According to the European Parliament (Braga and Palvarini, 2013).

in the face of austerity measures and welfare reforms. According to Housing Europe (2015) member organizations, new social housing production decreased in most European countries between 2009 and 2012, including in the UK, the Netherlands, Austria, Italy, Denmark, Ireland and Spain.

Currently, the need for social housing as an affordable housing option appears to be most critical in large metropolitan areas, where the housing markets are overheated due to demand. Close to 550,000 people were registered on the waiting lists in greater Paris (Île-de-France) in 2013.[141] In 2012, there were 354,000 households (nearly 900,000 people) on waiting lists in Greater London.[142] In New York, over 347,500 households were on social housing waiting lists.[143,144] The key concern in these heated housing markets is decreasing housing affordability, not only for low-income households, but also for middle-income and middle-class ones.[145]

The incidence of homelessness has increased throughout the region, and was exacerbated by the financial crisis and the subsequent recession. The most disconcerting trend is an increased occurrence of young adults and families with children experiencing homelessness[146]. France had seen an increase in homelessness, estimated to be up by 50% between 2001 and 2011. Denmark reported a 16% increase between 2009 and 2013, and Germany a 21% increase[147]. The Netherlands saw a 17% increase between 2010 and 2012, and Sweden reported a 29% increase in people living rough, using homelessness services[148]. In January 2014, over 550,000 people were homeless on any given night in the US.[149] In common with the EU, the US recorded an increase in youth and child homelessness. While programmes for shelters exist in many of the North American and European countries, there is an increasing trend of criminalization of homelessness at regional and city levels.[150] Estimating homelessness in Central Asia, South Eastern and Eastern Europe is a challenge because of the absence of reliable data. In most countries in these regions, the statistics of homelessness are not administered, and this makes it difficult to report the estimates.



[141] According to the Direction Régionale et Interdépartementale de l'Hébergement et du Logement en Ile-de-France (DRIHL) and le Préfet de la région d'Île-de-France (DRIHL, 2014).
[142] Fisher, 2012.
[143] This number comprises 247,262 families (over half a million people) waiting for what is known as 'conventional public housing' and an additional 121,999 families waiting for 'Section 8 Housing' (21,663 applicants are on both waiting lists). For more details on the local definitions of social housing (i.e. conventional public housing and Section 8 housing, see NYCHA (2014)).
[144] According to the New York City Housing Authority (NYCHA, 2014).
[145] UNECE, 2015, p. 44-45.
[146] The definition of 'homelessness' differs among countries. The Special Rapporteur on the right to adequate housing considers 'homelessness both as serious deprivation of access to housing and as an extreme form of social exclusion, discrimination and loss of dignity'.
[147] EOH, 2015, p. 10.
[148] It should be noted that the definition of homelessness was broadened in Sweden recently.
[149] According to HUD (2014).
[150] "Cities, regions and even some countries across Europe [and North America] are using the criminal justice system to minimise the visibility of people experiencing homelessness. Some local governments are motivated by the frustrations of business owners, residents and politicians who feel that homelessness puts the safety and livability of their cities and towns at risk. These feelings have prompted governments to establish formal and informal measures and enforcement policies to limit where individuals who experience homelessness can congregate, and punish those who engage in life-sustaining or natural human activities in public spaces'". Fernàndez -Evangelista and Jones, 2013, p. 15.

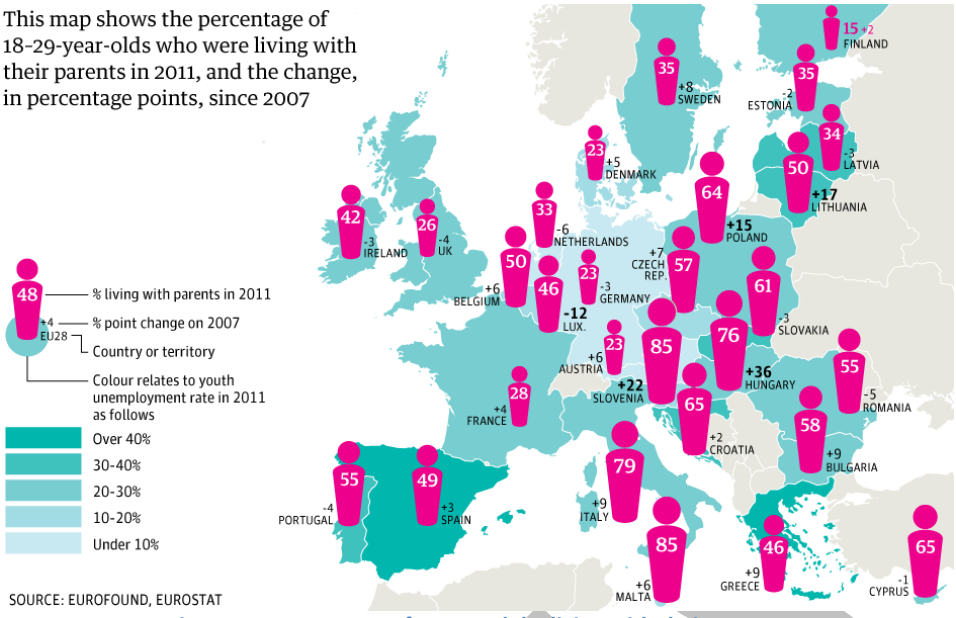



**Figure 11: Percentage of young adults living with their parents**
Source: Copyright Guardian, graphics by Paul Scruton

## 4.6 Housing affordability challenges

There has been an increase in housing prices throughout the UNECE countries since Habitat II. This is disproportionate to changes in income, and is coupled with an increase in energy and utility bills. Housing price increases in the first decade of the 21st century, together with widening income gaps, are important factors contributing to decreasing housing affordability. Social housing waiting lists, along with the estimates of homeless people, represent only a portion of the housing need. According to the UNECE study, over 100 million people in the Global North suffer a housing cost overburden, spending 40% or more of their household income on housing.[151]

Housing cost overburden is critical. It affects a growing section of the population. Depending on the exact definition used, 'housing'[152] is usually the largest item of household expenditure. It has also been argued that all housing costs (mortgage/rent and energy/utilities) are different to other types of household expenditure, because they are large, and because penalties for non-payment or default, if not always immediate, are frequently severe.[153] One of the most critical trends since 1996 has been the increase in 'housing cost induced poverty', that includes energy and fuel poverty, low quality housing stock with lack of access to water and sanitation, and the inability to afford basic items such as clothing or food after the housing expenses are paid.

[151] It is acknowledged that, in certain circumstances, households may decide to spend 40% of their income on housing out of choice in order to access housing of a certain quality and in a neighbourhood of a certain status. These are not a matter of concern in this discussion.
[152] This said, the 'housing cost' does not always take into account the 'wider housing cost', such as spending on energy and utility bills that may as well present a significant item (as shown in the previous Section).
[153] Stone, 2006, quoted in JRF, 2013.

In the UNECE region, there is no one single definition of housing affordability.[154] The conventional indicator of it is the percentage of household income spent on housing. In Europe and North America, housing is considered affordable when families do not need to spend more than 30% of their disposable income to access decent and appropriate housing. This includes mortgages (for owners), rent (for tenants) and may (but does not always) include utility bills.

According to the most recent American Community Survey, 42.3 million households (37%) in the US paid more than 30%[155] of pre-tax income on housing in 2011, while 20.6 million paid more than 50%.[156] In the US, households paying more than 50% of their combined income for housing are considered to suffer a housing cost overburden.[157] It was further reported that 25.2% of households paid more than 30%[158] of their disposable income on housing.[159]

In 2010, 10.1% of European households (around 50 million) and 36.9% of those with an income below 60% of the median income[160], spent more than 40% of their disposable income on housing.[161] Rather than showing signs of recovery, the housing cost overburden in Europe increased.

The cost of utility bills and energy is an increasing concern for households across the region.[162] Utility bill costs have become an increasingly significant part of household expenditure over the past decades. Three factors account for this trend: an increase in energy consumption for domestic use, an increase in energy prices, and growing social inequality.

In the new EU accession States, the SEE and the EECA, housing affordability concerns derive largely from increased utility costs.[163] Average expenditure on energy and utilities has increased significantly since the start of the transition in EERCCA and SEE countries.[164] In the 1990s, utility bills accounted for 3% of total household expenditure, while in the late 2000s they surpassed 12% and have been increasing ever since. In 2007, a USAID study highlighted

[154] Section adopted from UNECE, 2015, p. 46-49.
[155] According to the US Census Bureau, the conventional 30% of household income that a household can devote to housing costs before the household is considered burdened, evolved from the US National Housing Act of 1937. The Act created the public housing programme that was designed to serve those 'families in the lowest income group'. While there are many underwriting standards, none of them made their way into the public policy lexicon like the 30% of income indicator of housing affordability (Schwartz and Wilson, 2006).
[156] According to the Joint Center for Housing Studies of Harvard University, JCHS, 2013a, p. 27.
[157] According to the Joint Center for Housing Studies of Harvard University, JCHS, 2013a, p. 27.
[158] The Canada Mortgage and Housing Corporation (CMHC) considers a household to be in 'core housing need if its housing: falls below at least one of the adequacy, affordability or suitability standards and would have to spend 30% or more of its total before-tax income to pay the median rent of alternative local housing that is acceptable (meets all three housing standards)'. CMHC, 2011b.
[159] Canadian National Household Survey. Buchanan, 2013.
[160] Equivalized median income is defined as the household's total disposable income divided by its 'equivalent size', to take account of the size and composition of the household, and is attributed to each household member. The households whose income is below 60% of equivalized median income (national level) are considered at risk of poverty.
[161] Eurostat, 2014b, 2014c.
[162] UNECE, 2015.
[163] USAID, 2007, pp. ix-x.
[164] In EU accession countries, the SEE and the EECA, the high percentage of home ownership was achieved without mortgage finance but through privatization. Because of the high interest rates as well as limited availability of mortgages, the take-up of this financial product is relatively low. Therefore, the housing affordability estimates (the 30% rule) that are based on the assumption that households pay rent or, more significantly, pay a mortgage as part of their housing cost, are not readily applicable.[164] Instead, in these countries, housing affordability concerns have derived largely from increased utility costs. Hegedüs, 2009.

that utility affordability ratios were pronounced in Hungary, Bulgaria and Slovakia and, to a lesser extent, in Poland, Serbia and Moldova.

The poorest 10% of the region's[165] population have struggled to pay for energy and water. Especially vulnerable groups seem to be the elderly and people in receipt of social benefits.[166] Household spending on energy represents a significant portion of outgoings and, with mortgage interest rates still relatively high, the combined cost raises serious questions about the ability of first-time buyers to afford a starter home. Although available data are limited, a recent review of the evidence of the fuel poverty phenomenon estimated that over 52 million people in the EU cannot adequately heat their homes, and over 41 million face arrears with their utility bills.[167] In order to cope with high utility costs, many tenants reduce consumption by turning down heating, use less hot water[168] and cut food or health spending. These measures lead to energy poverty.[169]

| Country | *Year* | Bath/Shower | Piped water | Central heating |
|---|---|---|---|---|
| ***Western Europe and North America*** | | | | |
| **Austria** | *2003* | 98.3 | 100.0 | 90.0 |
| **Belgium** | *2001* | 96.0 | 100.0 | 73.0 |
| **Cyprus** | *2001* | 99.0 | na | 27.3 |
| **Denmark** | *2005* | 95.0 | 100.0 | 98.2 |
| **Finland** | *2002* | 99.0 | 100.0 | 92.3 |
| **France** | *2002* | 98.0 | 92.0 | 91.0 |
| **Germany** | *2002* | na | 100.0 | 90.8 |
| **Greece** | *2001* | 97.8 | na | 62.0 |
| **Ireland** | *2002* | 94.0 | na | 89.0 |
| **Italy** | *2004* | 99.2 | 99.6 | 94.7 |
| **Luxembourg** | *2001* | 94.2 | 98.0 | 92.3 |
| **Malta** | *2000* | 100.0 | 92.9 | 3.3 |
| **Netherlands** | *2002* | 100.0 | na | 90. |
| **Portugal** | *2001* | 65.5 | na | 3.8 |
| **Spain** | *1999* | 99.0 | 39.7 | 9.4 |
| **Sweden** | *2005* | 100.0 | 100.0 | 100.0 |
| **United Kingdom** | *2001* | 99.0 | 100.0 | 94.0 |
| **Canada** | *2001* | 97.0 | 100.0 | na |
| **United States** | *2001* | 96.0 | 100.0 | na |
| ***Central and Eastern Europe*** | | | | |
| **Albania** | *2002* | 55.1 | 55.1 | 1.0 |
| **Bosnia & Herzegovina** | *2002* | 22.0 | 73.7 | 3.3 |
| **Bulgaria** | *2001* | 81.1 | 81.1 | 16.8 |
| **Croatia** | *2001* | 92.8 | 93.7 | 3.6 |

[165] The EBRD study (2005).˙The region' refers to the 27 countries of Central Eastern Europe and the Baltics (CEB – the new EU Member States), South-Eastern Europe (SEE – the three EU candidates and the Western Balkans countries) and the Commonwealth of Independent States (CIS). EBRD, 2005:2.
[166] Fankhauser and Tepic, 2005, p. 3.
[167] Bouzarovski, 2011.
[168] IUT, 2012.
[169] Energy poverty is the situation in which people are unable to keep warm in their homes as a result of insufficient income and/or poor housing conditions. Pittini, 2012, p. 8.

| | | | | |
|---|---|---|---|---|
| **Czech Republic** | *2001* | 95.5 | 95.1 | 81.7 |
| **Estonia** | *2002* | 67.1 | na | 59.0 |
| **Hungary** | *2001* | 87.2 | 88.0 | 52.9 |
| **Latvia** | *2003* | 67.3 | 75.2 | 65.2 |
| **Lithuania** | *2003* | 69.6 | 58.4 | 71.6 |
| **FYR Macedonia** | *2001* | 59.8 | 85.6 | 8.6 |
| **Poland** | *2002* | 87.0 | 83.0 | 77.8 |
| **Romania** | *2001* | 53.0 | 53.0 | 25.9 |
| **Slovak Republic** | *2001* | 92.8 | 90.5 | 74.3 |
| **Slovenia** | *2004* | 92.3 | na | 79.1 |
| **Serbia** | *2001* | 85.0 | 89.4 | 21.2 |
| ***Commonwealth of Independent States*** | | | | |
| **Armenia** | *2002* | 86.0 | 98.0 | 81.0 |
| **Azerbaijan** | *2000* | na | 78.0 | na |
| **Belarus** | *2000* | na | 100.0 | na |
| **Georgia** | *2000* | na | 78.0 | na |
| **Kazakhstan** | *2000* | na | 90.0 | na |
| **Kyrgyzstan** | *2001* | 24.0 | 40.0 | 29.1 |
| **R. Moldova** | *2002* | 30.9 | 36.5 | 30.8 |
| **Russia Federation** | *2001* | 64.0 | 74.0 | 75.0 |
| **Tajikistan** | *2000* | na | 60.0 | na |
| **Turkmenistan** | *1999* | 30.0 | 53.0 | 30.5 |
| **Ukraine** | *2000* | na | 98.0 | 15.4 |
| **Uzbekistan** | *1997* | 13.3 | 36.5 | 19.5 |

Source: UN-Habitat, 2011 (p.23-24)



## 4.7 Distribution of the housing cost overburden

Housing cost overburden is unevenly spread across income distribution and space.

It affects those with low and middle incomes far more than those who are better off. The analysis of the EU rate as a percentage of population by poverty status shows, unsurprisingly, that housing cost overburden disproportionately affects those Europeans who are at risk of poverty, leading to an emerging trend of in-work poverty both in Europe and North America.

Variations in housing prices between cities and regions have a significant impact on the portion of the household income required for rent or mortgage. This trend leads to a concentration of poverty (as well as housing cost induced poverty) in the largest metropolitan areas, and a concentration of worklessness[170] and poverty in low demand areas. In overheated markets, even those with relatively high incomes may struggle to afford housing of a size appropriate for the number of household members. The high rents in

[170] Worklessness is difficult to define, but is often researched in terms of the unemployed and economically inactive. The unemployed population 'are people who are without a job, want a job, have actively sought work in the last four weeks and are available to start work in the next two weeks or are out of work, have found a job and are waiting to start it in the next two weeks'. The economically inactive population are 'those without a job who have not actively sought work in the last four weeks, and/or are not available to start work in the next two weeks' (Publication Hub 2009a; 2009b). Available from the UK Office of National Statistics at www.ons.gov.uk/.../worklessness.../worklessness-topic-profile-.pdf.

global and capital cities result in the necessity for fully employed people to share flats. In Paris, over two thirds of those looking for an apartment are fully employed. In the popular areas, even those on middle incomes may be at risk of poverty because housing prices are disproportionately higher compared to local incomes.

### 4.8 Housing and health

Only a very small percentage of the future housing stock in cities is, or will be, newly built. The rehabilitation and renewal of existing housing may, therefore, affect urban conditions and development much more than the construction of new residential areas. Inadequate housing conditions have a significant impact on health, and cause or increase the prevalence of many diseases and health outcomes (such as respiratory and cardiovascular effects, asthma, infectious disease, injuries, poisoning, and mental symptoms).

Buildings use some 32% of the total energy consumed by urban areas.171 Large-scale urban renewal campaigns are underway in many UNECE countries, focusing on energy-efficiency improvements and the rehabilitation of the housing stock. Integrating health considerations into such urban and building rehabilitation projects is key to maximizing the coincident benefits of sustainable housing policies and climate change mitigation. Building codes and location requirements for buildings need to better integrate health considerations, both in terms of construction and of maintenance.[172]

**4.4 BOX: Health concerns: Perpetuation of the effects of housing cost induced poverty**

'The quality of existing and future housing is a critical issue [...] It has a direct impact on the residents' health and well-being – elements that influence their performance at school or at work, among other issues'.[173] This means that housing costs may not only push households into temporary or permanent poverty and homelessness but that, through their impact on health, they may perpetuate the cycle of poverty.

The WHO provides assessments of selected housing risks related to health impacts in number of deaths recorded, and/or the number of people suffering from an associated health outcome.[174] It shows that the health problems induced by substandard housing, insecure tenure (due to inability to cover rent/mortgage), and the reduced ability to afford to keep the home warm (clean, ventilated), may lead to a range of health problems, such as chronic asthma in children (indoor dampness and mould); lung cancer (indoor radon); cognitive developmental, neurological, behavioural and cardiovascular problems (indoor lead); carbon monoxide related poisoning (inadequate use of gas and coal); and premature

[171] http://www.iea.org/aboutus/faqs/energyefficiency/
[172] WHO Regional Office for Europe (2011). Environmental burden of disease associated with inadequate housing. Summary report. Copenhagen. Available in English at: http://www.euro.who.int/__data/assets/pdf_file/0017/145511/e95004sum.pdf?ua=1 and in Russian at: http://www.euro.who.int/__data/assets/pdf_file/0009/237843/Environmental-burden-of-disease-from-inadequate-housing-Rus.pdf?ua=1.
WHO (2011). Health in the green economy: Health co-benefits of climate change mitigation — Housing sector. Geneva. Available at: http://www.who.int/hia/hgehousing.pdf
[173] UNECE, 2015, p. 89.
[174] WHO, 2011.

death due to exposure to bad housing conditions, as a result of the inability to keep the home warm.

Investing in the maintenance and refurbishment of existing housing, and setting standards for new constructions, are key to reducing the health problems associated with low-quality housing, as is increased access to affordable homes through the provision of social and affordable housing.

## 4.9 Health in urban equity

Urban areas present some of the highest levels of inequalities in relation to environmental conditions, health and mortality, with different neighbourhoods offering strongly contrasting living conditions.

In Europe, the strongest environmental inequalities in urban settings are related to socio-economic factors and poverty. They are found in water and sanitation, housing conditions (crowding, damp, energy and thermal comfort), road traffic injuries, and urban environments (air pollution, noise, and access to green spaces). For some environmental risks, vulnerable and disadvantaged groups can have four to five times higher levels of risk exposure.

Equity-sensitive urban planning tools and neighbourhood-specific approaches addressing local disadvantaged and vulnerable groups are needed. Good and effective governance mechanisms, aiming at inclusion and transparency, further help to equally distribute urban risks.[175]

One of the greatest factors that affects equity in cities today is access to, and the health effects of, transportation. In today's urban environment, cars, heavy-goods vehicles and motorcycles compete for space with public transport, walking and cycling, meeting the growing demand for road transport. This rapid growth of road transport has affected health and the environment through congestion, car crashes, air pollution and noise. There is a large potential for improving people's health through healthier and more sustainable transport options, such as cycling, walking and public transport, while reducing dependence on private motorized vehicles. This is supported by, among others, the following evidence:

- Of people dying in road traffic accidents in the WHO European region, 43% are vulnerable road users (pedestrians, cyclists and users of motorized two- or three-wheelers);

[175] WHO Regional Office for Europe (2012). Environmental health inequalities in Europe. Assessment report. Copenhagen. Available at: http://www.euro.who.int/__data/assets/pdf_file/0010/157969/e96194.pdf?ua=1 with the Russian summary at: http://www.euro.who.int/__data/assets/pdf_file/0006/162528/EH-inequalities-in-Europe_ES_Russian.pdf?ua=1
WHO/UN-Habitat (2010): Hidden Cities. Unmasking and Overcoming Health Iniquities in Urban Settings. Available at: http://www.who.int/kobe_centre/publications/hiddencities_media/who_un_habitat_hidden_cities_web.pdf?ua=1
WHO (2010): Urban HEART - Urban Health Equity Assessment and Response Tool. Kobe. Available at: http://www.who.int/kobe_centre/publications/urban_heart/en/

- Road transport is a significant source of air pollution. Exposure to particulate matter, of which transport is a major source, particularly in urban areas, is estimated to cause an average loss of nine months of life expectancy, and 482,000 premature deaths per year in Europe;
- Lack of adequate physical activity is estimated to be associated with about 900,000 deaths per year in the European region, where about 20–30% of adults are estimated to be obese. Walking and cycling could help integrate physical activity into daily life, and urban transport patterns would make this feasible;
- Up to 1.6 million healthy life-years are lost every year due to transport noise in EU cities.

By integrating health and transport concerns in urban planning, mutual benefits can be achieved, from reducing congestion and emissions, and moving towards a low-carbon and more energy-efficient economy, to increased physical activity levels and, consequently, better health for all. Practices in transport that are most relevant to health, amenable to intervention and policy development, and implementable through inter-sector collaboration include:

- Promoting health by improving infrastructure that allows for safe walking and cycling to reduce road traffic accidents, air pollution, noise emissions and congestion;
- Promoting sustainable development by reducing air pollution and GHG emissions from transport, while improving energy efficiency and a shift towards a low-carbon economy;
- Reducing inequalities by providing a transport infrastructure that enables all parts of society to participate in transport activities (social inclusion) and by focusing on high-risk groups, including children and the elderly, to reduce inequalities in health impacts from transport.

Integrating health considerations in transport and urban planning is key to maximizing the co-benefits of sustainable transport policies, and should focus on the reduction of transport needs and distances through urban design, the promotion of public and active transport within cities, and the reduction of pollution levels emitted from transportation.[176]

## 4.10 Public space

Cities in the region, especially the historic cities in Europe, North America, the Balkans and Russia, are known for their compact cores and their presence of public squares, streets and gardens that are seen as exemplars of urban design, such as the piazze of Italy, the waterfronts of northern Europe, and the parks and gardens of numerous cities. These spaces have been used since medieval times for public gatherings, markets and recreation. Today, however, there is increasing pressure on them from increased suburbanization and an ageing population.

[176] WHO (2011). Health in the green economy: Health co-benefits of climate change mitigation — Transport sector. Geneva. Available at: http://extranet.who.int/iris/restricted/bitstream/10665/70913/1/9789241502917_eng.pdf
WHO Regional Office for Europe (2014): Health economic assessment tool (HEAT) for cycling and walking. Copenhagen. Available at: http://www.euro.who.int/HEAT

Public spaces are 'all areas that are open and accessible to all members of the public in a society, in principle though not necessarily in practice'[177]. They are an important part of the 'urban advantage'[178]. Yet, in times of rapid urbanization and urban change, public spaces come under pressure from many causes. In regions with high urbanization rates, space itself will decrease, thereby threatening the amount of public space provided and the quality of life for the people. In the Global North, however, challenges arise primarily from shrinking and ageing cities, as well as phenomena such as urban sprawl, that induce changes in the role and the use of public space.[179]

Public space is essential to urban prosperity. It increases and sustains not only the economic productivity of urban areas, but facilitates social cohesion and inclusion, and can be an expression of identity, all of which enhance the quality of life of the city's inhabitants.[180]

For these reasons, there has been a growing trend over the past 20 years to improve the quality of public spaces in cities. This needs to be approached from aesthetic, environmental, economic and social points of view. In general, high-quality public spaces are perceived as desirable, because – if well designed – they work for everyone in the city. It is, therefore, pluralist in intent, making the city more than just an agglomeration of individuals. Good public space should add to the aesthetic qualities of the city and, equally, work for all sectors of the population, irrespective of age, gender, prosperity or culture. These programmes underline the competitive economic advantage of cities that seek to exploit the knowledge economy and the digital revolution and attract the knowledge workers described in Chapter 3.

### 4.5 BOX: Urban green spaces and health

Results of recent epidemiological studies show that greater availability of, and accessibility to, urban green spaces are linked to various health benefits, such as stress reduction, improved well-being and mood, better sleep, improved pregnancy outcomes, reduced cardiovascular morbidity and reduced mortality.

Mechanisms of the above beneficial health effects include psychological effects from observing the natural environment and enhanced physical activity patterns, as well as improved environmental characteristics, such as reduced noise and air pollution levels and a reduction of the urban heat island.

Various types of green spaces, such as trees along city streets, greenery in playgrounds and yards, and city parks suitable for physical activity, can provide health and well-being benefits

[177] Orum and Neal, 2010:1.
[178] Saliez, F. (2015): Public Space and Sustainable Urban Development. Available at: http://www.unece.org/fileadmin/DAM/hlm/prgm/urbandevt/Public_Spaces_Geneva_2015/presentations/01_Saliez_Vital_Public_Spaces.pdf
[179] UN-Habitat (2013): Streets as Public Spaces and Drivers of Urban Prosperity. Available at: http://unhabitat.org/books/streets-as-public-spaces-and-drivers-of-urban-prosperity/. P. viii.
[180] Saliez, F. (2015): Public Space and Sustainable Urban Development. Available at: http://www.unece.org/fileadmin/DAM/hlm/prgm/urbandevt/Public_Spaces_Geneva_2015/presentations/01_Saliez_Vital_Public_Spaces.pdf

in different population subgroups (e.g. children, adolescents and adults).

Comparable and consistent assessments of urban green space availability and accessibility are essential for formulating policies aiming at optimizing land use practices, providing health benefits, and reducing environmental health inequalities in urban populations.[181]

The UN includes public space in its Sustainable Development Goal 11 to 'make cities and human settlements inclusive, safe, resilient and sustainable', and contains targets that, by 2030, will 'provide universal access to safe, inclusive and accessible green and public spaces, particularly for women and children, older persons and persons with disabilities'.[182] The indicator discussed to measure the target currently being proposed does not, however, address the question of quality in public space, but focuses rather on quantity expressed as an average share of the built-up areas of cities.[183]

### 4.6 BOX: The future of places forum

The Future of Places forum, supported by UN-Habitat, promotes the role of public space and pushes for its incorporation in the Habitat III Conference.[184] In a series of seminars, the forum distilled eight messages directed at policy makers on the ideal approach towards public space:

1. Public space requires a people-centred approach to planning, to ensure its sustainable development and use.
2. It has to be inclusive for all, particularly vulnerable groups, to stimulate intergenerational, social and economic activities, and reap its full inclusionary benefits.
3. It must respect human scale and behavioural patterns of use.
4. A citywide network of connected streets and public spaces, focusing not only on space itself, but also on its form, function and connectivity, is required.
5. Economic productivity of public space through its stimulation of small scale local economy and generation of tax revenues should be ensured.
6. The market alone cannot provide a variety of public and private open spaces. A balanced mixture, as well as access thereto, should be ensured.
7. Public space and its surrounding buildings need to be socially, economically and



[181] WHO Regional Office for Europe (2010): Urban planning, environment and health. From evidence to policy action. Copenhagen. Available at http://www.euro.who.int/__data/assets/pdf_file/0004/114448/E93987.pdf
WHO Regional Office for Europe (2013). Physical activity promotion in socially disadvantaged groups: principles for action. PHAN Work Package 4. Final Report. Available at: http://www.euro.who.int/__data/assets/pdf_file/0005/185954/E96817eng.pdf?ua=1
M. Annerstedt van den Bosch, P. Mudu, V. Uscila, M. Barrdahl, A. Kulinkina, B. Staatsen, W. Smart, H. Kruize, I. Zurlyte, A.I. Egorov (2015). Accessibility of urban green spaces as a public health indicator – developing a tool for city assessments. Scandinavian Journal of Public Health (forthcoming).
[182] UN (2015): Sustainable Development Goals. Available at: https://sustainabledevelopment.un.org/topics
[183] UN-Habitat (2015): Adequate Open Public Space in Cities. Available at: http://unstats.un.org/unsd/post-2015/activities/egm-on-indicator-framework/docs/Background%20note%20by%20UN%20Habitat-%20Proposal%20for%20a%20public%20open%20space%20indicator-EGM_Feb2015.pdf
[184] Future of Places (2015): About. Available at: http://futureofplaces.com/about-future-of-places/

environmentally sustainable.

8. To enrich public space's identity, it needs to be sufficiently flexible to respond to local geography, climate, culture and heritage, and allow for cultural and artistic elements.[185]

For the consolidated and shrinking cities of the region, the principal strategies for public space are to improve and increase the incidence of it on the one hand, while revitalizing and re-purposing it on the other.[186] The Global Public Space Toolkit, developed by UN-Habitat, offers a wide variety of examples and actions that link global principles addressing public space and good practice for city governments, municipalities and urban areas.[187] It is crucial to understand that public space is not a static, monolithic concept, but that it is closely interconnected with other facets of urban life and development, from the environment and transportation to social life and the economy. Therefore, improvement to it needs to be made in parallel with other initiatives, addressing the inter-linkages with all the other aspects of city processes, such as transportation and the regeneration of run-down areas, offering the possibility to turn around the perception of entire districts or even cities, such as the Millennium Park in Chicago[188].

A countervailing trend, however, has seen the privatization of some public space[189], with examples in some countries limiting access to former public spaces after their acquisition through private development entities.[190] Given its essential role in urban life and the urban economy, cities, municipalities, and regional and national governments need to monitor this trend, while simultaneously improving hard and green public spaces to reap their full potential.

### 4.7 BOX: The role of streets

Inherently, streets are the arteries of any urban agglomeration. They connect neighbourhoods, businesses and people. They give life to a city and allow for, sometimes even determine, its development.

Yet, on the back of changing trends in demographics, ageing, family sizes and urban structures in the UNECE region, the role of streets is constantly adapting, too.[191] Urban

[185] Future of Places (2015): Future of Places, Key Messages. Available at: http://futureofplaces.com/2015/07/future-of-places-2013-2015-key-messages/
[186] Saliez, F. (2015): Public Space and Sustainable Urban Development. Available at: http://www.unece.org/fileadmin/DAM/hlm/prgm/urbandevt/Public_Spaces_Geneva_2015/presentations/01_Saliez_Vital_Public_Spaces.pdf, p. 17.
[187] See UN-Habitat - Global Public Space Toolkit: http://unhabitat.org/wp-content/uploads/2015/10/Global%20Public%20Space%20Toolkit.pdf
[188] American Planning Association (2015): Great Places in America: Public Spaces – Millennium Park. Available at: https://www.planning.org/greatplaces/spaces/2015/millenniumpark.htm
[189] J. Vasagar (2012): Privately owned public space: where are they and who owns them? The Guardian. Available at: http://www.theguardian.com/news/datablog/2012/jun/11/privately-owned-public-space-map
[190] B.L. Garrett (2015): The privatisation of cities' public spaces is escalating. It is time to take a stand. The Guardian. Available at: http://www.theguardian.com/cities/2015/aug/04/pops-privately-owned-public-space-cities-direct-action
[191] UN-Habitat (2013): Streets as Public Spaces and Drivers of Urban Prosperity. Available at: http://unhabitat.org/books/streets-as-public-spaces-and-drivers-of-urban-prosperity/

sprawl undermines the importance that streets play in the public image of a city, since they lose their role as urban space much faster and more drastically than in dense urban cores.[192] The Future of Places forum envisions streets as 'multimodal networks of social and economic exchange, forming the urban framework of interconnected public space'.[193] In order to realize such a vision, streets have to be recognized and valued as 'the most important constituent of city structure'.[194]

UN-Habitat observes an increasing trend in Europe, North America and Oceania towards making streets less car- and more cycling- and pedestrian-friendly.[195] An outstanding example of this is Copenhagen, where only a quarter of daily commuters use a car to get to work.[196] Over the course of 50 years and four subsequent development phases, the city managed to transform from a traffic place to a people place, being lauded as the most liveable city in the world in 2013.[197] Impressive strides in a similar direction can also be witnessed in cities more known for their prevalence of individual transportation: New York[198] and Moscow[199].

The reconfiguration of streets addresses many urban issues, such as the role and use of public space, the improvement of the infrastructure, the stimulation of the economy, environmental issues and GHG emissions. The examples given here are promising, showcasing a reconsideration of the role of streets towards a more people-centred approach, eventually enhancing the quality of urban life. Hopefully, such cases gain wider track, because '[i]f you don't get the streets right, you'll never get the city right'[200].

## 4.8 BOX: Street lighting



[192] UN-Habitat (2013): Streets as Public Spaces and Drivers of Urban Prosperity. Available at: http://unhabitat.org/books/streets-as-public-spaces-and-drivers-of-urban-prosperity/
[193] Future of Places (2015): Public Space in the New Urban Agenda. Available at: https://www.unece.org/fileadmin/DAM/hlm/prgm/urbandevt/Public_Spaces_Geneva_2015/presentations/02_Farell_Vital_Public_Spaces.pdf, p. 13.
[194] S. Porta (2014): Public spaces, resilience and urban prosperity: an evolutionary approach to urban development. Available at: http://www.unece.org/fileadmin/DAM/hlm/prgm/urbandevt/Public_Spaces_Geneva_2015/presentations/05_Porta_Vital_Public_Spaces.pdf
[195] UN-Habitat (2013): Streets as Public Spaces and Drivers of Urban Prosperity. Available at: http://unhabitat.org/books/streets-as-public-spaces-and-drivers-of-urban-prosperity/
[196] J. Gehl (2013): Liveable Cities – for the 21st Century. Available at: https://www.unece.org/fileadmin/DAM/hlm/prgm/urbandevt/Public_Spaces_Geneva_2015/presentations/12_Gehl_Vital_Public_Spaces.pdf, p. 64.
[197] J. Gehl (2013): Liveable Cities – for the 21st Century. Available at: https://www.unece.org/fileadmin/DAM/hlm/prgm/urbandevt/Public_Spaces_Geneva_2015/presentations/12_Gehl_Vital_Public_Spaces.pdf, p. 48ff, p. 71.
[198] J. Gehl (2013): Liveable Cities – for the 21st Century. Available at: https://www.unece.org/fileadmin/DAM/hlm/prgm/urbandevt/Public_Spaces_Geneva_2015/presentations/12_Gehl_Vital_Public_Spaces.pdf, p. 38ff.
[199] J. Gehl (2013): Liveable Cities – for the 21st Century. Available at: https://www.unece.org/fileadmin/DAM/hlm/prgm/urbandevt/Public_Spaces_Geneva_2015/presentations/12_Gehl_Vital_Public_Spaces.pdf, p. 40ff.
[200] S. Porta (2014): Public spaces, resilience and urban prosperity: an evolutionary approach to urban development. Available at: http://www.unece.org/fileadmin/DAM/hlm/prgm/urbandevt/Public_Spaces_Geneva_2015/presentations/05_Porta_Vital_Public_Spaces.pdf, p. 8.

Street lighting is a crucial tool in providing security and order in a city. As a means of social control, it facilitates governance over the city and its citizens.[201]
It is also a lever in many other regards, as it can account for up to 40% of a municipality's electricity bill.[202] This gives leeway for saving energy and the reduction of GHG emissions, as well as saving costs. One way to achieve this is by simply switching them off, which, however, affects security in the area.[203] A better way was found, for example, by Los Angeles. The city retrofitted more than 140,000 street lights with LED fixtures. These were expected to consume 63% less energy than the original high-pressure sodium fixtures.[204]
Other cities are taking the application of LED lights even further. Amsterdam started an experiment in 2013 with a flexible switch system in the context of its Amsterdam Smart City programme.[205] Based on remote operation and sensors, lighting can be adjusted to a variety of circumstances, ranging from the weather to coloured lighting that controls traffic flow.[206] Thus, environmental protection, as well as cost-saving, is easily achieved through the implementation of readily-available technological and digital solutions.
A similar experiment is underway in Copenhagen, where 9.2 km of roads and pathways are converted into a 'living lab'.[207] 50 different lighting solutions from 18 manufacturers are showcased, tested and displayed, in order to find the best solution for Danish regions and municipalities.[208]

## 4.11 Conclusion

This chapter brings together a review of the major factors that influence equity in the city today, including affordability and accessibility to housing, public space, transportation, and their health effects.

It has highlighted the importance of tackling fundamental failures of the housing market after the financial crisis of 2008-11. It has demonstrated that lack of affordability presents a key challenge to accessing decent, healthy and adequate housing. Where available, good quality, low-cost housing has, at least partly, broken the link between poor housing conditions and poverty. However, in the past two decades, the number of social housing units in the western countries of the UNECE region has been reduced through privatization, reduced provision and demolition. In the eastern countries, the amount of state public housing has also been reduced significantly through privatization. Lack of access to adequate affordable accommodation damages neighbourhoods, the economy and the future, as well as thwarting the Sustainable Development Goals established by the UN.[209]

[201] http://www.theguardian.com/cities/2014/nov/13/sci-fi-future-lamp-posts-street-lighting
[202] http://www.navigantresearch.com/blog/smart-street-lights-face-financial-hurdles#pq=xfjXDG
[203] http://www.theguardian.com/cities/2014/nov/13/sci-fi-future-lamp-posts-street-lighting
[204] http://www.forbes.com/sites/justingerdes/2013/07/31/los-angeles-completes-worlds-largest-led-street-light-retrofit/
[205] http://amsterdamsmartcity.com/projects/detail/id/62/slug/flexible-street-lighting
[206] http://amsterdamsmartcity.com/projects/detail/id/93/slug/smart-light
[207] http://www.lightinglab.dk/UK/Living-Lab/
[208] http://www.lightinglab.dk/UK/Living-Lab/
[209] Primary reference sources used in this chapter include:
UNECE (2015), Social Housing in the UNECE: Models, Trends and Challenges, UNECE, Geneva

Tackling these challenges requires new approaches to housing. The fragmentation of national markets stresses the importance of cities and city regions working together in the future development of locally responsive housing policies.

The range of the population groups in need of housing indicates a diversification of the housing need, the importance of responding to new demographic trends, and the need to amend housing policies.[210]

The UNECE countries face the challenge of renewing older housing policy that existed prior to the financial crisis of the early 21st century with more innovative solutions that have to respond to emerging and diversifying needs. This Report aims to support these efforts by highlighting the importance of housing, health and public space in the international arena.



European Observatory on Homelessness (2014), Extent and Profile of Homelessness in European Member States: A Statistical Update, Feantsaresearch [Online]. Available at: http://www.feantsaresearch.org/IMG/pdf/feantsa-studies_04-web2.pdf

European Commission (2015). Homelessness. European Commission [Online]. Available at: http://ec.europa.eu/social/main.jsp?catId=1061&langId=en

G. Fernàndez Evangelista and S. Jones (eds) (2013), Mean Streets: A Report on the Criminalisation of Homelessness in Europe, European Federation of National Associations Working with the Homeless AISBL, Fédération Européenne des Associations Nationales Travaillant avec les Sans-Abris AISBL, Brussels. Available at: http://www.housingrightswatch.org/sites/default/files/Mean%20Streets%20-%20Full.pdf

JRF (2013), The Links Between Housing and Poverty: An Evidence Review. Joseph Rowntree Foundation, London. Available at: https://www.york.ac.uk/media/chp/documents/2013/poverty-housing-options-full.pdf

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Available at: http://www.housingeurope.eu/resource-468/the-state-of-housing-in-the-eu-2015

HUD (2014), The 2014 Annual Homeless Assessment Report (AHAR) to Congress, October 2014, The U.S. Department of Housing and Urban Development, Office of Community Planning and Development [Online]. Available at: https://www.hudexchange.info/resources/documents/2014-AHAR-Part1.pdf

One-Europe (2014), Homeless people in Europe, Russia and Belgium with their own stories. One Europe [Online]. Available at: http://one-europe.info/homeless-people-in-europe-russia-and-belgium-with-their-own-stories

OECD (2013), The OECD Action Plan for Youth, OECD Publishing, Paris.

OECD (2015), International Migration Outlook 2015, OECD Publishing, Paris. Available at: http://www.oecd.org/migration/international-migration-outlook-1999124x.htm

UN-DESA, Population Division (2014). World Urbanization Prospects: 2014 Revision, Highlights (ST/ESA/SER.A/352).

UNECE (2009), Self-made Cities, In search of sustainable solutions for informal settlements in the UNECE region, UNECE, Geneva. Available at: http://www.unece.org/fileadmin/DAM/publications/oes/SelfMadeCities.pdf

UNECE (2015a), Press Release: UNECE study on social housing finds that securing financing for the provision of affordable housing is a key challenge in the region. UNECE [Online]. Available at: http://www.unece.org/?id=41051

UNECE Charter (2015b), The Geneva UN Charter on Sustainable Housing https://www.unece.org/fileadmin/DAM/hlm/documents/Publications/UNECE_Charter_EN.pdf

UN-Habitat (2011), Affordable Land and Housing in Europe and North America, UN-Habitat, Nairobi.

UN-Habitat (2013), The State of European Cities in Transition 2013, UN-Habitat, Nairobi.

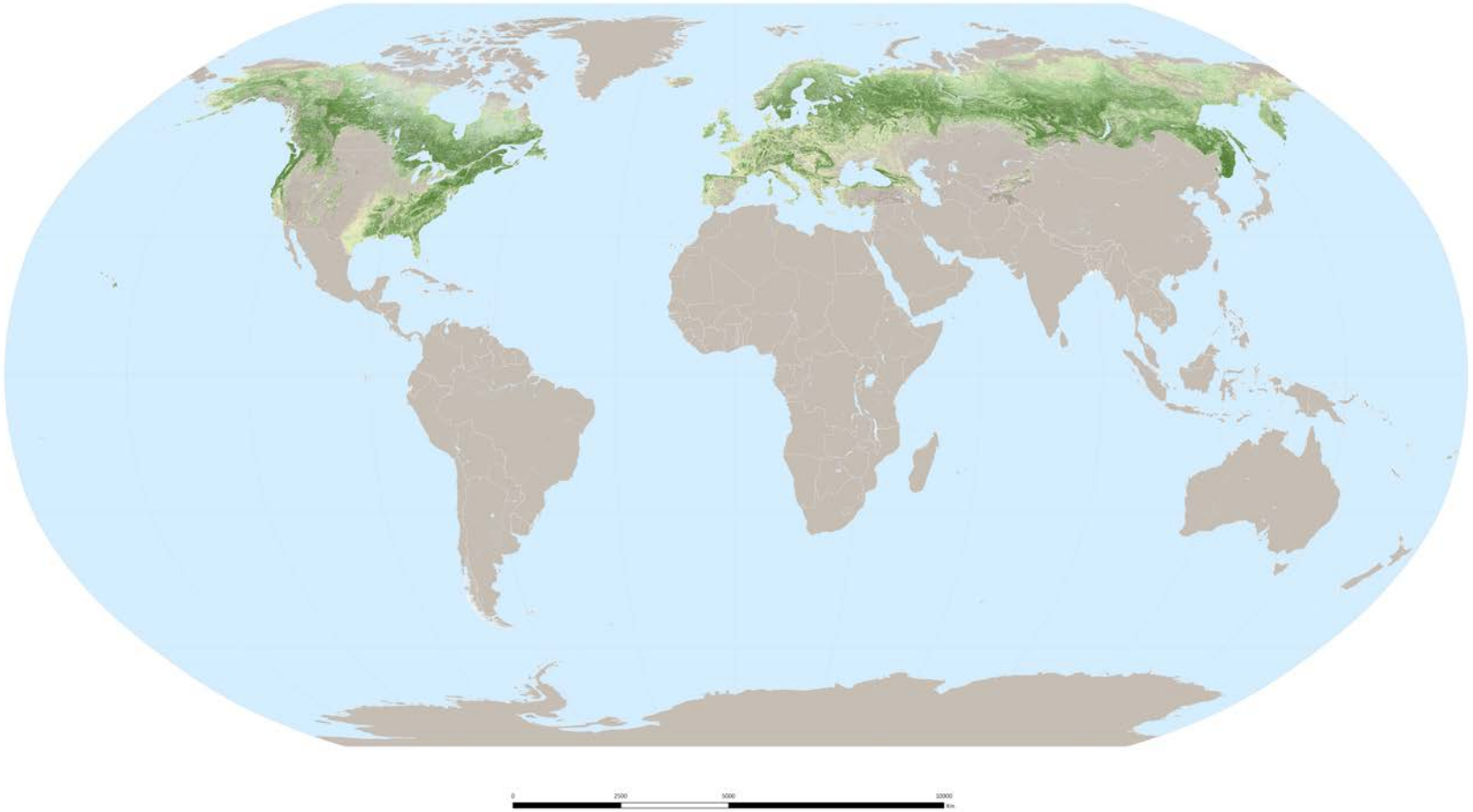
[210] UNECE (2015), Social Housing in the UNECE Region: Models, Trends and Challenges. UNECE, Geneva. Available at: http://www.unece.org/fileadmin/DAM/hlm/documents/Publications/Social_Housing_in_UNECE_region.pdf

# 5: ENVIRONMENT AND ENVIRONMENTAL RISK

## 5.1 The environmental context

The UNECE region extends across almost the entire northern hemisphere. Located between the Tropic of Cancer and the Arctic Circle, its geographical characteristics range from permafrost soil and the taiga in the far north to deserts and the Mediterranean basin in the south. Two thirds of the greatest lakes of the world (23 of 35) and half of the greatest rivers (27 of 54) lie in the region. The great river systems of the Mississippi-Missouri, the Rhine-Danube and the Volga-Don, and the Great Lakes of the US and Canada, all support important clusters of cities. Such an abundance of fresh water has essential implications, not only for the liveability of those cities, but also for the environmental challenges they face.

**Figure 12: Map of the forest in the UNECE region**



## 5.2 Environmentally diverse subregions

DRR is an issue more pressing in some parts of the region than in others. The most important is flooding which have a consequential negative impact on the quality of life in urban areas and, in certain circumstances, imperil the lives of the public. An increase in extreme weather events has been recorded across the region. Apart from floods and heat-waves, these include droughts, sometimes leading to wildfires, in all of the southern parts of the region. Other specific disaster risks are recorded in the West Coast of the US, southern Europe and the Caucasus, in the form of earthquakes and landslides. The US is also plagued by hurricanes and tornadoes and, on occasion, ice storms and volcanic eruptions.[211]

The countries of the region deal with a plethora of environmental challenges to varying extents, with climate change being the most common one. The region remains one of the highest per capita emitters of GHG in the world, and is responsible for more than XX of global emissions. Traditionally, public opinion values environmental protection and the quality of life in cities. Though such support varies across the region, numerous initiatives have been undertaken at the city level to preserve the urban environment and mitigate climate change. The implementation of environmental and climate policies over the last 20 years has delivered substantial benefits, including the reduction of GHG emissions from fossil fuels, and a significant decrease in water and air pollution. Urban rivers and seafronts have been remediated, and riverfronts restored. Non-motorized transport has been strengthened, for example by introducing public bike rental schemes, and public transport has been enhanced in many countries.[212]

Peri-urbanization and urban sprawl increase pressure on the environment and human health. There are persistent concerns about air and noise pollution, as well as loss of biodiversity, soil degradation and soil sealing.[213] Rising traffic volumes have contributed negatively to harmful levels of air pollution and noise, as well as increased GHG emissions from the transport sector.[214,215,216,217] In certain areas, water pollution, due to deteriorating supply systems, wastewater management and recycling capacities, is a growing issue.[218,219,220,221]



[211] The Global Seismic Hazard Map: http://gmo.gfz-potsdam.de/ and the 2015 Global Assessment Report on Disaster Risk Reduction on volcanic ash fall and risk: http://www.preventionweb.net/english/hyogo/gar/2015/en/bgdocs/risk-section/GVMc.%20Global%20Volcanic%20Hazards%20and%20Risk%20Technical%20background%20paper%20on%20volcanic%20ash%20fall%20hazard%20and%20risk.pdf
[212] US subregional report.
[213] Sealing ground with concrete or asphalt that has no porosity reduces water retention and increases run-off. This can increase flood risk and heat-island effects.
[214] European Environment Agency (2015): State of Environment Report. Available at: http://www.eea.europa.eu/soer-2015/synthesis/report/0c-executivesummary [XXX].
[215] SEE subregional report.
[216] US subregional report.
[217] RCCA subregional report.
[218] European Environment Agency (2015): State of Environment Report. Available at: http://www.eea.europa.eu/soer-2015/synthesis/report/0c-executivesummary [XXX].
[219] SEE subregional report.
[220] US subregional report.

Throughout the region, there is a very low percentage of the population without access to the energy grid. However, clean and efficient energy is a fundamental challenge, together with issues of equity, in terms of affordability, and security, in terms of reliability of supply. The UNECE countries are well-placed to consider future energy systems and the transition from fossil fuels to new and green technologies.

Environmental policies and technology-driven efficiency gains have not, so far, been sufficient to achieve the desired systemic transition towards a green economy.[222] In some countries, progress regarding environmental protection has been incorporated into legislation, but has not been fully transferred to implementation on the ground. This is the case particularly with countries in the midst of economic transition, where environmental policy and implementation is only one of the challenges faced. Nonetheless, significant progress has been made in many places, although the current lifestyle of consumption and expectations of wealth through growth is at the expense of the environment.[223]

**5.1 BOX: Investing in/facilitating green growth/green infrastructure - the UK Green Investment Bank (GIB)**

In order to scale back its carbon emissions by 2050 and increase power generation from renewable sources by 2020, the UK estimates that investments of between GBP 200 billion and GBP 1 trillion will be required over the next two decades.[224] Since traditional sources will only generate a fraction of this, the subsequent funding gap necessitated government action to push for a greener economy.

This resulted in the world's first investment bank dedicated to greening the economy'[225]. Backed by GBP 3.8 billion from the UK Government, the GIB finances and facilitates investments in innovative, environmentally-friendly areas'[226] for which no private funding could be secured. Among other initiatives, it also promotes smart and green cities through a 10-point plan, by financing projects in areas such as district heating and distributed renewables; energy from waste; low-carbon public transport fleets; electric vehicle infrastructure; low-energy street lighting; energy-efficient building retrofits; and data and communications infrastructure.[227] In the business year 2014/15, it has financed 22 new projects, committing a total of GBP 723 million in capital[228], becoming the most active UK investor in the green economy and generating a profit in its second year of operation.[229]

The GIB is an interesting exemplar of a new governance paradigm whereby top-down government action is combined with a bottom-up community-driven approach, in order to take advantage of the distributed nature of new initiatives in cities and regions. It serves as an example of how determined government action can guide and support economic actors

[221] RCCA subregional report.
[222] European Environment Agency (2015): State of Environment Report. Available at: http://www.eea.europa.eu/soer-2015/synthesis/report/0c-executivesummary [XXX].
[223] RCCA subregional report.
[224] http://www.publications.parliament.uk/pa/cm201011/cmselect/cmenvaud/505/505.pdf
[225] https://www.gov.uk/government/organisations/uk-green-investment-bank
[226] https://www.gov.uk/government/organisations/uk-green-investment-bank
[227] UK Green Investment Bank. Smarter greener cities: Ten ways to modernise and improve UK urban infrastructure. March 2015.
[228] http://www.greeninvestmentbank.com/media/44799/gib_annual_report_2015_aw_web.pdf, p.14.
[229] http://www.greeninvestmentbank.com/media/44799/gib_annual_report_2015_aw_web.pdf, p.14f.

towards a greener economy.
The next milestone for the GIB will be its privatization, which is currently underway. This will enable it more freedom to borrow from and lend to private capital markets.[230]

The projected effects of climate change in cities of the region are related mainly to extreme weather events, as the frequency and intensity of heat-waves and flooding are expected to increase. The implications of these events on cities are exacerbated in urban areas due to soil sealing and heat-reflecting surfaces. Urban heat islands are sometimes up to 15°C warmer than the surrounding areas.[231] In a region characterized by an ageing population, this is an issue to be taken seriously. Soil sealing also increases the risk of flooding, as it reduces the soil's capacity to absorb water.

## 5.3 Climate change

Cities across the entire region feel the effects of climate change. The pan-European region experienced a 1.4°C increase in its average temperature as compared to pre-industrial levels.[232] For North America, the equivalent figure is 0.7 to 1.1°C since 1895.[233] These changes in temperature bring about a range of consequences for cities, including an increase in severe and extreme weather events such as floods and air pollution, particularly through the after-effects of wildfires (California) and controlled burning of agricultural lands (Moscow region). Coastal cities in many countries will be affected by rising sea levels,[234] while its dry areas face the risk of droughts and desertification. A special case is presented by cities and urban agglomerations in the Far North, where melting permafrost gradually poses problems for the upkeep of infrastructure and for production, as well as an increased exposure to landslides and mudflows.

### 5.2 BOX: Climate change adaptation/mitigation and health

The human health effects of climate change are concentrated in, but not limited to, urban areas. Climate change is adversely affecting health through more intense and frequent extreme events like heat-waves and flooding, and through changes in water, air and food quality and quantity, ecosystems, agriculture, livelihoods and infrastructure. These effects are unevenly distributed. Cities and urban areas with dense and often more elderly populations are especially vulnerable.
Protecting health from climate change requires the implementation of health adaptation measures. This includes the provision of extreme weather early warning and action plans

[230] http://www.theguardian.com/environment/2015/oct/15/green-investment-bank-will-be-taken-out-of-ministerial-control
[231] REFERENCE?
[232] European Environment Agency (2010): Driving forces that shape environmental futures in the Western Balkans, Environmental trends and perspectives in the Western Balkans. Available at: http://www.eea.europa.eu/publications/western-balkans [XXX].
[233] J.M. Melillo, T.C. Richmond, and G.W. Yohe (Eds.) (2014): Highlights of Climate Change Impacts in the United States: The Third National Climate Assessment. U.S. Global Change Research Program, October 2014. Washington D.C. Available at: http://nca2014.globalchange.gov/downloads [Accessed: 29/03/2015].
[234] Field, C.B., L.D. Mortsch, M. Brklacich, D.L. Forbes, P. Kovacs, J.A. Patz, S.W. Running and M.J. Scott (2007): North America. Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, M.L. Parry, O.F. Canziani, J.P. Palutikof, P.J. van der Linden and C.E. Hanson, Eds., Cambridge University Press, Cambridge, UK, 617-652.

(e.g. heat and flooding), as well as the monitoring, surveillance and control of infectious diseases, and the strengthening of the health system. These can be integrated into urban planning.

Policies and measures to reduce GHG emissions in many sectors (transport, waste, agriculture, and nutrition and health services) create health benefits. This is especially relevant in cities as drivers of innovation.[235]

For many cities in the region today, traffic and transportation are the crucial sources of air pollution and GHG emissions.[236, 237, 238] Although European cities have made considerable progress in terms of protecting the natural environment and reducing carbon emissions, their collective effort is not yet at the scale of Europe's stated ambition in terms of climate change mitigation. Energy production is another significant contributor to GHG emissions, not only in the US, the greatest source of carbon pollution,[239] but also in the post-Soviet countries and parts of SEE that often struggle with outdated technology and production.[240]

### 5.3 BOX: The region is a major stakeholder in international climate ad energy policies

While addressing the challenge of post-carbon transformations, much interest is now directed towards the role of cities. In many member countries, cities are already leading the transition towards a green economy and low-carbon development. Due to their compact form and high population density, urban areas are natural testing grounds for achieving resource-efficient and green economic growth.

Those cities and regions that take climate-action measures seriously set targets to increase renewable sources in their energy supply. Hydroelectricity, wind, solar photovoltaic, solar thermal, geothermal, tidal and wave are all renewable types of energy that do not involve direct GHG emissions (although indirect emissions come from building the power installations).

The building sector is one of the priority energy end-use areas in relation to climate neutrality. Many countries already require low-energy buildings as performance standards for all new-builds. Some of the popular housing developments include so-called passive

[235] WHO Regional Office for Europe (2010): Protecting health in an environment challenged by climate change: European Regional Framework for Action. Available at: http://www.euro.who.int/en/health-topics/environment-and-health/Climate-change/publications/2010/protecting-health-in-an-environment-challenged-by-climate-change-european-regional-framework-for-action
WHO Regional Office for Europe (2015): Protecting health in Europe from climate change. Update of the evidence (forthcoming, update of http://www.euro.who.int/en/health-topics/environment-and-health/Climate-change/publications/pre-2009/protecting-health-in-europe-from-climate-change)

[236] The draft national report on the development of human settlements of the Russian Federation for Habitat III (2015).

[237] Regional Environmental Center (2006). Environmental Snapshot of South Eastern Europe. REReP Country Profiles.

[238] European Environment Agency (2015): State of Environment Report. Available at: http://www.eea.europa.eu/soer-2015/synthesis/report/0c-executivesummary [XXX].

[239] European Environment Agency (2014): Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units. Federal Register 79 (18 June 2014), 34829–34958. Available at: https://www.federalregister.gov/articles/2014/06/18/2014-13726/carbon-pollution-emission-guidelines-for-existing-stationary-sources-electric-utility-generating [Accessed 29 March 2015].

[240] UNDP (2007): Environmental Policy in South-Eastern Europe. Available at: http://www.unece.org/fileadmin/DAM/env/documents/2007/ece/ece.belgrade.conf.2007.inf.22.e.pdf [XXX].

houses'.

The passive house standard was originally defined in 1988. The first of these houses was built in Darmstadt, Germany, in 1990. Passive housing is mostly defined for colder European climatic conditions, where it reduces heating energy consumption by up to 90% as compared to normal housing and by 60% compared to the low-energy building definitions. They may even be able to operate off-grid and have lower operating costs than more conventional buildings. In Austria, Germany, Switzerland and the Scandinavian countries, such buildings have already been popular for a number of years.[241]

### 5.4 BOX: Solution for climate change

The UNECE provides solutions to address climate change

- The **UN For Future Inland Transport Systems (ForFITS)** tool, developed by the UNECE, compares the future impacts of different transport-related policies on $CO_2$ emissions to enhance informed policymaking.
- Inland transport is one of the biggest sources of GHG emissions on the planet. The **UNECE World Forum for Harmonization of Vehicle Regulations** promotes standards that make vehicles more energy-efficient and thereby lower emissions.
- Through its **Transport, Health and Environment Pan-European Programme**, known as **THE PEP**, the UNECE promotes sustainable urban transport, including an increase in non-motorized modes, such as cycling and walking. Through its work on Intelligent Transport Systems, the UNECE hopes to accelerate the shift towards environmentally-friendly modes of transport, and reduce emissions by avoiding congestion and smoothing traffic flows.
- The **UNECE Water Convention** helps countries in shared river basins to jointly adapt to climate change, making them more resilient to disasters and water scarcity. More than 30 basins covering more than 20% of the Earth's ice-free land surface have already exchanged their experiences on adaptation in the Convention's network.
- GHG emissions and some key air pollutants have the same sources. Thus, by reducing air pollution, the UNECE also brings about climate co-benefits that enhance global mitigation efforts. Parties to the UNECE's **Convention on Long-Range Transboundary Air Pollution**, which sets emissions targets, have collectively reduced emissions of certain substances by 40% to 70% since 1990 in Europe.
- The UNECE hosts the Aarhus Convention, whose **Protocol on Pollutant Release and Transfer Registers (PRTR)** increases transparency on emissions of pollutants in communities.

[241] UNECE. Climate Neutral Cities: How to make cities less energy and carbon intensive and more resilient to climatic challenges. 2012. Available at: http://www.unece.org/index.php?id=29875

Providing access to information to all stakeholders, including information from polluters, is a key prerequisite for the sound management of environmental resources and chemical substances, and for addressing the issue of climate change mitigation and adaptation. The Aarhus Convention and its Protocol on PRTR provide effective frameworks for increasing transparency regarding environmental information, including on sources of emissions of pollutants in communities. As a consequence, cities have embarked on climate and environmental diplomacy, illustrated by their proactive participation in initiatives and networks such as Energy Cities[242], ICLEI-Europe[243], the European Green Capital Award[244], the UN Compact of Mayors[245], and the EU-based Covenant of Mayors[246]. Such activity is even to be witnessed in countries where climate change represents a lesser part of the public debate and the majority of the population is rather ambivalent towards it.

Initiatives to combat climate change exist in various forms. The US is currently pursuing the reduction of carbon pollution through an increase in fuel economy standards of manufactured cars.[247] Energy efficiency in housing is a key focus of some 190 local organizations pledged to increase energy savings.[248] Similar efforts are being undertaken in the Eastern European, Russian and Central Asian countries, where cold continental winters demand a prolonged heating season, together with proper building insulation and infrastructure.[249] Faced with relatively poor energy efficiency, some countries have launched specific national programmes and funding institutions to spread large-scale use of energy-efficient practices (Belarus and Russia). Others are implementing pilot programmes and initial evaluations (Armenia, Kazakhstan and Uzbekistan).[250] But, in general, the scale of new energy-efficient house-building is modest in these countries and in SEE, where energy efficiency is considered to be the key to reduced energy demand, GHG emissions and air pollution.[251]

Certain trends in the region, notably urban sprawl, diminish widespread climate change mitigation efforts, through increasing commute times as well as the prevalence of detached and semi-detached dwellings that have higher energy needs. The phenomenon of sprawl directly contributes to rising GHG emissions.[252]

## 5.4 Air, energy and soil

[242] Further information on Energy Cities available at: http://www.energy-cities.eu/ [XXX].
[243] Further information on ICLEI available at: http://www.iclei-europe.org/ [XXX].
[244] Further information on the European Green Capital initiative available at: http://ec.europa.eu/environment/europeangreencapital/index_en.htm [XXX].
[245] Further information on the Compact of Mayors available at: http://www.compactofmayors.org/ [XXX].
[246] Further information on the Covenant of Mayors available at: http://www.covenantofmayors.eu/ [XXX].
[247] National Highway Traffic Safety Administration (2012): Obama Administration Finalizes Historic 54.5 mpg Fuel Efficiency Standards. Available at: http://www.nhtsa.gov/About+NHTSA/Press+Releases/2012/Obama+Administration+Finalizes+Historic+54.5+mpg+Fuel+Efficiency+Standards [Accessed 29 March 2015].
[248] O. Golubchikov and A. Badyina. UN Habitat. 2015. RCCA subregional report.
[249] RCCA subregional report.
[250] CER (2014): Increasing Energy Efficiency of Buildings in Uzbekistan. Directions for Reforms and Expected Outcomes. Available at: http://www.cer.uz/upload/iblock/1b8/wkkcltylghzjresstz%20vvxtqodeugwgmtdpnkijabmcuabxaezjkvtoew%20idapedgxhemc%20cj%20aapgmbgzfzbcvfltoojmei4.pdf. [XXX].
See UNDP/GEF Project. Energy Efficient Buildings in Central Asia and Armenia. http://kz.beeca.net/
[251] UNDP (2007): Environmental Policy in South-Eastern Europe.
Available at: http://www.unece.org/fileadmin/DAM/env/documents/2007/ece/ece.belgrade.conf.2007.inf.22.e.pdf [XXX].
[252] European Environment Agency (2015): Urban systems. Available at: http://www.eea.europa.eu/soer-2015/europe/urban-systems [XXX].

Closely linked to the issue of climate change is the aspect of air pollution in urban areas. In 40 European countries alone, particulate matter was responsible for 458,000 premature deaths in 2011.[253,254] Despite some progress in combating this, millions of people remain affected by unsafe levels of concentration.[255] In the US, estimates by the Environmental Protection Agency (EPA) point towards possible health and climate benefits of up to USD 48.6 billion to USD 82.1 billion in 2030. This is to be achieved through a plan for the power sector to cut $CO_2$ emissions to 30% below 2005 levels by 2030, which will also have important co-benefits in terms of decreasing the emissions of air pollutants.[256]

Electricity production is one of the major contributors to air pollution in EERCCA, which is still coping with the consequences of old industrial regimes. Many cities need to address this issue, but often fail to do so, or to afford it sufficient priority. For example, many cities with an economic base reliant on heavy industry experience shortfalls in adequate investment to improve the technological capacities of the polluting industries. The countries of SEE rely, to a large extent, on coal and, for heating, on furnace wood. Therefore, the energy sector is responsible for the largest proportion of regional emissions, and is the most significant source of pollution.[257] Initiatives combating air pollution need to address the same issues as climate mitigation efforts in the region: transport and energy production.[258]

Since 2009, the US EPA is finalizing emission standards for light- and heavy-duty vehicles.[259] The standards to be applied are projected to save approximately 4 billion barrels of oil and reduce GHG emissions by the equivalent of approximately 2 billion metric tons, with net benefits of up to EUR 398 billion.[260] The EU is also tightening emissions standards for vehicles and increasing its share of renewable energies (from 12.6% in 2003 to 23.2% in 2013), while household energy consumption as a whole is still growing (by 5.1% from 2003 to 2013).[261] Both subregions were, however, recently shaken by scandals in the automobile industry that is suspected to have manipulated emission information for a substantial part of its fleet, with cars emitting up to 30 times more of certain pollutants than official standards

[253] European Environment Agency (2015): Air quality in Europe – 2014 report. Available at: http://www.eea.europa.eu/publications/air-quality-in-europe-2014 [XXX]. P. 9.
[254] More updated and complete info is available at:
WHO. Burden of disease from Ambient Air Pollution for 2012: Summary of results.
Available at: www.who.int/phe/health_topics/outdoorair/databases/AAP_BoD_results_March2014.pdf
Or see document ECE/CEP/2015/L.3 para 9. Available at: http://www.unece.org/index.php?id=38470#/
[255] European Environment Agency (2015): Air quality in Europe – 2014 report. Available at: http://www.eea.europa.eu/publications/air-quality-in-europe-2014 [XXX].
[256] United States Environmental Protection Agency (2014): Regulatory Initiatives. Available at: http://www.epa.gov/climatechange/EPAactivities/regulatory-initiatives.html [Accessed: 29 March 2015].
[257] UNDP (2007). Environmental Policy in South-Eastern Europe. Available at: http://www.unece.org/fileadmin/DAM/env/documents/2007/ece/ece.belgrade.conf.2007.inf.22.e.pdf [XXX]
[258] Also an issue of monitoring of air pollution in cities could be worth mentioning in the paper. See for example ECE/CEP/2015/L.3, paras 13-17.
[259] United States Environmental Protection Agency (2013). Endangerment and Cause or Contribute Findings for Greenhouse Gases under Section 202(a) of the Clean Air Act. Available at: http://www.epa.gov/climatechange/endangerment/ [Accessed 29 March 2015].
[260] United States Environmental Protection Agency (2012). 2017 and Later Model Year Light-Duty Vehicle Greenhouse Gas Emissions and Corporate Average Fuel Economy Standards. Federal Register 77. 15 October 2012. 62623–63200. Available at: http://www.gpo.gov/fdsys/pkg/FR-2012-10-15/pdf/2012-21972.pdf [Accessed 29 March 2015].
[261] Eurostat (2015). Electricity production, consumption and market overview. Available at: http://ec.europa.eu/eurostat/statistics-explained/index.php/Electricity_production,_consumption_and_market_overview [XXX].

permit. Most of the post-Soviet countries are prioritizing energy efficiency by modernizing their housing stock and industries to reduce the energy costs (imports in many cases) and drive down GHG emissions and air pollution.[262]

### 5.5 BOX: Air pollution, noise and health

Air quality is the largest contributor to the burden of disease caused by environmental factors. In 2012, almost 600,000 premature deaths related to ambient air pollution were estimated in the UNECE region. The majority of these were due to exposure to particulate matter (PM). Even at relatively low concentrations, air pollution poses a risk to health and, due to the large number of people exposed, it causes significant morbidity and mortality in all countries.

In general, the population-weighted average exposure to PM10 and PM2.5 in all cities of the region for which data are available has not changed substantially over the last few years. In European cities where PM is monitored, up to 94% of people experience annual levels exceeding the WHO air quality guideline for PM10 (20 µg/m3) and PM2.5 (10 µg/m3), respectively (yearly average values, WHO Regional Office for Europe, 2006). This gives rise to a substantial risk to health.

In some areas such as Eastern Europe, the Caucasus and Central Asia, more monitoring is required to quantify the impacts on health from air pollution.[263]

The health impacts of environmental noise are a growing concern among both the general public and policymakers in Europe.

A burden of disease assessment conducted by the WHO Regional Office for Europe and the EC Joint Research Centre in 2011 indicates that at least 1 million healthy life-years are lost every year from traffic-related noise in the western part of Europe. Sleep disturbance and annoyance, mostly related to road traffic noise, comprise the main burden of environmental noise. Owing to a lack of exposure data in SEE and the newly independent states, it was not possible to estimate the disease burden in the whole of the WHO European Region.[264]



All over the UNECE region, soil loss and degradation are major issues, with 'soil loss rates through land development and infrastructures exceeding those due to soil erosion'[265]. The main causes of soil degradation are urbanization, infrastructure development, and erosion.[266] Soil sealing is mostly caused by the construction of roads and houses on former natural or agricultural land on the back of processes of urban sprawl.[267] In the EU today, peri-urban areas are only half as densely populated as urban ones, yet they have the same

[262] RCCA and SEE subregional reports.
[263] http://www.euro.who.int/__data/assets/pdf_file/0018/276102/Improving-environment-health-europe-en.pdf?ua=1
http://www.who.int/phe/health_topics/outdoorair/databases/en/
[264] http://www.euro.who.int/__data/assets/pdf_file/0008/136466/e94888.pdf?ua=1
Other useful reference (even if not from WHO): http://www.eea.europa.eu/publications/noise-in-europe-2014
[265] European Environment Agency (1999): Environment in the European Union at the turn of the century, pp.183-202: 187f.
[266] European Environment Agency (1999): Environment in the European Union at the turn of the century, pp.183-202.
[267] European Environment Agency (2015): Urban systems. Available at: http://www.eea.europa.eu/soer-2015/europe/urban-systems [XXX].

proportion of built-up land.[268] Between 1990 and 2006, the land take increased by almost 9%, while the overall population only grew by 5%.[269] Various forces cause land take in the EU, such as people seeking better housing quality with more living space per capita and a greener, more family-friendly environment.[270] The phenomenon is driven more by changing lifestyles and consumption patterns than by a growing population.[271]

Sprawl negatively affects the liveability of urban areas. It has been adversely connected with life expectancy, economic mobility, transportation choices and personal health and safety.[272] The incremental transformation of the post-Communist land and housing provision towards a market system is leading to urban sprawl that will put additional strain on soil in the city hinterlands of these countries as well.

## 5.5 Water

In parts of the region, large sections of the water infrastructure is ageing and needs to be overhauled and modernized, most notably in the US, Eastern Europe, Central Asia and SEE.[273,274,275] Leakages and the absence of an elaborate wastewater management and recycling system impair water quality in the metropolitan areas of these countries.[276] Locally, seismic conditions as much as climate change exacerbate such problems, resulting in water shortages.[277] Many cities already live above the sustainability of the local water tables (for example Istanbul, Los Angeles and San Francisco) and, with the projected growth of the biggest cities, this will likely become one of the largest concerns.

There are, however, many positive examples. Russia, for example, has introduced resource efficiency measures in the communal service, and has managed to bring down daily household water consumption between 2006 and 2013 from 184 to 133 litres per capita per day.[278] The US Government provides state funds to encourage investment in a wide range of water quality infrastructure projects.[279] In recent years, the programmes have provided, on average, more than EUR 4.4 billion annually to fund water quality protection projects for

[268] European Commission Staff Working Document (2012): Guidelines on best practice to limit, mitigate or compensate soil sealing. Available at: http://ec.europa.eu/environment/soil/pdf/guidelines/EN%20-%20Sealing%20Guidelines.pdf [XXX], p.8.
[269] European Commission Staff Working Document (2012): Guidelines on best practice to limit, mitigate or compensate soil sealing. Available at: http://ec.europa.eu/environment/soil/pdf/guidelines/EN%20-%20Sealing%20Guidelines.pdf [XXX], p.8.
[270] European Commission Staff Working Document (2012): Guidelines on best practice to limit, mitigate or compensate soil sealing. Available at: http://ec.europa.eu/environment/soil/pdf/guidelines/EN%20-%20Sealing%20Guidelines.pdf [XXX], p.10.
[271] European Commission Staff Working Document (2012): Guidelines on best practice to limit, mitigate or compensate soil sealing. Available at: http://ec.europa.eu/environment/soil/pdf/guidelines/EN%20-%20Sealing%20Guidelines.pdf [XXX], p.10.
[272] Smart Growth America (2015): Measuring Sprawl 2014 Report. Available at: http://www.smartgrowthamerica.org/documents/measuring-sprawl-2014.pdf [XXX].
[273] Partnership for Sustainable Communities (2013). Leveraging Partnership Programs. Washington D.C. PSC, July 2013. Available at: http://www.sustainablecommunities.gov/sites/sustainablecommunities.gov/files/docs/HUD-partnership-07-19-2013.pdf [Accessed: 30 March 2015].
[274] RCCA subregional report.
[275] UNDP (2007): Environmental Policy in South-Eastern Europe. Available at: http://www.unece.org/fileadmin/DAM/env/documents/2007/ece/ece.belgrade.conf.2007.inf.22.e.pdf [XXX], p. 127.
[276] UNDP (2007): Environmental Policy in South-Eastern Europe. Available at: http://www.unece.org/fileadmin/DAM/env/documents/2007/ece/ece.belgrade.conf.2007.inf.22.e.pdf [XXX], p. 127.
[277] RCCA subregional report.
[278] The draft national report on the development of human settlements of the Russian Federation for Habitat III (2015).
[279] Partnership for Sustainable Communities (2013). Leveraging Partnership Programs. Washington D.C. PSC, July 2013. Available at: http://www.sustainablecommunities.gov/sites/sustainablecommunities.gov/files/docs/HUD-partnership-07-19-2013.pdf [Accessed 30 March 2015].

wastewater treatment, pollution source control, and watershed and estuary management.[280]

BOX. Watershed management in Philadelphia: Excellent example of SUDS, porous surfaces and local taxation related to water management.

## 5.6 Disaster Risk Reduction (DRR)

Floods and landslides are a common risk across the region. Locally, people face heat-waves, droughts and ensuing wildfires, mostly in the southern parts of North America, SEE including the Mediterranean basin, and the Caucasus region. Earthquakes in southern Europe, Turkey, Armenia and the west coast of the US pose a threat, as do hurricanes and tornadoes in North America.[281,282]

Vulnerability is determined not only by the hazard and the risk, but also by the capacity of the exposed population to mitigate and adapt. This means that warning systems, mitigation, and disaster management plans are crucial in avoiding loss of life and damage. In many European countries, such instruments are in place. However, recent experience reveals the limited effectiveness of such plans, as they are not yet sufficiently well-integrated across economic sectors, geographical areas and governance levels. The Aquila earthquake in Italy in 2009 illustrates the challenges related to reconstruction that was hampered by controversy and corruption. In SEE, inherent socio-economic and spatial vulnerabilities, as much as a lack of institutional capacities, make cities in the region extremely susceptible to major disasters that stem from such hazards.[283] Local authorities report that 'inadequate technical and financial capacity' for measures in the fields of DRR, as well as disaster risk mitigation practices, represent the most important challenges for them.[284]

North America has done much to learn from the mistakes in disaster prevention and the ongoing recovery efforts in New Orleans, following Hurricane Katrina in 2005, and in east coast cities, following Hurricane Sandy. Several federal government agencies have launched initiatives aimed at improving technical capacity to respond to potential crises. In response to such natural disasters, extreme weather and acts of terror over the past 20 years, the federal Government has assumed a larger role in helping state and local governments deal with disaster risk (e.g. National Disaster Recovery Framework). These spotlights reveal that it is paramount for all UNECE countries to incorporate and integrate

[280] United States Environmental Protection Agency (2014): Clean Water State Revolving Fund. Available at: http://water.epa.gov/grants_funding/cwsrf/cwsrf_index.cfm [Accessed 30 March 2015].
[281] United Nations Office for Disaster Risk Reduction (2015): A compendium of disaster risk reduction practices in cities of the Western Balkans and Turkey: A Review of Selected Cities Participating in UNISDR'S 'Making Cities Resilient: My City is Getting Ready!' Campaign. Available at: http://www.unisdr.org/files/39825_compendiumuploadpw.pdf [XXX], p. 8.
[282] FEMA. Disaster Declarations. https://www.fema.gov/disasters [Accessed 29 March 2015].
[283] United Nations Office for Disaster Risk Reduction (2015): A compendium of disaster risk reduction practices in cities of the Western Balkans and Turkey: A Review of Selected Cities Participating in UNISDR'S 'Making Cities Resilient: My City is Getting Ready!' Campaign. Available at: http://www.unisdr.org/files/39825_compendiumuploadpw.pdf [XXX], p. 8.
[284] United Nations Office for Disaster Risk Reduction (2015): A compendium of disaster risk reduction practices in cities of the Western Balkans and Turkey: A Review of Selected Cities Participating in UNISDR'S 'Making Cities Resilient: My City is Getting Ready!' Campaign. Available at: http://www.unisdr.org/files/39825_compendiumuploadpw.pdf [XXX], p. 8.

mitigation and adaptation strategies into land use, water and forest management plans to ensure their success.[285]

## 5.7 Conclusions and trends

Environmental issues continue to adversely affect cities in the region. The key aspects are climate change, water, air and soil quality, and extreme weather situations and natural disasters. The subregions of the northern hemisphere are affected in different ways and to varying degrees by these forces, yet some common observations remain.

First of all, many of the problems and issues are exacerbated by ongoing climate change, to which the cities of the region are the largest per capita contributors. Extreme weather events are becoming more frequent and more intense, ranging from hurricanes and tornadoes in the US to floods in the Balkans and droughts in the Caucasus.

Secondly, the current state of the economy and of the urban lifestyle prevalent in the region are moving towards integrated environmental sustainability, but phenomena such urban sprawl contribute not only to soil sealing and increasing traffic, they also increase air pollution, climate change, and local heat islands in urban agglomerations. These developments can significantly reduce the quality of life in the cities and contribute massively to the global problem of climate change that will affect poor countries most.

Thirdly, there is a growing awareness of environmental protection as a contributor to the quality of urban life. Cities and local authorities are responding to this with a plethora of initiatives and efforts to mitigate the effects of the urban lifestyle on the environment. They are embarking on international knowledge exchange and networks, and are becoming active in diplomacy. Despite these laudable initiatives, much more needs to be done if the cities wish to live up to their ambitious claims in terms of environmental protection.

Promising, innovative steps are being taken in the right direction. Cities combine the benefits and advantages of technological and digital progress to achieve environmental protection and the reduction of GHG emissions. The European Commission acknowledges and rewards cities for their efforts and strides towards sustainable growth, planning and increasing quality of life on the back of environmentally-friendly policies (e.g. through the European Green Capital Award[286]). And ever more companies recognize the topic as a pathway to future business models and becoming more active in the field of green cities and sustainable growth (e.g. Siemens Green City Index[287]).

**5.6 BOX: UNECE multilateral environmental agreements**

The UNECE has negotiated five environmental conventions, also known as multilateral

[285] UNDP (2007): Environmental Policy in South-Eastern Europe. Available at: http://www.unece.org/fileadmin/DAM/env/documents/2007/ece/ece.belgrade.conf.2007.inf.22.e.pdf [XXX], p.174.
[286] http://ec.europa.eu/environment/europeangreencapital/index_en.htm
[287] http://www.siemens.com/entry/cc/en/greencityindex.htm

environmental agreements (MEAs), all of which are now in force:

- Convention on Long-range Transboundary Air Pollution[288]
- Convention on Environmental Impact Assessment in a Transboundary Context[289]
- Convention on the Protection and Use of Transboundary Watercourses and International Lakes[290]
- Convention on the Transboundary Effects of Industrial Accidents[291]
- Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters[292]

The governing bodies of the MEAs are serviced by the UNECE secretariat, which also helps them to monitor the implementation of the treaties. While many of the UNECE environmental conventions started as regional instruments, a number of them have gone, or are in the process of going, global, and the work under these MEAs has, for a long time, included states outside the region in their activities. The more recent Protocol on PRTR had been designated an 'open' global protocol. This trend underscores the impact of the UNECE MEAs, which have transformed the legal and natural landscape in the UNECE region and beyond.

The five conventions have been supplemented by a number of protocols, including:

- Protocol on Water and Health[293]
- Protocol on Strategic Environmental Assessment[294]
- Protocol on Pollutant Release and Transfer Registers[295]
- Protocol on Civil Liability and Compensation for Damage Caused by the Transboundary Effects of Industrial Accidents on Transboundary Waters (not in force)[296]



[288] http://www.unece.org/env/lrtap/welcome.html
[289] http://www.unece.org/env/eia/welcome.html
[290] http://www.unece.org/env/water.html
[291] http://www.unece.org/env/teia.html
[292] http://www.unece.org/env/pp/welcome.html
[293] http://www.unece.org/env/water/pwh_text/text_protocol.html
[294] http://www.unece.org/env/eia/sea_protocol.html
[295] http://www.unece.org/env/pp/prtr.html
[296] http://www.unece.org/env/civil-liability/welcome.html

# 6: GOVERNANCE OF CITIES

## 6.1 About urban governance

Habitat I acknowledged the importance of the urbanization process in the development of human settlements, and the consequences of it. However, the concept of urban governance of cities and human settlements, in which local authorities play a distinct role, emerged only as an outcome of Habitat II (1996). The Istanbul Declaration (1996) that resulted from the latter acknowledged the important role of local authorities in planning and managing cities, and called for 'recognizing local authorities … in the implementation of the Habitat Agenda' and for support to strengthen their financial and institutional capacity.

The urban process today should be considered as an instrument for promoting sustainable development. The contemporary challenge in urban and regional planning is to establish a clear link between development and urbanization: to explain how the latter generates social, cultural, environmental and financial value, and to promote participatory processes for democratic and consistent decision-making.

Urban governance refers to the process by which democratically elected local governments and the key stakeholders in cities – business associations, unions, civil society, and citizens – make decisions about how to plan, finance and manage urban areas. It is critical in shaping both the physical and social characters of urban regions. It has an impact on the quantity and quality of local public services and the efficiency with which they are delivered. Moreover, it determines whether costs are shared throughout the city region in a fair and efficient way. It also affects the ability of residents to access their local authorities and engage in local decision-making, as well as holding local authorities accountable.

Multi-level governance is a contemporary concept developed in relation to issues concerning European integration, especially in defining how authority is distributed between national, regional and local administration. It emphasizes the important role for, interaction of, and cooperation between, different levels of governments in the effective management of territory.

**6.1 BOX: Multilevel governance – an essential element of the EU Cohension Policy Architecture**

In the EU, multi-level governance is an important principle of the Cohesion Policy, aimed at promoting balanced and sustainable territorial development through support to its cities and regions. In 2014-2020, almost EUR 4.3 billion will be invested in institutional capacity-building of public authorities and in the efficiency of public administrations and services (good governance) at local and regional levels. This represents an increase of 72% compared to the last multi-annual financial framework provisions.

Efforts to make cities' engines of development' puts the emphasis on good governance, economic growth, effective development and the well-being of the public.

Competitiveness in the global economy has to be reconciled with sustainable local economies, in order to embed skills and resources in local business and local administration to address social inequality and spatial segregation. Governance systems need to be adapted to evolving circumstances to include a spatial approach, while public services and city strategies need to adapt to the very diverse situations of shrinking budgets, diminishing populations, growing migration and varying economic performance.

There are a number of different ways of defining and identifying good governance. A relatively straightforward one focuses on the ease of doing business. World Bank reports argue for governments to facilitate economic growth through a simple and transparent regulatory system, in order that businesses can concentrate on their core activities and devote less effort to complying with administrative procedures.

## 6.2 Urban governance[297]

According to the UNECE study (2013), urban governance in the region is largely decentralized, with the competencies of the federal/national governments generally limited to formulating policies and legislation, establishing norms and standards, and providing subsidies for housing. Urban policies are usually designed at the national level but, in almost all cases, implemented at the local level.

During the last decade, the region witnessed a trend towards the decentralization of power. Cities in the eastern part, that have transitioned from a centrally-planned to a market economy, have taken on significant new responsibilities for municipal economies, especially in respect of social and cultural affairs. In the western part, especially in the aftermath of the economic and financial crisis, countries have implemented structural reforms, to decentralize responsibilities for housing and infrastructure from national to local levels of government. In many countries, the privatization of the infrastructure has resulted in the withdrawal of the government from housing provision, which has afforded the private sector more opportunity to act, with varying degrees of success.

**6.2 BOX: Affordable Land and Housing in Europe and North America (UN-Habitat 2011)**

The study investigates the state of affordable land and housing in Europe and North America. It explores major trends in housing provision, conditions, availability, and quality, and analyses housing policy responses and practices. It provides key recommendations for local, national and international policy initiatives to increase the affordable housing supply.
Urban Efficiency: A Global Survey of Building Energy-Efficiency Policies in Cities (C40 Cities, November 2014) The compendium is a resource for city officials around the world as they

[297] UNECE (2013). Challenges and Priorities in Housing and Land Management in the UNECE Region. Geneva. Available at: http://www.unece.org/index.php?id=32606

design new policies for building energy-efficiency, or review existing ones. The research should help close the evidence gap regarding city-level activity in building energy-efficiency. As such, it is designed to be accessible to those working in the field in general, including researchers.

Recent trends throughout the region have resulted in increased responsibilities for regional and local governments to set the framework for social or affordable housing, including offering loans, establishing urban regulations, approving urban plans, and investing in urban infrastructure. Local authorities now have shared responsibility with national governments for providing subsidies for housing, and with the private sector for property management. However, other key stakeholders are also involved in this process:

- The private sector today is the main provider of housing, loans and management services for property, and is engaged (confirmed by around 40% of respondents of the UNECE study) in investments in the urban infrastructure, water and sanitation, indicating a trend towards public-private partnerships (PPP). In some countries, the private sector is also involved in the management of social housing;
- Non-profit organizations are less engaged. However, in some countries they play a role in providing management services for social housing and in local capacity-building;
- The primary role of households is their engagement in the management of property. They are also involved as stakeholders in discussing policies, legislation, standards and norms. Evidence from the UNECE Country Profiles on Housing and Land Management shows the important role they have in financing the construction of their own dwellings and, in particular, providing housing in areas of informal settlement;
- The participation of academia in providing capacity-building services, and preparing policy documents, legislation, standards and norms, is also increasing.

Multi-level urban governance is becoming prevalent. At the same time, the experience of urban development projects in countries with transition economies has demonstrated an inadequacy in local authorities to manage new challenges, such as the mitigation of climate change and natural disaster preparedness. These aspects need further development.[298]

Decision-making procedures for urban development should encourage public participation. Early participation of the public, when options remain open, is key to ensuring effectiveness. The Aarhus Convention and the Maastricht Recommendations on Promoting Effective Public Participation in Decision-making in Environmental Matters[299] provide a framework to assist public officials on a day-to-day basis in the design and implementation of public participation procedures in the decision-making process.

[298] See the UNECE project' Strengthening national capacities for sustainable housing and urban development in countries with economies in transition' Available at: http://www.unece.org/housing/unda.html
[299] http://www.unece.org/index.php?id=41803

## 6.3 ICT-enabled applications, 'Big Data', Open Data and evidence-based governance

Over the last decade, there has been a growing awareness of the possibilities of using ICT-enabled applications to increase public participation and create open governance models that can support more efficient and effective urban governance and ensure that a wider audience contributes to the debate, thereby helping improve the quality of public service delivery. While it is recognized that these applications are generating changes in city government systems, the effects of such changes on governance processes and their impact on specific policy areas have yet to be fully demonstrated.

Broadly speaking, Big Data is an all-encompassing term that refers to the exponential increase in the quantity, quality and diversity of high frequency digital data. Turning this data (call logs, GPS data, mobile-banking transactions, online user-generated content such as blog posts and Tweets, online searches, satellite images, etc.) into actionable information requires sophisticated digital analysis to unveil trends and patterns within and between very large datasets. This involves the application of advanced computational tools, such as machine learning, from other fields of science, to reveal trends and correlations within and across large data sets that would otherwise remain undiscovered. It requires high levels of human skill in interpretation and a high level of security regarding public interest.[300]

The implementation of smart services in the urban context may enable change in town planning to better understand and forecast new challenges. For many cities, however, 'going smart' is seen as a slogan, moreso than a process to make a difference in terms of:

- making planning instruments more effective and efficient (re-thinking the way of designing planning tools);
- moving the decision-making processes to a wider arena to strengthen public participation (communities matter); and
- opening new opportunities for public and private spaces in the city (technology helps in exploiting hidden potentialities).

Many current projects are introducing services based on 3D data technologies, where decision-making has been literally and legally focused on 2D tools, thereby opening up new possibilities for user comprehension and participation. In the future, therefore, smart services will move beyond practical application, such as maps of the city suitable for certain facilities or technologies, towards the contextualizing of urban frameworks.[301] For this to succeed, data needs to be put into useful contexts in order to be meaningful to individual stakeholders and to allow for effective public discussion to inform decision-making processes in both the public and private sectors.

[300] UN Global Pulse, 2012.
[301] I-Scope–Interoperable Smart City Services through an Open Platform for Urban Ecosystems, G. Conti, R. de Amicis, M. Ford, P. Elisei and D. Patti. 2012.

## 6.3 BOX: Urban analysis using remotely-sensed data to be associated with the Sample of urban typologies JRC map

The European Settlement Map (ESM) provides information about the built-up area coverage in Europe, by mapping urban and rural areas in a consistent, harmonized and seamless way. The ESM is based on Global Human Settlement Layer (GHSL) technology developed by the European Comission Joint Research Centre[302], using the automatic extraction of information from satellite images, providing continental maps of built-up coverage at 10 metres of resolution. The ESM, which is publicly accessible on the European Environment Agency data portal[303], can be used for the quantitative analysis of the built environment, including urban green spaces. It has contributed to better population disaggregation methods at the European level (Geostat 2011v2). Quantitative analysis of the built environment can inform indicators for urban and rural settlements. It can provide input into transport planning, population modelling, measuring accessibility to green and public spaces, and many other applications, such as environmental and crisis and disaster management.

## 6.4 BOX: CROSSOVER FP7

The Crossover Project[304] explores the reality and the potential of Open Data as a communication medium between governments and citizens:

- Access to data is a citizen's right, and governments have an obligation to make it available. Governments must also publish information on how the data was obtained, any assumptions that were made, any known gaps there may be, etc.
- With rights go responsibilities. Of no less importance is the obligation of the application developer and end-user to take notice of the metadata, and not to make assumptions or derive false meaning.
- Governments and commerce both have a financial interest in the full value chain from raw data through to end products and services.
- Linked data holds a great deal of promise, especially in the field of policymaking, where the effects of policies may be revealed in unforeseen ways. That potential is only visible in tools that are easy to use.
- Open Data is fundamental to transparency, but transparency is not the same as empowerment.
- Vast amounts of Open Data and excellent visualization tools count for nothing if citizens are not engaged. The publication of data must be part of an engagement strategy, one that encourages and facilitates two-way interaction, and through which citizens can see the tangible effects of their involvement.
- Social media is an important route through which governments can access citizens' reactions. The combination of open government data and social media data is surely a

[302] http://ghslsys.jrc.ec.europa.eu/
[303] http://land.copernicus.eu/pan-european/GHSL/view
[304] Governing the City - Policy Highlights. OECD. 2015.

critical aspect of future policy modeling.

## 6.4 The management and delivery of services in the city

The administrative boundaries of cities no longer reflect the physical, social, economic, cultural or environmental reality of urban development. Therefore, new forms of flexible and consultative governance are needed in order to:

- Deal with challenges in an integrated, holistic way, to match place- and people-centred approaches through structures with flexible governance processes corresponding to the scale of the challenge;
- Develop governance systems capable of cooperating and building shared visions, and reconciling competing objectives and conflicting development models;
- Develop governance models based on public empowerment, participation of stakeholders and innovative use of social capital – social innovation to widen the public space for civic engagement, innovation and cohesion;
- Adapt governance systems to take into account various scales (supra-urban through to intra-urban) and timescales.[305] In this regard, foresight is an especially relevant tool for managing transitions, overcoming conflicts and contradictions between objectives, and developing a better understanding of realities, capacities and objectives.

## 6.5 Governing metropolitan areas

The governance of metropolitan regions matters. By 2025, the majority of the population will be living in metropolitan areas in the developing world, many in extensive agglomerations of super-cities (Chapter 2). These areas act as magnets for immigration from rural areas in developing countries and from developed regions in other parts of the world.[306] These agglomerative city-regions gather a high concentration of people with different economic circumstances, generate substantial local revenues, and often demand greater autonomy and responsibility. Metropolitan regions will account for 60% of global output by 2028 – they will be the principal drivers of national economies. This trend is stimulating new ways of thinking about growth, and this demands innovative governance in order to manage and benefit from it.

These metropolitan regions are denser, wealthier and more attractive to new migrants, and demonstrate a need for regional governance bodies in order to perform better. There is a clear correlation between the existence of transportation authorities and the satisfaction of citizens with public transport services. These results can be seen as indicative of the positive effects of metropolitan and regional governance bodies.[307] Recent

[305] EC, 2011. Cities of tomorrow - Challenges, visions, ways forward.
[306] Committee of the Regions, Forum of Federations, The Governance of Metropolitan Regions, European and Global Experiences, Brussels, 2011.
[307] The OECD Metropolitan Governance Survey, 2014.

OECD work has demonstrated that coordinated governance arrangements across jurisdictions and policy fields and the coordination of policies is important where borders of metropolitan areas do not correspond to today's functional realities.[308]

The governance of metropolitan areas is particularly difficult for a number of reasons. Whatever the institutional arrangements or the peculiarities of the surrounding region, metropolitan governance must address increasingly extended, diverse, complex, segregated spaces, demographic expansion and institutional fragmentation. Many also have to cope with new and sometimes intense local challenges, including social and territorial diversity, governmental fragmentation and economic competitiveness in a global context.[309] The capability of metropolitan areas for coordinated and consultative governmental action is important, as global economic powerhouses, such as London, New York, Paris, Toronto, Moscow and other major world cities, demonstrate. New York is an example of governance led by conditions of market coordination for economic competition'.[310]

**6.5 BOX: New York tri-state region**

The New York tri-state area is a highly decentralized and fragmented enclave of more than 2,000 local governments spread over parts of three states, New York, New Jersey and southern Connecticut. In some critical respects, it functions as a marketplace of governments. Competition among cities and suburbs produces some nine common business development policies across the region. Important de facto region-wide policies emerge as a by-product of metropolitan area competition that represent collective action by governments in the city region in economic development and social policies, such as housing. In economic development, the metro area's local governments are uniformly active innovators of many common business development programmes, for better or worse. In the New York metropolitan area, market penalties and rewards motivate governments to seek competitive advantages, disciplining them to converge to promote some essentially similar region-wide policy solutions. Thus, the New York tri-state area, despite its thousands of governments, achieves some stable, albeit de facto, business development and housing policies through reliance upon market coordination. This reliance makes the possibilities for forging more stable forms of political cooperation quite low, however. Lack of integrated action by any government not only limits successful intergovernmental collaboration through negotiated agreements, but it also biases policymaking in ways that neglect social policy considerations when the governmental marketplace fails to encourage this.

In the field of development cooperation**,** collaboration with metropolitan structures is still limited and provides a fruitful field for future policy recommendations and consulting. The concept of metropolitan regions focuses on conurbations that accommodate in excess of 1 million inhabitants. With regard to centricity, these areas

[308] OECD, 2015. Governing the City - Policy Highlights.
[309] United Cities and Local Government, Metropolitan Governance, 2008.
[310] P. Kantor. Assessing the Governance Capacity of Metropolitan Areas: A Comparative Perspective. Paris, 2012.

include a wide range of structural phenomena characterized by specific strengths and weaknesses. Mono- and polycentric metropolitan regions pose different challenges for development cooperation, but both benefit from it, with differing criteria needed to address the main characteristics relevant to understanding their governance structures.[311]

## 6.6 BOX: Typology for development Cooperation

The report produced by Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ, 2014) defines 'Typologies and Recommendations for Development Cooperation', and provides an introduction to the broad thematic area of metropolitan regions in a global perspective. The following table synoptically connects main criteria to consider in metropolitan governance related issues:

| Characteristics of metropolitan regions | Criterion | Qualification | Indicator |
|---|---|---|---|
| Metropolitan governance | | | |
| Governance | organizational structure | soft | - mainly informal competencies<br>- limited/low budget |
| | | hard | - mainly formal competencies<br>- substantial budget |
| | steering capacity | formal tools | - formal plans, e.g. statut planning, etc. |
| | | informal tools | - mainly communicative to informal concepts, etc. |
| | | economic tools | - financial incentives, mar player, etc. |
| | public participation | integration | - extensive processes and to for public participation |
| | | consultation | - no or minimal regulations participation |
| | co-creation with private actors | PPPs | - formalized cooperation w the business sector |
| | | consultation | - board or platform with priv actors |

## 6.7 BOX: Effective governance respecting local governments: the case of Berlin

[311] Blatter and Knieling, 2009. Sellers et al. 2013. Mieg and Töpfer, 2013.

Who governs the Berlin metropolitan region? Berlin is an unusual case of metropolitan rescaling, and its metropolitan region is anything but a unitary 'policy space'. Originally, it was divided into 23 districts (Bezirke). To reduce the coordination conflicts caused by too many scattered regimes, the administrative reform in 2001 united these 23 districts into 12, and each district was divided into subdistricts (Stadtteile), forming the multi-centre management structure. At present, the 12 districts have 96 local governments in total, and each local government is composed of several streets (Kiez). These 12 districts have independent district parliaments (Bezirksamt), five district councillors (Bezirksstadträte) and one district mayor (Bezirksbürgermeister). In 2011, the governments of the Länder Berlin and Brandenburg launched a joint innovation strategy (Gemeinsame Innovationsstrategie der Länder Berlin und Brandenburg - innoBB), aimed at providing 'an extended policy framework for development of the Hauptstadtregion'. The policy aims at realizing a critical mass of functional and spatial integration in strategic technology and innovation-based economic value chains. For this purpose, it addresses the usual repertory of measures aimed at realizing durable conditions for regional competiveness through synergetic innovation capacity, locational profiling and marketing, strategic investment prioritization, and integrated resource allocation. The adoption of the cluster concept serves as an inscription device for this purpose.[312]

In recent years, France has sought to support an increase in GDP through territorial reforms and the definition of new governance schemes for metropolitan areas. Initial reviews suggest that GDP could rise by just under 4% over the long term, following governance reforms and better spatial planning in the metropolitan areas of Paris and Aix-Marseille, focusing on the transportation network and coordination of local public policies. The reform announced by the Government is to be introduced gradually. However, it is estimated that time horizons of 5 and 10 years will be insufficient to capture all the potential benefits of the new structures, demonstrating that the effects of good governance can take a considerable time to be realized. Nonetheless, a boost in GDP of 0.1 percentage point per year over 10 years represents a significant return for coordinated metropolitan governance and planning.[313] Finally, in this context, it is interesting to reflect on the management of peri-urban areas in significant metropolitan regions that may deliver beneficial returns from coordinated metropolitan governance and planning.[314]

## 6.8 BOX: Hybrid Governance

Hybrid governance systems: The case of Paris demonstrates the complexity of concurrent powers ruling the same metropolitan area. Unlike London or Berlin, Paris does not have a genuine metropolitan governance. Paris city proper has a surface area of 105 $km^2$ (40.5 sq

[312] Polycentric development within the metropolitan area, the innovative concept from Berlin: http://www.stk.brandenburg.de/sixcms/detail.php/bb1.c.323771.de
[313] R. Ahrend, E. Farchy, I. Kaplanis and A.C. Lembke (2014). What Makes Cities More Productive? Evidence on the Role of Urban Governance from Five OECD Countries. OECD Regional Development Working Papers, 2014(05), OECD Publishing: Paris.
[314] PURPLE network represents peri-urban territories, where coordinated urban, peri-urban and rural areas are coordinated. Available at: http://www.purple-eu.org/home/

mi) and a population of 2.243 million. Meanwhile, its urban area encompasses 2,844 $km^2$ (1,098 sq mi) with 10.413 million inhabitants, and its metropolitan area 17,174 $km^2$ (6,631 sq mi) with 12.161 million people. When talking about Paris in economic and demographic terms, one is likely to focus on its urban and metropolitan areas rather than the city proper. Yet, the mayor of Paris is solely in charge of Paris city proper and is elected by Parisians only. For instance, while the mayor of London is able to implement its bike-sharing system unilaterally within Greater London, the mayor of Paris can only implement Vélib' within the boundaries of the city of Paris; he then has to negotiate with the adjacent cities and try to convince them to implement the Parisian-led scheme. A regional government does exist throughout the Ile-de-France region. The region is mainly in charge of strategic issues, such as setting up housing targets, drafting transport policy, etc. Needless to say, the president of the region and the mayor of Paris are the single two most influential political figures in the Parisian region. They do not necessarily share a common agenda.

**6.9 BOX: Network Purple**

The PURPLE network[315] represents peri-urban territories, where urban and rural features coexist. They are working together to maximize the advantages resulting from their location in proximity to large cities, while minimizing adverse impacts on the character, landscape and environment that make them distinct and special. Peri-urban regions in Europe are facing pressure from development. The balance between sustainable open space, sustainable agriculture, and urban spatial and economic dynamics needs to be re-established. There are opportunities as well as challenges for those living and working in peri-urban regions, which should be reflected in tailor-made policies and strategies. This network brings together regions from across the EU including: Dublin, Flanders, Frankfurt Rhein-Main, Île de France, Mazovia, MHAL (Province of Limburg), Catalonia, Nord Pas de Calais, Randstad, Rhône-Alpes, Surrey, South Moravia, Stockholm, West Midlands and Wielkopolska.

## 6.6 Governing Small and Medium-Sized Cities (SMSCs)

Close to half of the world's urban residents live in relatively small cities of less than 500,000 inhabitants. This proportion is projected to shrink over time but, in 2030, these smaller cities and towns will be home to around 45% of urban residents.[316] SMSCs have an essential role in stabilizing the economy and in providing proper services to their residents. More than big cities, SMSCs have to develop effective and efficient good governance systems in order to compete. The challenges that small cities face are compounded by weak governance, including poor urban planning systems, deficient capacity-building, and a failure to adjust to changing land and economic development conditions.

[315] http://www.purple-eu.org/home/
[316] UN. World Urbanization Prospects: The 2014 Revision. New York, 2014.

Strengthening local institutions and governance in small cities will be a key means to future-proofing.[317] However, a focus on metropolitan governance over the last 20 years has left smaller territories disadvantaged, whether geographically and/or economically.[318] This is particularly true in the more peripheral areas of the UNECE region. The advantages of the bigger cities over lower tier ones is more pronounced in the more remote parts of North America, Eastern Europe and the Caucasus, compared to the more densely populated parts of Europe, coastal North America and Western Russia, where cities are closer and better connected. Hence, the combination of being lower tier and outside the central core of the subregions of the UNECE territory means there is a stronger threat of stagnation or decline. If these circumstances are combined with a decline in population due to lower fertility rates and the outward migration of young people and entrepreneurs, there is an urgency to address the challenge.[319]

The destiny of SMSCs in post-Soviet countries is generally similar to the peripheral European and remote North American cities, where many have not been at the forefront of the urban and territorial policy of the national governments. In these regional territories, the viability of small settlements and agrarian communities is, in large part, dependent on the existence and economic potential of SMSCs. Threats to the latter may well lead to the degradation of wider regional economies and societies as well.[320]

In North America and Russia, SMSCs are generally places with specialized economies and a low degree of business diversification. These cities find it difficult to adjust to the decline of manufacturing industries, to diversify and revitalize their economies, and to retain capital and attract investment. These problems threaten to persist in the future, as these declining cities face outmigration and becoming increasingly disadvantaged and disconnected from their national system of cities.

The performance of smaller cities is significantly affected by national government policies. Countries whose governments pay more attention to the effects of these policies on all cities are likely to have higher-performing SMSCs and national economies, as opposed to those who do not, particularly where national, regional and local policymaking systems are horizontally and vertically aligned and focus upon economic development and placemaking.[321]

A definition of cooperation schemes among systems of SMSCs is one appropriate way to support a balanced and polycentric system of cities. Forms of cooperation between local authorities may range from simple 'areas of cooperation' (like Spain's *comarcas*) to associations (like the *mancomunidades de municipios* in Spain, the *associations* in Portugal,

[317] Future of Cities: Small Cities, Big Challenges. G. Clark. Available at: http://jllblog.com/cities/2015/04/15/future-of-cities-small-cities-big-challenges/
[318] K. Kunzmann. 2009. Medium-sized Towns, Strategic Planning and Creative Governance in the South Baltic Arc.
[319] D. Martin. Reflections on the Integrated Territorial Approach in STATUS Practices, in Strategic Territorial Agendas for Small and Middle-Sized Towns and Urban Systems. P. Elisei (Ed.). UIRS, Ljubljana,2014.
[320] I. Suvorova. Will the Small Cities of Russia Survive? http://imrussia.org/en/economy/194-will-small-russian-cities-survive
[321] ESPON, SGDP, 2012.

the *communautés de communes* in France, or the *unioni di comuni* in Italy) or the creation of syndicates' as is the case in the Netherlands.

The EU programme, LEADER, has been one of the most effective instruments in triggering these kinds of successful partnerships, especially in rural areas. This programme, through the creation of Local Action Groups (LAGs), is often the only way to launch development initiatives in marginal rural areas. In the US, since the mid-1950s, there has been a significant increase in Councils of Government (COGs) and other forms of cooperation agreements for the planning, financing and production of local public services. The county regional municipalities' (*municipalités régionales de comté*, or MRCs) in the province of Quebec (Canada) are another interesting example, showing how much momentum can be gained from an intermediate entity of this kind in rural areas.[322]

**6.10 BOX: An example of SMSC's regional specialized networks**

One excellent example is the region of Emilia Romagna in North-Eastern Italy. Widely recognized for its industrial districts, it is economically a high-performing intermediate region. It has registered an employment growth rate of 4.2% between 1995 and 1999, and a GDP growth rate of about 4.5%. The region is characterized by an important cultural industry of festivals, attractions, and arts. Policymakers have encouraged networking among small and medium-sized towns, coupled with a specific cultural or artistic function. This process of networking and specialization was first borne from independent initiatives by local private entrepreneurs. Aware that these actions could help enhance cultural amenities, promote employment, and boost tourism, regional public authorities also supported the process, but in an informal way.[323]

## 6.7 Governing regeneration of urban peripheries

Peripheries occur in different parts of the urban fabric. They can be found everywhere, not just outside the boundary of the city or metropolitan area. Today, multiple marginality often characterizes periphery. The steady growth of urbanization, coupled with a rise in the expectations of the public and the ongoing period of economic stagnation that is sweeping many parts of the UNECE region, is putting more pressure on cities to be competitive, inclusive, efficient and liveable. Smart and effective governance mechanisms to facilitate the regeneration of peripheral areas need to be put in place, and area-based approaches and the identification of major domains of action are the essential prerequisites for planning in these areas, with actions including: investment in the regeneration and re-configuration of public space; the definition of project-oriented approaches to strengthen initiatives for social inclusion; and the implementation of projects and activities to trigger local economies, thereby encouraging peripheries as generators of employment.

[322] OECD, Building Competitive Regions: Strategies and Governance, 2005.
[323] URBACT. 2011. Creative-based Strategies in Small and Medium-sized Cities: Guidelines for Local Authorities.

### 6.11 BOX: Rural East Midlands

Another excellent example of a regional network is that of the Creative Industries in the rural East Midlands (UK). In this rural district, in 2005, 35% of all employment concerned the creative industries. This sector grew by 20% between 2001 and 2005, compared to 8% employment growth in the whole economy. Audiovisual was the leading employment subsector, followed by visual arts and publication.

The Green Paper on Unlocking the Potential of Cultural and Creative Industries (EC, 2010), considers that the spillovers of cultural and creative industries should be strengthened for the benefit of the economy as a whole.

Neighbourhood revitalization is a long-standing issue of concern, particularly in peripheral areas. The effects of globalization and the recent economic crisis have brought about a loss of traditional industries that has had a strong impact on many neighbourhoods through disconnecting them from the economic, social and political mainstream.

Many European countries have developed their own policies to promote neighbourhood revitalization (regeneration/renewal/requalification) in an attempt to reverse these trends, supported by EU level programmes (e.g. Urban I and II, URBACT and INTERREG). An important factor of change in the EU resolution towards the revival of the area-based approach was developed in 2009 through:

´A place-based policy which is a long-term strategy aimed at tackling persistent underutilization of potential and reducing persistent social exclusion in specific places through external interventions and multi-level governance. It promotes the supply of integrated goods and services tailored to contexts, and it triggers institutional changes. In a place-based policy, public interventions rely on local knowledge, and are verifiable and submitted to scrutiny, while linkages among places are taken into account.'[324]

An area-based approach, the creation of multi-actor local support groups, and the design of local integrated strategies are the ingredients for getting positive results in re-launching neighbourhoods in crisis. Horizontal and vertical integration (as well as multi-actor and fund integration) are also prerequisites for the regeneration of deprived neighbourhoods. In this context, empowerment and active participation at local level are important, while the main challenge is the motivation of local residents to take an active role in the improvement of their neighbourhoods.[325] As far as urban regeneration is concerned, a whole range of policy instruments can be used, including tax regimes and financial instruments for stimulating local investment, planning regulations, development programmes that offer subsidies for particular activities, specific policies promoting an

[324] Barca, 2009. VII.
[325] Potz, 2011.

integrated approach, or mechanisms for public participation including area-based action plans.[326]

UNECE countries face the challenge to find the balance between two traditionally independent domains – industrial disaster safety and land-use planning (LUP), with the objective of minimizing risk to the population and the environment. The strong inter-disciplinary character of this challenge, combining industrial safety, environmental protection, local governance and socio-economic development, represents a complex policy and governance problem. The appropriate separation of establishments, infrastructures and residential settlements in industrial areas is a key prevention factor, which has to be taken into account in planning policies.

In 2012, one in every four Europeans (124 million people) was at risk from poverty or social exclusion. As poverty increases, so does the concentration of urban poverty into deprived areas. Area-based interventions, concentrating on specific (deprived) geographic areas, on the other hand, are essentially place-based policies. They do not focus on individuals but on a specific geographical unit, most often a neighbourhood. Typically, these include physical and social regeneration interventions, such as 'hard' measures (physical restructuring or upgrading programmes) in specific areas (e.g. demolition, new infrastructure, regeneration of housing, etc.) and 'soft' measures, such as fostering skills, social capital and the building-capacity of people (e.g. work integration and training programmes, local festivals, etc.). The main goal of these interventions is to improve the liveability and the situation of local people in these neighbourhoods.

**6.12 BOX: Best practice: Regeneration of modernistic block settlements – RE-Block Project**

RE-Block is an exchange of information and good practice project, funded by the URBACT II programme. Made up of 10 partner cities across Europe, it aims to foster efficient regeneration of high rise blocks, making them more attractive, and improving their environmental quality, while creating an integrated tailor-made approach to combat poverty, all through defining (Smart) Urban Governance Guidelines for Block Housing Estates.

The lessons learned through the RE-Block project are: that there is a need to insist on policy models promoting an 'integrated territorial approach'; that they should be area-based; and that they should be in the context of a well-developed, comprehensive and coherent strategic framework of urban or metropolitan scale. The governance systems and policy instruments of the URBACT programme promoted by RE-Block outline a different approach to planning pursued in partner cities. Despite governance background differences, it is

[326] Weeber et al, 2011: 1) the inclusion of citizens and local stakeholders, 2) the inclusion of different municipality departments and experts, 3) the creation of a platform for shared diagnosis, planning, monitoring and evaluation, and 4) improving the coordination and integration of different responsibilities and finding agreements at neighbourhood and city levels.

impressive how block areas share a set of common problems, independent of European latitude and local social and territorial capitals. The following challenges must be faced:

- Isolation (physical, economic and cultural) of block settlements
- Presence of multiple deprivation phenomena
- Infrastructure and facilities often not functional, and expensive to run (inefficient use of energy)
- Public spaces in need of re-design and re-functionalization
- High percentage of unemployment, and residents unprepared for the labour market
- It is not just a question of using smart governance in these areas, although it is a necessary prerequisite. The general policies approach must also be strongly re-thought. There is a need for continuous investment, but also maybe even to start thinking of drastic solutions, and to launch completely different models for contemporary housing needs in these areas.

## 6.8 Engagement with the public/private and social innovative approaches

Enhanced strategic planning would allow local governments to better manage cities, to make urban growth more sustainable and to improve the delivery of public services. However, the potential benefits of planning and good governance become tangible only if local authorities are held accountable to the public. Strengthening management through democratic participation should be reinforced in areas such as: the involvement of the public in city planning; the creation of opportunities while preserving social cohesion; the encouragement of innovation as a driver for economic sustainability; and the improvement of urban design to enhance the urban identity. When people feel the neighbourhood and the city are their own, they are more likely to express their interest and concerns and get involved (i.e. safety).

Partnerships are one of the most common expressions of contemporary governance, configured for duration, stability and formalization, where actors exchange resources, and where there is some sort of shared responsibility for outcomes.[327] They are often seen as the cooperation between the public and private sectors. However, the involvement of a third sector, not-for-profit or charity-based organizations, also enables public agencies to develop a more holistic and strategic approach to their work. Consequently, partnerships are about the delivery of regeneration schemes, and are central to the local governance of communities.[328] Partnership should, therefore, be seen as offering a mix of various modes of governance through: exchange-based partnerships, co-opting partnerships (characterized by command and order), and institutional partnerships – network-type arrangements.[329]

## 6.9 Conclusions

[327] Roiseland, 2010 apud Grisel and van der Wart, 2011.
[328] SURE Baseline Study.
[329] Roiseland, 2010, apud Grisel and van der Wart, 2011.

The period since Habitat II has seen the increasing importance of local government throughout the region working to develop systems of sustainable urban development together with national and regional scales of government.

As economic systems change and respond to the effects of the financial crisis and the restructuring of public finances, there is an increasing prominence of, and role for, the private sector in the delivery of programmes of urban governance, particularly housing, transportation, and other infrastructure systems. The increasing prominence of ICT systems and Big Data has facilitated this change, but has raised challenges for the protection and security of the public as a consequence.

It is increasingly important to develop systems of governance appropriate to different scales of government, be they national, regional or local. The importance of governance systems at the metropolitan scale and for SMSCs has been a trend emerging since Habitat II. These systems need to extend to new and emerging definitions of the periphery in the city, as well as to neighbourhoods, and, in this context, third sector organizations have an increasingly important and effective role to play in promoting participation of the public and in monitoring the use of data for their benefit and on their behalf.

Finally, it is important that the systems of governance between national, regional and local levels and between individual actors at different levels are coordinated and made transparent to the public through vertical and horizontal coordination of the governance network in a mutually integrated framework to promote sustainable, economic and equitable development and a high quality of life in cities.

## 7. EMERGING TRENDS

There has been a trend towards urbanization throughout the region since Habitat II. This is particularly marked in North America, with both the US and Canada having more than 80% of their population living in cities. The figures are less marked in Europe (EU and EFTA) at 77%, and in EERCCA.

In all four subregions, there is trend towards urban concentration, i.e. for a very substantial part of the urban population to be concentrated into clusters of successful cities. This is most prevalent in North America, where over 70% of the total population is concentrated into some 10 super-city regions. These are predominantly on the eastern and western seaboards, the southern boundary of the Great Lakes Basin, and the Florida coast. In EERCCA, there is a similar phenomenon, with a substantial part of the population concentrated in clusters of cities that extends east from St. Petersburg and Minsk through Moscow on a northern alignment to Ekaterinburg, Astana, Omsk and Novosibirsk and on a southern alignment to Rostov, Tbilisi, Baku, Tashkent and Almaty. Many of these cities are located along the basin of the Volga-Don River system.

In Europe, too, there is a concentration of cities along the curved region (the 'dynamic banana') that extends from central England through London, the Randstad, the Paris basin, and the Ruhrgebiet, into the principal cities of Switzerland and into Milan and Turin in northern Italy. The concentration in Europe is somewhat less extensive, however, given the regional policy that has been promoted by the European Commission and national governments to ensure a more dispersed distribution of population.

Beyond these principal urban clusters, there are smaller and remoter cities that fare less well. They are less attractive to incoming migrants because they lack the economic advantages and opportunities prevalent in the super-city clusters, and they also face the double jeopardy of losing their young economically active population to the successful urban clusters. The dynamics of ageing and migration fuel this disparity, as does the effects of the knowledge economy and the digital revolution.

The accompanying diagrams attempt to illustrate the trends from the last 20 years, as well as reviewing a policy response that is intended to help both super-cities and remoter cities. They show the sequence of city cycles explained through reviewing:

1. The urban concentration cycle and 'super-cities': The winners in the trend towards urbanization have been the cities able to maximize the opportunities offered by the knowledge economy and the digital revolution through higher education and proximity to similar cities. Short-range transportation has reinforced the links between, and the critical mass of, these city clusters, to the detriment of more isolated cities.

2. The demographic cycle: The ageing population creates economic opportunities for migrants in successful city clusters. This creates further challenges for isolated cities,

where lack of economic opportunity means they are less attractive to migrants. This also leads to the attrition of the economically active indigenous population who seek employment in the successful city clusters.

3. The shrinking city: Outmigration from cities leads to a reduction in the city's tax base. This, in turn, causes vacancies in land and buildings, and leads to infrastructure beyond the city's ability to sustain it.

4. The sprawling city: Demand for new forms of development at the edge of the city competes with functions at the urban core. This, in turn, results in a dysfunctional transport system dependent on the car and, when cities are located close to one another, causes merging of the urban areas.

5. The industrial city: The industrial economy reshaped cities and regions through development and redevelopment, to produce lifestyles and forms that differed from agrarian and mercantile economies. Manufacturing reorganized access to materials and markets, created and controlled transport networks, attracted large numbers of workers to cities, and set up rigid routines of work reflected in the patterns of spatial and social organization.

6. The knowledge city: The knowledge economy has new conditions of economic production, social requirements and cultural institutions. Knowledge as a productive capacity has no spatial requirements beyond clusters around universities, science parks and cultural quarters. This encourages the dynamics of agglomeration economies, and has led to the re-emergence of place' – the city of streets, squares, stations and neighbourhoods, supported by an 'experience economy' of cafes, restaurants, cinemas, galleries, cultural venues and shopping centres.

7. The compact city: Knowledge economies, based in part around universities, lead to an effective labour market that, in turn, supports a dense form of development with a range of employment, residential, cultural and retail uses. This form and mix support an integrated and effective public transport system and the efficient delivery of public services.

These diagrams are a synopsis of the issues, themes and challenges that have been discussed in the main body of the text of this Regional Report. However, one concept – the Compact City – warrants further explanation, as it offers the chance, as an instrument of national and metropolitan governance, to address the opportunities offered by the knowledge and digital economies. It is equally applicable to concentrated clusters of cities and to individual, smaller and more remote cities.

Housing, urban mobility and public transport: How cities are planned and developed, and how housing, urban mobility, traffic, and public transport are coordinated, are very important for a healthy environment, sustainable growth and good quality of life for citizens. A sustainable society must not create barriers, and the city and the community must be built

together. An integrated planning approach is needed so that public transport is planned together with new housing.

Smart Cities: Sustainable and Smart Cities is very much about the implementation of technical systems, and connecting and making technology accessible. It may be about remote control, monitor and read, e.g. energy, traffic-system, public-transport and water and sewage systems, but also about giving information to citizens to be able to make more environmentally-friendly choices. How to work with a system that is interconnected concerns, for example, a system of integrated solutions for smart development, energy, waste, transport, public transport solutions, etc. When new residential areas are planned, or old ones are upgraded, this will create opportunities for residents to live in a more sustainable and environmentally-friendly manner.

Social inclusion and gender issues: Sustainable urban development is also about social inclusion. Urbanization has an impact on gender equality, adequate and affordable housing, and public health and well-being, not least for children and the increasing group of elderly citizens. These challenges are enormous, and call for a coordinated approach. Gender equality is also important in sustainable urban development. It is about the right and opportunities for women and men, boys and girls, to live a functioning everyday life. This also applies to the expansion of good public transport solutions, since we know from different studies that women generally use public transport more than men. Gender equality is also about all peoples' right to feel secure in urban areas. Streets and public spaces may, today, be designed in a way that creates feelings of insecurity, e.g. poor lighting.

Compact cities are characterized by (i) dense and proximate development patterns; (ii) urban areas linked by public transport systems; and (iii) accessibility to local services and jobs.[330] They are practical urban areas, i.e. functional economic units, characterized by a densely inhabited 'urban core', and a 'hinterland' whose labour market and transportation system is integrated with the 'urban core'.

The compact city concept has evolved and enlarged its scope from a simple urban containment policy for protecting the natural environment and agriculture from urban development. This has gradually expanded to embrace a wide array of goals, including energy-saving, quality of life and liveability, and it has come to represent a multidimensional policy supporting a wide range of urban sustainability goals and achieving urban sustainability in accordance with UN SDGs.[331] It may also be viewed as a means of protecting the environment by controlling growth.

Recent research by the OECD has shown that the compact city strategy can also be used to contribute positively to economic growth. It, therefore, has economic potential as well as environmental benefit in terms of emissions and land take. It is also a well-considered response to economic and social demands from the knowledge economy of the

[330] OECD glossary, p. 15.
[331] OECD glossary, p. 19.

21st century. As economic growth and reducing $CO_2$ emissions are central to national policy agendas, it is crucial for policymakers at the national level to understand the potential of compact city policies and include them, as appropriate, in national urban policies.[332]

Environmentally, shorter intra-urban distances and less automobile dependency can help to reduce energy consumption and $CO_2$ emissions. Compact cities conserve farmland and natural biodiversity around urban areas that would otherwise be irretrievably lost. They create opportunities for urban-rural linkages and the creation of sustainable urban food systems. Nearby farming encourages local food consumption and reduces the distance travelled by food, which also helps reduce $CO_2$ emissions. In economic terms, compact cities can increase the efficiency of infrastructure investment and reduce the cost of maintenance, particularly for systems such as transport, energy, water supplies, and waste disposal.

Compact cities give residents easier access to a diversity of local services and jobs. Moreover, high density, combined with a diversity of urban functions, is claimed to stimulate knowledge diffusion and, thus, economic growth.

It may also be argued that the compact city generates new green needs to promote technological development and innovation and stimulate growth. For example, less automobile dependency will require new types of green infrastructure and transportation, such as light rail and cycling. There are also social benefits, as shorter travel distances on public transport systems mean lower travel costs. This facilitates the ability of low-income households to travel. Local services and jobs nearby contribute to a higher quality of life.

Nonetheless, the compact city concept requires more public coordination in urban development and needs for integration of planning policies. Capacity-building in the public and private spheres dealing with land use management and urban planning is essential to achieve the above-mentioned positive goals and outcomes. There are potential adverse effects relating to higher densities, traffic congestion, air pollution, and housing affordability, all affecting quality of life, including the build up of urban heat islands and high-energy demand in densely built-up areas. Compact cities may be more vulnerable to natural disasters, such as earthquakes, flooding and fires. Care needs to be taken to mitigate their vulnerability and to make them resilient to various risks associated with natural disasters.

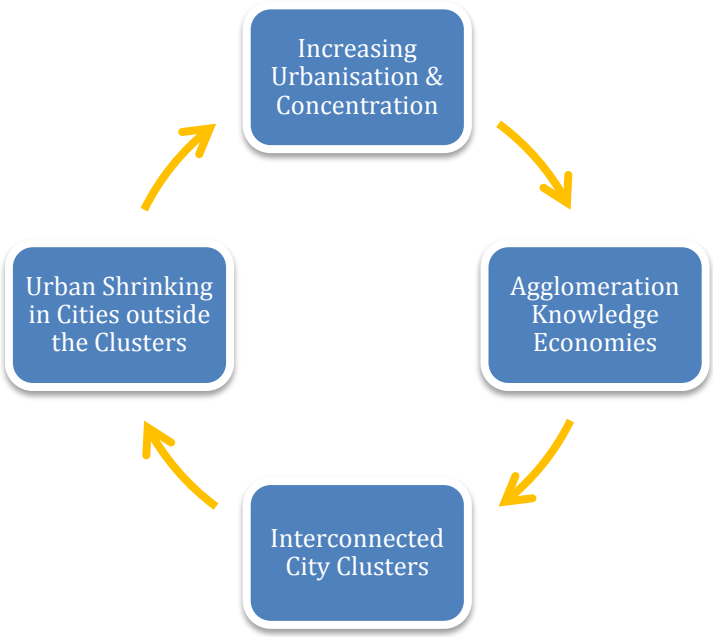
Compact city policies can help achieve the economic environment and benefits of green growth. The core value of the compact city is its capacity to integrate urban policy goals, such as economic viability, environment and sustainability, and social equity, and to balance them with the needs of surrounding rural areas. Compact city policies link these priorities, rather than addressing them in separate, even mutually exclusive, ways. In particular, they can address economic and environmental goals simultaneously, without major trade-offs, if policies are well-designed and implemented.[333]

[332] OECD, p. 20.
[333] OECD, p. 21.

The preparation of this Regional Report for the UNECE has come full circle. All the evidence of the last 20 years since Habitat II does, indeed, suggest that the 21st century will be the Century of the City. We may go further, however, and suggest that, for the UNECE region, the Global North, the 21st century needs to become the Century of the Compact, Resilient and Integrated City.

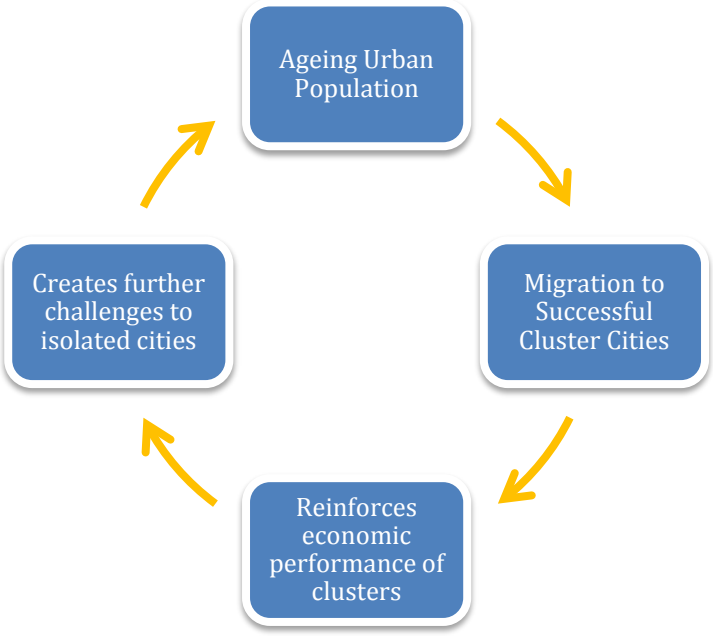
## 1: THE URBAN CONCENTRATION CYCLE and 'SUPER CITIES'

The winners in the trend to urbanization have been the cities able to maximize the opportunities offered by the knowledge economy and digital revolution through higher education & & in proximity to similar cities. Short range transportation has reinforced the links between and the critical mass of these city clusters to the detriment of more isolated cities.



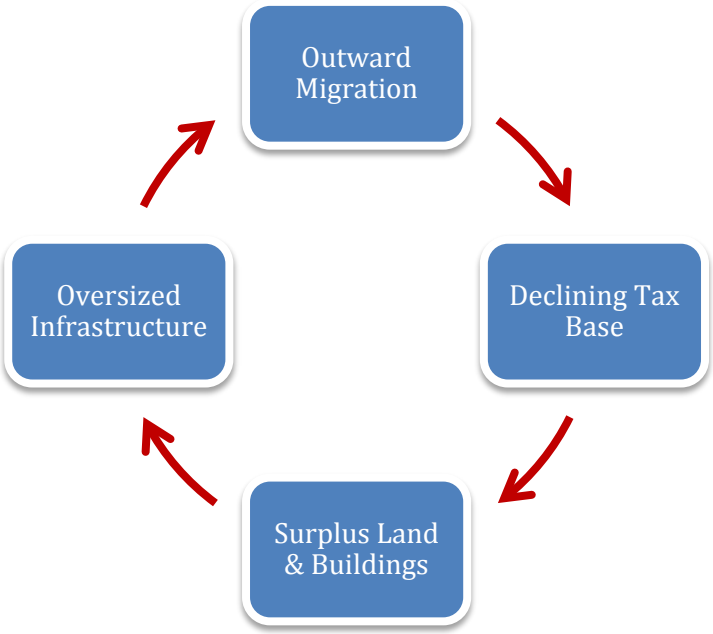

## 2: THE DEMORAPHIC CYCLE

The ageing population throughout the UNECE creates economic opportunities for migrants in successful city clusters. This creates further challenges fir isolated cities where lack of economics opportunity means they are less attractive to migrants. This also leads to attrition of the economically active indigenous population who seek employment in the successful city cluster.



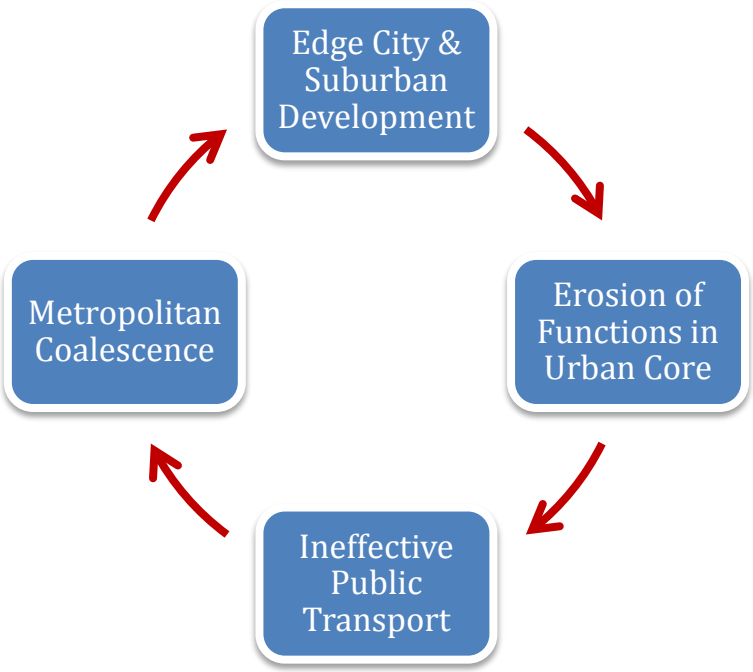
## 3: THE SHRINKING CITY – A VISCIOUS URBAN CYCLE

Out migration from the city leads to a reduction in the city's tax base. This in turn causes vacancies in land and buildings and lead to infrastructure beyond the city's ability to sustain it.




## 4: THE SPRAWLING CITY – A VISCIOUS URBAN CYCLE

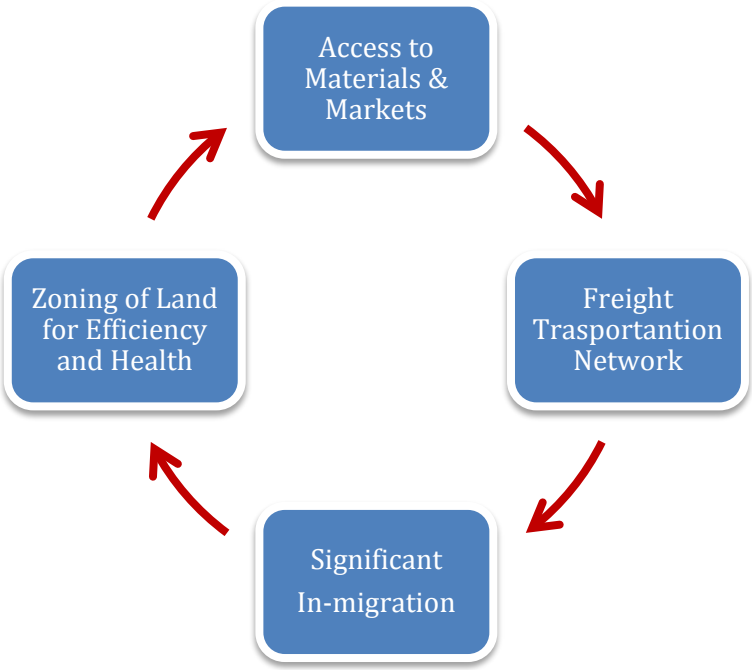
Demand for new forms of development at the edge of the city competes with functions at the urban core. This in turn results in a dysfunctional transport system dependent on the car and, when cities are located close to one another, causes coalescence of urban areas.



## 5: THE INDUSTRIAL CITY

The industrial economy reshaped cities and regions through development and redevelopment, to produce lifestyles and form that differed from agrarian and mercantile economies.

Manufacturing reorganized access to materials and markets, created and controlled transport networks, and attracted large numbers of workers to cities and set up rigid routines of work reflected in the patterns of spatial ad social organisation.

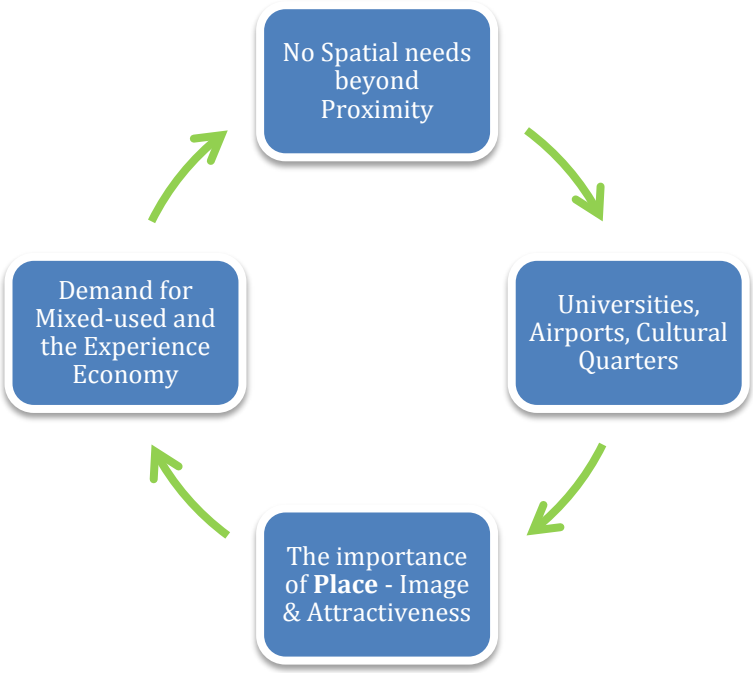


## 6: THE KNOWLEDGE CITY

The knowledge economy has new conditions of economic production, social requirements and cultural institutions.

Knowledge as a productive capacity has no spatial requirements beyond cluster around universities, science parks and cultural quarters.

This encourages the dynamics of agglomeration economies and has led to the re-emergence of **Place** – the city of streets, squares, stations and neighbourhood supported by an **experience economy** of cafes, restaurants, cinemas, galleries, cultural venues and shopping centers.



## 7: THE COMPACT CITY – A VIRTUOUS URBAN CYCLE

Knowledge economies based in-part around universities leads to an effective labour market that in turn supports a dense form of development with a range of employment, residential, cultural and retail uses. This form and mix supports an integrated and effective public transport system and the efficient delivery of public services.