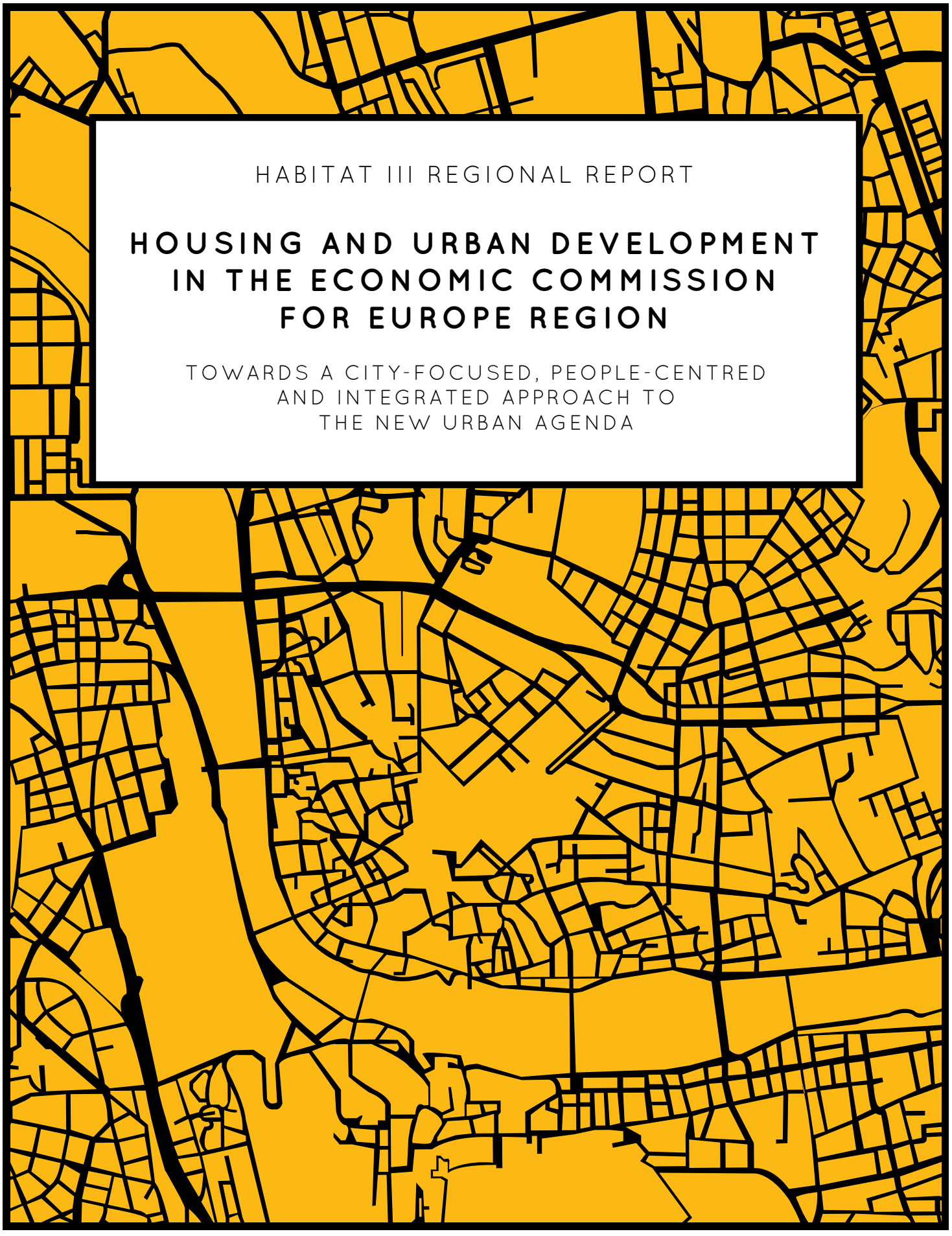

HABITAT III REGIONAL REPORT

HOUSING AND URBAN DEVELOPMENT IN THE ECONOMIC COMMISSION FOR EUROPE REGION

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

HABITAT III

REGIONAL REPORT

EUROPE, NORTH AMERICA AND COMMONWEALTH OF INDEPENDENT STATES

Towards a City-Focused, People-Centred and Integrated Approach to the New Urban Agenda

HABITAT III - 2016

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Foreword

Recognition that sustainable development needs to be the central pillar of urbanization has become a clear and present concern of stakeholders in the 20 years since the second United Nations Conference on Human Settlements (Habitat II). In the region covered by the United Nations Economic Commission for Europe (ECE), with its 56 member States, the importance of sustainable urban development and the role of cities is now central to public, political, business, and scientific debates. This regional report to the United Nations Conference on Housing and Sustainable Urban Development (Habitat III) will not only contribute to the debate among all stakeholders in the region but also inform the New Urban Agenda and the negotiations on the outcome document of Habitat III that will take place in Quito, Ecuador, in October 2016.

This analysis of urban development in the large and diverse region of ECE, together with the Conference conclusions, will serve a wide range of stakeholders in their efforts to improve the quality of urban development and to enable a more sustainable development in their cities and communities. It addresses a wide variety of issues that have a strong regional interconnected urban dimension – from urban structure, the environment and climate change, to job creation, affordable housing, and equality. Sustainable urban development can be achieved through regional and subregional frameworks which guide the effective translation of sustainable development policies into concrete actions at the national and subnational levels.

The programmes, funds and agencies of the United Nations will continue to work in close partnership to advance the findings of this report in implementing the transformative Agenda 2030 and the outcome of Habitat III. We will strengthen joint efforts to promote existing instruments, like the *Geneva United Nations Charter on Sustainable Housing* to make housing safer, more affordable, resilient, and available while encouraging investment and growth; or the *International Guidelines on Urban and Territorial Planning* that provides national governments, local authorities, civil society organizations, and planning professionals with a global reference framework promoting more compact, socially inclusive, and better integrated and connected cities and territories that foster sustainable urban development. Together, we will support policies and actions — and encourage international cooperation at all levels — to serve the Member States, their cities, and all stakeholders in their quest for sustainable urban development.

Dr. Joan Clos
Secretary-General of the United Nations Conference on Housing and Sustainable Urban Development (Habitat III)

Christian Friis Bach
Executive Secretary of the United Nations Economic Commission for Europe

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This report covers the Economic Commission for Europe region as defined by the United Nations.*

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* http://www.unece.org/oes/member_countries/member_countries.html

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Acronyms

CO_2	Carbon Dioxide
DRIHL	Direction Régionale et Interdépartementale de l'Hébergement et du Logement en Ile-de-France
ECE	United Nations Economic Commission for Europe
EERCCA	Eastern Europe, Russia, the Caucasus and Central Asia
EFTA	European Free Trade Association
ForFITS	For Future Inland Transport Systems
GDP	Gross Domestic Product
GHGs	Greenhouse Gases
GHSL	Global Human Settlement Layer
GIZ	Gesellschaft für Internationale Zusammenarbeit
GPS	Global Positioning System
ICLEI	International Council for Local Environmental Initiatives
ICT	Information and Communication Technology
IOM	International Organisation for Migration
ISOCARP	International Society of City and Regional Planners
ITU	International Telecommunication Union
JCHS	Joint Center for Housing Studies of Harvard University
JRC	Joint Research Centre of the European Commission
MEAs	Multilateral Environmental Agreements
NYCHA	New York City Housing Authority
OECD	Organisation for Economic Co-operation and Development
PM	Particulate Matter
PPP	Purchasing Power Parity
PRTRs	Pollutant Release and Transfer Registers
PRTR	Protocol on Pollutant Release and Transfer Registers
PURPLE	Peri-Urban Reficus Platform Europe
SDGs	Sustainable Development Goals
SEE	South East Europe
SMSCs	Small and Medium-Sized Cities
THE PEP	Transport, Health and Environment Pan-European Programme
UK	United Kingdom of Great Britain and Northern Ireland (the)
UN	United Nations
UNCTAD	United Nations Conference on Trade and Development
UN DESA	United Nations Department of Economic and Social Affairs
UNDP	United Nations Development Programme
UN Environment	United Nations Environment Programme
UN-Habitat	United Nations Human Settlements Programme
UNISDR	United Nations Office for Disaster Risk Reduction
USAID	United States Agency for International Development
WHO	World Health Organisation

Aerial view of Downtown Los Angeles, USA at sunset © Shutterstock

Executive summary

Trends and patterns of urbanization and demography

By 2050, almost three quarters of the world's population will live in urban areas – this will be the "Century of the City". The United Nations Economic Commission for Europe (ECE) region currently has a large proportion of its population living in cities – from less than 50 per cent in Central Asia to more than 80 per cent in North America. The region's urban population is growing, albeit slowly.

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.

There is a countervailing trend towards shrinking cities within less successful and more remote regions. These cities are losing population due to outmigration of the young and/or highly qualified. Most of the world's countries that are currently or predicted to experience population shrinkage are located in this region.

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

Ageing will be a major challenge in the coming decades in Central, Eastern and Western Europe and in the Russian Federation. Population ageing and population decline pose serious challenges. Diminishing local tax revenues put pressure on services, transportation, housing and accessibility to public space. By contrast, Central Asian countries are experiencing growth in the young population, which poses difficulties related to the provision of jobs and housing.

The extent and consequence of migration have increased in the past 20 years. Migrants settle mainly in large cities. This has led to urban polarization, as best-performing cities or neighbourhoods 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 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. Equally, there is a continuing need to address the integration of migrants.

The economy of cities

A very substantial part of the region has undergone economic transition, from centrally-planned to market economies. Large and capital cities have prospered, with gross domestic product (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 in the region.

While manufacturing industry has declined in the region in the past 20 years, 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 Europe and North America, 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 specificities of cities become ever more important.

The digital revolution comes with challenges and opportunities. Technical innovation offers new opportunities for urban planning, 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.

Living in cities

The global financial crisis that started in 2008 has led to more inequality in the region. Lack of affordability of housing, especially for vulnerable groups, is a critical matter, leading to problems of accessibility to adequate housing, and increased spatial segregation in cities. Even though the region is a prosperous part of the world, homelessness and informal settlements are issues. The housing sector needs to respond to these changes, securing new sites for providing housing 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).

The past two decades have witnessed a general trend towards increasing home ownership and reinforcing housing markets in the region. 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. 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.

The privatization of housing 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 Central Asia and Eastern Europe.

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.

Many of the factors that support equity in a city also support the health and well-being of 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.

Environment and risk

The region is among the largest emitters of greenhouse gases per capita, particularly in cities and urban areas. Air pollution, flooding and heatwaves are the most prevalent environmental issues of the region, with cities being most vulnerable. Environmental threats are often also health threats.

Disaster risk reduction is an issue more pressing in some parts of the ECE region, with additional threats of earthquakes, landslides, volcanic eruptions and wildfires, which have a negative impact on the quality of life in urban areas.

Concerns about environmental problems and quality of life are increasing among the public and governments of all scales. 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.

Governance

Since the Habitat II Conference in 1996, there has been an increase in the importance of the role of local governments, with a corresponding growth in that of city networks, access to information, and public participation.

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 transplanted from one part of the region to another: context is crucial.

In many countries, 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. The management of urban planning issues is in the hands of local governments within the framework of larger territorial strategies.

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 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. There is increasing awareness that management of urban areas extending over different administrative jurisdictions can enhance the efficiency and productivity of the process achieved, either through voluntary action by the authorities concerned or through policy provisions from national governments.

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 has been observed since Habitat II, resulting in more opportunities and responsibilities for the private sector.

The growing use of e-governance, e-participation and e-inclusion has been driven by the supply of new information and communications technology (ICT) services in the absence of dedicated consolidated policies. Data privacy, security and ownership are challenging the capacity of governments to utilize technical innovations in defence of the public interest.

Outlook and future trends

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 support equity, integration and cohesion in society.

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.

ICT plays 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.).

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.

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

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.

These aims and processes will continue to require collaboration, consensus and positive action among national and city governments, 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.

Uzbekistan © ECE

1

INTRODUCTION: **ABOUT THE REGION**

A. Geographical coverage of this report

The ECE region extends around the globe. It includes most of the so-called global North. Cities in the region range from Anchorage to Ankara, Archangel to Astana, Tel Aviv to Tashkent, Vancouver to Vladivostok, and are home to diverse cultures, ancient urban civilizations and medieval city-States. Among its 56 Member States, the region embraces the great continental countries of Canada, the Russian Federation and the United States of America, and the microstates 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 the signatories of the Arctic treaties lie within the ECE 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 do 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 Alaska and Siberia is a mere 85 km.

The region is home to nearly 1.3 billion people (United Nations, 2015), some 17 per cent of the total global population. It contains more than 263 cities of 500,000 or more inhabitants. This report covers the whole of the ECE region. However, for the purposes of clarity, analysis and comment is often made on four distinct subregions:

(a) North America;

(b) Central and Western Europe (European Union, European Free Trade Association (EFTA) and microstates);

(c) The subregion of Eastern Europe, including the Russian Federation, the Caucasus and Central Asia (EERCCA); and

(d) South-Eastern Europe, Israel and Turkey.

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.

B. The subregions

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

The North American subregion is made up of Canada and the United States of America. These two countries are of similar size: the United States 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 per cent of the landmass of the ECE region (www.data.worldbank.org). In 2013, the population of the United States was 318.9 million; the population of Canada was just a little more than 10 per cent of this, at 35.5 million. Both countries have over 80 per cent of their peoples living in cities (ibid.).[1]

The European Union/EFTA or Central and Western European subregion includes the 28 countries of the European Union, the 4 members of EFTA and the 3 European microstates (Andorra, Monaco and San Marino). This is more than 60 per cent of ECE's member States. Europe covers an area of more than 4 million km^2 in Central and Western 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 European Union.

The subregion of EERCCA contains 12 former Soviet countries outside of the European Union. Combined, these countries cover a substantial territory in the north of Eurasia – more than one sixth of the Earth's land surface. Its total population was 287 million in 2014, with the Russian Federation being by far the largest country in terms of population and territory. Eleven of the EERCCA countries form the Commonwealth of Independent States since 1991. This is a regional intergovernmental association – a form of cooperation of co-equal independent States.

The geo-positioning of 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

1 In work to come, we will examine this index for other parts of the ECE 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.

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. EERCCA countries share a common history from the days of the Soviet Union, and the Russian Empire before that.

The South-Eastern European countries include Israel; Turkey and the Western Balkans (Albania, Bosnia and Herzegovina, Montenegro, Serbia and the former Yugoslav Republic of Macedonia). 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, Serbia and the former Yugoslav Republic of Macedonia). South-Eastern Europe has an area of 1,005 km^2 and a population of just under 100 million.

Armenia © ECE

FIGURE 1: MAP OF SUBREGIONS IN ECE

EU/EFTA or Western and Central European Subregion

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 Subregion

- United States of America
- Canada

Countries of South East Europe

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

Subregion of Eastern Europe, Russia, Caucasus and Central Asia (EERCCA)

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

Source: ECE.

Social housing in Ukraine © ECE

II

URBANIZATION AND DEVELOPMENT: **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"
(United States of America, National Report for Habitat III).

A. 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".[2] 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 per cent. By 2050, it is projected to be 66 per cent. But this change is not evenly spread across the world. The most urbanized region of the world is North America, with 82 per cent living in urban areas in 2014. Europe is close to this, at 72 per cent. But both are in contrast with Africa, at 40 per cent. 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 (UN DESA, 2014). 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 ECE region. Nearly 90 per cent of it will be concentrated in Asia and Africa (ibid.).

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

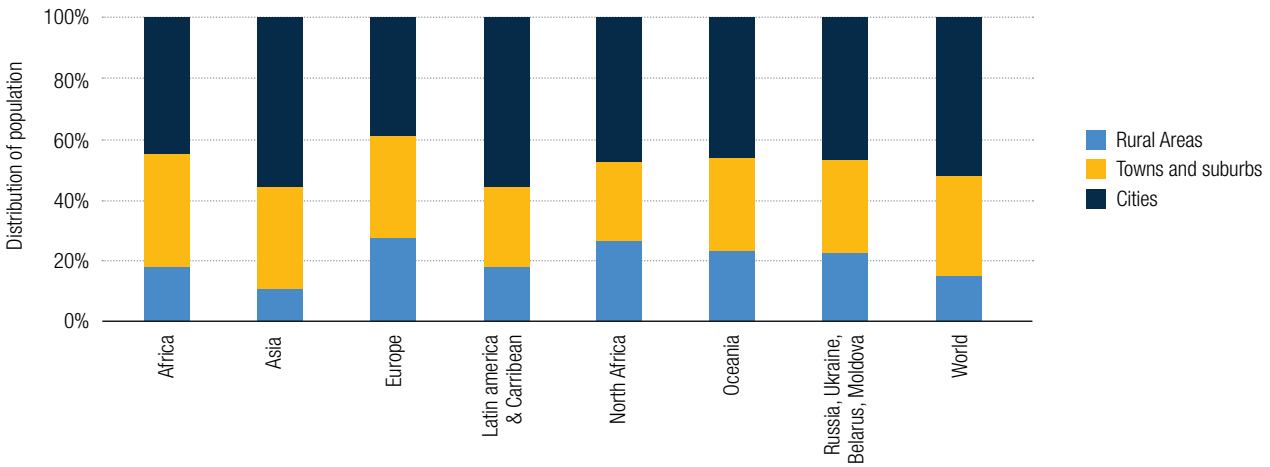
In the Northern Hemisphere, the "jet age" (the era of ubiquitous air travel) has combined with the "net age" (the era of the Internet) to create a tendency towards urban concentration (Kasarda and Lindsay, 2012). Since the time of the earliest cities in the Tigris–Euphrates valley, people have been prepared to travel for up to one or even two hours each day to get to work.[3] However, 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 United States, 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 million, 30 million, and, in the United States, 50 million people (World Bank, 2014).

In 2013, the population of the United States was 318.9 million. Canada's was just a little more than 10 per cent of this, at 35.5 million. Yet both countries had over 80 per cent of their people living in cities (World

2 Described in various texts such as including: www.rockefellerfoundation.org/report/century-of-the-city/ and www.nature.com/news/2010/101020/pdf/467900a.pdf; "The "Century of the City" will change the way we do politics", available from https://www.ft.com/content/ee818994-dcb5-11e2-b52b-00144feab7de; and "A century of cities urban economic change since 1911", Paul Swinney & Elli Thomas March 2015, available from www.centreforcities.org/wp-content/uploads/2015/03/15-03-04-A-Century-of-Cities.pdf.

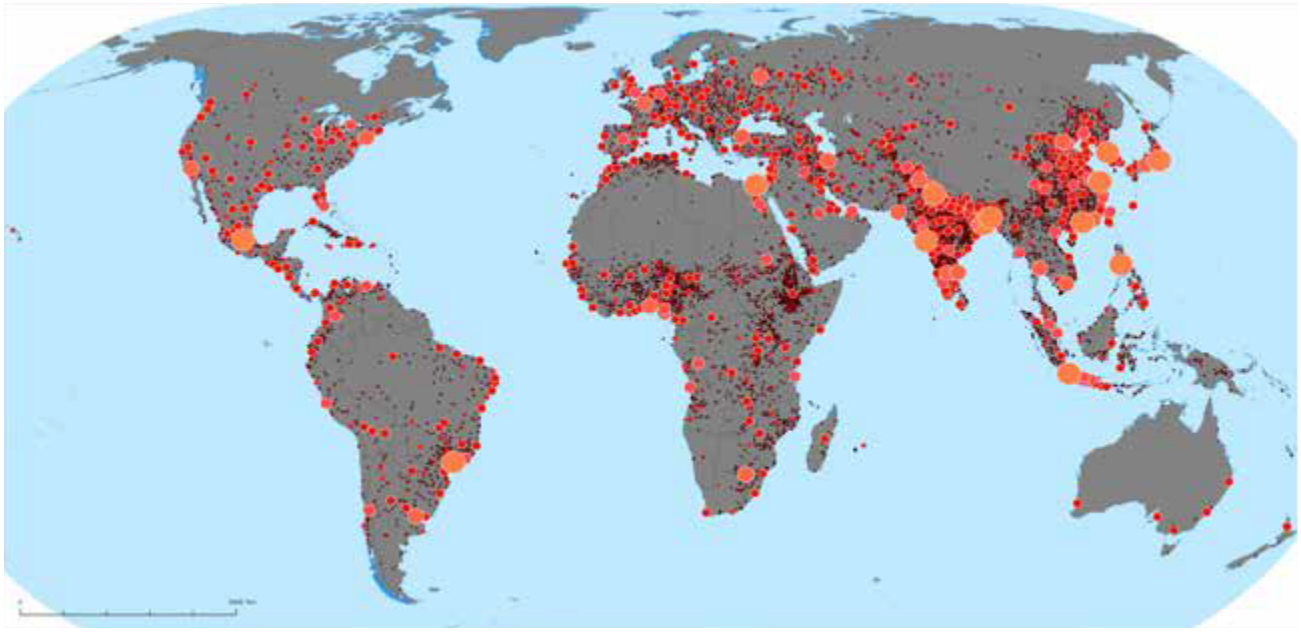
3 The "Marchetti Constant", named after the Italian physicist Cesare Marchetti, holds that "time is fixed but space is elastic", the principle used in France and Japan to "shrink" distance through the introduction of high-speed train networks, now widely replicated.

FIGURE 2: POPULATION SHARE BY DEGREE OF URBANIZATION PER PART OF THE WORLD, 2015



Source: JRC 2015 Global Human Settlement Layer (GHSL) Grid V1.

FIGURE 3: URBAN CENTRES IN THE WORLD BY POPULATION SIZE, 2015



Source: JRC (GHS - POP Global Settlement Model).

Bank, 2014).[4] The population of the United States is predicted to grow by 80 million by 2050, and 75 per cent of these new citizens will live in cities (United States of America, National Report for Habitat III). In the United States, the New York–Newark area is the nation's most populous metropolitan area, with more than 18 million residents. Los Angeles-Long Beach–Anaheim is the second most populous (12.15 million), followed by the Chicago area (8.60 million) (ibid., p. 2). 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 United States (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",[5] the region extending from Boston south along the Atlantic seaboard to Washington, D.C., and embracing the cities of New York, Philadelphia and Baltimore, with a population of around 50 million (some 16 per cent of the population) on less than 2 per cent of the landmass of the United States.

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 United States 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.[6]

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 (Glaeser, 2011).

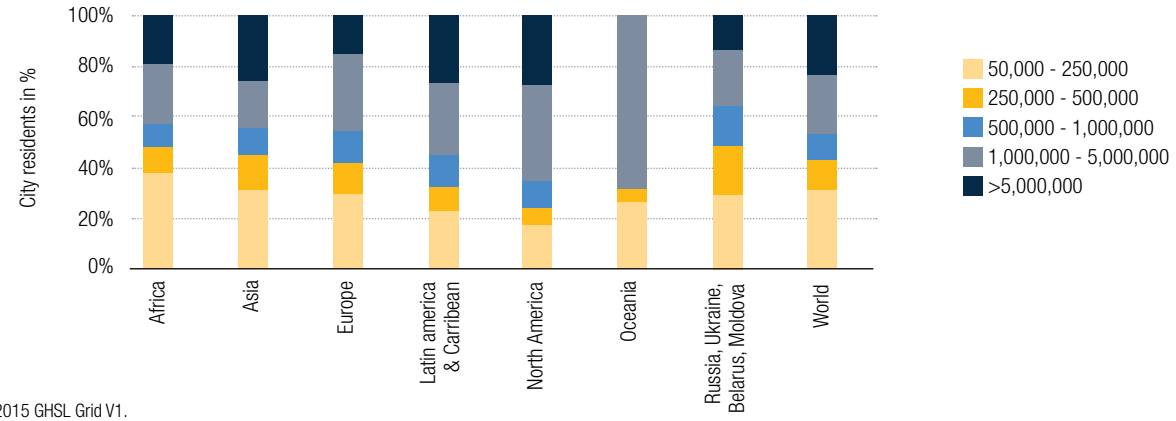
The experience of the large cities of North America is in distinct contrast to smaller ones. Not all United States cities are growing. Many smaller metropolitan areas – 277 with less than 500,000 residents – are experiencing rapid decline. This is attributed to structural shifts in regional economies accelerated by the economic recession of 2008–2011 (United States of America, National Report for Habitat III, p. 2).

4 In work to come, we will examine this index for other parts of the ECE 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.

5 "BosWash" was given its name in the 1960s by the futurist Herman Kahn, available from www.prb.org/Publications/Articles/2011/us-megalopolises-50-years.aspx

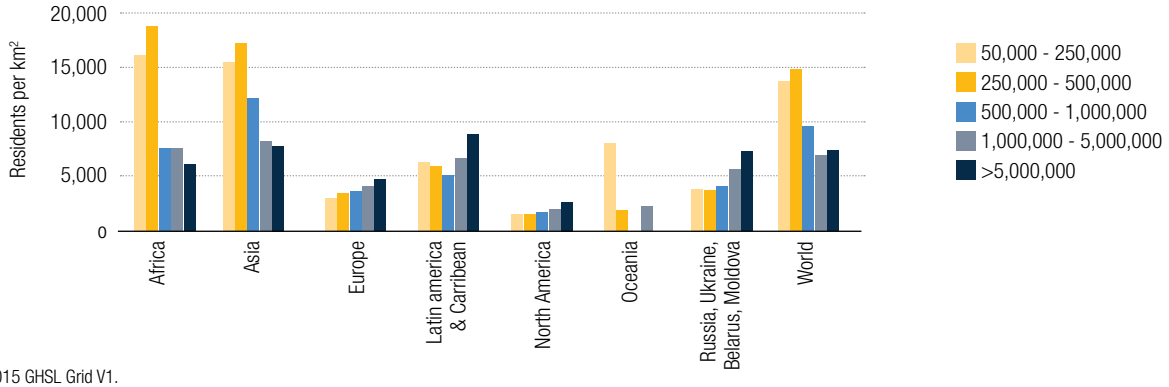
6 M. Mather, co-author of PRB's Reports on America: First Results from the 2010 Census.

FIGURE 4: CITY POPULATION SHARE BY CITY SIZE PER PART OF THE WORLD, 2015



Source: JRC 2015 GHSL Grid V1.

FIGURE 5: POPULATION DENSITY BY CITY SIZE CLASS PER PART OF THE WORLD, 2015



Source: JRC 2015 GHSL Grid V1.

These economic forces have changed the map of poverty in the United States 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 (Kneebone and Berube, 2014; and Frey, 2014).

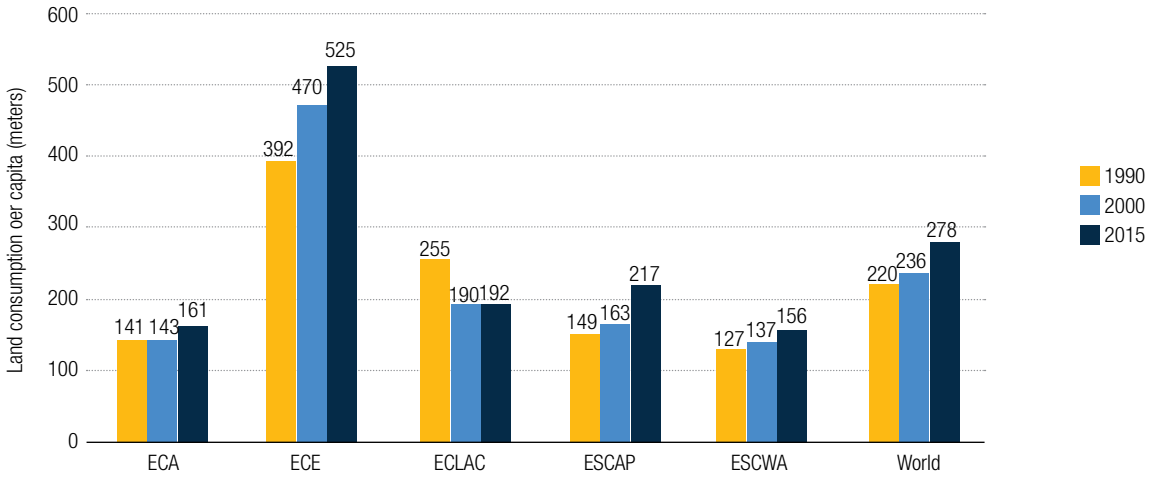
In Europe, the proportion of the population living in urban areas has stabilized at around 72 per cent, with a rate of urbanization that is lower than 0.5 per cent per year on average (United Nations Population Division, 2015). The average population density in Europe (EU28) is about 116 inhabitants per square kilometre (Eurostat). 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" (Brunet, 1972), 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.

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.[7]

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 (European Commission, 2011). Yet the reality

7 Available from http://ec.europa.eu/regional_policy/sources/docoffic/official/reports/pdf/sum_en.pdf

FIGURE 6: LAND USE PER CAPITA IN FIVE ECONOMIC COMMISSION REGIONS REGIONS AND THE WORLD IN 1990, 2000 AND 2015



Source: ECE.

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) are an issue in the ECE region in common with other regions. This currently occurs mainly in smaller cities in Eastern Europe and, to a lesser extent, in Western Europe. It is estimated that 40 per cent of European cities with a population of 200,000 or more have lost some of their population (Schlappa and others, 2013). 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 (UN-Habitat, 2013).

In the context of urban sprawl, the calculation of the change in land usage per capita over time is an important indicator of land-use efficiency and a

TABLE 1: URBAN EXTENT, POPULATION, AND LAND USE PER CAPITA IN 1990, 2000 AND 2015 IN 10 REPRESENTATIVE CITIES OF THE ECE REGION

UN Region	Country	City	Urban Extent (hectares)			Population			Land Consumption Per Capita (meters)		
			1990	2000	2015	1990	2000	2015	1990	2000	2015
ECE	Belgium	Antwerpen	38,295	66,081	76,471	876,047	1,115,040	1,299,581	438	593	588
ECE	France	Paris	203,674	233,286	280,318	9,410,874	10,054,437	11,180,483	216	232	251
ECE	Germany	Berlin	43,591	75,399	112,496	3,233,943	3,525,184	3,887,889	135	214	289
ECE	Italy	Milan	94,171	209,365	294,890	3,617,970	5,442,785	6,670,371	260	385	442
ECE	Netherlands	Zwolle	3,231	3,875	4,351	79,670	92,496	109,904	403	419	396
ECE	Russia	Dzerzhinsk	5,787	6,432	7,062	224,374	201,352	176,129	258	319	401
ECE	Russia	Tyumen	10,303	13,466	21,105	418,381	461,486	585,833	246	292	360
ECE	Ukraine	Rovno	3,088	4,066	9,877	206,262	236,360	289,253	150	172	341
ECE	United Kingdom	London	199,838	243,199	251,683	5,589,501	9,779,157	11,373,390	233	249	221
ECE	United States	Houston	202,208	295,035	431,046	2,667,305	3,825,644	5,500,216	758	771	784

Source: ECE.

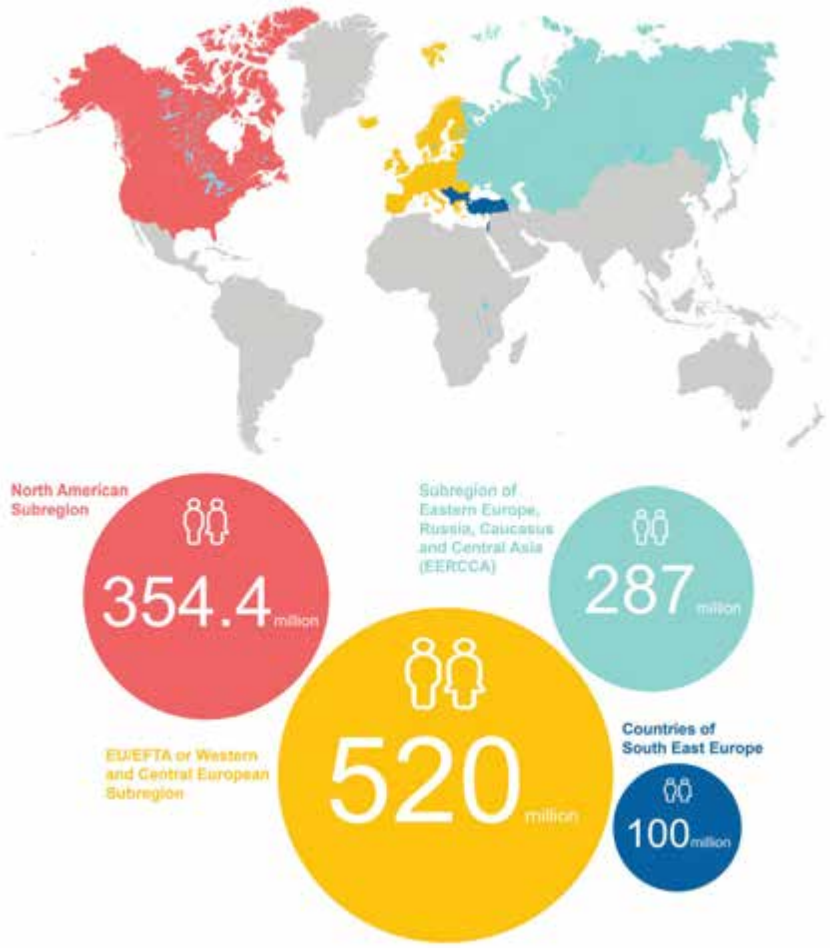
vital input for the spatial planning process. UN-Habitat is currently collecting information on this issue for 200 cities worldwide for three points in time – 1990, 2000 and 2015. A subset of the cities being studied falls within the ECE region and an analysis of these cities shows that land usage per capita has increased from 392 m^2 to 525 m^2 between 1990 and 2015 (figure 6). Land usage per capita in the region is almost double the global average and more than three times the average for Africa or Western Asia, and these ratios have persisted over the time intervals studied (see table 1).[8]

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 (Schlapp and others, 2013).

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 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

8 UN-Habitat, Urban Expansion Programme, 2016, New York University, and the Lincoln Institute of Land Policy.

FIGURE 7: POPULATIONS BY SUBREGIONS, IN MILLIONS



Source: ECE.

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 (O. Golubchikov and A. Badyina, UN-Habitat, 2015).

A diverse range of forces influences urbanization within the group of countries in the South-Eastern Europe subregion. Although geographically close, there are very significant differences between the urban processes of Israel, Turkey 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, such as 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.[9]

B. Demographic trends

The population of the region is experiencing very low population growth compared with 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 ECE 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 ECE 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 per cent annually, reaching 14.1 per cent in 2010. However, it is expected to grow faster in the coming decades to reach approximately 20 per cent by 2030 and 26 per cent by 2050 (United Nations Population Fund, 2013, p. 4).

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. health care, 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 (OECD, 2015, p. 49). 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.[10]

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 (OECD, 2015).

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 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 ECE 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 (European Commission, 2015, p. 14). The European population grew by only 5 per cent 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 Bratislava, Lisbon and Warsaw. In 2012, the majority of the cities with an age-dependency ratio of 35 per cent or more were located in Germany and Italy. These two countries together had more than 100 cities in this category (Eurostat).

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 people over 65 have dramatically increased. Between 2002 and 2012, the number of Americans in this category increased by 21 per cent (7.6 million people).[11] By 2040, projections indicate that this will double, and account for 20 per cent of the population.[12]

9 Movement for Israeli Urbanism, available from www.miu.org.il.

10 See for example, "Older people 'hoard' family homes", available from https://www.insidehousing.co.uk/news/news/older-people-hoard-family-homes-29115

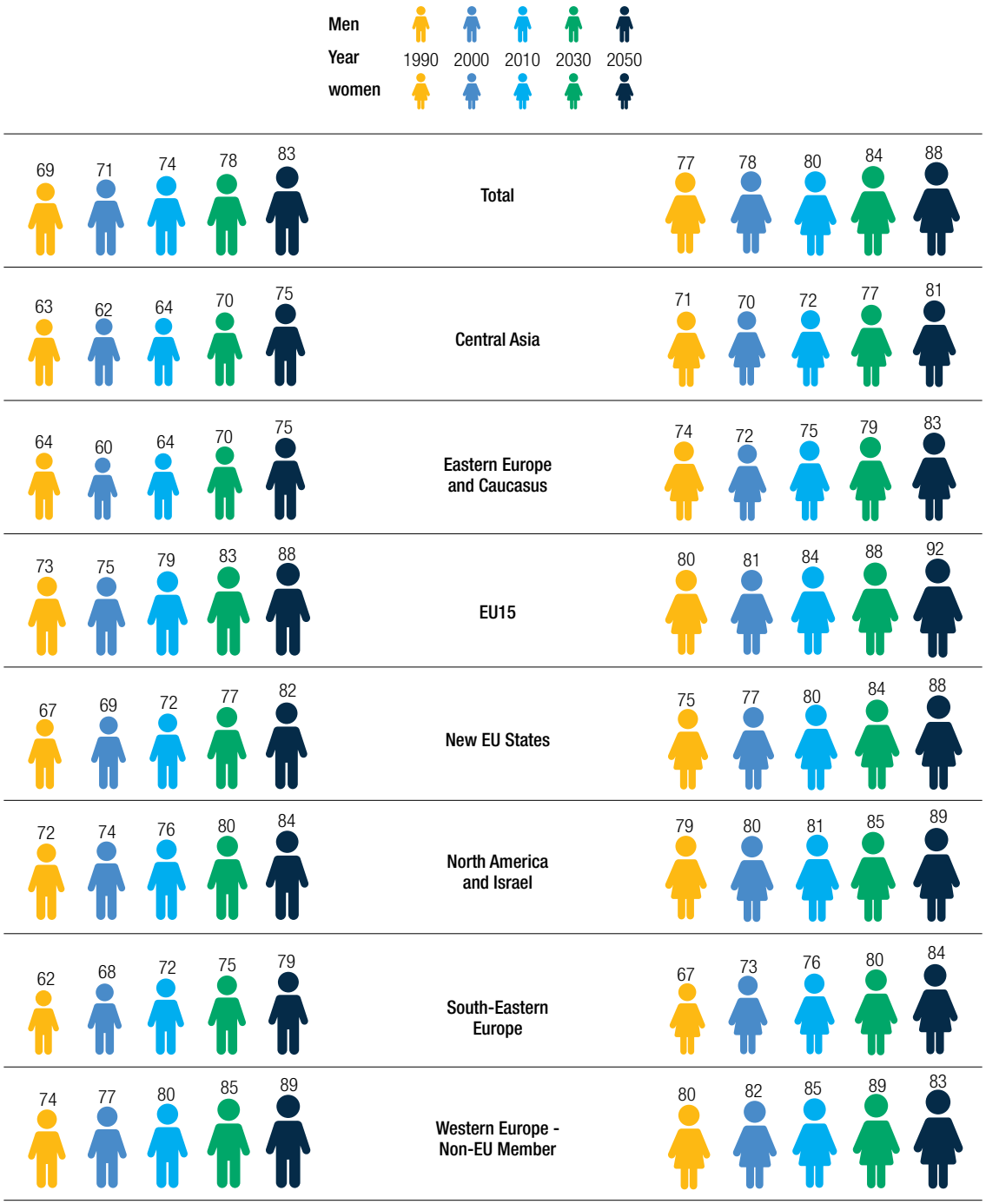
11 United States Administration on Aging, "Highlights", available from https://www.acl.gov/sites/default/files/Aging%20and%20Disability%20in%20America/2013_Profile.pdf

12 Ibid., "Future Growth" available from https://www.acl.gov/sites/default/files/Aging%20and%20Disability%20in%20America/2013_Profile.pdf

FIGURE 8: AGEING IN THE ECE SUBREGIONS, IN PERCENTAGE

Source: ECE.

FIGURE 9: LIFE EXPECTANCY IN THE ECE SUBREGIONS, BY AGE



Source: ECE.

With the large increase in this part of the population in the United States, the need for age-friendly housing is growing, as the overwhelming majority of older adults prefers 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 United States 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 longer.[13]

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.[14] The rate of change of the Russian Federation'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 per cent in 2002 to -0.8 per cent in 2013. Three countries in this subregion are seeing an increase in their total population in recent years, including the Russian Federation (since 2009), Belarus (since 2013), and Georgia (in 20092012 and 2014).[15] Armenia, the Republic of Moldova and Ukraine, on the other hand, still have shrinking populations. 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 Armenia, Belarus, Georgia, the Republic of Moldova, the Russian Federation and Ukraine, and, compared with 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 over 65 years of age now ranges from 10 per cent in Armenia to 15 per cent in Georgia and Ukraine. 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 (Armenia, National Report for Habitat III). 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 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 per cent of inhabitants will be over 65.

Israel has a higher fertility rate than most other countries in the ECE region, and this is a driver of population growth. As a consequence, it has a younger population, with 28 per cent under the age of 15 and only 10 per cent older than 65, compared with European proportions of 16 per cent for both age groups.

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.

C. The challenges and opportunities of migration

In the last few years, international migration flows have risen to levels unprecedented since the Second World War. 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 European Union.

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-European Union countries. In 2014, over 50 million foreigners resided in the European Union, of which 33.5 million were born outside of the European Union, and 17.9 million were born in a different European Union 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 (Eurostat).

13 These include the United States Department of Health and Human Services' Community Innovations for Aging in Place Initiative from 2006 to assist community efforts to enable older adults to sustain their independence and age in place in their homes and communities (United States of America, National Report for Habitat III).

14 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 populations of traditionally Muslim ethnic groups (e.g. in the North Caucasus) have experienced a positive natural increase.

15 Based on the World Bank data.

FIGURE 10: MIGRATION FLOW IN THE ECE REGION

Source: ECE.

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).[16]

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 United States population growth can be explained by the fact that immigrants and their descendants tend to have more children compared with the rest of the population.

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 the Republic 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 Austria, Germany and Switzerland. Between 2001 and 2008, the level of net immigration in the European Union was even higher than that in the United States – traditionally a country of immigration (Gebhardt, 2014). South-Eastern Europe has experienced the largest refugee crisis since the Second World War, 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.

16 Maytree Foundation, Toronto, Canada. 2012, available from www.maytree.com. See also http://citiesofmigration.ca/wp-content/uploads/2012/03/Municipal_Report_Main_Report2.pdf

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 more than 2.5 million Syrian nationals in need of international protection due to the civil war in their country.

The *World Migration Report 2015: Migrants and Cities: New Partnerships to Manage Mobility* – the eighth report in the International Organization for Migration's (IOM's) World Migration Report series – focuses on how migration and migrants are shaping cities and how the life of migrants is shaped by cities, their people, organizations and rules. Given that the number of people living in cities will almost double to some 6.4 billion by 2050, the world will in effect turn into a global city. Human mobility and migration play an important part in this, but are largely missing from the debate on urbanization, and these must therefore form part of the discussion around the New Urban Agenda, not least the United Nations agenda concerning migrants and rights. Many cities and local governments also still do not include migration or migrants in their urban development planning and implementation. IOM's report advocates that migration be a factor considered alongside climate change, population growth, demographic change and economic and environmental crises in shaping sustainable cities of the future.[17]

D. 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 more remote, isolated and less successful cities.

The two most important demographic trends concern ageing, which is a pan-ECE regional 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 with dispersed and isolated smaller cities.

17 IOM is the leading intergovernmental organization in the field of migration and works closely with governmental, intergovernmental and non-governmental partners. *The World Migration Report 2015: Migrants and Cities, New Partnerships to Manage Mobility* is the eighth report in IOM's World Migration Report series. It is available at www.iom.int/world-migration-report-2015

Scenic summer aerial panorama of the Old Town (Gamla Stan) pier architecture in Stockholm, Sweden © Shutterstock

III

URBANIZATION AND ECONOMY: **THE ECONOMY OF CITIES**

A. 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"
(United States of America, National Report for Habitat III).

In 2014, the cumulative GDP (purchasing power parity (PPP)) of the 56 members of ECE was, according to the World Bank, over $42.5 trillion, approximately 43.1 per cent of the world's GDP: with North America at 24.7 per cent, European Union/EFTA at 25.3 per cent, EERCCA at 3.2 per cent and South-Eastern Europe, Turkey and Israel at 1.5 per cent (World Bank).[18] 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 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 macrotrends:

(a) 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

(b) 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 manufacturing 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 I to underline the reality: the twenty-first century is the "Century of the City".

18 Liechtenstein, Monaco and San Marino were not included.

B. 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 in the European Union.

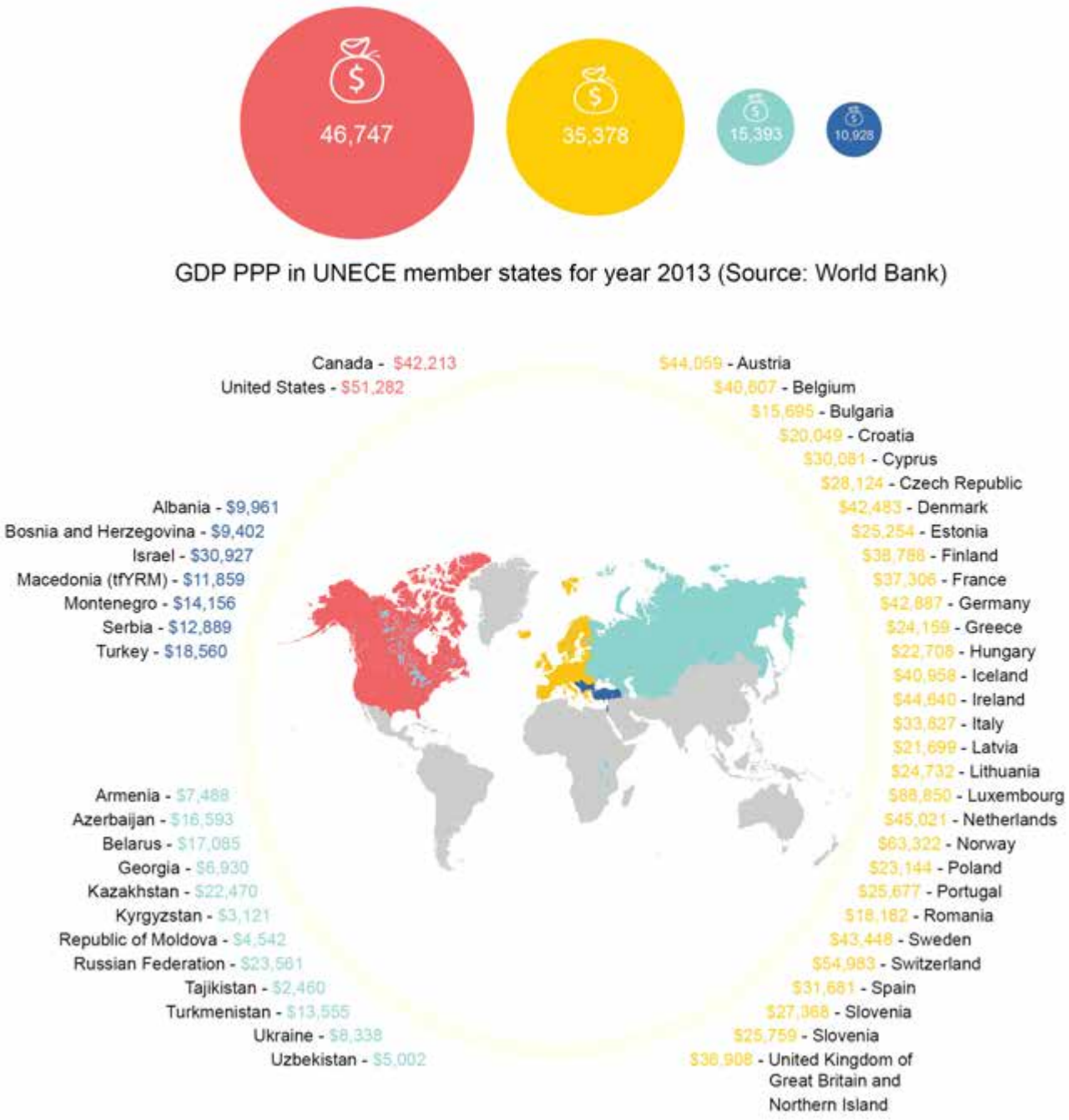
This process of transition has had a profound impact on cities that abandoned central planning and State-owned housing, and decreased investments in public transport. Cities also witnessed outmigration and suburbanization. At the same time, those in the expanded European Union benefited from direct investment from European Union programmes for infrastructure, rehabilitation and research projects, to encourage poorer regions to improve their economic and social situation (UN-Habitat, 2013).

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 (ibid.).

The collapse of the Soviet Union was the key factor in shaping the spatial reconfigurations in EERCCA in the last 25 years. All of those countries, which 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.

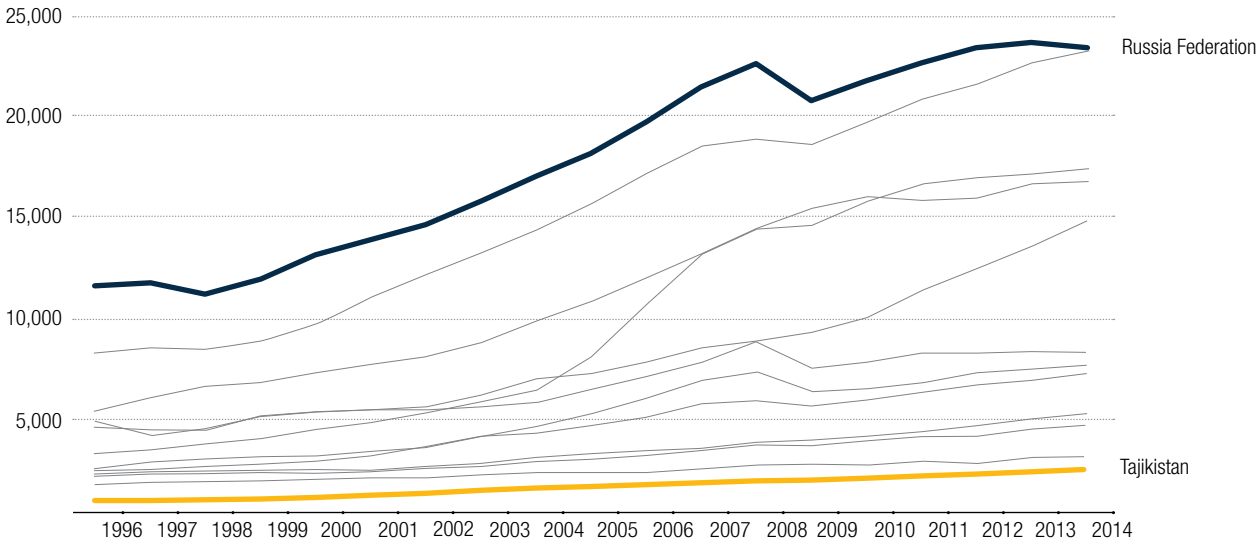
Consequently, all the economies formerly within a State socialist system experienced a precipitous decline in the early 1990s. For example, at its lowest point in 1994–1995, Georgia's real GDP was 70 per cent smaller than in 1990. At their lowest point, Azerbaijan and Ukraine lost almost 60 per cent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

FIGURE 11: THE GDP PURCHASING POWER PARITY (PPP) PER PERSON IN THE ECE SUBREGIONS
On an average GDP PPP per person in ECE subregions states



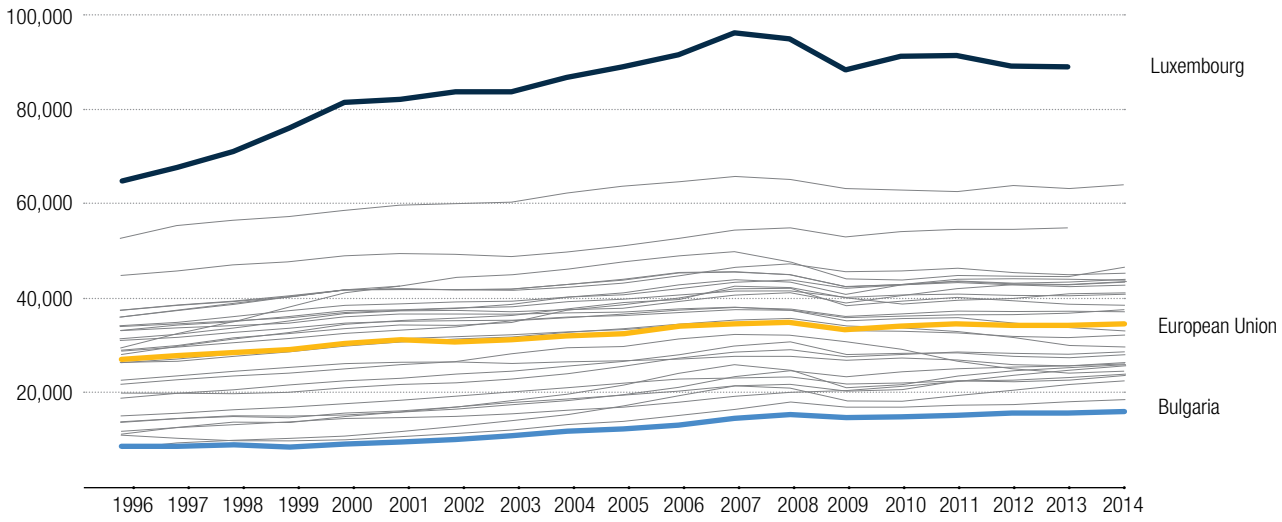
Source: ECE.

FIGURE 12: THE GDP PPP OF SUBREGIONS 1990-2013 FOR THE EERCCA SUBREGION



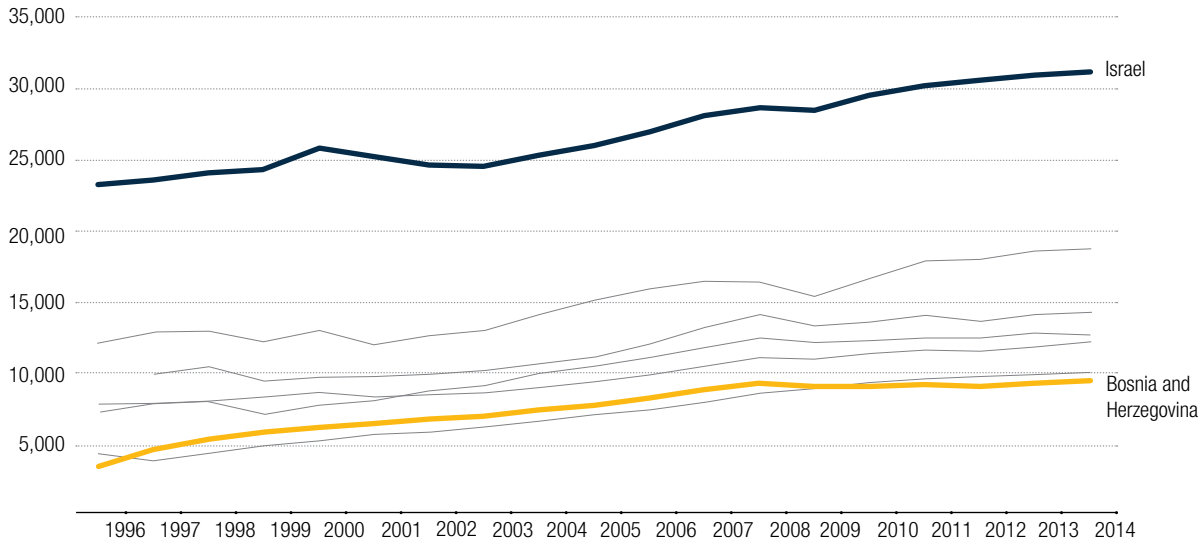
Source: ECE.

FIGURE 13: THE GDP PPP OF THE SUBREGIONS 1990-2013 FOR THE EUROPEAN UNION REGION



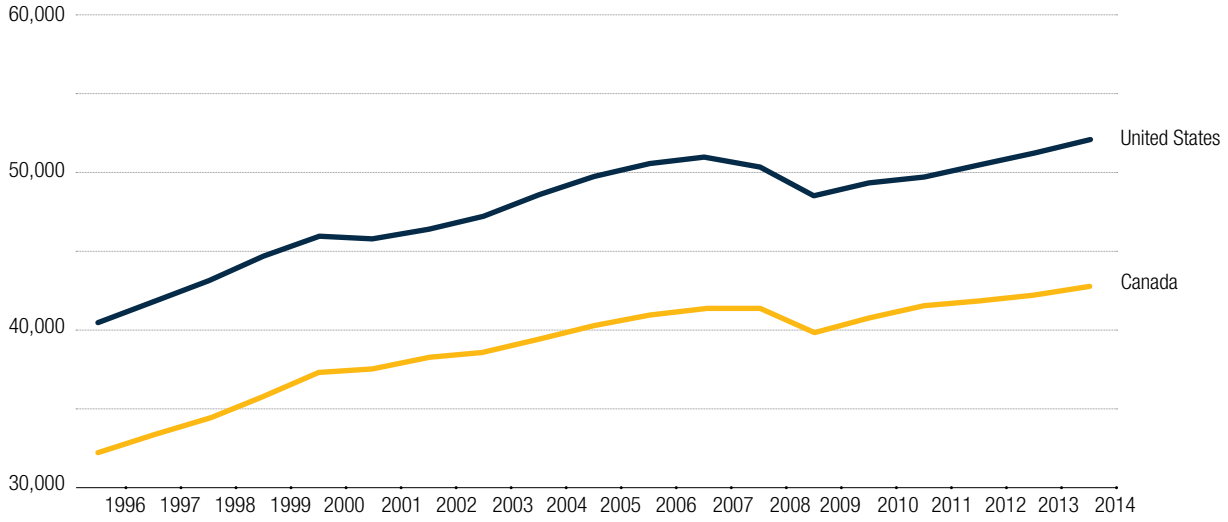
Source: ECE.

FIGURE 14: THE GDP PPP OF THE SUBREGIONS 1990-2013 FOR THE SOUTH-EASTERN EUROPE REGION



Source: ECE.

FIGURE 15: THE GDP PPP OF THE SUBREGIONS 1990-2013 FOR THE UNITED STATES AND CANADA



Source: ECE.

BOX 1: ECONOMIES OF EERCCA

Since the end of the 1990s and prior to the global financial crisis of 2008, these countries experienced a robust but uneven recovery, but by 2014, the GDP indices of Georgia, the Republic of Moldova and Ukraine 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 (O. Golubchikov and A. Badyina, UN-Habitat, 2015). 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, Belarus and Kazakhstan have performed relatively well. Most remarkably, Kazakhstan has been able to catch up with the Russian Federation 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 the Russian Federation, 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.

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.

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 II 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, health-care, 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 twentieth century (national report on human settlements in the Republic of Belarus for Habitat III). 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 (Golubchikov, 2006; Golubchikov, Badyina and Makhrova, 2014).

There has been a notable increase in the concentration of national populations in the capital cities of Belarus (Minsk), the Republic of Moldova (Chisinau), the Russian Federation (Moscow) and Ukraine (Kiev), and, 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 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 per cent of the national population. When the surrounding suburban territories are factored in, these city-regions are home to at least 20 per cent of the national population, even in the Russian Federation. 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 1 million inhabitants, the Russian Federation and Ukraine do. In Ukraine, other cities are still shrinking in favour of Kiev's growth, but the Russian Federation's cities of more than 1 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 the Russian Federation grew from 13 in 1990 to 15 by the end of 2012. Similarly, the majority of cities with over 500,000 inhabitants in the Russian Federation 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 (Golubchikov and Makhrova, 2013). Such cities are consequently losing their most dynamic population (National Report of Belarus for Habitat III). In some cases, however, they constitute the essence of the newly emerged economies. In the mineral-rich Russian Federation, three quarters of the country's total export value in 2012 was produced by a few of the largest exports: crude oil (34.4 per cent), oil products (19.7 per cent), natural gas (11.8 per cent), ferrous metals (4.3 per cent), coal (2.5 per cent), inorganic chemistry products (1.5 per cent), and raw aluminium (1.2 per cent).[19] 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 advantaged (Golubchikov and others, 2015). For example, areas of oil and gas extraction in Azerbaijan, Kazakhstan, the Russian Federation 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, which are 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, includes former "science towns". For example, in Ukraine, 5 of the 10 cities with a growing population (besides Kiev) are nuclear power plant cities (Rudenko, 2013).

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 ECE region.

C. 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,[20] 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 (Piketty, 2014). 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 the ECE 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 production, social requirements and cultural institutions (Madanipour, 2011). The spatial expressions of the knowledge economy are likely to be the model for cities for the foreseeable future.

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 (ibid.).

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 United States, 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 II 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

19 Calculated from the data of Rosstat (2013) Torgovlya v. Rossii [Trade in Russia]. Moscow, available from www.gks.ru/bgd/regl/b13_58/Main.htm

20 The manufacturing industry contributed only 15 per cent to the European Union's GDP in 2014 (European Commission, 2014).

FIGURE 16: THE CREATIVE CLUSTERS IN THE ECE REGION

Source: ECE.

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 (Kasarda and Lindsay, 2012).

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 (Mitchell, 1995). 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 e-mail on a new project with an unknown person on the other side of the world (Saxenian, 1994).

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 Barcelona, Dublin, Louvain, Munich, Stockholm and Toulouse have blossomed in the knowledge economy (Madanipour, 2011).

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 ECE 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 (Cooke and Morgan, 1998). 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" (Hospers). 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 United States (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

BOX 2: CITY GROWTH COMMISSION – UNITED KINGDOM

The City Growth Commission in the United Kingdom has examined how businesses and the Government can enable stronger growth in the country's largest metropolitan regions to drive the long-term investment, job creation and output of the overall economy. A cornerstone of this strategy is the contribution made by the key institutions of the knowledge economy – universities that are overwhelmingly concentrated in cities. University education is a substantial economic activity within metropolitan areas. In the United Kingdom, 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 historical precedent. Many universities were founded with the mission to contribute to the local economy (Torrens and Thompson, 2012). In the United Kingdom, universities, including Cambridge and Oxford, have spawned locally-based clusters in fields such as biotechnology 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 United States, industrial clusters with a technology focus have been fed by research, graduates and spin-outs, most notably around Boston and Raleigh-Durham.

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" (ibid.).

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 United Kingdom of Great Britain and Northern Ireland, 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.[21]

21 Three of the top four factors which were influential in determining where multinational companies located their enterprises related to the university sector (BIS 2009).

D. 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 ICT 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 1 billion in the Organization for Economic Cooperation and Development (OECD) area – resulting in a decrease in fixed telephony (OECD executive summary).

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 (OECD, 2013a). 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). ICT is integral to professional and personal life; individuals, businesses and governments are increasingly interconnected 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 ICT 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 decisions that impact on the urban environment and their personal well-being. While egovernment, 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 ECE region, such as urban concentration described in chapter II. 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 startup companies in Silicon Valley, London, Stockholm, Stuttgart and many other cities in the ECE region 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 (OECD).

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 United States to a wider global Internet community (OECD). The United Nations has launched the 2030 Agenda for Sustainable Development, setting Sustainable Development Goals that include increased access to ICT and the Internet to create an inclusive and global digital economy.

The scope for further uptake is significant for individuals. Activities such as sending e-mails, 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 per cent higher than for those with lower secondary education and below (OECD, 2015a).

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 ICT to make this shift, implying that the public and businesses determine their own needs and address them in partnership with public authorities.

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, the Internet Governance Forum and 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.

E. 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 Global Positioning System 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 (OECD).

All individuals have the right to seek, receive and impart information and ideas of all kinds through the Internet. The Special Rapporteur on the promotion and protection of the right to freedom of opinion and expression, in his report

BOX 3: 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 ((c)–(h)):

(a) Further develop the telecommunications infrastructure (e.g. access to broadband and telecommunication services) and preserve the open Internet;

(b) Promote the ICT sector including its internationalization;

(c) Strengthen e-government services, including enhanced access to public sector information and data (i.e. open government data);

(d) Strengthen trust (digital identities, privacy and security);

(e) Encourage the adoption of ICT by businesses, in particular small and medium-sized enterprises, focusing on key sectors such as health care, transportation and education;

(f) Advance e-inclusion, with a focus on the ageing population and disadvantaged social groups;

(g) Promote ICT-related skills and competences, including basic and specialist ICT skills;

(h) Tackle global challenges such as Internet governance, climate change and development cooperation.

BOX 4: 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 (OECD, chapter 3). 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 (Research2guidance, 2014). In 2012, 69 per cent of United States smartphone owners reported tracking at least one health indicator, such as weight, diet or exercise (Fox and Duggan, 2013). 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.

to the seventeenth session of the Human Rights Council (A/HRC/17/27), 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. Forty-six countries and the European Union are parties to the Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters (Aarhus Convention), which requires them 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. the Internet). The requirements of public accessibility of environmental information are further detailed through the Protocol on Pollutant Release and Transfer Registers (PRTR) 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.[22]

22 Document ECE/MP.PP/2005/2/Add.4, available from www.unece.org/env/pp/mop2/mop2.doc.html#/

F. 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 affect 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 Europe and North America, 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

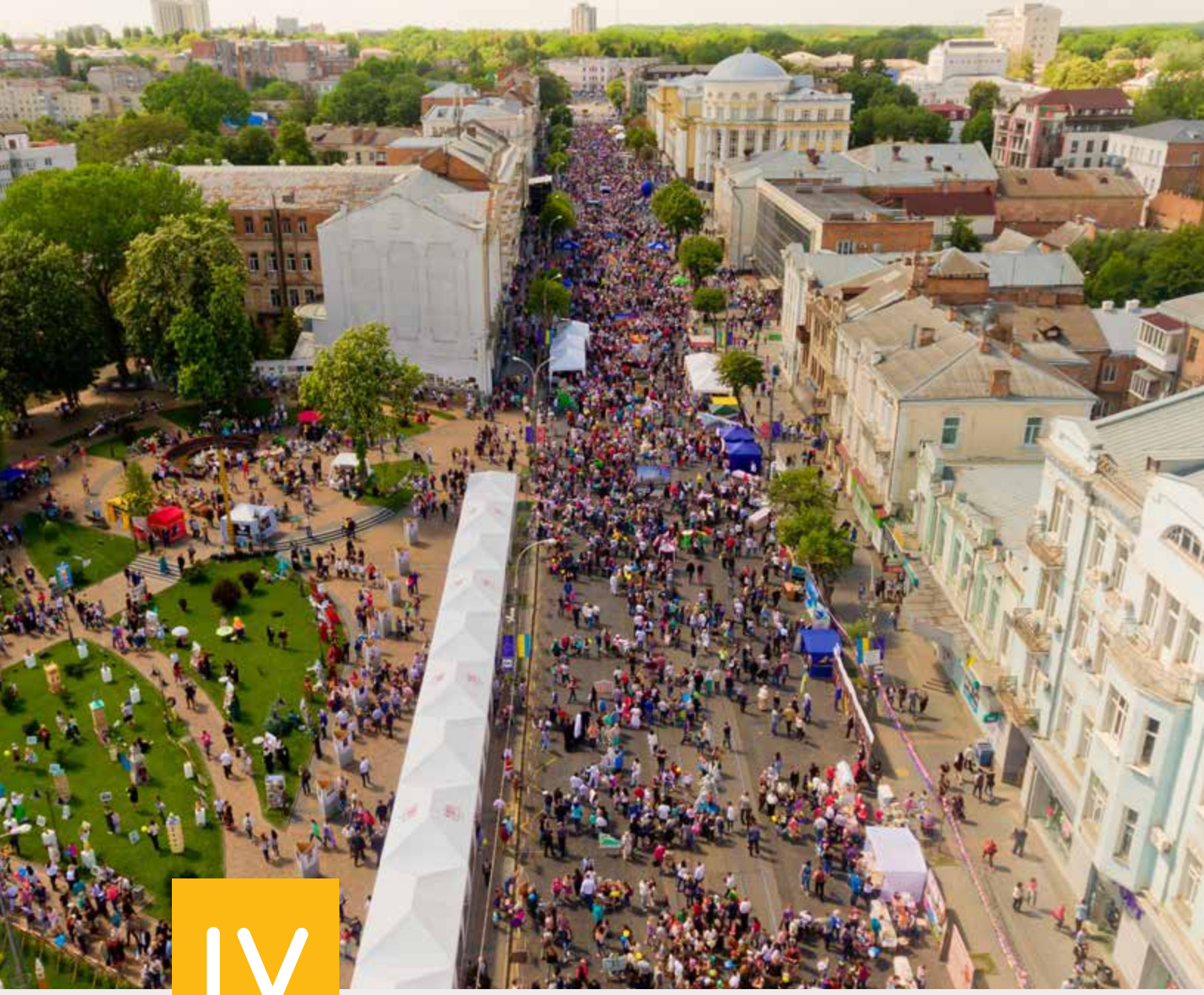
capacity and output with few spatial requirements is changing the nature of sites for production and consumption in cities. New clusters of activity are formed, while others are dismissed or dispersed. The spaces of knowledge include universities, science parks and cultural quarters, which are created 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 supportive. As the knowledge economy takes hold in both the developed and transition countries of the ECE 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. ICT is 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 II). Furthermore, with manufacturing now largely located in other continents, the cities of the ECE 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. This has been one of the biggest changes since Habitat II Conference and will be an ongoing driver for the next 20 years.



Aerial view of Central Square of the city of Vinnytsia, Ukraine © Shutterstock

IV

URBANIZATION AND SOCIAL EQUALITY: **LIVING IN CITIES**

"Sustainable housing has a key role in the quality of human life"
(The Geneva United Nations Charter on Sustainable Housing (E/ECE/1478/Rev.1)).

A. Introduction

This chapter deals with many aspects of life in cities, but "decent adequate, affordable and healthy housing" (key elements of sustainable housing as noted in the Geneva United Nations Charter on Sustainable Housing) 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 ECE region function relatively well (UN-Habitat, 2011, p. vii). The proportion of informal unserviced slums is very low.[23] Urbanization is reaching peak levels and the urban population will remain relatively stable (chapter II). 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 Geneva United Nations Charter on Sustainable Housing (E/ECE/1478/Rev.1) stressed that the development of sustainable housing in the ECE region faced 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 (ECE, 2015). The Geneva Charter is consistent with and has informed the developing United Nations agenda published in 2015 that seeks to position housing as a central focus of the New Urban Agenda (UN-Habitat, 2015).

The ECE study (ECE, 2015) highlighted that at least 100 million low- and middle-income people in the region spend more than 40 per cent 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 (ECE, 2015, p. 12). 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 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.

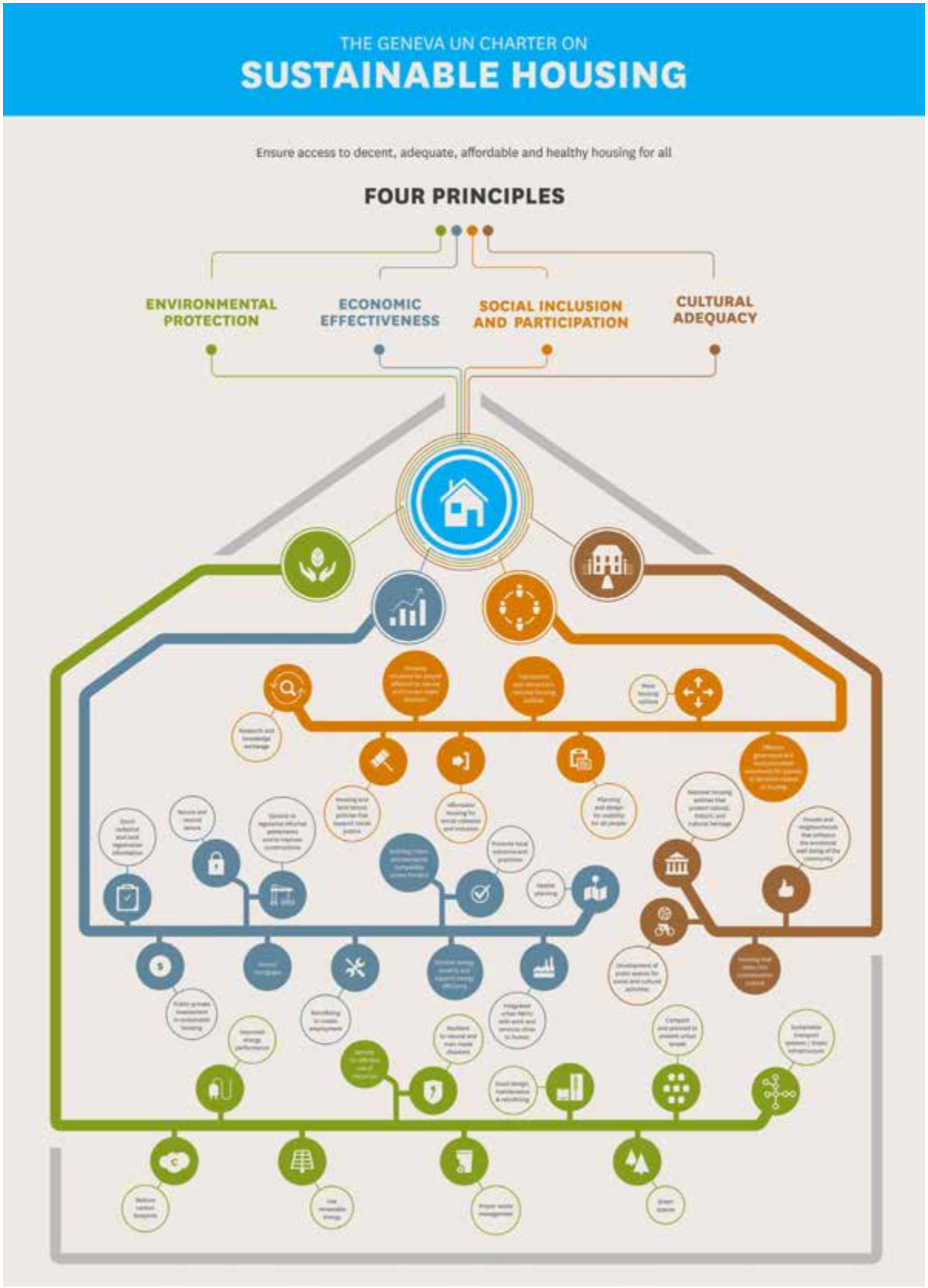
The financial crisis also constrained the housing supply across all tenures. This is felt in the areas where it is needed the most – i.e. large metropolitan areas. Moreover, housing need has diversified in groups that are traditionally considered vulnerable, such as the low- and no-income population, 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 more than 52 million people in the European Union cannot adequately heat their homes, and more than 40 million face arrears with their utility bills. Lack of maintenance and poor housing conditions have a critical impact on health, and a recent World Health Organization (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 (WHO, 2011).

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. ECE has found that the majority of its member States are searching for innovative solutions while reassessing their housing policies. The Geneva United Nations Charter on Sustainable Housing has an important role to play in bringing housing to the forefront of the urban agenda in ECE countries: an important step is to draw political attention to housing and bring it to the centre of international, national and local urban agendas.

23 ECE (2009) shows that 50 million people are in informal and illegal settlements. However, these are not unserviced slums, rather they are mostly serviced homes built without planning permission or not according to the local planning regulations (UN-Habitat, 2011, p. vi).

FIGURE 17: THE GENEVA UNITED NATIONS CHARTER ON SUSTAINABLE HOUSING



Source: ECE.

BOX 5: 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. ECE (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 may result in successful spatial cohesion, while its lack may result in spatial polarization and reproduction of inequality in urban space (ECE, 2015, p. 101; see also Rosenfeld, 2014).

BOX 6: SNAPSHOT OF THE KEY CHARACTERISTICS OF HOUSING IN THE ECE REGION: KEY TRENDS AND CHALLENGES

(a) The ECE region has a relatively old housing stock. The majority of housing in the ECE region was built after the Second World War, coinciding with increasing urbanization at the time (UN-Habitat, 2011);

(b) A majority of the ECE countries have relatively large percentages of historical housing stock in use (pre-Second World War) in comparison to other world regions;

(c) In Eastern frontiers of the ECE region, the dominant housing typology is large-scale multi-household housing in urban areas and today this kind of housing is in urgent need of upgrading (UN-Habitat, 2011, p. 30; see also UN-Habitat, 2013);

(d) 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);

(e) The provision of the new housing is limited and does not meet the housing demand in any of three main tenures (homeownership, private rent and social housing) (ECE, 2015). This (among other factors) leads to increases in housing prices in heated housing markets such as global and capital cities, and lack of access to decent affordable housing;

(f) In the ECE region, there are at least 100 million people who are housing-cost overburdened, spending more than 40 per cent of their household incomes on housing (ECE, 2015);

(g) The occurrence of unserviced slums is very low. However, the population in serviced albeit self-built, informal and illegal settlements reaches over 50 million (ECE, 2009);

(h) Key challenges in the housing stock in the ECE region are increasing the quality and energy efficiency of the existing stock, increasing provision of the new housing stock across tenures in sought-after cities and improving access to decent affordable housing for all.

Sources: ECE, 2015, UN-Habitat, 2011, UN-Habitat, 2013

B. The relationship of trends in urbanization and housing

Most of the ECE countries are highly urbanized and the proportion of informal unserviced slums is very small.[24] Further urbanization and population growth will remain relatively low in comparison to other world regions in the coming decades (UN-Habitat, 2011, p. 30). Most countries are expected to have low relative population growth (or even decline) in the coming decades (ECE, 2015; see also UN-Habitat, 2011 and UN DESA, 2014). The countries have high per capita housing ratios, with some of the highest "number of dwellings per thousand inhabitants".[25] Finland and France top the list, with more than 500 units per 1,000 residents, followed very closely by Greece, Portugal and Sweden. The countries with economies in transition are slightly lower, but still have relatively high ratios. For example, 318/1,000 in Slovakia, followed by Poland with 314/1,000. The lowest rate was noted in Albania (254/1,000) (UN-Habitat, 2011, p. 2).

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

24 ECE (2009) shows that 50 million people are in informal and illegal settlements. However, these are not unserviced slums; rather, they are mostly serviced homes built without planning permission or not according to the local planning regulations.

25 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).

housing demand (so-called "shrinking areas") often coexist within the same country (ECE, 2015, p. xvi). 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 (ECE, 2015; see also UN-Habitat, 2011) in heated markets, as economic success and migration in search for employment continue, particularly in cities such as London, Moscow, New York, Paris, San Francisco, Vancouver, 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 countries' housing markets (ECE, 2015, p. xvi). 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.

C. An overview of housing stock and housing provision

In the region, the existing housing stock is relatively old.[26] 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 per cent of the total housing stock, with Finland, Greece and Spain at nearly 50 per cent. In most countries with economies in transition, pre-1919 stock constitutes only about 45 per cent 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 Central Asia and Eastern Europe was built between 1960 and the mid-1980s. The exceptions are Czech Republic, Poland, Romania and Slovenia, where a greater share was built between 1946 and 1970. Housing production since the 1990s has added less than 10 per cent to the stock in most countries in transition. Elsewhere in Europe, countries such as Cyprus, Ireland and Spain stand out, with high rates of construction adding more than 15 per cent to the stock since 1990.

The financial crisis of 2008–2011 has constrained housing supply. While there may be housing availability at a national level, census data at the 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.

ECE (2015, p. 100) 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 Finland, France, Ireland, Sweden and the United Kingdom, among others. There is also a shortage in new European Union States, such as Poland and Slovakia. Housing construction in many EERCCA countries today has yet to reach levels even 50 per cent of those achieved in the 1980s, and there is, according to Habitat III national reports, a housing shortage in Belarus, Israel, the Russian Federation, Turkey and Ukraine. 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 (ECE, 2015, p. 43; see also Housing Europe, 2015).

In general terms, the quality of the housing stock in the region is higher than in other regions of the world (ECE, 2015 and UN-Habitat). For instance, access to water and adequate sanitation is one of the highest in the world, at an average of 94 per cent for water and 93 per cent 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 European Union and North America.[27] 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 (ECE, 2015, p. 85).

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

26 Section adopted from UN-Habitat, 2011, p. 25-26.

27 UN-Habitat, 2011. See Annex for data on basic services (bath/shower, piped water, central heating) for the 56 countries of the ECE region.

BOX 7: 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 (UN-Habitat, 2011, p. 27; see also UN-Habitat, 2013). 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 in structural problems in over 40 per cent 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 present one of the major concerns in the countries with a high proportion of this type of housing.

stock (primarily, but not only, related to multi-apartment housing blocks – see box 7) (ECE, 2013). 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 (ECE, 2015, p. 85).

Energy efficiency of the existing housing is a twofold concern: inefficient housing is responsible for high carbon emissions (on average, 20–30 per cent of total emissions come from the residential sector) (ECE, 2012, p. xiii); and 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 (ECE, 2015).

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.

D. A brief overview of housing tenure trends

The housing systems of the ECE countries are diverse and context-specific. They are dominated by three core tenures[28]: home ownership, private rental housing and social housing.[29]

As the result of housing policies before the financial crisis, home ownership is the dominant tenure. In the late 1990s and early 2000s, Europe and North America 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 (EBRD, 2010). European Union 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, which 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 ECE study showed that the majority of member States use a residual allocation model that increasingly focuses on provision to vulnerable groups (see ECE, 2015, for more details).

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 (Peppercorn and Taffin, 2013, p. xv).

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 ECE countries. Data at the city level presents a different trend, where private rental is the predominant tenure (IUT statistics, 2015). For example, in Brussels, some 57 per cent of homes are rented, while the national statistics for Belgium, as a whole, show over 68 per cent home ownership. Germany has 58 per cent of privately-owned properties at the national level, but Berlin and Hamburg have 86 per cent and 80 per cent of properties in the rental sector, respectively. Perhaps the most striking contrast between the national and city levels is in the United States, with 65 per cent of home ownership at the national level. However,

28 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.

29 "Social housing" does not have one definition. Each country defines this tenure in its own terms. For extended discussion about the social housing terminology and definitions in the ECE region, see ECE, 2015.

in New York, the rental sector is the predominant tenure at 65 per cent, echoed in Los Angeles and San Francisco with 62 per cent.

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 (Peppercorn and Taffin, 2013, p. xv). Home ownership unarguably brought benefits to those who could access and sustain it (Peppercorn and Taffin, 2013, p. 11). 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.

E. Emerging housing needs

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 have increased (ECE, 2015, p. 52).

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 (according to the Government of the United Kingdom (2014)), and 1.7 million applications in France.[30] The United States is experiencing a shortage of 5.3 million affordable housing units,[31] and the need for

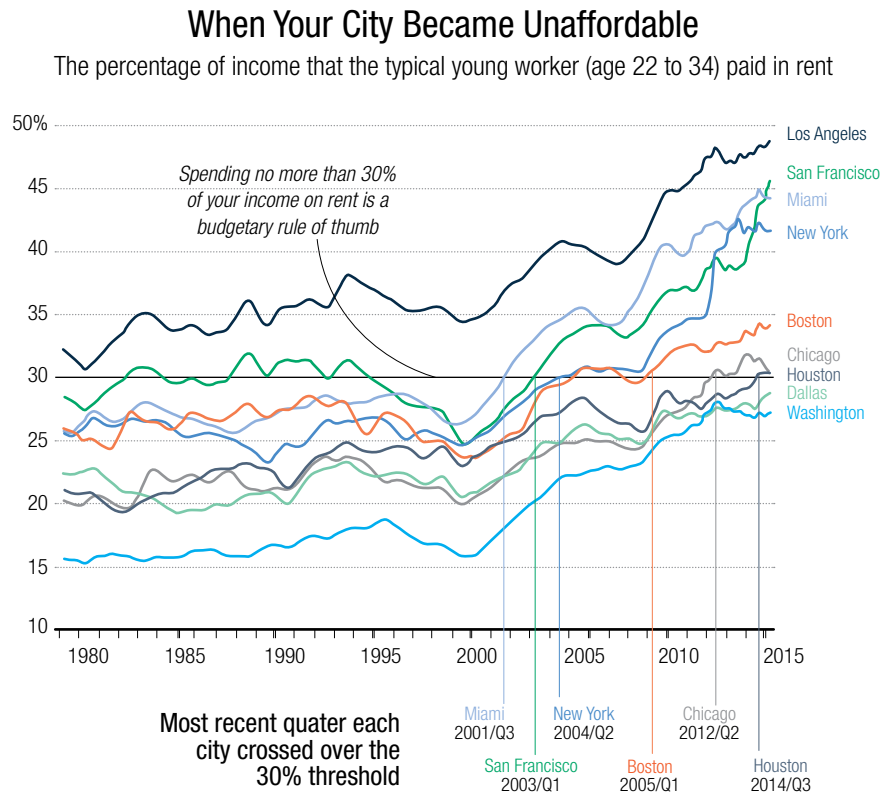
30 Data provided by the representative of l'Union Social pour l'Habitat, interviewed for this research.
31 According to the Joint Center for Housing Studies of Harvard University (JCHS, 2013a).

TABLE 2: TENURE BREAKDOWN IN THE ECE COUNTRIES

Country	Owner occupied %	Private rental %	Social rental %	Other %	Coop
Albania	100				
Armenia	96	1	4		
Austria	56	17	23	4	
Azerbaijan	88		12		
Belarus*	76.8	2.2	21		
Belgium	68	25	7		
Bulgaria	95.6	0	3.1	1.3	
Canada**	69	25	6		
Croatia	89.4	6.9	1.9	1.7	
Cyprus	68	14	0	18	
Czech Republic*	56	22	3	1	9
Denmark	46	20	19	1	7
Estonia*	82	8	2	7	
Finland*	65	17	14	4	
France	57	22	17	4	
Georgia	95		5		
Germany	42	53	5		
Greece	74	20	0	6	
Hungary	92	3.3	3.7		
Ireland	79	12.3	8.7		
Italy	68.5	13.6	5.3	12.6	
Kazakhstan	97			3	
Kyrgyzstan	97			3	
Latvia	84.9	14.7	0.4		
Lithuania*	97	11	2.4		
Luxembourg	70	27	2	1	
FYR of Macedonia	95			5	
Malta	75	16	6	3	
Moldova*	97.5		2.4		
Montenegro*	94.5	5.5			
Poland*	64.1		11	18.3	
Portugal	75	18	3	4	
Romania	96	0.7	2.3	1	
Russian Federation	86	11	14		
Serbia*	87	11	2		
Slovakia*	91	3	3	3	
Slovenia	83	3	4	10	
Spain	85	11	2	2	
Sweden*	44	35			21
Switzerland	37	49	14		
Tajikistan	93			7	
The Netherlands	58	10	32		
Turkey	68				
Ukraine	93	2	3	2	
United Kingdom	66.4	15.6	18		
USA**	65	32	3		
Uzbekistan	98				

Coop. – Cooperatives
* country data based on interviews conducted for this UNECE study;
** country data based on information provided by IUT (Hammar, 2014).
Rest of the country data is based on the following publications: (Amann 2013) for SEE, EECA; (CECODHAS, 2011) for EU28.

FIGURE 18: THE COST OF PRIVATE RENT IN COMPARISON TO AVERAGE INCOME OF 22-34 YEAR OLDS IN THE UNITED STATES



Source: Bloomberg Business, 2015.

social housing[32] in Ireland has increased by 75 per cent since 2008.[33] In recent years, the funds for the social housing sector have decreased or are being reassessed 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 Austria, Denmark, Ireland, Italy, the Netherlands, Spain and the United Kingdom.

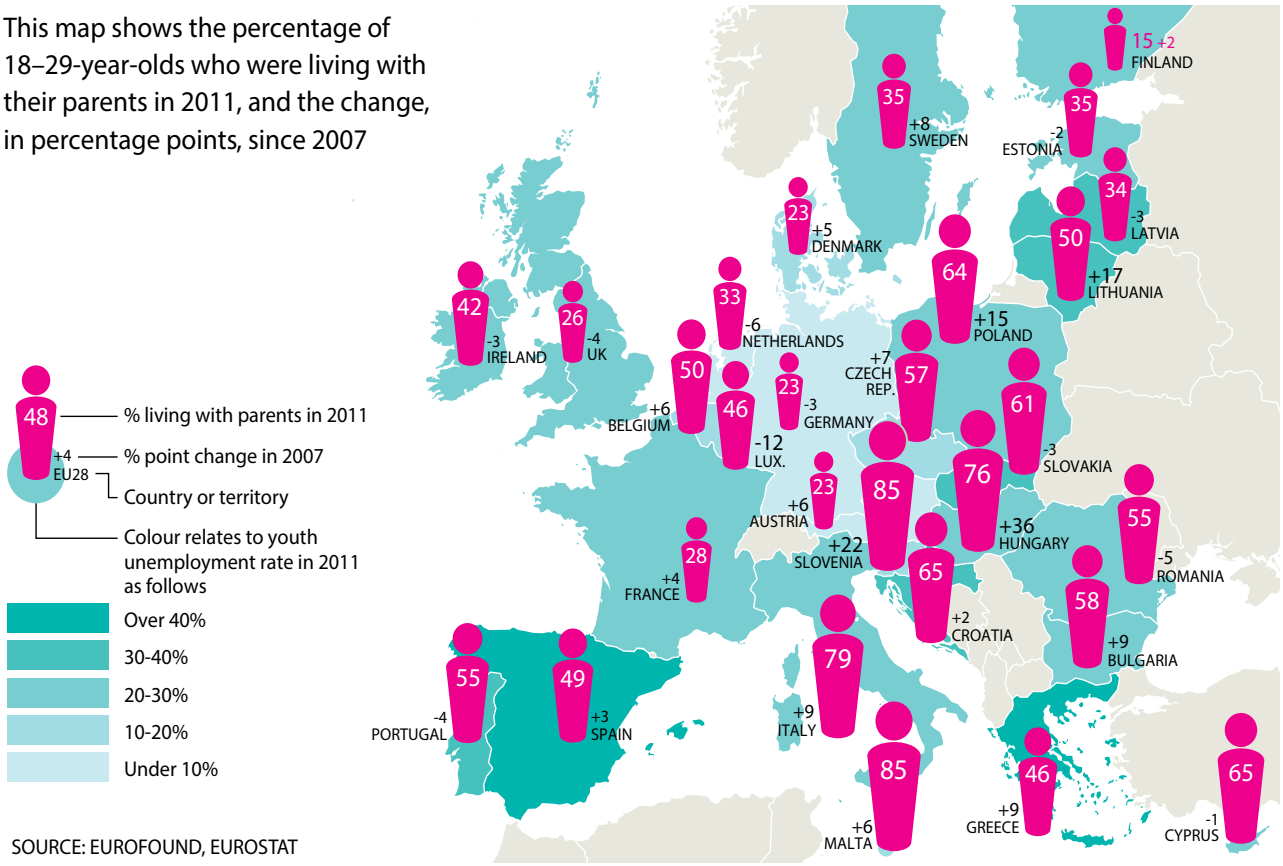
Currently, the need for social housing as an affordable housing option appears to be most critical in large metropolitan areas, where the housing markets are overheated due to demand. Close to 550,000 people were registered on the waiting lists in greater Paris (Île-de-France) in 2013.[34] In 2012, there were 354,000 households (nearly 900,000 people) on waiting lists in Greater London (Fisher, 2012). In New York, more than 347,500 households were on social housing waiting lists.[35,36] 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 (ECE, 2015, pp. 44-45).

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.[37] France had seen an increase in homelessness, estimated to be up by 50 per cent between 2001 and 2011. Denmark reported a 16 per cent increase between 2009 and 2013, and Germany a 21 per cent increase (European Observatory on Homelessness, 2015, p. 10). The

32 Referred to as "local authority housing" in Ireland.
33 According to the European Parliament (Braga and Palvarini, 2013).
34 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).
35 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)).
36 According to the New York City Housing Authority (NYCHA, 2014).
37 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".

FIGURE 19: PERCENTAGE OF YOUNG ADULTS LIVING WITH THEIR PARENTS

This map shows the percentage of 18–29-year-olds who were living with their parents in 2011, and the change, in percentage points, since 2007



Source: Copyright Guardian, graphics by Paul Scruton.

Netherlands saw a 17 per cent increase between 2010 and 2012, and Sweden reported a 29 per cent increase in people living rough, using homelessness services.[38] In January 2014, over 550,000 people were homeless on any given night in the United States (United States Department of Housing and Urban Development, 2014). In common with the European Union, the United States 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.[39] Estimating homelessness in Central Asia, Eastern and South 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.

F. Housing affordability challenges

There has been an increase in housing prices throughout the ECE 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 twenty-first 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 ECE study, more than 100 million people in the global North suffer a housing cost overburden, spending 40 per cent or more of their household income on housing.[40]

Housing cost overburden is critical. It affects a growing section of the population. Depending on the exact definition used, "housing"[41] is usually the

38 It should be noted that the definition of homelessness was broadened in Sweden recently.

39 "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 liveability 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).

40 It is acknowledged that, in certain circumstances, households may decide to spend 40 per cent 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.

41 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). Section adopted from ECE, 2015, pp. 46-49.

largest item of household expenditure. It has also been argued that all housing costs (mortgage/rent and energy/utilities) are different from other types of household expenditure, because they are large, and because penalties for nonpayment or default, if not always immediate, are frequently severe (Stone, 2006, quoted in JRF, 2013). One of the most critical trends since 1996 has been the increase in "housing cost-induced poverty", which 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.

In the ECE region, there is no one single definition of housing affordability.[42] 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 per cent 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 per cent) in the United States paid more than 30 per cent[43] of pre-tax income on housing in 2011, while 20.6 million paid more than 50 per cent.[44] In the United States, households paying more than 50 per cent of their combined income for housing are considered to suffer a housing cost overburden.[45] It was further reported that 25.2 per cent of households paid more than 30 per cent[46] of their disposable income on housing.[47]

In 2010, 10.1 per cent of European households (around 50 million) and 36.9 per cent of those with an income below 60 per cent of the median income,[48] spent more than 40 per cent of their disposable income on housing.[49] 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 (ECE, 2015). 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 European Union accession States, South-Eastern Europe and Eastern Europe and Central Asia, housing affordability concerns derive largely from increased utility costs (USAID, 2007, pp. ix-x). Average expenditure on energy and utilities has increased significantly since the start of the transition in EERCCA and South-Eastern Europe countries.[50] In the 1990s, utility bills accounted for 3 per cent of total household expenditure, while in the late 2000s they surpassed 12 per cent and have been increasing ever since. In 2007, a United States Agency for International Development study highlighted that utility affordability ratios were pronounced in Bulgaria, Hungary and Slovakia and, to a lesser extent, in Poland, the Republic of Moldova and Serbia.

The poorest 10 per cent of the region's[51] population have struggled to pay for energy and water. Especially vulnerable groups seem to be the elderly and people in receipt of social benefits (Fankhauser and Tepic, 2005, p. 3). 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 more than 52 million people in the European Union cannot adequately heat their homes, and more than 41 million face arrears with their utility bills (Bouzarovski, 2011). To cope with high utility costs, many tenants reduce consumption by turning down heating, using less hot water and cutting food or health spending (IUT, 2012). These measures lead to energy poverty.[52]

G. 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 European Union 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

42 Section adopted from ECE, 2015, pp. 46-49.

43 According to the United States Census Bureau, the conventional 30 per cent of household income that a household can devote to housing costs before the household is considered burdened, evolved from the United States 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 per cent of income indicator of housing affordability (Schwartz and Wilson, 2006).

44 According to the Joint Center for Housing Studies of Harvard University, JCHS, 2013a, p. 27.

45 Ibid.

46 The Canada Mortgage and Housing Corporation 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 per cent 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)" (Canada Mortgage and Housing Corporation, 2011b).

47 Canadian National Household Survey. Buchanan, 2013.

48 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. Households whose income is below 60 per cent of equivalized median income (national level) are considered at risk of poverty.

49 Eurostat, 2014b, 2014c.

50 In European Union accession countries, South-Eastern Europe and Eastern Europe and Central Asia, 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 per cent 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. Instead, in these countries, housing affordability concerns have derived largely from increased utility costs (Hegedüs, 2009).

51 "The region" refers to the 27 countries of the Baltics and Central Europe (the new European Union Member States), South-Eastern Europe (the three European Union candidates and the Western Balkans countries) and the Commonwealth of Independent States (EBRD, 2005, p. 2).

52 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).

TABLE 3: PERCENTAGE OF BATHROOMS AND HEATING BY COUNTRY IN THE ECE MEMBER STATES

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	n/a	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	n/a	100.0	90.8
Greece	2001	97.8	n/a	62.0
Ireland	2002	94.0	n/a	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	n/a	90.
Portugal	2001	65.5	n/a	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
Can/ada	2001	97.0	100.0	n/a
United States	2001	96.0	100.0	n/a
Central and Eastern Europe				
Albania	2002	55.1	55.1	1.0
Bosnia and Herzegovin/a	2002	22.0	73.7	3.3
Bulgaria	2001	81.1	81.1	16.8
Croatia	2001	92.8	93.7	3.6
Czech Republic	2001	95.5	95.1	81.7
Estonia	2002	67.1	n/a	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
The former Yugoslav Republic of Macedonia	2001	59.8	85.6	8.6
Poland	2002	87.0	83.0	77.8
Romania	2001	53.0	53.0	25.9
Slovakia	2001	92.8	90.5	74.3
Slovenia	2004	92.3	n/a	79.1
Serbia	2001	85.0	89.4	21.2
Commonwealth of Independent States				
Armenia	2002	86.0	98.0	81.0
Azerbaijan	2000	n/a	78.0	n/a
Belarus	2000	n/a	100.0	n/a
Georgia	2000	n/a	78.0	n/a
Kazakhstan	2000	n/a	90.0	n/a
Kyrgyzstan	2001	24.0	40.0	29.1
Republic of Moldova	2002	30.9	36.5	30.8
Russian Federation	2001	64.0	74.0	75.0
Tajikistan	2000	n/a	60.0	n/a
Turkmenistan	1999	30.0	53.0	30.5
Ukraine	2000	n/a	98.0	15.4
Uzbekistan	1997	13.3	36.5	19.5

Source: UN-Habitat, 2011 (pp. 23–24).

(as well as housing cost induced poverty) in the largest metropolitan areas, and a concentration of worklessness[53] 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 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.

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 per cent of the total energy consumed by urban areas.[54] Large-scale urban renewal campaigns are underway in many ECE 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 (WHO Regional Office for Europe, 2011; and WHO, 2011).

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 socioeconomic 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 (WHO Regional Office for Europe, 2012; WHO/UN-Habitat, 2010; WHO, 2010).

One of the greatest factors that affect 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

53 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 United Kingdom Office of National Statistics at www.ons.gov.uk/.../worklessness.../worklessness-topic-profile-.pdf).

54 International Energy Agency, "Energy Efficiency", available from https://www.iea.org/about/faqs/energyefficiency/

BOX 8: 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" (International Energy Agency, "Energy efficiency", available from http://www.iea.org/aboutus/faqs/energyefficiency/). 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 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 (WHO, 2011) 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 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.

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:

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

(b) 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;

(c) 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 per cent 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;

(d) Up to 1.6 million healthy life-years are lost every year due to transport noise in European Union 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:

(a) Promoting health by improving infrastructure that allows for safe walking and cycling to reduce road traffic accidents, air pollution, noise emissions and congestion;

(b) Promoting sustainable development by reducing air pollution and greenhouse gas emissions from transport, while improving energy efficiency and a shift towards a low-carbon economy;

(c) 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 (WHO, 2011; WHO Regional Office for Europe, 2014).

H. Public space

Cities in the region–especially the historic cities in the Balkans, Europe, North America, and the Russian Federation–are known for their compact cores and the 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.

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” (Orum and Neal, 2010, p. 1). They are an important part of the “urban advantage” (Saliez, 2015). Yet, in times of rapid urbanization and urban change, public spaces come under pressure from many causes. In regions

BOX 9: 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 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 (WHO Regional Office for Europe, 2010, 2013; Annerstedt van den Bosch and others, 2015).

Princes Street Gardens, the public space in city center of Edinburgh, United Kingdom © Shutterstock

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 (UN-Habitat, 2013).

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 (Saliez, 2015).

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 III.

The United Nations 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".[55] 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 (UN-Habitat, 2015a).

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 (Saliez, 2015). 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.[56] 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

55 Available from https://sustainabledevelopment.un.org/topics
56 See UN-Habitat Global Public Space Toolkit, available from https://unhabitat.org/wp-content/uploads/2015/10/Global%20Public%20Space%20Toolkit.pdf

BOX 10: THE FUTURE OF PLACES FORUM

The Future of Places forum (http://futureofplaces.com/), supported by UN-Habitat, promotes the role of public space and pushes for its incorporation in the Habitat III Conference. In a series of seminars, the forum distilled eight messages directed at policymakers on the ideal approach towards public space:

(a) Public space requires a people-centred approach to planning, to ensure its sustainable development and use;

(b) It has to be inclusive for all, particularly vulnerable groups, to stimulate intergenerational, social and economic activities, and reap its full inclusionary benefits;

(c) It must respect human scale and behavioural patterns of use;

(d) 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;

(e) Economic productivity of public space through its stimulation of small-scale local economy and generation of tax revenues should be ensured;

(f) The market alone cannot provide a variety of public and private open spaces. A balanced mixture, as well as access thereto, should be ensured;

(g) Public space and its surrounding buildings need to be socially, economically and environmentally sustainable;

(h) 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.

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 interlinkages 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 (American Planning Association, 2015).

A countervailing trend, however, has seen the privatization of some public space (Vasagar, 2012), with examples in some countries limiting access to former public spaces after their acquisition through private development entities (Garrett, 2015). 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.

BOX 11: 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 ECE region, the role of streets is constantly adapting, too (UN-Habitat, 2013). Urban 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 (ibid.). The Future of Places forum envisions streets as "multimodal networks of social and economic exchange, forming the urban framework of interconnected public space" (Future of Places, 2015). In order to realize such a vision, streets have to be recognized and valued as "the most important constituent of city structure" (Porta, 2014).

UN-Habitat observes an increasing trend in Europe, North America and Oceania towards making streets less car- and more cycling- and pedestrian-friendly (UN-Habitat, 2013). An outstanding example of this is Copenhagen, where only a quarter of daily commuters use a car to get to work (Gehl, 2013, p. 64). 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 (ibid., p. 71). Impressive strides in a similar direction can also be witnessed in cities more known for their prevalence of individual transportation: and Moscow (ibid., pp. 44 et seq.) and New York (ibid., pp. 38 et seq.).

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 greenhouse gas 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 "if you don't get the streets right, you'll never get the city right" (Porta, 2014).

I. Conclusions

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 2008–2011. 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 ECE 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 United Nations.[57]

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 (ECE, 2015).

ECE countries face the challenge of renewing older housing policy that existed prior to the financial crisis of the early twenty-first 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 and its relation with the surrounding urban fabric, including health and public space.

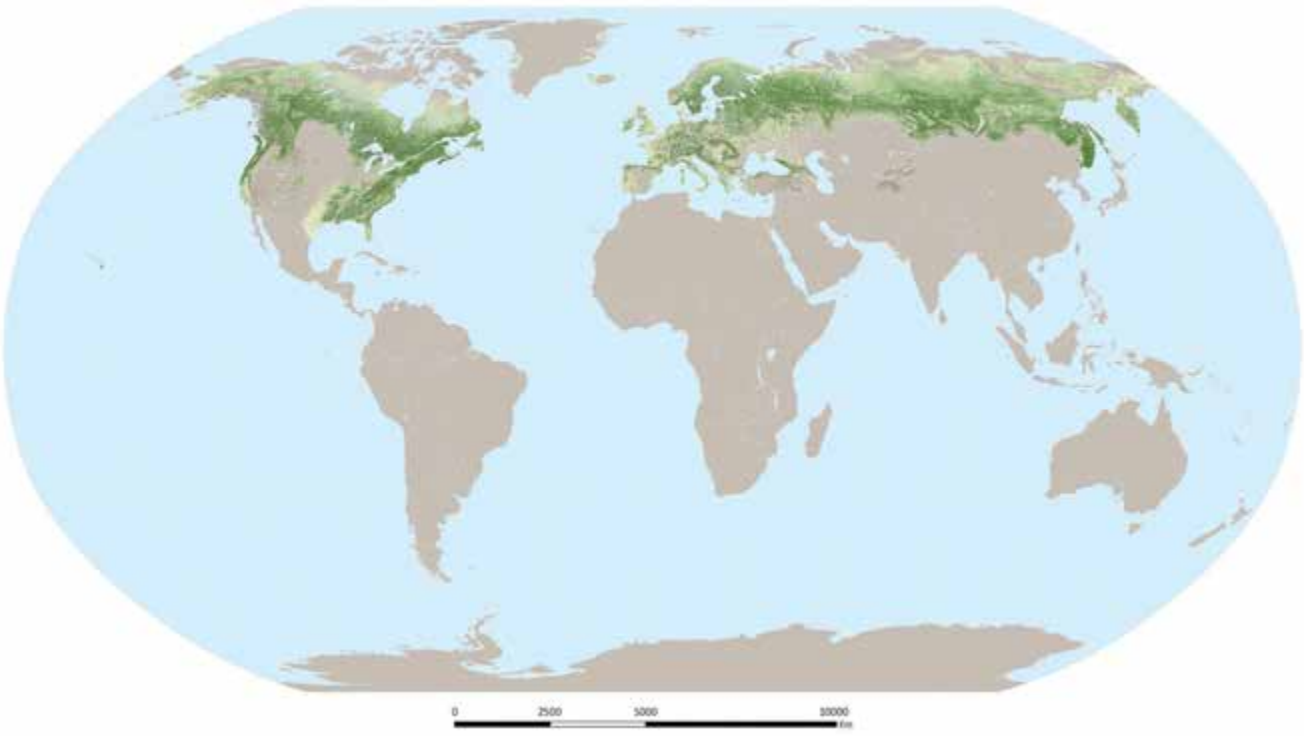
57 Primary reference sources used in this chapter include: ECE, 2015; European Observatory on Homelessness, 2014; European Commission, 2015; Fernàndez Evangelista and Jones, 2013; JRF, 2013; Housing Europe, 2015; United States Department of Housing and Urban Development, 2014; One-Europe, 2014; OECD, 2013 and 2015; UN DESA, 2014; ECE, 2009; ECE, 2015a; The Geneva United Nations Charter on Sustainable Housing (E/ECE/1478/Rev.1); UN-Habitat, 2011 and 2013a.

River Ouse bursts its banks due to heavy rainfall in York, Yorkshire, United Kingdom © Shutterstock

V

URBANIZATION AND THE ENVIRONMENT: **ENVIRONMENT AND ENVIRONMENTAL RISK**

FIGURE 20: MAP OF THE FOREST IN THE ECE REGION



Source: ECE.

A. The environmental context

The ECE 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 United States 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.

B. Environmentally diverse subregions

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 greenhouse gases in the world, and is responsible for a very significant percentage 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 greenhouse gas 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.[58]

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.[59] Rising traffic volumes have contributed negatively to harmful levels of air pollution and noise, as well as increased greenhouse gas emissions from the transport sector (European Environment Agency, 2015; South-Eastern Europe subregional report; United States subregional report; EERCCA subregional report). In certain areas, water pollution, due to deteriorating supply systems, wastewater management and recycling capacities, is a growing issue (ibid.).

58 United States subregional report.
59 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.

BOX 12: INVESTING IN/FACILITATING GREEN GROWTH/GREEN INFRASTRUCTURE – THE UNITED KINGDOM'S GREEN INVESTMENT BANK

In order to scale back its carbon emissions by 2050 and increase power generation from renewable sources by 2020, the United Kingdom estimates that investments of between £200 billion and £1 trillion will be required over the next two decades (www.publications.parliament.uk/pa/cm201011/cmselect/cmenvaud/505/505.pdf). 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" (https://www.gov.uk/government/organisations/uk-green-investment-bank). Backed by £3.8 billion from the United Kingdom Government, the Green Investment Bank finances and facilitates investments in "innovative, environmentally-friendly areas" (ibid.) 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 (United Kingdom Green Investment Bank, 2015). In the business year 2014/15, it has financed 22 new projects, committing a total of £723 million in capital (www.greeninvestmentbank.com/media/44799/gib_annual_report_2015_aw_web.pdf, p.14), becoming the most active United Kingdom investor in the green economy and generating a profit in its second year of operation (ibid.).

The Green Investment Bank 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 towards a greener economy.

The next milestone for the Bank will be its privatization, which is currently underway. This will enable it more freedom to borrow from and lend to private capital markets (http://www.theguardian.com/environment/2015/oct/15/green-investment-bank-will-be-taken-out-of-ministerial-control).

An increase in extreme weather events has been recorded across the region. Apart from floods and heatwaves, 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 United States, Southern Europe and the Caucasus, in the form of earthquakes and landslides. The United States is also plagued by hurricanes and tornadoes and, on occasion, ice storms and volcanic eruptions.[60]

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 countries of the ECE 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 (European Environment Agency, 2015). 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 are only two 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 (EERCCA subregional report).

The projected effects of climate change in cities of the region are related mainly to extreme weather events, as the frequency and intensity of heatwaves 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 (Armour, 2016). 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.

C. 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 (European Environment Agency, 2010). For North America, the equivalent figure is 0.7 to 1.1°C since 1895 (Melillo and others, 2014). 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 (Field and others, 2007), while its dry areas face the risk of droughts and desertification. A special

60 The Global Seismic Hazard Map, available from http://gmo.gfz-potsdam.de/; and the 2015 Global Assessment Report on Disaster Risk Reduction on volcanic ash fall and risk, available from https://www.unisdr.org/we/inform/publications/49769

BOX 13: 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 such as heatwaves 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 (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 greenhouse gas 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 (WHO Regional Office for Europe (2010a and 2015)).

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.

For many cities in the region today, traffic and transportation are the crucial sources of air pollution and greenhouse gas emissions (draft national report on the development of human settlements of the Russian Federation for Habitat III (2015); Regional Environmental Center, 2006; European Environment Agency; 2015). 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 greenhouse gas emissions, not only in the United States, the greatest source of carbon pollution (European Environment Agency, 2014), but also in the post-Soviet countries and parts of South-Eastern Europe that often struggle with outdated technology and production (UNDP, 2007).

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,[61] Local governments for Sustainability (ICLEI)–Europe,[62] the European Green Capital Award,[63] the United Nations Compact of Mayors,[64] and the European Union-based Covenant of Mayors.[65] Such activity is even to be witnessed in countries where climate change

61 Further information on Energy Cities available from http://www.energy-cities.eu/
62 Further information on ICLEI available from http://www.iclei-europe.org/
63 Further information on the European Green Capital initiative available from http://ec.europa.eu/environment/europeangreencapital/index_en.htm
64 Further information on the Compact of Mayors available from http://www.compactofmayors.org/
65 Further information on the Covenant of Mayors available from http://www.covenantofmayors.eu/

BOX 14: THE REGION IS A MAJOR STAKEHOLDER IN INTERNATIONAL CLIMATE AND 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 greenhouse gas 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 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 per cent as compared with normal housing and by 60 per cent compared with the lowenergy building definitions. They may even be able to operate off-grid and have lower operating costs than more conventional buildings. In Austria, Germany, the Scandinavian countries and Switzerland, such buildings have already been popular for a number of years (ECE, 2012).

BOX 15: SOLUTION FOR CLIMATE CHANGE

ECE provides solutions to address climate change.

The United Nations For Future Inland Transport Systems (ForFITS) tool, developed by ECE, compares the future impacts of different transport-related policies on CO2 emissions to enhance informed policymaking.

Inland transport is one of the biggest sources of greenhouse gas emissions on the planet. The ECE 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, ECE promotes sustainable urban transport, including an increase in non-motorized modes, such as cycling and walking. Through its work on Intelligent Transport Systems, ECE hopes to accelerate the shift towards environmentally-friendly modes of transport, and reduce emissions by avoiding congestion and smoothing traffic flows.

The Convention on the Protection and Use of Transboundary Watercourses and International Lakes (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 per cent of the Earth's ice-free land surface have already exchanged their experiences on adaptation in the Convention's network.

Greenhouse gas emissions and some key air pollutants have the same sources. Thus, by reducing air pollution, ECE also brings about climate co-benefits that enhance global mitigation efforts. Parties to ECE's Convention on Long-range Transboundary Air Pollution, which sets emissions targets, have collectively reduced emissions of certain substances by 40 per cent to 70 per cent since 1990 in Europe.

ECE hosts the Aarhus Convention, whose Protocol on Pollutant Release and Transfer Registers (PRTR) increases transparency on emissions of pollutants in communities.

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 United States is currently pursuing the reduction of carbon pollution through an increase in fuel economy standards of manufactured cars (National Highway Traffic Safety Administration, 2012). Energy efficiency in housing is a key focus of some 190 local organizations pledged to increase energy savings (O. Golubchikov and A. Badyina; UN-Habitat, 2015; EERCCA subregional report). Similar efforts are being undertaken in the Eastern European and Central Asian countries and the Russian Federation, where cold continental winters demand a prolonged heating season, together with proper building insulation and infrastructure (EERCCA subregional report). 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 the Russian Federation). Others are implementing pilot programmes and initial evaluations (Armenia, Kazakhstan and Uzbekistan) (CER, 2014). But, in general, the scale of new energy-efficient house-building is modest in these countries and in South-Eastern Europe, where energy efficiency is considered to be the key to reduced energy demand, greenhouse gas emissions and air pollution (UNDP, 2007).

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 greenhouse gas emissions (European Environment Agency, 2015a).

D. Air, energy and soil

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 (European Environment Agency, 2015b).[66] Despite some progress in combating this, millions of people remain affected by unsafe levels of concentration (ibid.). In the United States, estimates by the Environmental Protection Agency point towards possible health and climate benefits of up to $48.6 billion to $82.1 billion in 2030. This is to be achieved through a plan for the power sector to cut carbon dioxide (CO_2) emissions to 30 per cent below 2005 levels by 2030, which will also have important co-benefits in terms of decreasing the emissions of air pollutants (United States Environmental Protection Agency, 2014).

Electricity production is one of the major contributors to air pollution in EERCCA, which is still coping with the consequences of old industrial

66 More updated and complete info is available at: "WHO. Burden of disease from Ambient Air Pollution for 2012: Summary of results", available from www.who.int/phe/health_topics/outdoorair/databases/AAP_BoD_results_March2014.pdf; or see document ECE/CEP/2015/L.3 para 9, available from http://www.unece.org/index.php?id=38470#/

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 South-Eastern Europe 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 (UNDP, 2007). Initiatives combating air pollution need to address the same issues as climate mitigation efforts in the region: transport and energy production.[67]

Since 2009, the United States Environmental Protection Agency has been finalizing emission standards for light- and heavy-duty vehicles (United States Environmental Protection Agency, 2013). The standards to be applied are projected to save approximately 4 billion barrels of oil and reduce greenhouse gas emissions by the equivalent of approximately 2 billion metric tons, with net benefits of up to €398 billion (United States Environmental Protection Agency, 2012). The European Union is also tightening emissions standards for vehicles and increasing its share of renewable energies (from 12.6 per cent in 2003 to 23.2 per cent in 2013), while household energy consumption as a whole is still growing (by 5.1 per cent from 2003 to 2013) (Eurostat, 2015). Both subregions were, however, recently shaken by scandals in the automobile industry, which 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 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 greenhouse gas emissions and air pollution (EERCCA and South-Eastern Europe subregional reports).

All over the ECE region, soil loss and degradation are major issues, with "soil loss rates through land development and infrastructures exceeding those due to soil erosion" (European Environment Agency, 1999, pp. 183–202, particularly p. 187). The main causes of soil degradation are urbanization, infrastructure development, and erosion (ibid., pp. 183–202). 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 (European Environment Agency, 2015a). In the European Union today, peri-urban areas are only half as densely populated as urban ones, yet they have the same proportion of built-up land (European Commission, 2012, p. 8). Between 1990 and 2006, the land take increased by almost 9 per cent, while the overall population only grew by 5 per cent (ibid.). Various forces cause land take in the European Union, such as people seeking better housing quality with more living space per capita and a greener, more family-friendly environment (ibid., p. 10). The phenomenon is driven more by changing lifestyles and consumption patterns than by a growing population (ibid.).

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 (Smart Growth America, 2015). The incremental transformation of the post-Communist

67 Also, the 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.

BOX 16: 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 ECE 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 per cent 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, 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 (www.euro.who.int/__data/assets/pdf_file/0018/276102/Improving-environment-health-europe-en.pdf?ua=1; www.who.int/phe/health_topics/outdoorair/databases/en/).

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 European Commission 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 South-Eastern Europe and the Newly Independent States, it was not possible to estimate the disease burden in the whole of the WHO European Region (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).

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.

E. Water

In parts of the region, large sections of the water infrastructure are ageing and need to be overhauled and modernized, most notably in Central Asia, Eastern Europe, South-Eastern Europe and the United States (Partnership for Sustainable Communities, 2013; EERCCA subregional report; UNDP, 2007). Leakages and the absence of an elaborate wastewater management and recycling system impair water quality in the metropolitan areas of these countries (UNDP, 2007, p. 127). Locally, seismic conditions as much as climate change exacerbate such problems, resulting in water shortages (EERCCA subregional report). 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. The Russian Federation, 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 (Draft national report on the development of human settlements of the Russian Federation for Habitat III, 2015). The United States Government provides State funds to encourage investment in a wide range of water quality infrastructure projects (Partnership for Sustainable Communities, 2013). In recent years, the programmes have provided, on average, more than €4.4 billion annually to fund water quality protection projects for wastewater treatment, pollution source control, and watershed and estuary management (United States Environmental Protection Agency, 2014a).

F. Disaster risk reduction

Floods and landslides are a common risk across the region. Locally, people face heatwaves, droughts and ensuing wildfires, mostly in the southern parts of North America; South-Eastern Europe, including the Mediterranean basin; and the Caucasus region. Earthquakes in Southern Europe, Armenia, Turkey and the West Coast of the United States pose a threat, as do hurricanes and tornadoes in North America (United Nations Office for Disaster Risk Reduction, 2015).[68] Disaster risk reduction is an issue more pressing in some parts of the region than in others. The most important is flooding, which has a consequential negative impact on the quality of life in urban areas and, in certain circumstances, imperils the lives of the public.

68 United States Federal Emergency Management Agency (FEMA). Disaster Declarations, available from www.fema.gov/disasters

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 South-Eastern Europe, inherent socioeconomic 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 (United Nations Office for Disaster Risk Reduction, 2015, p. 8). Local authorities report that "inadequate technical and financial capacity" for measures in the fields of disaster risk reduction, as well as disaster risk mitigation practices, represent the most important challenges for them (ibid.).

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 countries of the ECE region to incorporate and integrate mitigation and adaptation strategies into land use, water and forest management plans to ensure their success (UNDP, 2007, p. 174).

G. 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 United States 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 as urban sprawl contribute not only to soil sealing and increasing traffic, they also increase air pollution,

BOX 17: ECE MULTILATERAL ENVIRONMENTAL AGREEMENTS

ECE has negotiated five environmental conventions, also known as multilateral environmental agreements (MEAs), all of which are now in force:

(a) Convention on Long-range Transboundary Air Pollution (http://www.unece.org/env/lrtap/welcome.html);

(b) Convention on Environmental Impact Assessment in a Transboundary Context (http://www.unece.org/env/eia/welcome.html);

(c) Convention on the Protection and Use of Transboundary Watercourses and International Lakes (http://www.unece.org/env/water.html);

(d) Convention on the Transboundary Effects of Industrial Accidents (http://www.unece.org/env/teia.html);

(e) Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters (http://www.unece.org/env/pp/welcome.html).

The governing bodies of the MEAs are serviced by the ECE secretariat, which also helps them to monitor the implementation of the treaties. While many of the ECE 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 ECE MEAs, which have transformed the legal and natural landscape in the ECE region and beyond. The five conventions have been supplemented by a number of protocols, including:

(f) Protocol on Water and Health (http://www.unece.org/env/water/pwh_text/text_protocol.html);

(g) Protocol on Strategic Environmental Assessment (http://www.unece.org/env/eia/sea_protocol.html);

(h) Protocol on Pollutant Release and Transfer Registers (http://www.unece.org/env/pp/prtr.html);

(i) Protocol on Civil Liability and Compensation for Damage Caused by the Transboundary Effects of Industrial Accidents on Transboundary Waters (not in force) (http://www.unece.org/env/civil-liability/welcome.html).

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 greenhouse gas 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[69]). 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[70]).

69 Available from http://ec.europa.eu/environment/europeangreencapital/index_en.htm
70 Available from http://www.siemens.com/entry/cc/en/greencityindex.htm

Garbage collection in Nuremberg, Germany © Shutterstock

VI

URBANIZATION, GOVERNANCE AND INSTITUTIONAL CAPACITIES: **GOVERNANCE OF CITIES**

A. About urban governance

The United Nations Conference on Human Settlements (Habitat I) in 1976, 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 government in the effective management of territory.

Efforts to make cities "engines of development" put 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 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.

B. Urban governance

According to the ECE study (ECE, 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 government from housing provision, which has afforded the private sector more opportunity to act, with varying degrees of success.

BOX 18: 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 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:

(a) The private sector today is the main provider of housing, loans and management services for property, and is engaged (confirmed by around 40 per cent of respondents of the ECE study) in investments in the urban infrastructure, water and sanitation, indicating a trend towards public–private partnerships. In some countries, the private sector is also involved in the management of social housing;

(b) 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;

(c) 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 ECE 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;

(d) 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.[71]

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[72] 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.

71 See the ECE project "Strengthening national capacities for sustainable housing and urban development in countries with economies in transition", available from http://www.unece.org/housing/unda.html

72 Available from http://www.unece.org/index.php?id=41803

C. 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, Global Positioning System 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 (United Nations Global Pulse, 2012).

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, more so than a process to make a difference in terms of:

(a) Making planning instruments more effective and efficient (rethinking the way of designing planning tools);

(b) Moving the decision-making processes to a wider arena to strengthen public participation (communities matter); and

(c) 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 3-D data technologies, where decision-making has been literally and legally focused on 2-D 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 (Conti and others, 2012). 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.

BOX 19: URBAN ANALYSIS USING REMOTELY-SENSED DATA TO BE ASSOCIATED WITH THE SAMPLE OF URBAN TYPOLOGIES JRC MAP

The European Settlement Map provides information about the built-up area coverage in Europe, by mapping urban and rural areas in a consistent, harmonized and seamless way. The map is based on Global Human Settlement Layer (GHSL) technology developed by the European Commission Joint Research Centre (http://ghslsys.jrc.ec.europa.eu), using the automatic extraction of information from satellite images, providing continental maps of built-up coverage at 10 metres of resolution. The European Settlement Map, which is publicly accessible on the European Environment Agency data portal (http://land.copernicus.eu/pan-european/GHSL/view), 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.

D. 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:

(a) Deal with challenges in an integrated, holistic way, to match place- and peoplecentred approaches through structures with flexible governance processes corresponding to the scale of the challenge;

(b) Develop governance systems capable of cooperating and building shared visions, and reconciling competing objectives and conflicting development models;

(c) 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;

(d) Adapt governance systems to take into account various scales (supra-urban through to intra-urban) and timescales (European Commission, 2011). 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.

E. 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 II). These areas act as magnets for immigration from rural areas in developing countries and from developed regions in other parts of the world.[73] These agglomerative city-regions gather a high concentration of people with different economic

73 Committee of the Regions, Forum of Federations, The Governance of Metropolitan Regions, European and Global Experiences, Brussels, 2011.

Running tram at Bahnhofstrasse Street of Zurich city center, Switzerland © Shutterstock

BOX 20: 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 Jersey, New Yorkand 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 represents 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.

circumstances, generate substantial local revenues, and often demand greater autonomy and responsibility. Metropolitan regions will account for 60 per cent 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 (OECD, 2014). Recent OECD work has demonstrated that coordinated governance arrangements across jurisdictions and policy fields and the coordination of policies are important where borders of metropolitan areas do not correspond to today's functional realities (OECD, 2015a).

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

BOX 21: 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 limited/low budget
		hard	mainly formal competencies substantial budget
	steering capacity	formal tools	formal plans, e.g. statutory planning, etc.
		informal tools	mainly communicative tools, informal concepts, etc.
		economic tools	financial incentives, market player, etc.
	public participation	Integration	extensive processes and tools for public participation
		consultation	no or minimal regulations for participation
	co-creation with private actors	public–private partnerships	formalized cooperation with the business sector
		consultation	board or platform with private actors

BOX 22: EFFECTIVE GOVERNANCE RESPECTING LOCAL GOVERNMENTS: THE CASE OF BERLIN

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 (Polycentric development within the metropolitan area, the innovative concept from Berlin, available from http://www.stk.brandenburg.de/sixcms/detail.php/bb1.c.323771.de).

economic competitiveness in a global context (United Cities and Local Governments, 2008). The capability of metropolitan areas for coordinated and consultative governmental action is important, as global economic powerhouses – such as London, Moscow, New York, Paris and Toronto and other major world cities – demonstrate. New York is an example of governance led by conditions of "market coordination for economic competition" (Kantor, 2012).

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 include a wide range of structural phenomena characterized by specific strengths and weaknesses. Monocentric 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 (Blatter and Knieling, 2009; Sellers and others, 2013; Mieg and Töpfer, 2013).

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 less than 4 per cent over the long term, following governance reforms and better spatial planning in the metropolitan areas of Aix-Marseille and Paris, 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 points per year over 10 years represents a significant return for coordinated metropolitan governance and planning (Ahrend and others, 2014). 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.[74]

74 The PURPLE Network represents peri-urban territories, where coordinated urban, peri-urban and rural areas are coordinated. Available from http://www.purple-eu.org/home/

BOX 23: HYBRID GOVERNANCE

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. 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 a bike-sharing system unilaterally within Greater London, the mayor of Paris can only implement Vélib' within the boundaries of the City of Paris; she 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.

BOX 24: PURPLE NETWORK

The Peri-Urban Regions Platform Europe (PURPLE) network (http://www.purple-eu.org/home/) 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 European Union including Catalonia, Dublin, Flanders, Frankfurt Rhein-Main, Île de France, Mazovia, MHAL (Province of Limburg), Nord Pas-de-Calais, Randstad, Rhône-Alpes, Surrey, South Moravia, Stockholm, West Midlands and Wielkopolska.

F. Governing small and medium-sized cities

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 per cent of urban residents (UN DESA, Population Division, 2014). Small and medium-sized cities (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.

Strengthening local institutions and governance in small cities will be a key means to future-proofing (Clark, 2015). However, a focus on metropolitan governance over the last 20 years has left smaller territories disadvantaged, whether geographically and/or economically (Kunzmann, 2009). This is particularly true in the more peripheral areas of the ECE region. The advantages of the bigger cities over lower-tier ones are 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 Russian Federation, where cities are closer and better connected. Hence, the combination of being lower tier and outside the central core of the subregions of the ECE 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 (Martin, 2014).

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 (Suvorova, 2012).

In North America and the Russian Federation, 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 (ESPON, SGDP, 2012).

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" (such as Spain's *comarcas*) to associations (such as the *mancomunidades de municipios* in Spain, the associations in Portugal, 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 European Union 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, is often the only way to launch development initiatives in marginal rural areas. In the United States, since the mid-1950s, there has been a significant increase in Councils of Government and other forms of cooperation agreements for the planning, financing and production of local public services. The "county regional municipalities" (*municipalités régionales de comté*) 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 (OECD, 2005).

BOX 25: AN EXAMPLE OF SMALL AND MEDIUM-SIZED CITIES' 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 registered an employment growth rate of 4.2 per cent between 1995 and 1999, and a GDP growth rate of about 4.5 per cent. 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 (URBACT, 2011).

G. 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 ECE 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 reconfiguration 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.

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, which has had a strong impact on many neighbourhoods by 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 European Union-level programmes (e.g. Urban I and II, URBACT and INTERREG). An important factor of change in the European Union 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" (Barca, 2009, p. VII).

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 the 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 (Potz, 2011). 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 integrated approach, or mechanisms for public participation including area-based action plans.[75]

ECE countries face the challenge of finding the balance between two traditionally independent domains – industrial disaster safety and land-use planning, with the objective of minimizing risk to the population and the environment. The strong interdisciplinary character of this challenge, combining industrial safety, environmental protection, local governance and socioeconomic 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. On the other hand, area-based interventions, concentrating on specific (deprived) geographic areas, 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

75 Weeber and others, 2011: (a) the inclusion of citizens and local stakeholders; (b) the inclusion of different municipality departments and experts; (c) the creation of a platform for shared diagnosis, planning, monitoring and evaluation; and (d) improving the coordination and integration of different responsibilities and finding agreements at neighbourhood and city levels.

BOX 26: 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 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:

(a) Isolation (physical, economic and cultural) of block settlements;

(b) Presence of multiple deprivation phenomena;

(c) Infrastructure and facilities often not functional, and expensive to run (inefficient use of energy);

(d) Public spaces in need of redesign and refunctionalization;

(e) 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 rethought. 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.

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.

H. 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 (Roiseland, 2010 apud Grisel and van der Wart, 2011). 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 (SURE Baseline Study). 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 (Roiseland, 2010 apud Grisel and van der Wart, 2011).

I. Conclusions

The period since 1996 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 the Habitat II Conference. 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.

Aerial view of Saint-Petersburg, Russian Federation with skyline and scenery beyond the city © Shutterstock

VII

CONCLUSIONS AND **EMERGING TRENDS**

There has been a trend towards urbanization throughout the region since 1996. This is particularly marked in North America, with both Canada and the United States having more than 80 per cent of their populations living in cities. The figures are less marked in Europe (European Union and EFTA) at 77 per cent, and in EERCCA.

In all four subregions, there is a 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 more than 70 per cent 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 extend east from Minsk to St. Petersburg 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 do the effects of the knowledge economy and the digital revolution.

Although urban concentration in the sense of ever greater percentages of people living in cities is a trend throughout the region, so too is urban sprawl. For example, the calculation of the change in land use per capita over time is an important indicator of land use efficiency and a vital input to spatial planning. Recent work by UN-Habitat indicates that land usage per capita in the region is almost double the global average and more than three times the average for Africa or Western Asia, a ratio that has continued over time. Resolving the inverse relationship between density and sprawl is likely to be an issue throughout the region in the coming decades.[76]

The trends from the last 20 years show the sequence of city cycles:

(a) 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;

(b) 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;

(c) 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;

(d) 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;

(e) 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;

(f) 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;

(g) 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,

76 UN-Habitat, Urban Expansion Programme, 2016, New York University, and the Lincoln Institute of Land Policy.

residential, cultural and retail uses. This form and mix support an integrated and effective public transport system and the efficient delivery of public services.

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 are 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 number 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 dense and proximate development patterns, urban areas linked by public transport systems, and accessibility to local services and jobs (OECD glossary, p. 15). 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 are 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 the United Nations Sustainable Development Goals (ibid., p. 19). It may also be viewed as a means of protecting the environment by controlling growth.

Recent research by 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 twenty-first 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 (OECD, p. 20).

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 achieving 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 (OECD, p. 21).

The preparation of this Habitat III Regional Report on Housing and Urban Development in the Economic Commission for Europe Region has come full circle. All the evidence of the last 20 years since the Habitat II Conference does, indeed, suggest that the twenty-first century will be the "Century of the City". We may go further, however, and suggest that, for the ECE region, the so-called global North, the twenty-first century needs to become the Century of the Compact, Resilient and Integrated City.

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