United Smart Cities:
Towards smarter and more sustainable cities

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UNECE

Outline

- The UNECE and the Committee on Housing and Land Management

- Areas of work

- "United Smart Cities" project:
  - activities
  - objectives
  - partners
  - cities and events

- The project's outputs
  - the indicator set
  - the smart city profiles
  - the platform

- The inter-governmental process for the indicators
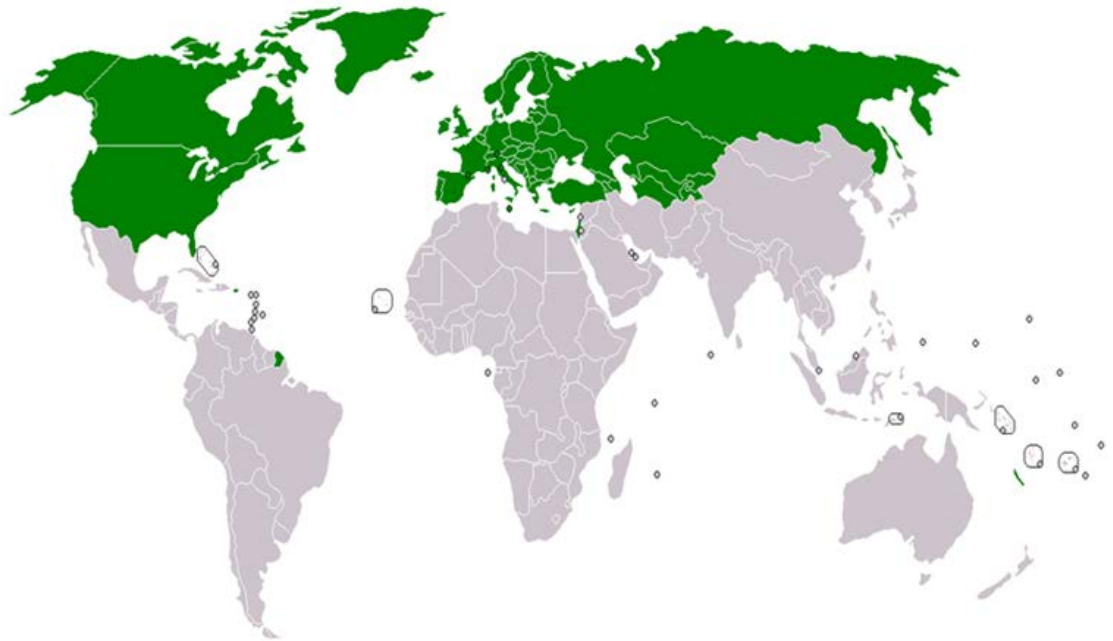
- Next steps

The United Nations Economic Commission for Europe

56 member States in Europe, Central Asia and North America

One of the five ECOSOC Regional Commissions

8 thematic sub-programmes:
- Economic cooperation
- Environment
- Forestry
- **Housing and land management**
- Statistics
- Sustainable Energy
- Trade
- Transport

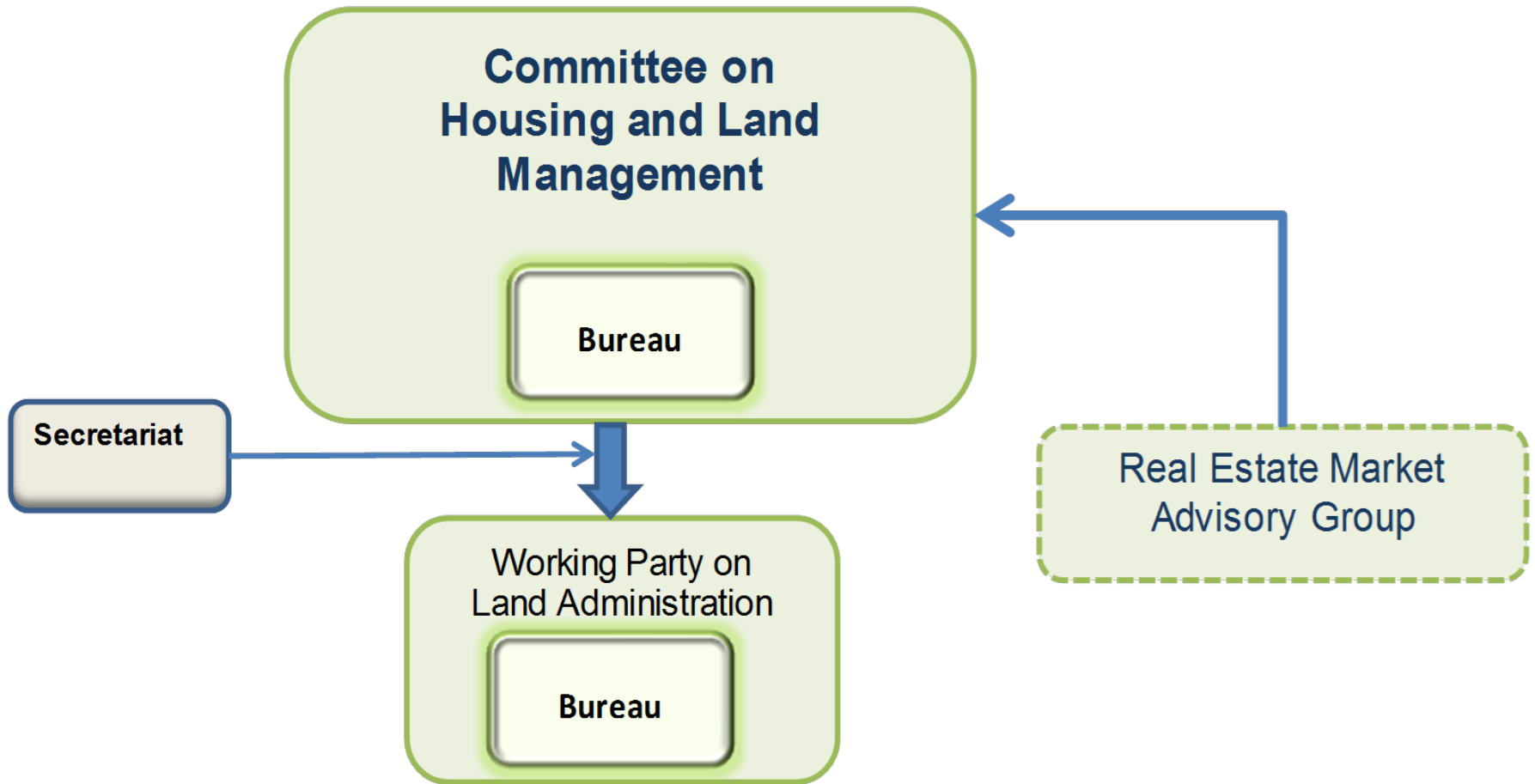# Committee on Housing and Land Management

Established in 1947
Mandate: to improve housing, urban sustainability and land governance

CHLM governance structure

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Areas of work

1. Sustainable housing and real estate market

2. Sustainable urban development
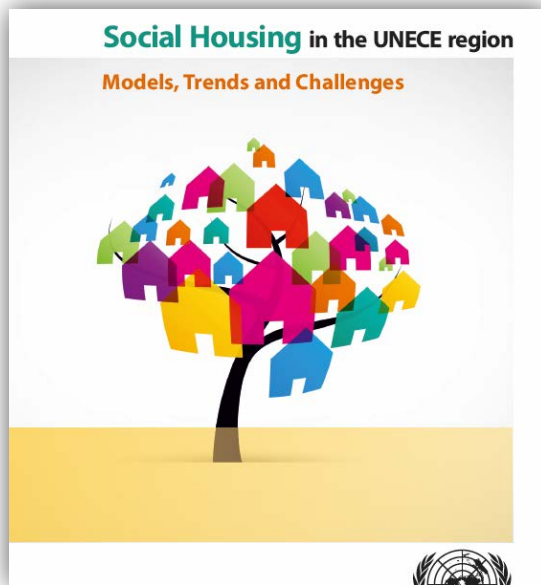

3. Land Administration and Management
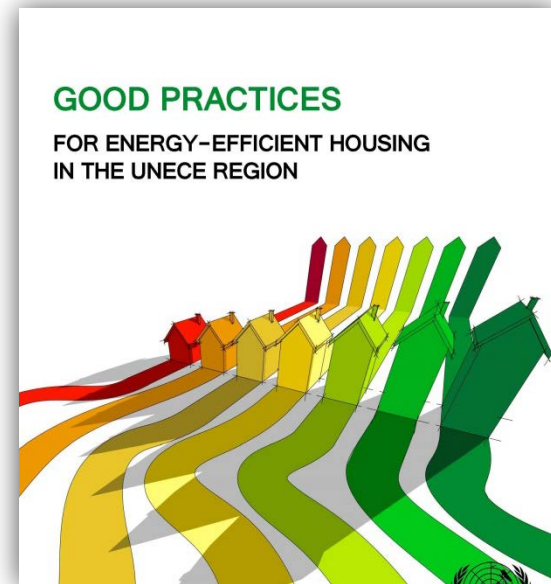

4. Country Profiles

1. Sustainable housing

Social housing

Trends and challenges.
Recommendations
and policy advice

Energy-efficient housing

Practical examples on
means of implementation

Geneva UN Charter on Sustainable Housing

Main purpose: to ensure the access to decent, affordable and healthy housing in the ECE region

Scope: to improve the sustainability of housing in the ECE region through effective policies and actions at all levels, supported by international cooperation

Four principles:

- Environmental protection,
- Economic effectiveness,
- Social inclusion and participation,
- Cultural adequacy

Energy efficiency Standards in buildings (1/2)

UNECE

1. Proposal for developing a study on standards for EE in buildings (ECE/HBP/2014/4) - accepted in October 2014

2. Survey on building standards and regulations (March 2015)

3. Expert Consultation on EE standards in buildings (April 2015)

2. Establishment of a UNECE Task Force on building codes and standards on energy efficiency in buildings

Energy efficiency Standards in buildings (2/2)

Informal Task Force on EE Standards in Buildings

Activities

- Mapping EE standards for buildings and preparing gap analyses

- Preparing guidance materials

- Promoting partnerships

- Establishing an expert network

- Developing and organizing training programmes

- Elaborating national and regional profiles on building standards

Thematic focuses

- Thermal performance of buildings and building components

- Construction materials

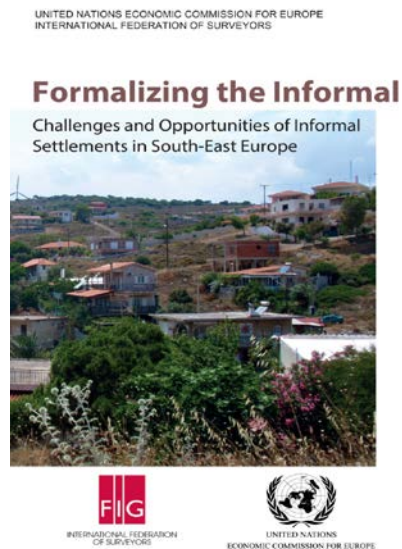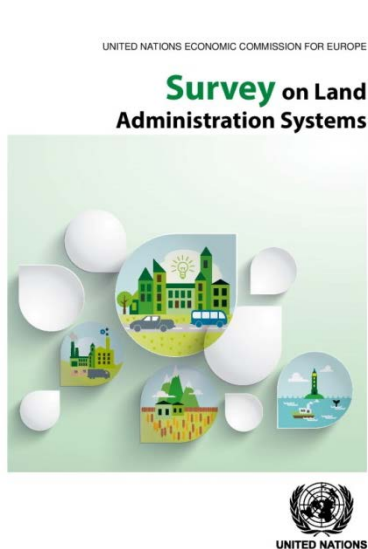- Minimum habitable standards for healthy and safe living

2. Land Administration and Management

Studies
- Challenges of Fraud to Land Administration Institutions (2011)
- Benchmarking of land administration systems (2014)
- Informal settlements (2015)

Cooperation
The World Bank, FAO, the European Commission, ELRA, FIG, Eurogeographics

Workshops in 2015:
- Vienna
- Baku
- Washington DC Moscow

3. Country Profiles
On Housing and Land Management

- On request of countries

- Prepared by international experts in cooperation with a government and national UNDP offices

- Include analysis and policy recommendations

- **16** country profiles:

  – Bulgaria, Poland, Slovakia, Lithuania, Romania, Republic of Moldova, Albania, Armenia, the Russian Federation, Serbia and Montenegro, Georgia, Belarus, Kyrgyzstan, Azerbaijan, Tajikistan, Ukraine

- In work: Republic of Moldova, Uzbekistan, and Armenia

UNITED NATIONS ECONOMIC COMMISSION FOR EUROPE

Country Profiles
on Housing and
Land Management

Ukraine

UNITED NATIONS
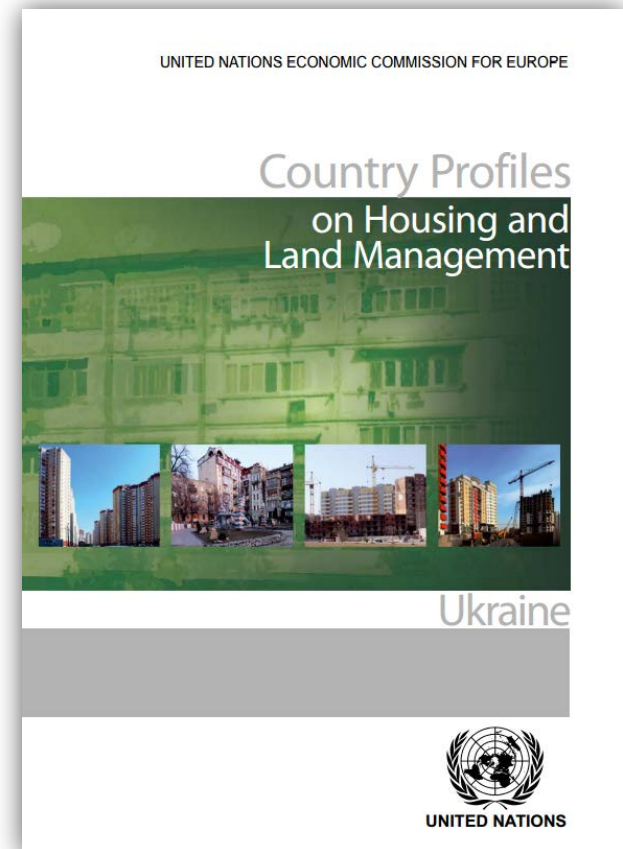
The UN Development Account project

Strengthening national capacities for sustainable housing and urban development in countries with economies in transition

Armenia   Tajikistan   Serbia   Moldova

- Capacity building activities

- National Action Plans preparation based on country profiles' policy recommendations

- Implementation by national experts in cooperation with the UNECE and international experts, overseen by a high-level inter-ministerial steering committees

4. Sustainable Urban Development

- Task Force on urban planning
  - addressing risks from natural and human-induced disasters
  - produce a Policy Study on Urban Planning

- United Smart Cities
  - improve sustainable urban development

- Habitat III preparation

UNECE coordinates the preparation of **a regional report for ECE region and supports the implementation of a regional roadmap** for the United Nations Conference on Housing and Sustainable Urban Development - HABITAT III (Quito, Ecuador, 17-21 October 2015).

HABITAT III Regional Roadmap milestones:

- First Expert Group Meeting on Regional Report, 29 May 2015, Milano, Italy

- Second Expert Group Meeting on Regional Report, 7-8 July 2015, Geneva

- 76th session of the Committee on Housing and Land Management, 14-15 December 2015, Rome

- European Regional Meeting, 18-20 March 2016, Prague

- HABITAT III Third PrepCom, 25-27 July 2016, Jakarta

- 77th session of the Committee, 12 – 15 September 2016, Geneva

- HABITAT III Conference 17 – 20 October 2016

NEW URBAN AGENDA (to be adopted by HABITAT III)

Will promote among others

- An integrated approach to the development of cities and human settlements
- Green, inclusive, healthy, compact and resilient cities

Key priorities 2015 - 2016

- **The United Nations Conference on Housing and Sustainable Urban Development (Habitat III)**
  - **Regional Report and Roadmap**
  - **Support to the implementation of New Urban Agenda**

- **United Smart Cities: Smart cities indicators and smart city profiles**

- **Implementation of the Geneva UN Charter at national and local levels**

- **FAO voluntary guidelines on the responsible governance of tenure of land**

- **Partnerships with other organisations and UNECE subprogrammes**

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Urbanization in UNECE region

Statistics

- 1/5 of global population
- 73% urban residents (85% in 2050)
- 60% of the world's GDP
- 45% of energy consumption
- 40% of GHG emissions

Main challenges

- High energy consumption
- High quantities GHG emissions
- Overpopulation and critical living conditions for citizens
- Informal settlements
- Conversion of land and green spaces into constructions and buildings
- Mobility problems and lack of infrastructures and services
- Housing issues

Smart city: definition

Many **orientations/definitions** of "Smart Cities" but its main features are:

- technologically (especially ICT) oriented to **improve competitiveness and ensure a more sustainable future**
- interconnected networks of people, businesses, technologies, infrastructures, consumption, energy and spaces (systemic approach)

Its strategies and initiatives **must include at least one of the following characteristics**:

- Smart Governance
- Smart People
- Smart Living
- Smart Mobility
- Smart Economy
- Smart Environment

UNECE Smart city: definition

Smart + sustainable

"A smart sustainable city is an innovative city that uses information and communication technologies (ICTs) and other means to improve quality of life, efficiency of urban operation and services, and competitiveness, while ensuring that it meets the needs of present and future generations with respect to economic, social, cultural and environmental aspects." [ITU-T TR SSC]

UNECE Smart city: characteristics

A smart city is:

- **Inclusive**
- **Safe**
- **Resilient**
- **Competitive**
- **Sustainable**
- **"Connected"**

Proposed Sustainable Development Goal (SDG) 11

UNECE Smart city: sustainability principles

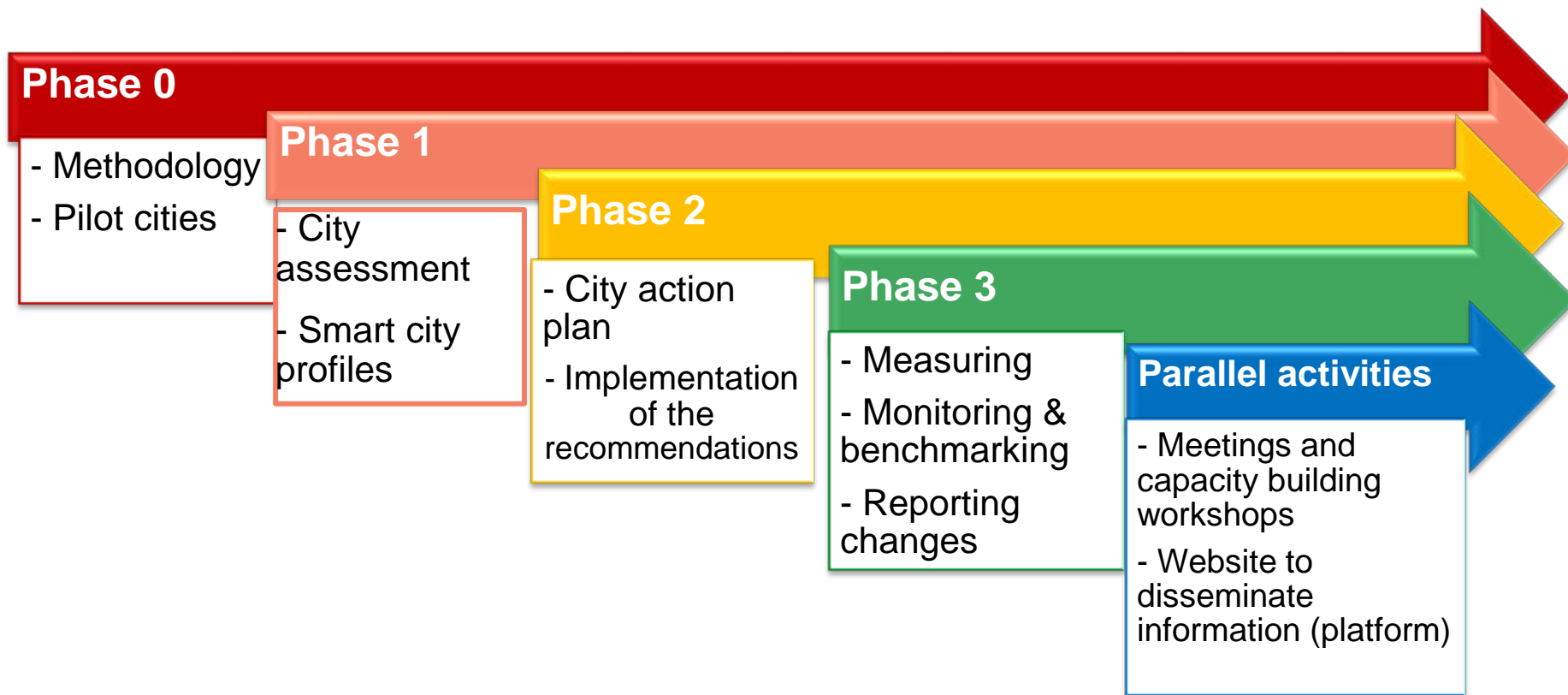The sustainability of smart city is based on **five** main "abilities":

- **Economic:** ability to generate income and employment for the livelihood of the inhabitants.

- **Social:** ability to ensure well-being (safety, health, education etc) and inclusiveness of the citizens can be equally delivered despite differences in class, race or gender.

- **Environmental:** ability to protect future quality and reproducibility of natural resources.

- **Governance:** ability to maintain social conditions of stability, democracy, participation, transparency, ethics and justice.

- **Cultural:** ability to promote cultural identity and adequacy, value and emotional wellbeing.

UNECE smart cities initiative: Summary of activities

«UNITED SMART CITIES» project - launched in May 2014

Phase 0
- Methodology
- Pilot cities

Phase 1
- City assessment
- Smart city profiles

Phase 2
- City action plan
- Implementation of the recommendations

Phase 3
- Measuring
- Monitoring & benchmarking
- Reporting changes

Parallel activities
- Meetings and capacity building workshops
- Website to disseminate information (platform)

United Smart Cities: objectives

Main Objectives:

- Promote KNOWLEDGE and BEST PRACTICES TRANSFER on sustainable urban development

- Help national and local authorities to develop POLICIES on sustainable urban development

- Establish partnerships and COOPERATION among stakeholders

- Extend the concept of smart cities to LOW- and MEDIUM INCOME economies

- Identify and develop smart FINANCING MECHANISMS

- Extend the concept of smart cities to LOW- and MEDIUM INCOME economies

- **Improve the inhabitants' QUALITY OF LIFE**

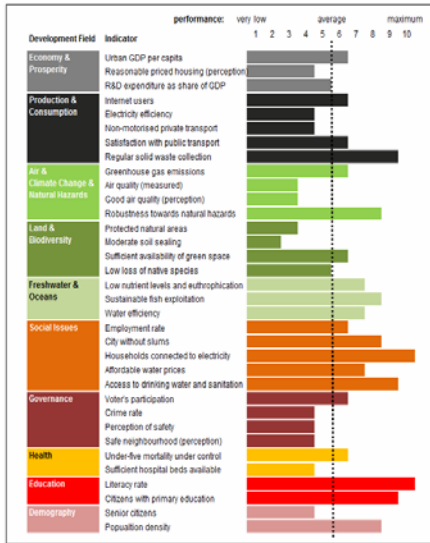# Partners

The selected cities

UNECE

Pilot cities

- **Goris - Armenia**
- **Vologda – Russian Fed.**
- **Stavropol – Russian Fed.**
- **Aktau – Kazakhstan**
- **Polotsk - Belarus**
- **Vinnitsa – Ukraine**
- **Tbc – Albania**
- **Tbc - Georgia**

Cities in the platform

Rakvere
Vologda
Copenhagen
London · Malmö
Moscow
Astana
Amsterdam · Turov
Vienna · Vinnitsa
Brussels · Graz
Stavropol · Aktau
Rimini
Goris · Dushanbe
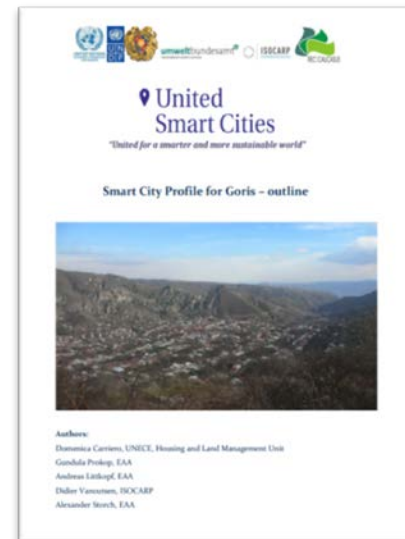Djerba
Amman
Ismailia
Dubai
Suez

Outputs

1. Development of a set of indicators for evaluating a smart and sustainable city

4. Capacity building

3. Creation of a multi-stakeholder platform and content hub for smart city initiatives

2. Preparation of smart city profiles with recommendations

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Output 1: the indicators set

Developed by a consortium of partners – leading partner
Environment Agency Austria

Approach
3 main areas
10 development fields
60 measurable indicators

Economy	Environment	Society & Culture
1. Economic Development	3. Air, Climate Change & Natural Hazards	6. Social Issues
2. Infrastructure & Energy	4. Land & Biodiversity	7. Governance
	5. Freshwater & Oceans	8. Health
		9. Education
		10. Demography

The indicators set: thematic structure

ECONOMY		ENVIRONMENT		SOCIETY	
Development field	Sub-Topics (very impor-tan / relevant)	Development field	Sub-Topics (very impor-tan / relevant)	Development field	Sub-Topics (very impor-tan / relevant)
Economy & Prosperity	Economy **Innovation** **Housing** Employment Social Equity Green econ. Tourism	Air & Climate Change & Natural Haz-ards	**Air emissions** **Air quality** **Climate** **Natural haz.** Noise Diseases Medicare	Social Issues	**Poverty** **Housing** **Social Equity**
Production & Consumption	**Energy** **Transport** **Waste** **E-Communic.** Generic Housing Infrastructure Recreation	Land & Biodiversity	**Biodiversity** **Recreation** **Land Take** Urban Planning Ecosyst. Serv. Housing	Governance	**Administr.** **Safety/Secur.** **Paticip/awar.** **Social equity** Economy Environ. policy Urban planning Housing Medicare
		Freshwater & Oceans	**Water quality** **& quantity** **Fisheries** Eutrophication Tourism	Health	**Diseases&** **Medicare.** **Life expect'y** Recreation
				Education	**Literacy** **& Education** **Skills/Training** Higher educa-tion Edu. quality Generic Social equity Culture
				Demography	**Aging** **Pop. Stat.** Life Expect

Indicator set: benefits

Helpful tool to:

❑ evaluate the current status of a city

❑ serve as a starting point for action

❑ set priorities

❑ measure changes

The indicators set: sources

Starting point: SMART CITY PROFILES Austria

- Sources:
  - more than 25 worldwide urban indicator initiatives
  - **available statistical data** (i.e. EUROSTAT, Urban Audit, World-Bank, WHO, FAO etc.)
  - **available maps** (i.e. likelihood of drought, earthquakes, flooding, precipitation)
  - **alternative methods** to assess the quality of urban features (perception surveys, check lists, expert judgement etc.)

The indicators set: types

1. Core Indicators : considered compulsory to for a defined sub-topic

2. Alternative Indicators: can be used instead of a Core Indicator

3. Additional Indicators : to be addressed by very developed cities

4. Perception Indicators : are based on surveys

Output 2: the smart city profiles

Pyramid workshop

- in Goris/Armenia
- Discussion of indicators & feasibility
- Identification of key measures
- Input for **Smart City Profile**
- Presentation to **donors**

Output 3: The United Smart Cities Platform

- UNECE HLM website www.unece.org/housing/smartcities.html

- Website http://unitedsmartcities.com/ under construction

- Share best practices on smart and sustainable urban development

- Serve as a multi-stakeholder platform and content hub for smart city initiatives

Output 4: Capacity building 2015

FEBRUARY

Smart City workshop

Krasnodar

APRIL

Initial Stakeholder Assembly

Vienna

MAY

Geospatial World Forum

Lisbon

MAY

Smart Cities and Communities
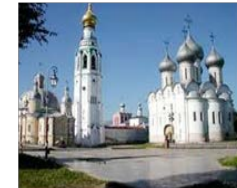
Brussels

MAY

Metropolitan Solutions

Berlin

SEPTEMBER

II International Forum "Social Innovations – Municipal Experiences"

Vologda

SEPTEMBER

XIV All-Russian Forum "Strategic planning in cities and regions of Russia" - St Petersburg

OCTOBER

Smart cities workshop

Minsk

NOVEMBER

Smart cities Expo

Barcelona

DECEMBER

76th HLM Committee session

Rome

FEBRUARY & APRIL

Smart City Workshop

GORIS

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Smart City Indicators: the political process

- **2013**: survey "Challenges and priorities for the UNECE region"

- **2013**: 74th session of the Committee on Housing and Land Management (CHLM) - smart cities as one of the main priorities for member States

- **2014**: 75th session of the CHLM - smart cities enters the program of work of UNECE with the project "United Smart Cities"

- **2015**: 76th sessionof the CHLM – eventual endorsement of the set of the smart cities indicators

Smart City Indicators:
Milestones for the adoption of the indicators

- 2014: Development of the draft list of indicators

- 2015: Draft indicators tested in the pilot city of Goris, Armenia for feasibility

- 2015, 11 May : Expert Consultation, Geneva, Switzerland – indicators discussed among experts

- 2015, 4 and 5 June: Workshop and Committee Bureau meeting, Rakvere, Estonia – starting point of the inter-governmental dialog

- 2015, 30 June: Cities workshop, Vienna, Austria – input from cities

- 2015, June: negotiations with ITU to merge ITU and UNECE indicators

- 2015, July: draft to be sent to the member States focal points for comments

- 2015, September: eventual second negotiation session

- 2015, 14-15 October: ITU proposes endorsement of indicators among its member states

- 2015, 14-15 December: the Committee will be invited to adopt the indicators among its member States

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Next steps

1. Indicators
   - Smart and sustainable cities standards
   - Smart and sustainable cities index

2. Smart City profiles
   - Concrete action plan for Goris
   - Next pilot: Polotsk, Belarus

3. Platform
   - Launching of the platform
   - Collecting and updating information

4. Capacity building
   - Scheduled activities in many countries and cities

Thank you for your attention

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