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UNITED SMART CITIES:

Smart urban solutions for transition and developing countries

Project document

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Introduction

The actual high level of urbanization is presenting a serious challenge for the sustainable development of our cities. Urban areas are responsible for considerable world's energy consumption and greenhouse gas net emissions.[1] Urbanization leads to the continuing expansion of urban areas and urban sprawl, reducing the land available for other uses. This urbanization is often uncontrolled, creating and expanding informal settlements, whose residents may lack security of tenure and social and physical infrastructure. Furthermore, cities, the way they are planned, are not prepared for the ongoing demographic changes, such as the rapid ageing of the population in Western Europe. Globally a large share of the population does not have access to affordable housing.

This situation with all the mentioned challenges that urban areas face, has the potential to become critical and irreversible if not acted upon soon. At the same time, approaches to urban development, if aptly and timely rethought and put into practice, have the potential to become the driving force underpinning sustainable development.

Much attention has been devoted in recent years to the topic of "smart cities". Multiple programmes have been successfully implemented in large cities in different parts of the world, including, for instance, in European cities of Amsterdam, London, Vienna; a rough mapping of smart cities in the European Union (EU) was conducted.[2] The EU is implementing the European Innovation Partnership on Smart Cities and Communities (EIP), which is a large-scale mapping and coordination exercise of smart cities within the EU.[3] The implemented programmes continuously demonstrate great possibilities of the application of innovative, technologies and solutions in cities. They also have shown the importance of partnerships between national, local governments and private sector towards promoting smart urban solutions.

For small and medium-sized cities, which have limited access to financial resources, it is much more difficult to promote smart city solutions. Countries with economies in transition where access to financial resources for investment into innovative technologies is limited are not part of those initiatives. At the same time, those countries would benefit the most from the application of the smart cities approaches; they can "leapfrog" in the quality and diversity of services they provide to their inhabitants.

Project history

According to the UNECE survey of member States (2013)[4], housing and urban management sectors are highly decentralized and the implementation of measures greatly depends on the local governments and local stakeholders, including private (both commercial and non-profit) companies. According to the survey respondents, the competences of the federal/national governments are limited to formulating policies and legislation, establishing norms and standards and providing subsidies for housing. National governments have shared responsibilities with regional and local governments and with the private sector for providing social or affordable housing, offering loans

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[1] Data source: The United Nations Department of Economic and Social Affairs

[2] http://www.rand.org/randeurope/research/projects/eu-smart-cities.html

[3] http://ec.europa.eu/eip/smartcities

[4] GLOBAL SMART CITIES PROJECT: Smart urban solutions for countries with transition economies and developing countries

for housing purposes, setting urban regulations, approving urban plans and investments in urban infrastructure.

In order to engage more effectively the local governments and private sector, the intergovernmental UNECE Committee on Housing and Land Management decided in 2012 to include the topic of "smart cities" as one of its priority activities in the Committee's programme of work 2014 - 2015 under the cluster "Sustainable urban development".

The Committee's secretariat further developed a possible smart cities project concept and discussed it with representatives of partner organizations, including Organization for international Economic Relations (OiER), UN-Habitat, other partner organizations, universities, private sector companies and NGOs. As a result, an open platform for sharing best practices and experiences on smart cities will be established as part of the project.

Project partners and associated members

The project includes three levels:
- Core project partners
- Associated partners – private sector organizations, academia
- Cities involved in smart city initiatives.

The current **project core partners** include (for their profiles see Annex 7).
1. United Nations Economic Commission for Europe Housing and Land Management Unit (UNECE)
2. Organization for international Economic Relations (OiER)
3. UN Habitat Moscow Office
4. Dubai Real Estate Institute
5. Environment Agency Austria (EAA)
6. International Society of City and Regional Planners (ISOCARP)
7. Royal Institution of Chartered Surveyors (RICS)
8. Laboratory of Intelligent System Automation, Moscow State University of Civil Engineering, Russian Federation
9. Council of the Baltic Sea States Secretariat

Ongoing negotiations are running with possible additional core partners, including
1. OECD,
2. Energy Cities
3. UBC (Union of the Baltic Cities)
4. Smart Cities Switzerland
5. CIS Inter-Governmental Council for Cooperation in Construction Activities

Associated project partners - academia
1. ETH – Institute of Technology, Zurich, Switzerland

Associated project partners - private sector
1. Reach-U, Estonia

2. OiER is inviting a few selected private sector members to join the project as international private sector partners. The businesses will be shortlisted and included based on sector relevant expertise and technology related to urban development and smart cities. The businesses commit to support the project and the project partners both financially and in the implementation of activities of the project and participating cities.

Associated project partners – associations from municipalities, professional associations
1. International Council for Local Environmental Initiatives
2. Energy Cities

Associated project partners - cities' focal points
The focal points in the cities involved in the project are as well our partners.

Project stakeholders in affiliated with the project countries
The main identified stakeholders for the project are:
- National governments
- Local authorities and city councils of the participating municipalities
- City planners/managers, urban architects
- Private sector/industrial players from the relevant fields
- Academia and other research institutions
- NGOs

Project goal and objectives

A strategic goal of the proposed project is to promote sustainable urban development, especially in countries with transition economies and developing countries, through analysis of practices and policies, pilot activities, exchange of experiences and best practices, networking and capacity building. The project will help to scale up the European experiences of smart cities to countries outside of the EU.

The project objective is to strengthen the capacities of national and local authorities in the project region for the development and implementation of national and local policies for sustainable urban development.

A central part of the project is the development of smart city profiles based on a set of development indicators (the methodology summary in Annex 1). The profiles contain specific policy recommendations for "smartening" the cities. The procedural steps for the preparation of city profiles are available in Annex 2 and Terms of references for the pilot cities in Annex 3. The next stage of the project would be measuring results of smart city initiatives in pilot cities and developing "smart product packages" suitable for cities on certain characteristics/development level.

In order to ensure sustainable development of urban areas and smart cities, it is of utmost importance and an asset of this project to work to establish linkages between the public and the private sector. The project will work to develop cross-sector partnerships as well as to work to ensure development of a sustainable and long-term vibrant and profitable network of Smart Cities.

One of the core elements is the catalytic knowledge transfer within the network to identify best practices and lessons learned from previous projects and exchange of experience between advanced cities and ambitious transition cities.

A further key element is to give both the private and the public sector participant a discussion platform for lessons learned and smart and cost effective innovative technology solutions. The project will develop a comprehensive Smart City content hub filled with international comparison data and research in order to ensure match making and sustainable facilitation of projects on the business marketplace. Within the project and project board, it is essential to ensure an international project execution in tight alignment between companies and the governments and to give the companies therefore access to expertise on international regulations and international financial management to guarantee project development and execution.

Global smart cities project approach

The comprehensive "smart cities" initiative aims at improving key dimensions of cities:
   (a) urban environment (buildings, transportation, water, waste, energy services, and information and communications technology);
   (b) governance (inter-sectorial cooperation, cooperation between national, regional and local authorities, other stakeholders; establishment of multi-stakeholder platforms); support to networking with other cities;
   (c) social capital (education, social and gender equality);
   (d) economic conditions (poverty reduction and employment generation);
   (e) citizens' experience
   (f) urban tourism

The project promotes these improvements by:

1. Serving as **a neutral multi-stakeholder platform for the exchange of experiences and best practices** on different aspects of smart cities between the cities in the project platform through
   a. Organization of international conferences and networking events
   b. Web-portals in English and Russian
   c. Studies and publications on different aspects of smart cities.

2. **Supporting medium-sized cities in the project network with the preparation of their city profiles, other relevant studies, organization of their international events, development of possible projects**. Promoting these cities at the project global and regional events through presentations at project conferences and events and publications.

3. **Involvement of the private sector, to create a linkage between public and private sector ensure a sustainable and long-term development.**

Exchange of the best practices and technical assistance projects for the project pilot cities in countries with transition economies will be conducted in the following thematic areas:
   - Introduction of energy-efficient and health-friendly ways of working, travelling and building
   - Ensuring affordable housing
   - Urban resilience to changes in environment and demographics

- Compact and effective city planning
- Opening of new markets for sustainable products and services
- Sustainable urban tourism
- Greening public transportation and smartly organized traffic flows
- Planning and building for an ageing society and
- Integrating information and communication technologies and e- and m- services in the urban management.

Geographical scope

The project ambition is to become a global smart cities platform. This will be done through establishing the cooperation with other UN regional commissions, other regional and global organizations.

The project was initiated in two macro-regions:

- Europe and Central Asia, or "wider Europe" region, the area covered by the United Nations Economic Commission for Europe (UNECE), which include 56 member countries, and

- Western Asia (Northern Africa and Middle East), which includes the following 17 countries: Bahrain, Egypt, Iraq, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, Palestine, Qatar, Saudi Arabia, The Sudan, The Syrian Arab Republic, Tunisia, The United Arab Emirates and Yemen. For the work in these countries, the cooperation will be established with the UN Regional Commission for Western Asia (UNESCWA).

The project therefore examines the concept of a smart city in different geographical contexts, taking into account regional geographical varieties (north-south nexus), as well as economic development level (developed-in transition-developing countries).

The project extends the concept of smart cities to low- and medium-income economies and create a demonstration that would put into practice sustainable urban development principles and practices, including new business models, which can attract capital, technology and managerial skills to meet the challenges of today's society.

Project network of smart cities

The project established a three-tier network of smart cities (the cities are accepted based on their requests) within which the cities exchange experiences and best practices. It is important that not only local authorities from those cities but also their national governments, private sector, academia and NGOs would be involved in this network. Involvement of all key stakeholders is important to promote effective application of the smart city concepts.

The smart city network (Table 1) includes three layers:

(1) Project pilot cities – small and medium-sized towns and cities in countries with transition economies and developing countries, for which project experts will prepare smart city profiles using the smart city indicators, specific policy recommendations and local action plans for "smartening" these cities. The project will seek when possible for technical

assistance to these cities to implement the action plans. Terms of References to the pilot cities are in Annex 3.

(2) Wider network of medium-sized cities – they are in economically developed countries and already work on smart city projects. Representatives of these cities will prepare their smart cities profiles themselves with the support of the project experts through the webportal, email and Skype.

(3) Network of large cities – it will be a global network of large cities which will share their experiences with the medium-sized cities through presentations at the project international events, publications and the project web portal.

The project assists all the cities (Groups 1, 2, and 3) in the network with the exchange of experiences and best practices as described above.

The project supports medium-sized cities (Group 2) in the project network with the preparation of their city profiles, other relevant studies, organization of their international events. This support is provided by participation of the cities experts in the project trainings on the preparation of city profiles and online support. The project also works to promote these cities at the project global and regional events through presentations at project conferences and events and publications.

The project supports project pilot cities (the medium-sized cities in countries with transition economies and developing countries) by collecting cooperatively with them data for the city profiles through experts' advisory missions to the pilot cities, **preparing the city profiles, developing and supporting the implementation of technical assistance projects in these pilot cities.**

Table 1. Cities in the project

Level of cities involvement	Names of cities and countries	Status of involvement
Project pilot cities, for which project experts in cooperation with the local authorities and other local partners will collect the data and prepare city profiles	1. Aktau, Kazakhstan	tbc by UN-Habitat
	2. Goris, Armenia	Letter received
	3. Turov, Belarus	Letter received
	4. Dushanbe, Tajikistan	Confirmed, to ask for a letter
	5. Vinnitsa, Ukraine	Confirmed, to ask for a let
	6. To add one in Balkans	Preliminarily discussed in Albania
	7. Vologda, Russian Federation	Confirmed, letter asked
	8. Stavropol, Russian Federation	Confirmed, letter asked
	9. Georgia	Still in discussion
A network of medium-sized cities in economically developed countries. City governments will submit the	1. Graz, Austria	Confirmed with OiER, to ask for letter
	2. Mälmo, Sweden	Confirmed at Urban Future, ask for letter

indicators for city profiles through the project platform	3. Rakvere, Estonia	Confirmed, ask for letter
	4. Rimini, Italy	Confirmed, ask for letter
	Here it is possible to add many more cities, which should join the project via an application to the platform	
A platform of large cities which already have smart city solution and are ready to share them with the medium-sized and small cities as well as among each other	1. Amman, Jordan	Confirmed with OiER, ask for letter
	2. Astana, Kazakhstan	To be confirmed by T. Khabarova
	3. Dubai, U.A.E.	Confirmed
	4. Vienna, Austria	Confirmed with OiER and UNECE
	5. Suez, Egypt	Confirmed, letter received
	6. Ismailia, Egypt	Confirmed, letter received
	7. Amsterdam, The Netherland	Confirmed at Urban Future Conference
	8. London, United Kingdom	Confirmed at Urban Future Conference

Project activities: what has been done in 2014

Activity	Timeframe	Responsible organization	Participating organizations
Project concept note prepared (the current document is an updated version)	March 2014	UNECE	
Key stakeholders identified, a list of project partners is established	March-May 2014	UNECE, OiER, UN-Habitat	
Kick off meeting during the Geospatial Global Forum, 8-9 May 2014	May 2014	UNECE	OiER, City of Graz, EAA, ISOCARP, UN-Habitat
Methodology with indicators for the evaluation of smart city practices elaborated, shared with partners	May-December 2014	EAA	UNECE, ISOCARP
Consultations held with the municipal authorities and stakeholders of the most of the pilot cities, which expressed their interest to be involved in the project (waiting only for information from Russia and Kazakhstan from UN-Habitat).	May – October 2014	UNECE OiER UN-Habitat Moscow office	
Pilot cities were selected based on (1) the	May –	UNECE,	

	October 2014	OiER, UN-Habitat	
demand-driven approach and political commitment; (2) city size – should be medium size and small cities	October 2014	OiER, UN-Habitat	
A workshop on smart cities and energy efficiency at the Fifth Energy Forum, Tunis	4-6 November 2014	UNECE, OiER	UNECE
Project presentation at the UNECE Committee on Housing and Land Management session	9 October 2014	EAA, OiER, UNECE	
A network of medium-sized cities has been partially established	October 2014	OiER, UNECE, UN-Habitat	
Communication team setup to organize project information communication	Nov-Dec 2014	OiER	All partners
Finalise the methodology for the preparation of smart cities profiles based on the approach already developed by the EAA (please see Annex I for the description of the approach).	Dec 2014	EAA	ISOCARP, UNECE, academic partners, cities

Project activities: planning for end 2014 and 2015

Activity	Timeframe	Responsible organization	Participating organizations
Strengthening Belarus-UN cooperation, Minsk	29 January	UNDP, UN-Habitat	UN-Habitat
Meetings with partners at Kazakh Ministry of Regional Development and Astana City, Astana	February – tbc	UN-Habitat	UN-Habitat
Preparatory meeting on the smart city project, Vienna	February	OiER	UNECE, EAA, ISOCARP
The United Smart Cities platform established: an online portal for the exchange of the information in English	February	OiER	All partners
Platform in Russian	Depends on funding	UN-Habitat, Lab in Moscow	
City profile preparation for Goris, Armenia	8-13 Feb. 2015	EAA, UNECE	ISOCARP
EU Smart Cities brokerage Event for Horizon 2020	12 Feb. 2015	EU	UNECE
Seminar on smart cities (Krasnodar, Russia)	26 Feb 2015	UN-Habitat, CIS Inter-Governmental	UN-Habitat

		Council for Cooperation in Construction Activities	
Exhibition and Conference on Smart Cities for South-East Europe, Sofia, Bulgaria	11-13 March		For info
4th Informed Cities Forum, Rotterdam, the Netherlands	26-27 March		For info
Smart city workshop Goris, Armenia: presentation of the draft city profile	8-12 April	UNECE	All partners
Stakeholder assembly - project meeting all partners, Vienna	April	OiER	All partners
3rd Global Soil Week	19-23 April	EAA	EAA
Workshop in Dushanbe	May	EAA, UNECE	
RICS European Smart Cities Conference 2015 "Building urban infrastructure for competitive real estate of the future", London	12 May	RICS	RICS
Metropolitan solutions Berlin smart cities	20-22 May	ISOCARP	All partners
Land management for smart cities workshop – discussion of the indicators - Lisbon, Geospatial World Forum	25-28 May	EAA, RICS, UNECE, ISOCARP	All partners
Smart Cities indicators training workshop Tartu, Estonia Rakvere, Estonia	2-3 June 4-5 June	EAA, UNECE, ISOCARP	All partners
Brussels smart city conference	15-17 June	Eurocities	
23rd session and international conference on innovations in construction, Aktau, Kazakhstan	16-17 June	International Assembly if Capitals and Large Cities, UN-Habitat	UN-Habitat
II International Forum "Social Innovations – Municipal Experiences", Vologda, Russian Federation	September	International Assembly if Capitals and Large Cities, UN-Habitat	UN-Habitat

Cities Business Summit, Nizhny Novgorod, Russian Federation	September	International Assembly if Capitals and Large Cities, UN-Habitat	UN-Habitat
Publication of the first project report as an online document. It will be distributed throughout the sub-region to promote the best practices, as well as the overall project	October		
Workshop on Smart Cities, Turov, Belarus	October	UNECE	All
Smart City Conference, Copenhagen, Denmark	11 November	UNECE	All
Smart Cities Global Conference, Dubai	Nov	EAA, UNECE, ISOCARP	All
Smart City EXPO World Congress "Change the World" (UN-Habitat meeting with the City of Barcelona and the City of St.Petersburg), Barcelona	18-20 November		
Presentation at 76th CHLM session in Geneva	3-4 Nov		
Moscow Urban Forum by, UN-Habitat, Moscow	December	City of Moscow, Strelka Institute, UN-Habitat	
Preparation of a United Nations publication of policy guidelines for smart urban solutions for countries with transition economies.	2016		

Project management

Project management is shared between the UNECE office in Geneva and the OiER in Vienna. Table 2 provides the delineation of responsibilities in the project.

Table 2. Activities and tasks

Activities	Ownership	Approach
Overall strategic planning and management	Steering Committee (to be created) which includes representatives of all partner	Quarterly meetings (a full day) back to back with the project events

	organizations	
Policy dialogue with countries and cities	UNECE in the UNECE region, UN-Habitat Moscow office in the CIS area, OiER for Middle East and Northern Africa	Regular communication with the cities and national governments through advisory missions, meetings, internet, telephone
Organization of networking events	UNECE, OiER, ISOCARP, DREI	All partners involved
Communication and PR	OiER is a lead partner. EAA could collect best practice and keep communication with wider network	• Promotion materials, PR • Creation of a web portal for internal use for project partners to regularly share documents and information.
Communication in Russian	UN-Habitat and Smart City Lab in Moscow	Development of a webportal in Russian
Development of city profiles methodology	EAA (Lead partner), ISOCARP in cooperation with academic partners, UNECE, UN-Habitat	• Discussion, piloting, collecting comments, framing • Drafting guidelines and questionnaires for cities to compile
Organization of research missions for collection of the data for the preparation of the city profiles; and organization of launch events in cities to present the city profiles	UNECE (Lead partner) together with the other partners	• Contacting cities and governments and agree about a possible schedule • Keep partners informed about the organization • Take care that the schedule is respected and that the mission succeeds
Drafting the city profiles	EAA (lead partner) in cooperation with other partners	Analysis of data coming from the questionnaire and the research mission and drafting the profile according to the EAA developed methodology
Creation of a steering committee	All partners with UNECE coordination	
Preparing publications	UNECE	
Involvement and facilitation of the Private Sector, Facilitation public-private partnerships, financial mechanism for smart urban solutions	OiER	• Development of Project documents, (Smart City Brochure, presentation) and discussion with private sector companies to

		highlight their benefits in funding the project and its stakeholders
		• Implementation of public private partnership activities in the selected pilot cities and countries
		• Implementation of private sector activities especially in relation to transfer of experience and lessons learned of smart urban solutions
		• Identification of smart city financing mechanisms

Expected impact of the project

The project's long-term impacts will be as follows:

- The concept of smart solutions for sustainable development will be extended to low and medium-income transition economies, proposing the priorities that should be given to the different aspects that compose smart cities, in order to successfully export this concept to specific sub regional contexts.
- Decrease vulnerability of cities
- Cutting-edge technologies and quick-win initiatives, easy to implement, will be introduced to make the most efficient use of the resources at the disposal of municipalities. These technologies, which must be sustainable for medium- and low-income municipalities, would leave the cities with additional financial resources generated by savings; and they could also generate employment.
- Cooperation will be improved between the public and private sectors in research and the implementation of the most innovative solutions to sustainable urban environments.
- Wellbeing of the city inhabitants will be enhanced and the environmental quality of cities improved.
- On the private sector side, new markets, multiply projects and financing opportunities across regions can be identified. Possible establishment of new industries and fields of business in the developing transition countries will lead to economy boost, creation of working places and increase of wellbeing of inhabitants.
- Reproducible examples will be created for cities with similar backgrounds and financing possibilities.
- Develop network of experts and city administrations across the regions
- Develop network of institutions at regional, national and local level

Annex 1. Smart city profiles methodology

Synopsis

Clear and detailed city profiles which include climate and energy issues as aspects of particular relevance have been developed in close collaboration with the participating cities and the climate and energy fund. The city profiles are presented via multi-media visualisation to publicise the advantages of smart urban development and make people aware of changes so that they have a better understanding of the intentions of the actors involved.
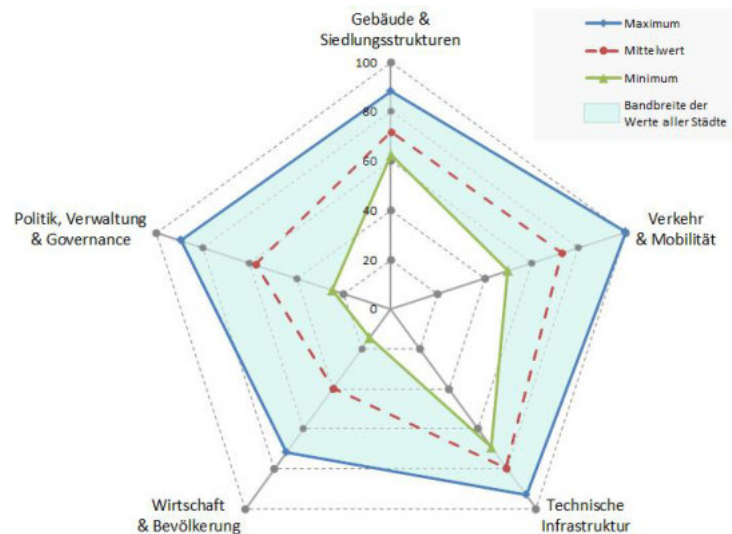

Diagram: Range of results for the 12 participating cities across the 5 core areas of activity in urban development

Summary

Starting point/motivation

Many Austrian cities and municipalities are already actively pursuing energy saving and climate strategies, thereby setting examples which may help develop a joint knowledge basis and disseminate best practice examples. In obtaining a better understanding of the key factors of urban development with respect to climate and energy issues, city profiles, which characterise cities in terms of different areas of activity in urban development can provide important contributions. Smart City PROFILES support Austrian cities and municipalities in the development of smart and sustainable urban strategies and in the planning of measures

Contents and goals

The Smart City PROFILES approach provides structured information about different areas of activity in urban development by specifically including factors, which are of relevance for climate and energy as levers for improving urban development. In this context smartness means that the cities involved are aware of the different dimensions of urban development and that they actively participate in decision-making processes about desired changes and put their focus on particularly sustainable, intelligent (i.e. smart) and attractive strategies. In this way it is easier to integrate individual solutions such as innovative building technologies or mobility offers into the overall urban system, while better planning and steering of measures will contribute to effect optimisation.

The aim of the project is to develop city profiles, which give a full and detailed picture of the characteristics and special features of cities and municipalities and can be reproduced by other cities. The analysed indicators and the prepared profiles are the starting point for a learning process about urban environments designed to intensify a "smart city" information exchange between cities and municipalities and to facilitate informed decision-making on smart urban development based on quantitative facts.

Methods and procedures

The city profiles were as far as possible developed in collaboration with the participating cities. At the start of the project, the relevant requirements, key issues and priority topics of urban development were identified and then, fed into in the profile development process.

Information was quantified using available data and indicators. Then it was analysed for each city based on a thematic and an integrated approach.

Results

Overall, 12 cities in Austria participated in the development of smart city indicators and city profiles. The results of the project include the development of 21 indicators focused on climate change mitigation and energy efficiency in five areas of activity in urban development: buildings & settlement structures, transport & mobility, technical infrastructure, economy & population and policy, administration & governance. The resulting city profiles provide information about relevant factors for all urban development activities, including business & economy, demography, strategic urban planning, governance etc., and especially about the use of energy and resources as well as about potentials for increasing efficiency. The results enable cities to make better evaluations of their own current status and their development with respect to energy and climate change mitigation, and with respect to other aspects which are of relevance to the quality of living and competitiveness. Clearly structured online visualisation and folders about the city profiles help to enhance the benefits and understanding of smart urban development.

Indicators management

Umweltbundesamt GmbH (Environment Agency Austria)

Context - links

Environment Agency Austria: http://www.umweltbundesamt.at/

Austrian Association of Cities & Towns: http://www.staedtebund.gv.at/

Inter-University Research Centre for Technology, Work and Culture: http://www.ifz.tugraz.at/

Environmental Umbrella Organisation: http://www.umweltdachverband.at/

Vienna University of Technology – Department of Spatial Development, Infrastructure and Environmental Planning: http://raum.tuwien.ac.at/

CO^2 Advertising and Design Agency: http://www.co2.eu/

Annex 2. Procedural steps for the preparation of smart city profiles

The study

Smart City Profiles (SCPs) are strategic analyses of the entire city development and management to be conducted in pilot cities and in the cities in the project platform of the Global Smart City Project.
Methods and procedures
The city profiles are as far as possible developed in collaboration with the participating cities.

The city profiles are prepared according to the methodology outlines in Annex 1 of this project document. The city profile consists of a number of analytical chapters called development fields based on the data collected.

Each chapter analyses the conditions and problems, presents national, regional and local policy objectives and provides a performance evaluation, i.e. the current policy objectives are evaluated in terms of the existing problems and conditions. Finally, the study draws conclusions and makes recommendations to policy makers.

Process

Request

The project is undertaken at *the request of the relevant city or national government* put forward to the UNECE Committee on Housing and Land Management.

Establishment of the international expert team

A team of international experts is established by the Global Smart City Project. The team typically consists of approximately 3-4 international experts; an effort is made that the composition of the international team of experts is as diverse as possible, in particular in regard to the geographic background.

Establishment of the local team of experts

An official representative from the responsible city or national government is appointed as the local coordinator to facilitate the process. His/ her task is to act as a focal point for all communication with the UNECE secretariat related to the preparation of the missions, all logistical matters during the missions and coordination of the local team of experts. The focal point must be able to communicate in English.

The local team of experts is established by the host government to support the international team. The team typically consists of housing specialists, who preferably have knowledge of the English language. Experts in the local team may come from the Ministry as well as from other institutions. The local team of experts is expected to provide available information relevant to the individual chapters already prior to the research mission as well as to assist the international team during and after the mission. The work of the local expert team is considered as in-kind contribution of the host government to the country profile project.

Collection of background data and information

Since the team of international experts conducts only one mission, they have to be well prepared and able to undertake research on specific problems straight away. The local host authorities are therefore requested to prepare background information related to all the indicators and to make it available well in advance of the mission (see also above, under local team of experts). Main documents and legal acts are expected to be provided in English language.

The following should be included in the background information provided:
- List of available material: policy documents, reports, assessments, project proposals, other documentation
- List of relevant legal acts; collection of translations
- Description of the institutional framework to be used as a basis for developing the relevant chapters
- main economic indicators;
- population data, including migration, rural-urban composition, population of main cities etc.;
- housing construction, housing prices, dwellings per 1000 inhabitants, provision with utility services, etc.;
- housing investment;
- ownership structure
- other

Research mission

For the preparation of the city profile, two missions to the country under review are typically undertaken: the research mission and a launch event. The research mission is to be conducted by representatives of the UNECE secretariat together with the international expert team. In case of sufficient data provided, the international experts are requested to submit first drafts of their chapters before going on the research mission. In this way the research mission mainly serves the verification of data and the clarification of open questions. Close cooperation between the international and local expert teams is a prerequisite for a successful research mission.

After the research mission

After the research mission the final drafts of the chapters are prepared by the international experts. During this process further questions may arise and the local expert team is expected to be prepared to answer potential queries from the international expert team or the secretariat. Before the study is submitted for publishing, a final draft of the study is sent to the host authorities for acknowledgement and verification of information. The host authorities are responsible for translation of the study into the local language and for the national dissemination.

Distribution of the city profile publications

City Profiles are published by the United Nations jointly with other project partners. Copies are distributed directly to all the Committee's Member States, the host countries, particularly to the ministries concerned, local authorities and other relevant institutions. The studies are also available on the Internet at http://www.unece.org/hlm.

Once the publication is released and the local translation is ready, a launching event is held in the host country with participation of a wide range of international and national actors within the housing sector.

Financing

The City Profile preparation is mainly financed through contributions from countries, private organizations. Member countries and organizations have sometimes also provided assistance in kind covering the costs for individual experts. The cities under review have to cover their share of

the costs. This includes mainly the documentation work, local experts, translations, interpretation and local transport during the missions.

<u>Follow-up – city action plans and annual reviews of their implementation</u>
Based on the recommendations of the city profiles, local action plans containing specific activities and responsible organizations are prepared. See Annex 5 for the guidelines of the national action plan. The cities will be requested to annually review and report at the annual sessions of the Committee on Housing and Land Management on the implementation of the recommendations of the city profiles and the action plans.

<u>Possible technical assistance projects</u>
When possible, the project will assist the pilot cities in the development and partial of technical assistance projects, which would support the implementation of city action plans.

<u>City seminars</u>
On the request of the country there is also the possibility to re-invite the team of experts some time after the study has been carried out in order to assess the recent developments, to evaluate the implementation of the recommendations given by the experts, to discuss future strategies for the housing sector and to assess the significance of the country profile for the country's housing policy.

<u>Cooperation with international organizations</u>
During the missions contacts are established with international organizations such as UNDP, the EU, and the World Bank in order to use fully already existing knowledge and experience.

Annex 3. Terms of references to pilot cities

The pilot cities will not have to pay any fee to join the project but they will commit to:
- provide data on the participating city and draft the city profile according to the methodology agreed for the project;
- host at their own expenses at least one meeting during the duration of the project;
- attend all scheduled meetings and events and if necessary nominate a replacement;
- share all communications and information with the project partners; make timely decisions and take action so as to not hold up the project;
- notify members of the Advisory Group, as soon as practical, if any matter arises which may affect the development of the project;
- open and honest discussions; involve all relevant stakeholders;
- on go 'health checks' to verify the overall status and 'health' of the partnership.

Annex 4. Smart city action plan template

1. **Introduction**

City information, an explanation for the necessity of a national action plan

2. **Overview of the current situation**
   - General information on housing, urban development, population characteristics
   - Institutional and legal frameworks
   - Key stakeholders

3. **Conclusions and outcomes of the Smart City workshop: Current trends and challenges**
   - Problems to tackle and challenges ahead
   - Ongoing programs and projects, tackling this challenges

4. **Steps to undertake**

Based on the recommendations from Smart City Profile and/or on the outcomes of city workshops:
   - Objectives
   - A table of recommendations
   - A detailed explanation: timing of the action; the costs related for implementation; responsible for implementation; progress indicators; procedures for reporting and evaluation.

5. **Conclusion**

Summary of the steps to undertake

6. **References**

7. **Annexes**
   - List of laws already been in progress
   - List of members of the Steering Committee
   - Reports after the city workshops (which include final agendas and LoPs)

Annex 5. Smart city profile structure – template

The structure will be added soon.

Annex 6. Project partners detailed profiles

UNECE

UNECE is one of five regional commissions of the United Nations. Its principal aim is to promote pan-European economic integration. To do so, it brings together 56 countries located in the European Union, non-EU Western and Eastern European regions, South-East Europe and in the Commonwealth of Independent States and North America. International professional organizations and other non-governmental organizations also take part in UNECE activities.

The UNECE Housing and Land Management Unit provides the secretariat to the Committee on Housing and Land Management (CHLM), the only intergovernmental body addressing the housing challenges of the UNECE region and the highest policy-making body of the UNECE in housing and land management. It serves as a forum for exchanging best practices and as a platform for policy formulation and implementation.

The interest and expertise of this Unit in smart cities is well established. In 2011 UNECE published *Climate Neutral Cities*, a fundamental policy study on how to make cities less energy and carbon intensive and more resilient to climatic challenges. In November 2012, CHLM organized and hosted a two-day Green Economy Seminar dedicated to compact, smart and climate-neutral cities. The event acted as a starting point for an important discussion of best practices and knowledge-sharing with important stakeholders, government representatives and municipal authorities.

The decision to direct more attention to the topic of smart cities within the Committee's programme area stems from the positive outcomes of the Survey on Challenges and Priorities in Housing and Land Management in the UNECE region. The "smart cities initiative", which addresses information, communication and technology, ranked second among the activities to which member country respondents would like to give highest priority. The Unit can contribute with its in-depth knowledge of housing, spatial planning and efficient land management in transition countries, based on its continued policy advisory action in the region and its staff expertise in energy efficiency in housing, one of the main elements a "smart" city must have, in order to generate financial resources for other projects.

Along with the Housing and Land Management Unit, experts from other UNECE divisions, including Energy, Environment, Transport, other, will participate.

UN-Habitat

UN-Habitat is the United Nations programme working towards a better urban future. Its mission is to promote socially and environmentally sustainable human settlements development and the achievement of adequate shelter for all.

Cities are facing unprecedented demographic, environmental, economic, social and spatial challenges. There has been a phenomenal shift towards urbanization, with 6 out of every 10 people in the world expected to reside in urban areas by 2030. Over 90 per cent of this growth will take place in Africa, Asia, Latin America, and the Caribbean.

In the absence of effective urban planning, the consequences of this rapid urbanization will be dramatic. In many places around the world, the effects can already be felt: lack of proper housing

and growth of slums, inadequate and out-dated infrastructure – be it roads, public transport, water, sanitation, or electricity – escalating poverty and unemployment, safety and crime problems, pollution and health issues, as well as poorly managed natural or man-made disasters and other catastrophes due to the effects of climate change.

Mindsets, policies, and approaches towards urbanization need to change in order for the growth of cities and urban areas to be turned into opportunities that will leave nobody behind.

UN-Habitat, the United Nations programme for human settlements, is at the helm of that change, assuming a natural leadership and catalytic role in urban matters. Mandated by the UN General Assembly in 1978 to address the issues of urban growth, it is a knowledgeable institution on urban development processes, and understands the aspirations of cities and their residents.

For close to forty years, UN-Habitat has been working in human settlements throughout the world, focusing on building a brighter future for villages, towns, and cities of all sizes. Because of these four decades of extensive experience, from the highest levels of policy to a range of specific technical issues, UN-Habitat has gained a unique and a universally acknowledged expertise in all things urban.

This has placed UN-Habitat in the best position to provide answers and achievable solutions to the current challenges faced by our cities. UN-Habitat is capitalizing on its experience and position to work with partners in order to formulate the urban vision of tomorrow. It works to ensure that cities become inclusive and affordable drivers of economic growth and social development.

OiER Organization for International Economic Relations

OiER- Organization for International Economic Relations - was established as international NGO in 1947 by the Austrian government to act as a business platform facilitating international trade and investments. OiER has since developed in both scope and geographical outreach. At this time the organization is focusing largely to initiate business partnerships for development in especially central Asia, Middle East, Africa and South America. OiER is a particular advisory and intermediary service organization working especially to align public interest and the offerings and requirements of the private sector.

OiER members come from a range of areas, the member base consist of approximately 200 global businesses, in addition to governmental and international agencies and organizations, funding institutions and banks.

In addition to the member businesses, OiER has a vast network worldwide, and main programs and projects are related to;

- energy and environment,
- urban development and smart cities,
- health,
- education and vocational training.

OiER supports concretely in information exchange and analyses, identifying opportunities, matchmaking, investment facilitation and fund-raising. OiER works with its members to formulate effective and targeted public-private partnerships that promote and enhance sustainable growth with a special focus on the developing world.

Since 1970, OiER has had consultative status to ECOSOC and since 2011 to United Nations Industrial Development Organization UNIDO.

OiER is supporting several UN agencies in facilitating private sector involvement especially for development and up-scaling of projects.

EAA – Environment Agency Austria

The Environment Agency Austria - Umweltbundesamt - was founded in 1985 pursuant to the Federal Act on Environmental Control as a federal government institution attached to the Austrian Federal Ministry of Agriculture, Forestry, Environment and Water Management. In 1999, an amendment of the Act changed its legal status to a government-owned limited liability company operating as national Environment Agency. The objectives of this reform were to clearly define the expert services of the Agency for the Austrian administration, while introducing a modern management approach and opening the opportunity for externally financed projects in public interest to be developed.

The EAA is strongly involved in the Twinning accession assistance programme. Since then, it has been participating in Twinning Projects in the environmental sector with nearly all New Member States and Accession Countries in more than 100 Twinning projects.

The Agency has approximately 480 employees, of which more than half are experts with academic degrees in nearly all disciplines related to protection of the environment. They are thus able to cope with the problems of environmental protection in an interdisciplinary manner, providing expertise on the condition of the environment and its developments, as well as on measures to avoid or reduce environmental pollution, and to promote the environmentally compatible and sustainable use of resources.

The EAA is the only Austrian expert institution dealing with all areas of environmental protection on a nation-wide basis and whose single task it is to protect the environment. Since 1985, the EAA has been providing specialist support in the preparation of legal acts issued by the Federal Minister for the Environment, including compilation of the national State-of-the-Environment reports submitted by the Minister to the Austrian Parliament.

At national level, the Agency co-ordinates environmental monitoring and reporting in cooperation with the nine Provincial Authorities, and operates the related national environmental registers and databases on hazardous chemicals, wastes, contaminated sites, air, water and soil quality etc. At international level, one of the key legal functions of the EAA is to assure national cooperation with the European Environment Agency.

Due to the variety of its activities in different environmental sectors (e.g. nature conservation, forest, agriculture) and natural resources (soil, air, water), the EAA carries out a wide range of projects in the field of:

- Low Carbon Society
- Cleaner Production
- Biodiversity and natural resources
- Sustainable Consumption
- Management of Environmental Data

One of our main activities both on a national and international scale is the integrated analysis of environmental pressures using state of the art techniques, both in earth observation and remote sensing. Our network here is based on the current activities within the framework of GMES (global monitoring on environment and security), where we are, as a user, actively involved in the design of future services for applications of remote sensing data in spatial planning and nature conservation.

International Involvement.

The EAA provides advice on administrative capacity building and national environmental legislation to institutions of the European Union, new and upcoming EU Member States, and the EU Neighbourhood Policy partner countries in the East and Mediterranean region.

Since 1998 the EAA has participated in 100 country partnerships, so-called Twinning projects, in 25 countries. We provide assistance to authorities in administrative capacity building and in the implementation of EU law. Our geographic reach extends to EU Member States, the West Balkans, Georgia, Turkey, the Middle East and the Maghreb countries. The projects are funded by the EU.

The EAA is a member of more than 200 national, European and international partner networks, bodies and working groups. It collaborates as well with international organisations such as UNEP and the OECD.

Specific urban competence

The EEA has developed for Austria smart cities indicators, which were implemented in 2012/2013 in the framework of the Austrian research program. Therefore EEA has organised stakeholder meetings in all participating cities, supported the process, the data collection and analysis. Additionally EAA contributed to the mapping of natural hazards and the development of European urban vulnerability indicators. The agency is as well active in land monitoring projects in the framework of the 7.research program and led two European transnational cooperation projects on urban land and soil management. The EAA is currently involved in the European Topic centre on Spatial information and analysis (ETC/SIA), where we participate in actions of the European Environment Agency (EEA) on integrated urban monitoring, urban green infrastructure, urban typology and urban indicators. Additionally we contributed via the European Topic centre on Climate change and adaptation (ETC/CCA) to the report on urban adaptation to climate change in Europe. As initiative of the EAA and in cooperation with cities was a series of national events and conferences regarding "sustainable urban development" in 2012 and 2013 conducted and national publications disseminated. EAA has also a good cooperation with urban networks like ICLEI and Eurocities.

ISOCARP - International Society of City and Regional Planners

ISOCARP is a global association of experienced, professional planners, and was founded in 1965 with a vision of bringing together recognised and highly qualified planners as well as other stakeholders involved in the development and maintenance of the built environment in an international network. ISOCARP has members from over 70 countries and is a non-governmental organisation, recognised by the United Nations and the Council of Europe and with a consultative status with UNESCO.

The aims of ISOCARP are to improve cities and territories through planning practice, training, education and research. ISOCARP promotes the planning profession in all its aspects. ISOCARP keeps its focus on being a politically and commercially independent network of professional planners. It has grown into a worldwide organisation but has also kept a strong European emphasis. The Society aims at becoming a more global organisation and is particularly looking for a stronger base in Asia, Latin America and Africa, but also strengthening the traditional European base. The main tools of ISOCARP are the yearly congresses, symposia, workshops and publications. One of the last publications of ISOCARP is the International Manual of Planning Practice (IMPP): the IMPP brings the expertise of some 150 authors, experienced practising planners, to the key stakeholders of the built environment. It provides a comparative reference compendium for academics and students in the field of spatial development, as well as an initial guide for planners, developers and investors with an international outlook.

The Objectives of ISOCARP: improvement of planning practice through the creation of a platform for the exchange between planners from different countries, promotion of the planning profession in all its aspects, notably from the point of view of its identity, the services it can render and the conditions required for it to function, promotion of planning research, improvement (in theory and practice) of planning education and training, provision of information and advice on major planning issues.