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Item 6(b) of the provisional agenda

Review of the implementation of the programme of work 2016-2017

Sustainable urban development

United 4 Smart Sustainable Cities (U4SSC) global initiative

Note by the secretariat

At the seventy-sixth session of the Committee of Housing and Land Management (CHLM), the secretariat reported on the cooperation with the International Telecommunication Union (ITU) on the topic of smart sustainable cities. The Committee endorsed the UNECE-ITU Smart Sustainable Cities (SSC) Indicators and the SSC Definition (ECE/HBP/2015/4).

Due to the role that SSCs can play in the New Urban Agenda and the importance of this concept at the global level, the UNECE and the ITU invited other UN agencies and programmes to join the United for Smart Sustainable Cities (U4SSC) global initiative. The U4SSC was officially launched at the joint UNECE/ITU forum on “Shaping smarter and more sustainable cities: striving for sustainable development goals”, which took place in Rome, Italy, on 18-19 May 2016.

This document provides an overview of the initiative.

The Committee is invited to take note of this information.

I. Visualizing the 21st century model for urban development: SSCs

1. Cities are facing multiple challenges, including demographic changes, economic and financial crises, urban sprawl, climate change and environmental pollution. To tackle these challenges, new innovative models for sustainable urban development need to be adopted to set cities on a development trajectory characterized by environmental sustainability, resilience, and equitable social and economic growth. ICTs have a crucial role to play in smart sustainable cities (SSC), in aggregating and analysing data to improve our understanding of how complex city ecosystems behave. Investments directed at creating digital infrastructures for SSC are designed to improve the way the built urban environment is managed and to confront the challenges associated with urbanization.
2. In line with the above, the International Telecommunication Union (ITU) in collaboration with the United Nations Economic Commission for Europe (UNECE), has led the development of an internationally agreed definition of SSC:
3. *A smart sustainable city is an innovative city that uses 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, environmental as well as cultural aspects.*
4. “Smart urbanization” is key to building the safer, resilient and regenerative cities of tomorrow. Constructing cities sustainably, by utilizing smart growth principles, effective urban planning models, ICTs and low carbon energy systems, can help create more habitable and efficient urban centres. It could also help alleviate pressure on existing natural habitats, resources and biodiversity, thereby reducing the risks of man-made disasters. SSC armed with the benefits bestowed by ICTs are able to provide economically profitable, environmentally friendly and socio-culturally adequate urban services based on technological innovation. The establishment of SSC also aims to encompass the essential features of other city concepts to create a healthy, safer, resilient and sustainable urban environment.
5. Transitioning cities into SSC can no longer be considered an option or a luxury. Over the years, SSC have become a measure for avoiding the conditions that result in economic hardship, natural disasters, environmental pollution, political dissonance or unstable socio-economic systems. These features of SSC make them an efficient tool when accomplishing the urban targets set forth in the 2030 Agenda for Sustainable Development and its Sustainable Development Goals (SDGs).

II. United for Smart Sustainable Cities (U4SSC)

6. The ITU and the UNECE launched U4SSC in response to the adoption of 2030 Sustainable Development Agenda and especially its SDG 11: “*Make cities and human settlements inclusive, safe, resilient and sustainable*”. Its logo is in Annex I.
7. U4SSC primarily advocates for public policy to encourage the use of ICTs to facilitate and ease the transition to SSCs. Part of this advocacy emphasizes the potential of SSCs to accelerate job creation by enabling new business opportunities for small and medium-sized enterprises.

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8. This Initiative also highlights the role played by the Internet of Things (IoT) and its applications in facilitating the development of SSC, while also providing practical guidance to countries seeking to promote smart city transitions.
 9. The partners of U4SSC organize various events highlighting how cities can only be considered “smart” and “sustainable” if ICTs are embedded into the urban infrastructure, allowing for improvements in the efficiency, accessibility, openness, equity and sustainability of urban services and enhancing the overall quality of life in cities.
 10. U4SSC generates basic guidelines for the integration of ICTs into urban operations, based on, the SDGs, existing credible international standards and key performance indicators (KPIs).
 11. Additionally, U4SSC helps define a set of goals, develop smart city action plans, and establish policy recommendations and associated targets that urban development stakeholders are encouraged to meet.
 12. U4SSC provides inputs to the Habitat III Conference and contributes to implementing its outcomes. In addition, U4SSC will be developing a Global Smart Sustainable City Index, along with a set of guidelines, which are expected to help monitor progress on SDGs at the city level.
 13. This Initiative brings together leaders in their respective fields, including senior policymakers, industry leaders, city representatives, international organizations, academic and research institutes, and non-government organizations.
 14. In addition to the assistance offered by the partners of U4SSC, the ITU will rely on the support of ITU-T Study Groups, in particular ITU-T Study Group 20 (see Table 1), and the UNECE will count on the CHLM (see Table 2). Both tables describing the two groups are found in Annex II.

III. U4SSC Working Groups (WG)

15. **WG 1 “Setting the Framework”**
16. **Urban planning** refers to the decision-making process during which local, subnational, national and international urban objectives are determined, bearing in mind available resources. Its main aim is to create an efficient, equitable, gender-neutral, technologically advanced and sustainable urban environment for present and future generations. One of the key hindrances to good urban planning is the lack of adequate frameworks, standards and indicators. Credible international standards need to be developed. These can help formulate an overarching coordinating framework that will deal with the most pressing issues related to rapid urban development, and support the development of relevant policies.¹
17. **Policy, standards and regulation** refers to the well-defined regulatory and policy frameworks are essential to improving a city’s smartness and sustainability. Enabling regulation for SSC may incentivize investment in smart city projects, encourage technology integration, increase smart-city collaboration across thematic borders, improve compliance with national and international standards, and help monitor smart-

¹ UN-Habitat. Urban Planning and Design. 2016. <http://unhabitat.org/expertise/2-urban-planning-and-design/>

city progress.² International standards play an important role in providing common technical platforms and enabling continuity in the operation of smart-city services when citizens visit different cities. Implementing international standards also encourages the alignment of global smart-city approaches, the replication of successful initiatives, and the interoperability between smart-city systems.³

18. **KPIs** can be implemented by urban authorities and other city stakeholders to assess the degree of success in achieving the objectives of smart-city projects. They also help to evaluate how modifications affect a city,⁴ and provide a framework for making comparisons between different cities.

19. **WG 2 “Connecting Cities and Communities”**

20. **Smart living** refers to a collection of innovative ICT based services that help citizens to lead healthy and safe lives, with easy access to services and work, in such a way that protects the sustainability of resources in the interests of future generations. ICTs can be used as the foundation for these services to improve citizens’ quality of life.⁵ These services should be offered in response to the requirements and desires of citizens, making it important to include them in the decision-making processes that drive the development of SSC.⁶

21. **Smart mobility:** Technology can play an important role in bringing about digital innovation in the transport sector to improve mobility operations and delivery services. As transportation is pivotal for economic growth, the concept of smart mobility aims to integrate all modes of transport at local and national level, and provide a seamless and safe experience for urban inhabitants. In line with this, smart sustainable transport systems, permeated by ICTs, are able to achieve a harmonious balance between the requirements for environmental sustainability and providing the means for the smooth transportation of people and commodities in SSC.

22. **Smart environment** refers to an urban ICT-based ecosystem with pleasant climatic conditions and sustainable resource management systems. Within smart environments, efforts are also directed to environmental protection activities with the aim of reducing pollution and contamination of resources.

23. **WG 3 “Enhancing Innovation and Participation”**

24. **Smart governance** refers to an agglomeration of hard and soft elements such as norms, policies, best practices, political participation, open data platforms, ICTs, citizens, and other resources.⁷ Using smart governance techniques, urban administrators are able to engage in positive dialogue with citizens through credible and transparent channels, and make informed decisions based on the feedback received.

25. **Smart people** (promoting a bottom-up approach): People are the *raison d’être* of a city. It is essential that they are at the heart of urban solutions and are sufficiently

² Flipbook on “Shaping smarter and more sustainable cities: Striving for sustainable development goals”. 2016. http://wftp3.itu.int/pub/epub_shared/TSB/ITUT-Tech-Report-Specs/2016/en/flipviewerexpress.html

³ Ibid.

⁴ China Standardization. Smart City and Sustainability, 2014.

⁵ Flipbook on “Shaping smarter and more sustainable cities: Striving for sustainable development goals”. 2016. http://wftp3.itu.int/pub/epub_shared/TSB/ITUT-Tech-Report-Specs/2016/en/flipviewerexpress.html

⁶ Ibid.

⁷ Willke, Smart Governance: Governing the Global Knowledge Society, 2007.

empowered, motivated and engaged to drive the development of ICT-enabled SSC. City inhabitants proficient in the use of smart ICT devices are key to shaping a smart sustainable city and are also essential to the success of structured feedback mechanisms designed to improve existing governance infrastructures.

26. **Smart economy:** In addition to supporting trials of smart city applications, policy frameworks should encourage local governments to engage the private sector and citizens in developing innovative financing mechanisms and sustainable business models, which support entrepreneurship and boost productivity as envisioned by the smart economy concept. The planning of SSC should integrate strategies for job creation and improving labour mobility to attract new businesses and establish a circular economy. Within this domain, financial and social incentives could also be provided by urban leaders to encourage the developmental process and highlight the long-term benefits of sustainable urbanization.

IV. U4SSC action plan and associated activities

27. The smart education action includes discussing ways of integrating the IoT and other ICTs into SSCs, and identifying SSCs' goals and challenges in relation to the implementation of key targets.
28. The panel discussions and events action consists of conducting interactive panel discussions on the transition to SSCs, covering steps and initiatives to accelerate the implementation of an ICT-based infrastructure, and measures to build capacity for the IoT's integration into cities; and organizing an annual event with partners.
29. The knowledge-sharing and research action focuses on collecting relevant case studies on SSCs worldwide, or on specific related topics, and researching and examining the potential role of various technological innovations in urban ICT infrastructures for SSCs to improve citizens' quality of life.
30. The standards implementation action looks at advocating for the use of international standards to promote the widespread development and adoption of ICT-based solutions for SSCs, and establishing guidelines for the transition to an SSC.

V. First Meeting of the U4SSC

31. UNECE and ITU organized the First Meeting of the U4SSC initiative⁸ on 21-22 July 2016 in Geneva, Switzerland. With the aim to approve the terms of reference of the U4SSC working groups; formulate proposals for the U4SSC Action Plan; and collect feedback on the key performance indicators (KPIs) for smart sustainable cities elaborated by ITU and UNECE together with other stakeholders, the meeting gathered participants from all over the world.
32. The U4SSC Initiative⁹ is co-chaired by H.E. Mrs. Daiva Matoniene, Vice-Minister of the Environment of Lithuania and Nasser Al Marzouqi, Chairman of ITU-T Study Group 20 and supported as Vice-Chair by Paolo Gemma, Senior Specialist at Huawei.
33. The activities of U4SSC are carried out by three Working Groups, namely, Setting the Framework; Connecting Cities and Communities; and Enhancing Innovation and

⁸ More information can be found at <http://www.unece.org/index.php?id=43231>

⁹ More information on the initiative is available at <http://www.itu.int/en/ITU-T/ssc/united/Pages/default.aspx>.

Participation. The Working Group 1 is co-chaired by Lluïsa Marsal, Future Cities Catapult and Tomás Llorente, Spain. The activities of the Working Group 2 are led by John Smiciklas, Building Owners and Managers Association of Canada and Hazem Galal, PricewaterhouseCoopers (PwC). Finally, the Working Group 3 is coordinated by Okan Geray, Smart Dubai and Kari Aina Eik, Secretary General of the Organization for International Economic Relations (OiER).

34. During the second day, the work on the standard was presented. This work will be now revised by the Advisory Group composed by UN entities, and in particular, UNECE, ITU, UN-Habitat, UNIDO, ECLAC, ECA, FAO, UNFCCC, WMO, UN Women, UNEP, UNEP-FI, WTO, UNCCD, UNU-IAS and CBD¹⁰ and the Technical Advisory Group, composed by experts invited by the above-mentioned UN entities and pilot cities. The document of the standard under revision is presented in the Official Document 4 (ECE/HBP/2016/4).

¹⁰ WHO will participate in the work as an observer.

Annex I: The logo of the U4SSC

35. The logo of the initiative is presented below.



Annex II: Responsible entities for the ITU and the UNECE

36. This initiative will be carried out for the ITU by the ITU-T Study Group 20 on the IoT and its applications, including smart cities and communities, and for the UNECE by the CHLM. Their short descriptions are presented below.

ITU-T Study Group 20: the IoT and its applications, including smart cities and communities

ITU-T Study Group 20 was created in June 2015. This Study Group held its first meeting from 19 to 23 October 2015 in Geneva, Switzerland.

It is responsible for the development of international standards to enable the coordinated development of IoT, including M2M and USN, to assist in addressing important urban development challenges.

It has taken up the output of the ITU-T Focus Group on Smart Sustainable Cities (FGSSC), which concluded its activities in May 2015 with the delivery of 21 Technical Reports and Specifications.

The new ITU-T Study Group 20 provides the specialized IoT standardization platform necessary to drive sustainable urbanization and develop a cohesive set of international standards to help urban areas transition into SSC.

See: <http://www.itu.int/en/ITU-T/about/groups/Pages/sg20.aspx>

CHLM

The UNECE CHLM is an intergovernmental body which includes representatives of 56 member States of the UNECE region. It works with its subsidiary body, the Working Party on Land Administration (WPLA), and is supported by the Real Estate Market Advisory Group (REM). It promotes: energy-efficient and adequate housing, including for those with special needs and vulnerable population groups; compact, inclusive, resilient SSC; transparent and efficient land use; and property registration. In 2013, following the survey “Challenges and Priorities in the ECE Region”, the CHLM

decided to include the topic of “smart cities” in its programme of work.

See: www.unece.org/housing.html