

# A guide to circular cities

**June 2020** 









































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#### **Foreword**

This publication was developed within the framework of the United for Smart Sustainable Cities (U4SSC) initiative.

#### **Acknowledgements**

The development of this Guide was led by Mr Okan Geray, Strategic Advisor to Smart Dubai (Dubai, UAE). This work was supported by the secretariat of the UNECE Committee on Urban Development, Housing and Land Management of the United Nations Economic Commission for Europe, including Ms Paola Deda, Director of Forests, Land and Housing Division; Ms Gulnara Roll, Secretary of the Committee on Housing and Land Management; Ms Domenica Carriero, Economic Affairs Officer, Ms Cecilia Batac, Statistics Assistant; Mr Christian Suarez, Intern; Mr Temmuz Yigit Bezmez, Intern; and Ms Yulia Baystrukova, Intern.

Okan Geray wishes to thank the U4SSC management team: Mr Nasser Al Marzouqi (U4SSC Chairman), Mr Abdurahman M. Al Hassan, and Mr Paolo Gemma (U4SSC Vice-Chairmen) for their assistance and contributions. Additionally, Okan Geray would like to thank all the case authors and Ms Gamze Hakli Geray, an independent researcher, for her assistance in drafting and editing the document, and in coordinating and editing three case studies.

The author also extends his gratitude to the contributing organizations, along with their representatives: Mr Oliver Hillel from the Convention on Biological Diversity (CBD), Ms Lucy Winchester and Ms Vera Kiss from the Economic Commission for Latin America and the Caribbean (ECLAC), Ms Simone Borelli from the Food and Agriculture Organization (FAO), Ms Cristina Bueti and Mr Chris Ip from the International Telecommunication Union (ITU), Ms Iryna Usava from the United Nations Development Programme (UNDP), Mr James Murombedzi from the United Nations Economic Commission for Africa (UNECA), Mr Guilherme Canela from the Regional Bureau for Sciences in Latin America and the Caribbean of the United Nations Educational, Scientific and Cultural Organization (UNESCO), Ms Martina Otto and Ms Sharon Gil from United Nations Environment Programme (UNEP), Mr Matthew Ulterino from the United Nations Environment Programme Finance Initiative (UNEP-FI), Mr Motsomi Maletjane from the United Nations Framework Convention for Climate Change (UNFCCC), Mr Andre Dzikus, Ms Tania Lim, Mr Jean Yves and Robert Lewis-Lettington from the United Nations Human Settlements Programme (UN-Habitat), Mr Mark Draeck, Ms Katarina Barunica Spoljaric and Mr Nicholas Dehod from the United Nations Industrial Development Organization (UNIDO), Mr William Kennedy from the United Nations Office for Partnerships (UNOP), Ms Soumaya Ben Dhaou and Ms Judy Backhouse from the United Nations University – Operating Unit on Policy-Driven Electronic Governance (UNU-EGOV), and Mr Alexander Baklanov from the World Meteorological Organization (WMO).

The opinions expressed in this publication are those of the authors and do not necessarily represent the views of their respective organizations or members.

ISBN: 978-92-61-31171-1

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### **Executive summary**

The United for Smart Sustainable Cities (U4SSC) initiative is a global platform dedicated to supporting cities worldwide in becoming smarter and more sustainable. The U4SSC is coordinated by the International Telecommunication Union (ITU), the United Nations Economic Commission for Europe (UNECE) and the United Nations Human Settlement Programme (UN-Habitat), along with the support of 14 other UN agencies and programmes. The U4SSC is working to develop strategic guidelines and measurement tools to assist cities in implementing the Sustainable Development Goals.

The Guide for Circular Cities contains a circular city implementation framework that is designed to improve circularity in cities and support stakeholders in implementing circular actions. The framework consists of a four-step methodology that provides a consistent method for assessing, prioritising and catalysing different circular actions. This deliverable is developed in response to the growing sustainability challenges that cities are facing and the emergence of the circular economy concept and its applicability and extension in the city setting.

The Guide starts with an assessment of the main developmental and sustainability challenges that cities are facing and the ways in which the concept of circular economy can be extended beyond the economic sphere and be applied to different city assets.

It further defines key components of the circular city implementation framework. These components include: city assets and products (i.e. various city infrastructures, city resources, city goods and services available for use in a city); circular city actions (i.e. outcome-orientated actions that can be applied to city assets and products); circular city outputs (i.e. the outputs of circular city actions applied to city assets and products); and circular city enablers (i.e. complementary activities which support or accelerate implementation of circular city actions). Each of these components contains different quality and potential for facilitating circularity in cities. The interactions between these components form the basis of the circular city implementation framework.

Finally, the Guide explains the circular city implementation framework. This framework utilizes four different steps to assist city stakeholders in enacting circular actions. The first step is to establish a baseline for circularity. The second step is to determine the potential of circularity in different assets and to prioritize circular actions based on the availability resources. The third step is to apply city enablers to catalyse different circular actions. The last step is to evaluate the impacts of these actions.

Cities are invited to use this Guide to identify a course of action for improving circularity. The Guide also includes practical recommendations for preparing circular city actions and their implementation. The Guide is complemented with 17 case studies that illustrate the application of the circularity concept based on experiences from cities around the world.





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### List of abbreviations

Al	artificial intelligence
API	application programming interface
IoT	internet of things
ICT	information and communication technologies
RFID	radio-frequency identification

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