URBAN SERVICES AND TECHNOLOGY

HABITAT III POLICY PAPERS

POLICY PAPER 9:

URBAN SERVICES AND TECHNOLOGY

HABITAT III - 2016

© 2017 United Nations
All rights reserved worldwide

The Habitat III Policy Units and Papers were coordinated by the Habitat III Secretariat. The work was led by the team comprised of Ana B. Moreno, Wataru Kawasaki, Irwin Gabriel Lopez, Laura Bullon-Cassis, and Dennis Mwamati. Gratitude should also be expressed to the rest of the Habitat III Secretariat, the interns and volunteers who supported this process.

The findings, interpretations, and conclusions expressed herein do not necessarily reflect the views of the United Nations or its officials or Member States.

The designations employed and the presentation of material in this publication do not imply the expression of any opinion whatsoever on the part of the United Nations concerning the legal status of any country, territory, city, or area or of its authorities, or concerning the delimitation of its frontiers or boundaries, or regarding its economic system or degree of development. References to names, firms, commercial products, and processes does not imply their endorsement by the United Nations, and a failure to mention a particular firm, commercial product, or process is not a sign of disapproval.

Links contained in the present publication, are provided for the convenience of the reader and are correct at the time of issue. The United Nations takes no responsibility for the continued accuracy of that information or for the content of any external website.

If any questions arise related to the accuracy of information contained in this publication, please refer to the official document, A/CONF.226/PC.3/22.

An electronic version of this publication, as well as other documents from the Habitat III preparatory process and the Conference itself, are available for download from the Habitat III website at www.habitat3.org

The Habitat III Secretariat gratefully acknowledges the Government of Ecuador for the financial support provided to produce this publication.

This is a United Nations publication issued by the Habitat III Secretariat. Photocopies and reproductions of excerpts are allowed with proper credits.

Suggested reference for this publication: United Nations Conference on Housing and Sustainable Urban Development, *Habitat III Policy Papers: Policy Paper 9 Urban Services and Technology* (New York: United Nations, 2017), www.habitat3.org

Cover: Photo of Bangkok, Thailand by Phawat/Shutterstock.com ©

ISBN Volume: 978-92-1-132754-0
ISBN Series: 978-92-1-133392-3

Foreword

The New Urban Agenda was unanimously adopted at the United Nations Conference on Housing and Sustainable Urban Development (Habitat III) in Quito, Ecuador on 20 October 2016. In December 2016, during the sixty-eighth plenary session of the seventy-first General Assembly, all United Nations Member States endorsed the New Urban Agenda and committed to work together towards a paradigm shift in the way we plan, build, and manage our cities.

The implementation of the New Urban Agenda is crucial for the achievement of the Sustainable Development Goals as well as the Paris Agreement on Climate Change. How we envisage and share our urban spaces ultimately impacts how we address global challenges, and it is in our cities, towns, and villages where actions must be prioritized and operationalized. Over 30,000 Conference participants came together in Quito to discuss this common vision for sustainable development and its effective implementation.

The Habitat III Policy Units were formed to identify policy priorities, critical issues, and challenges, including structural and policy constraints, which would serve as inputs to the New Urban Agenda. They were also tasked with developing action-oriented recommendations for its implementation.

Each Policy Unit was led by two organizations and composed of a maximum of 20 experts with different and cross cutting expertise, each of which were nominated by Member States and stakeholders from all regions. The experts were drawn from various constituent groups and backgrounds, and their selection was guided by geographical and gender balance considerations, as well as qualitative criteria regarding expertise and experience in each relevant policy area.

The Habitat III Policy Papers are the final outcome of the Habitat III Policy Units' work. The Papers served as official inputs to the Habitat III process and were a key part of the formulation of the Zero Draft of the New Urban Agenda. They are also part of the Habitat III legacy and a valuable resource of information and knowledge that various urban actors may find useful in their work on housing and sustainable urban development. The exercise that was carried out with Policy Units and Policy Papers sets a pioneering precedent for future United Nations intergovernmental processes to be not only informed by, but also based on independent expert knowledge.

I would like to express my appreciation to all policy experts and co-lead organizations who provided their insight, expertise, and time to develop the ten Policy Papers. I especially thank the Association of German Cities and the International Association of Public Transport (UITP) as Policy Unit 9 co-leaders for their stewardship in coordinating inputs from policy experts and finalizing the Policy Paper on Urban Services and Technology.

I am grateful for the immense dedication and enthusiasm that the co-leaders and policy experts have shown in taking up the challenge of collecting and consolidating key policy recommendations for the New Urban Agenda. And I would like to express my gratitude by showcasing their key messages towards the New Urban Agenda.

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

Acknowledgements

The Habitat III Secretariat expresses its deep appreciation to Member States that provided financial support for the United Nations Conference on Housing and Sustainable Urban Development (Habitat III): the People's Republic of China, the Czech Republic, the Republic of Ecuador, the Republic of Finland, the French Republic, the Federal Republic of Germany, the Republic of Indonesia, the Republic of Kenya, the United Mexican States, the Federal Republic of Nigeria, the Slovak Republic, the Republic of South Africa, and the Kingdom of Spain.

Our gratitude goes out to local and regional governments that financially contributed to the Habitat III preparatory process and the Conference itself, in a pioneering and unique way: the City Council of Barcelona, the Municipal Government of Cuenca, the Government of the Federal District of Mexico, the Government of the State of Mexico, as well as the city of Surabaya.

We would like to convey special appreciation for the Rockefeller Foundation and the United Nations Environment Programme for their financial contribution to the Habitat III preparatory process and Conference.

The Habitat III Secretariat would also like to express its gratitude to the organizations and institutions which supported the Conference with in-kind funds: the Ford Foundation, the Municipality of Tel-Aviv, the Montreal Metropolitan Community (CMM), and the United Arab Emirates.

We would also like to give special thanks for the in-kind contributions that made the Policy Units a reality by hosting some of the Expert Group Meetings in 2015 and 2016: the Bartlett Development Planning Unit (DPU) - University College London, the CAF-Development Bank of Latin America, the Ford Foundation, the Inter-American Development Bank (IDB), the Korea Research Institute for Human Settlements (KRIHS), the London School of Economics (LSE Cities), the Organisation for Economic Co-operation and Development (OECD), the Union Internationale des Transports Publics (UITP), the United Cities and Local Governments (UCLG), the United Nations Educational, Scientific and Cultural Organization (UNESCO), the United Nations Human Settlements Programme (UN-Habitat), the Urban Innovation Centre – Future Cities Catapult, and the World Bank.

Finally, we would like to convey our most sincere appreciation for the voluntary work of all the Policy Unit co-lead organizations and their representatives, as well as the Policy Unit experts, who enthusiastically and generously shared their knowledge in the elaboration of the Habitat III Policy Papers. Their commitment and extensive time spent preparing the policy recommendations contributed to a vibrant preparatory process and Conference, and are reflected in the New Urban Agenda.

Contents

Foreword iii

Acknowledgements v

Contents vii

Acronyms/Abbreviations ix

Introduction 1

Policy Unit 9 co-lead organizations and co-leaders 15

Policy Unit 9 expert members 18

Executive summary 26

I. Vision and framework of the policy paper's contribution to the New Urban Agenda 27

- A. Moving on from Habitat II 27
- B. Urban services delivering on Sustainable Development Goals and the Paris Agreement 28
- C. 2030 Vision for urban services and technologies 28

II. Policy challenges 29

- A. States and trends of the thematic areas covered 29
- B. Policy issues and challenges 31

III. Prioritizing policy options: transformative actions for the New Urban Agenda 33

- A. Targets 33
- B. Policy priorities 34
- C. Critical recommendations for implementing the urban agenda 35

IV. Key actors for action: enabling institutions 37

- A. Public administration 37
- B. Stakeholders 39
- C. International community and academia 40

V. Policy design, implementation and monitoring 40

- A. Policy design, governance and technologies 40
- B. Implementation and finance 41
- C. Monitoring 42

VI. Conclusion 42

Annex I. Case Studies 46

Annex II. Key reference documents 52

Appendix A. Policy Units selection process and criteria
Appendix B. Terms of reference for co-lead organizations 56
Appendix C. Terms of reference for Policy Unit experts 59
Appendix D. Policy Paper Framework template 61
Appendix E. Policy Paper template 64
Appendix F. Web links to Policy Unit 9 background documents 68
..... 69

List of Figures

Figure 1. Habitat III Strategic Framework
Figure 2. Expected accomplishments for the Habitat III Policy area 2
Figure 3. Habitat III Thematic Framework 3
Figure 4. Habitat III Policy Units co-lead organizations 4
Figure 5. Habitat III Policy Units list of Expert Group Meetings 6
Figure 6. Policy Units' role in the Habitat III Strategic Framework 7
..... 12

Acronyms/Abbreviations

BMBF	Federal Ministry of Education and Research
BMZ	German Ministry of Economic Cooperation and Development
BRICS	Association of major emerging national economies: Brazil, Russia, India, China and South Africa
BRT	Bus-Rapid-Transit
CABs	Community Ablution Blocks
CAFM	Computer-Aided Facility Management
CMM	Montreal Metropolitan Community
COP21	United Nations Climate Change Conference
DPU	Bartlett Development Planning Unit of the University College London
EGH	Heidelberg Development Company
EWS	e'Thekwini Water and Sanitation
FAO	Food and Agriculture Organization of the United Nations
GDP	Gross Domestic Product
GGH	Heidelberg Housing and Real Estate Company
GIZ	German Agency for International Cooperation
ICT	Information and Communications Technology
IDB	Inter-American Development Bank
IEA	International Energy Agency
INU	National Institute of Urban Planning of Italy
KfW	Kreditanstalt für Wiederaufbau
KRIHS	Korea Research Institute for Human Settlements
LAIF	European Union's Latin American Investment Facility
LSE	London School of Economics
NAMA	National Appropriate Mitigation Action for Sustainable Housing
NGO	Non-Governmental Organization
OECD	Organisation for Economic Cooperation and Development
OHCHR	Office of the United Nations High Commissioner for Human Rights
OSCC	One-Stop Service Centres
SEWA	Self Employed Women's Association
SHF	Sociedad Hipotecaria Federal
TOD	Transit-Oriented Development
UCLG	United Cities and Local Governments
UEMI	Urban Electric Mobility Initiative
UIC	International Union of Railways
UITP	Union Internationale des Transports Publics
UN Environment	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UN-Habitat	United Nations Human Settlements Programme
UNISDR	United Nations Office for Disaster Risk Reduction

UNITAR	United Nations Institute for Training and Research
USAID	United States Agency for International Development
WHO	World Health Organization
WWAP	World Water Assessment Programme
WWDR	United Nations World Water Development Report
ZIB	Zentrum für Information und Beratung

Introduction

Technical expertise towards the New Urban Agenda

The United Nations General Assembly decided to convene the United Nations Conference on Housing and Sustainable Urban Development (Habitat III) in October 2016, in Quito, Ecuador, to reinvigorate the global commitment to sustainable urbanization, and to focus on the implementation of the New Urban Agenda with a set of global standards of achievement in sustainable urban development.

The Habitat III Conference and its preparatory process provided a unique opportunity to bring together diverse urban actors, particularly local authorities, to contribute to the development of the New Urban Agenda in the new global development context after the historic adoption of the 2030 Agenda for Sustainable Development and its Goals, the Paris Agreement on Climate Change, and other global development agreements and frameworks.

In September 2014, during the first session of the Habitat III Preparatory Committee (PrepCom1) held in New York at the United Nations headquarters, the Secretary-General of the Conference, Dr. Joan Clos, presented a report[1] on the preparations for the Conference and launched an innovative, inclusive, and action-oriented preparatory process carried out in four areas: knowledge, engagement, policy, and operations.

In the same report, paragraph 68, it is noted that the work of several Policy Units on thematic areas could facilitate the collection of inputs to the Habitat III preparatory process in an innovative way, ensuring the participation of all actors in the composition of those units.

A Habitat III Strategic Framework was developed based on these four areas, while linkages among the four areas were guided by the principles of innovation and inclusiveness requested by Member States.

[1] A/CONF.226/PC.1/4

FIGURE 1. HABITAT III STRATEGIC FRAMEWORK

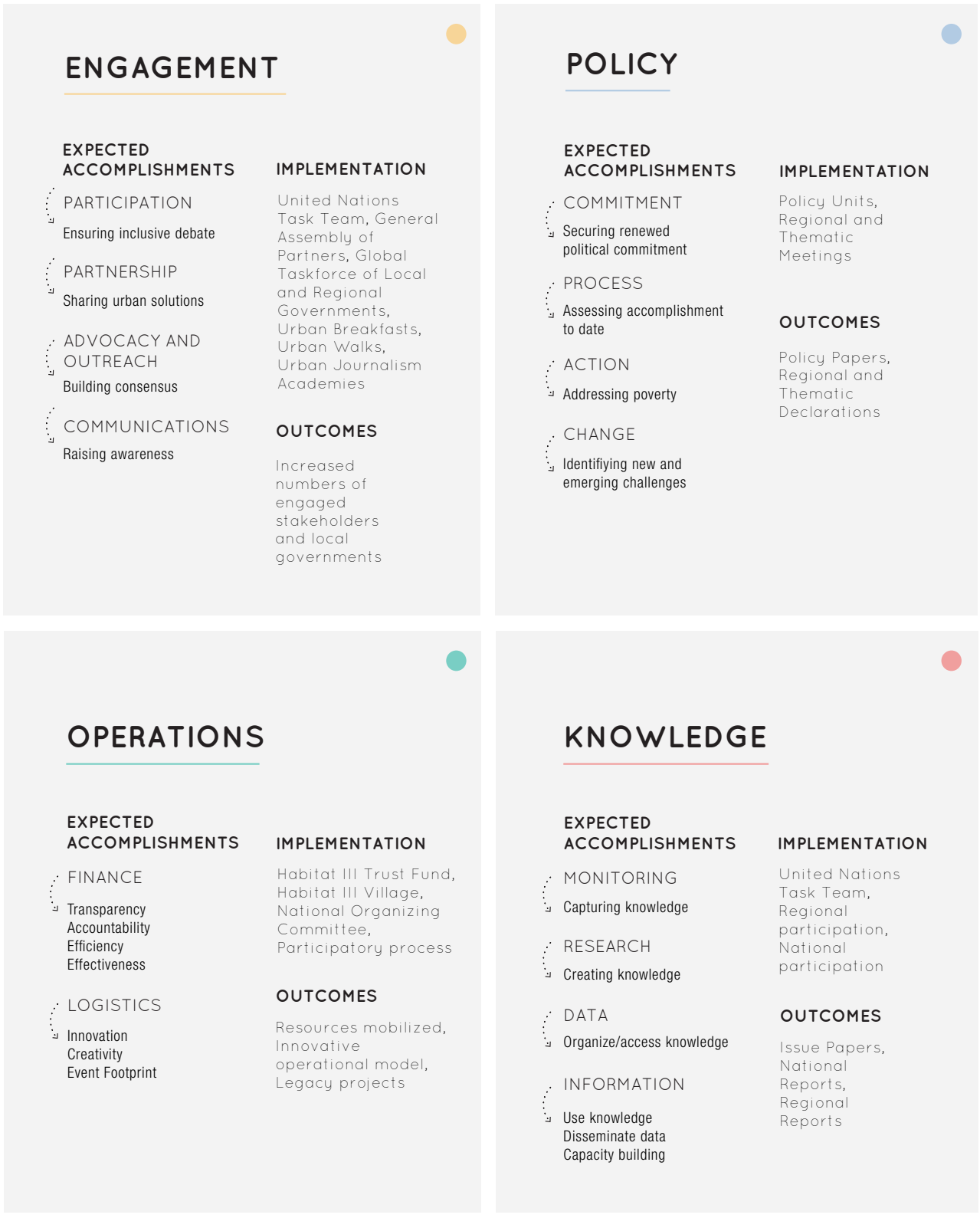


FIGURE 2. EXPECTED ACCOMPLISHMENTS FOR THE HABITAT III POLICY AREA

Establishment of the Policy Units

After PrepCom1, which took place in September 2014, from October to December 2014, the Bureau of the Preparatory Committee proposed the Habitat III Thematic Framework with six thematic areas, 22 Issue Papers and ten Policy Units.

FIGURE 3. HABITAT III THEMATIC FRAMEWORK

AREAS	ISSUE PAPERS	POLICY UNITS
1. Social Cohesion and Equity – Livable Cities	1. Inclusive cities (a.o. Pro-poor, Gender, Youth, Ageing) 2. Migration and refugees in urban areas 3. Safer Cities 4. Urban Culture and Heritage	1. Right to the City and Cities for All 2. Socio-Cultural Urban Framework
2. Urban Frameworks	5. Urban Rules and Legislation 6. Urban Governance 7. Municipal Finance	3. National Urban Policies 4. Urban Governance, Capacity and Institutional Development 5. Municipal Finance and Local Fiscal Systems
3. Spatial Development	8. Urban and Spatial Planning and Design 9. Urban Land 10. Urban-rural linkages 11. Public Space	6. Urban Spatial Strategies: Land Market and Segregation
4. Urban Economy	12. Local Economic Development 13. Jobs and Livelihoods 14. Informal Sector	7. Urban Economic Development Strategies
5. Urban Ecology and Environment	15. Urban Resilience 16. Urban Ecosystems and Resource Management 17. Cities and Climate Change and Disaster Risk Management	8. Urban Ecology and Resilience
6. Urban Housing and Basic Services	18. Urban Infrastructure and Basic Services, including energy 19. Transport and Mobility 20. Housing 21. Smart Cities 22. Informal Settlements	9. Urban Services and Technology 10. Housing Policies

At the second session of the Habitat III Preparatory Committee (PrepCom2), held in April 2015 in Nairobi, Kenya, at the headquarters of the United Nations Human Settlements Programme (UN-Habitat), Member States called upon participating States to support the work of the Policy Units with a goal of facilitating the elaboration of policy recommendations which would contribute, together with the inputs from broad regional and thematic consultations among all stakeholders, to the Bureau of the Preparatory Committee's work in preparing the draft outcome document of the Conference.[2]

On 8 May 2015, in his capacity as Secretary-General of the Conference and pursuant to the request by Member States to select technical experts -- keeping a balance between Government-nominated technical experts and others and guided by the need for equitable geographical representation and gender balance -- Dr. Joan Clos sent an official letter encouraging Member States of the United Nations to support the work of the Policy Units by nominating suitably qualified technical experts to constitute ten Policy Units in order to facilitate the elaboration of policy recommendations. Stakeholders were also invited to nominate experts. The terms of reference for co-lead organizations and experts were shared on the Habitat III website, as well as the selection process and criteria details (see Appendixes A, B and C).

Over 700 nominations were received from Member States as well as stakeholders' organizations, including experts from academia, national and local governments, civil society, and other regional and international bodies. A selection process based on the set criteria such as expertise, gender balance, and geographical representation was completed in close consultation with the Bureau of the Preparatory Committee.

A total of 20 appointed organizations, two per Policy Unit, were selected based on their expertise in the subject area given the specific topic of the Policy Unit, participation and engagement in other intergovernmental processes and/or global development frameworks, and diversity in their constituent groups. The co-lead organizations also contributed technical, financial, or in-kind support to the work of the Policy Units.

A maximum of 20 experts per Policy Unit were also selected, including at least one expert on gender issues and one on children and youth. Each Policy Unit had at least one expert from a Least Developed Country.

[2] See 1/1205 resolution at A/CONF.226/PC.2/6.

FIGURE 4. HABITAT III POLICY UNITS CO-LEAD ORGANIZATIONS

AREAS	POLICY UNITS	CO-LEAD ORGANIZATIONS
1. Social Cohesion and Equity – Livable Cities	1. Right to the City, and Cities for All	• ActionAid • CAF-Development Bank of Latin America
	2. Socio-Cultural Urban Framework	• Institut Africain de Gestion Urbaine of Senegal (IAGU) • United Nations Educational, Scientific and Cultural Organization (UNESCO)
2. Urban Frameworks	3. National Urban Policies	• Organisation for Economic Co-operation and Development (OECD) • United Nations Human Settlements Programme (UN-Habitat)
	4. Urban Governance, Capacity and Institutional Development	• LSE Cities, London School of Economics and Political Science • United Cities and Local Governments (UCLG), facilitating the Global Taskforce
	5. Municipal Finance and Local Fiscal Systems	• Lincoln Institute of Land Policy • World Bank
3. Spatial Development	6. Urban Spatial Strategy: Land Market and Segregation	• National Institute of Urban Planning of Italy (INU) • Urban Planning Society of China (UPSC)
4. Urban Economy	7. Urban Economic Development Strategies	• Bartlett Development Planning Unit (DPU) - University College London • Korea Research Institute for Human Settlements (KRIHS)
5. Urban Ecology and Environment	8. Urban Ecology and Resilience	• The Rockefeller Foundation • United Nations Environment Programme (UN Environment)
6. Urban Housing and Basic Services	9. Urban Services and Technology	• Association of German Cities • Union International des Transports Publics (UITP)
	10. Housing Policies	• Habitat for Humanity • Inter-American Development Bank (IDB)

The Habitat III Secretariat and the co-leaders organized several virtual meetings throughout the work of the Policy Units from September 2015 until the end of February 2016 in order to strengthen coordination, clarify matters of the required work, and prepare for the face-to-face Expert Group Meetings, and for more substantive discussions and decision-making on the contents of the Policy Papers.

A total of 20 Policy Unit Expert Group Meetings were organized from November 2015 to February 2016, and hosted by some of the co-lead organizations or key partners of the Habitat III preparatory process. Participants of the Expert Group Meetings were composed of policy experts and co-leaders and coordinated by the Habitat III Secretariat.

FIGURE 5 - HABITAT III POLICY UNITS LIST OF EXPERT GROUP MEETINGS

Policy Unit	City/Country	Dates	Hosted by
Policy Unit 1	Lima, Peru	24-25 November 2015	CAF-Development Bank of Latin America
	Bogota, Colombia	27-28 January 2016	CAF-Development Bank of Latin America
Policy Unit 2	New York, USA	25-27 January 2016	The Ford Foundation
	Paris, France	22-25 February 2016	UNESCO
Policy Unit 3	Paris, France	12-13 November 2015	OECD
	Incheon, Republic of Korea	15-16 December 2015	UN-Habitat; Korea Research Institute for Human Settlements (KRIHS)
Policy Unit 4	London, UK	15-16 December 2015	LSE Cities, London School of Economics and Political Science
	Barcelona, Spain	10-12 February 2016	United Cities and Local Governments (UCLG), facilitating the Global Taskforce
Policy Unit 5	Washington DC, USA	20-22 January 2016	World Bank
	London, UK	15-16 February 2016	Urban Innovation Centre – Future Cities Catapult
Policy Unit 6	Barcelona, Spain	16-17 November 2015	UN-Habitat
	New York, USA	4-5 February 2016	The Ford Foundation
Policy Unit 7	London, UK	3-4 December 2015	Bartlett Development Planning Unit (DPU) - University College London
	London, UK	9-10 February 2016	Urban Innovation Centre – Future Cities Catapult
Policy Unit 8	Bangkok, Thailand	23-24 November 2015	The Rockefeller Foundation
	Paris, France	25-26 January 2016	OECD
Policy Unit 9	Barcelona, Spain	17-18 November 2015	UN-Habitat
	Brussels, Belgium	11-12 February 2016	Union Internationale des Transports Publics (UITP)
Policy Unit 10	Barcelona, Spain	19-20 November 2015	UN-Habitat
	Washington DC, USA	27-29 January 2016	Inter-American Development Bank (IDB)

First outcome: Policy Paper Frameworks

All the Policy Units identified challenges, policy priorities, and critical issues as well as developed action-oriented recommendations for the implementation of the New Urban Agenda. The Policy Paper Framework was based on the template provided by the Habitat III Secretariat (see Appendices D and E) and submitted by the end of December 2015. It was also published online on the Habitat III website.

Official comments on the ten Policy Paper Frameworks by Member States and stakeholders were received by the end of January 2016, and also made available on the Habitat III website as a contribution to the policy process towards Habitat III. The co-lead organizations and experts took the feedback and comments into consideration to further work on the elaboration of the Policy Papers.

Comments from the perspective of the United Nations were also shared by the United Nations system through the United Nations Task Team on Habitat III (see Appendix F).

FROM MEMBER STATES

- Argentina
- Brazil
- Colombia
- Ecuador
- European Union and Member States
- Finland
- France
- Germany
- Japan
- Mexico
- Myanmar
- Netherlands (the)
- Norway
- Russian Federation (the)
- Senegal
- Thailand
- United States of America (the)

FROM STAKEHOLDERS

- Caritas International
- Ecoagriculture Partners
- Habitat International Coalition
- Helpage International
- Institute for Global Environmental Strategies
- Institute for Housing and Urban Studies, Erasmus University of Rotterdam
- International Council for Science and Future Earth
- Techo
- Union for International Cancer Control
- World Future Council
- World Resources Institute
- World Wildlife Fund

FROM UN AGENCIES

- OHCHR
- UN Environment
- UN-Habitat
- UNISDR
- UN-Women
- WHO

Finalization of the Policy Papers

Throughout the Expert Group Meetings, all ten Policy Papers were finalized and delivered by the Policy Units on 29 February 2016, and published on the Habitat III website. The Policy Papers were the result of collective efforts from the co-leaders and experts who had countless virtual and face-to-face discussions, resulting in critical and action-oriented policy recommendations to feed into the New Urban Agenda.

A formal handover of the Policy Papers to the Secretary-General of the Conference and the Bureau of the Habitat III Preparatory Committee took place during the Habitat III Europe Regional Meeting in Prague, Czech Republic, on Friday, 17 March 2016.

Representatives of the Policy Unit co-leaders and experts met with the Secretary-General of the Conference as well as the Bureau of the Preparatory Committee, and co-lead organizations of the Policy Units were thanked for their dedicated work and support, while the experts of all ten Policy Units were commended for their tireless efforts and the expertise they demonstrated in finalizing the Policy Papers.

Intersessional Process towards the Zero Draft of the New Urban Agenda

Policy Units were further involved as headway was being made in preparations for Habitat III. Furthering its vision for the preparatory process and for the Habitat III Conference to be carried out in an inclusive, efficient, effective, and improved manner, the General Assembly, in its resolution A/70/210, decided to organize five days of Open-Ended Informal Consultative Meetings before the submission of the Zero Draft of the New Urban Agenda in order to provide an opportunity for feedback on the conclusions of the Habitat III Policy Units and the Habitat III Regional and Thematic Meetings.

As part of the Intersessional Process, the Secretary-General of the Conference convened the Policy Units at the Habitat III Open-Ended Informal Consultative Meetings, which took place from 25 to 29 April 2016 at the United Nations headquarters in New York. The meeting brought together over 500 participants representing relevant stakeholders, international organizations, the United Nations system, and governments, more than 120 of which were Policy Unit experts and co-leaders from the respective organizations who participated and acted as moderators, presenters, and panelists over the period of five-day consultations.

The meeting was organized with daily themes on regional perspectives; transformative commitments for sustainable urban development; effective implementation; and how to enhance means of implementation. Co-leaders, in particular, played a significant role in organizing and leading each panel discussion in coordination with the Habitat III Secretariat. Panels aimed to examine the recommendations and outputs of the Policy Papers.

The formal handover of the Policy Papers at the Habitat III Europe Regional Meeting in Prague, Czech Republic

The Habitat III Conference: Policy directions towards the implementation of the New Urban Agenda

Apart from the elaboration of the Policy Papers, the Policy Units continued to contribute to the next stages of the Habitat III process, with their feedback and the Policy Papers actively resonating throughout the development of the outcome document that ultimately articulated the New Urban Agenda at the Habitat III Conference.

With the agreed New Urban Agenda, Policy Dialogue sessions were organized with the leadership of the co-lead organizations during the Habitat III Conference in Quito from 17 to 20 October 2016. The co-lead organizations developed a concept note for the Policy Dialogues which aimed to provide rich and innovative discussions and conversations on the theme of the Conference based on the elaborated recommendations of the respective Policy Papers. The Policy Dialogues, with a particular action-oriented focus on the implementation of the New Urban Agenda, were able to mobilize a variety of actors from all over the world, and provided a unique space to discuss the Policy Units thematic areas.

A unique legacy

The Policy Papers, due to the dedicated work of the Policy Units, were the building blocks of the New Urban Agenda, and contributed to the participatory, innovative, and inclusive manner in which the Conference in Quito took place. The creation of the Policy Units has played a key role in opening new opportunities to build on and to increase the relevance of sustainable urban development as a priority among Member States, the United Nations system, local governments, stakeholders, and other key urban players to implement the New Urban Agenda and achieve its goals together.

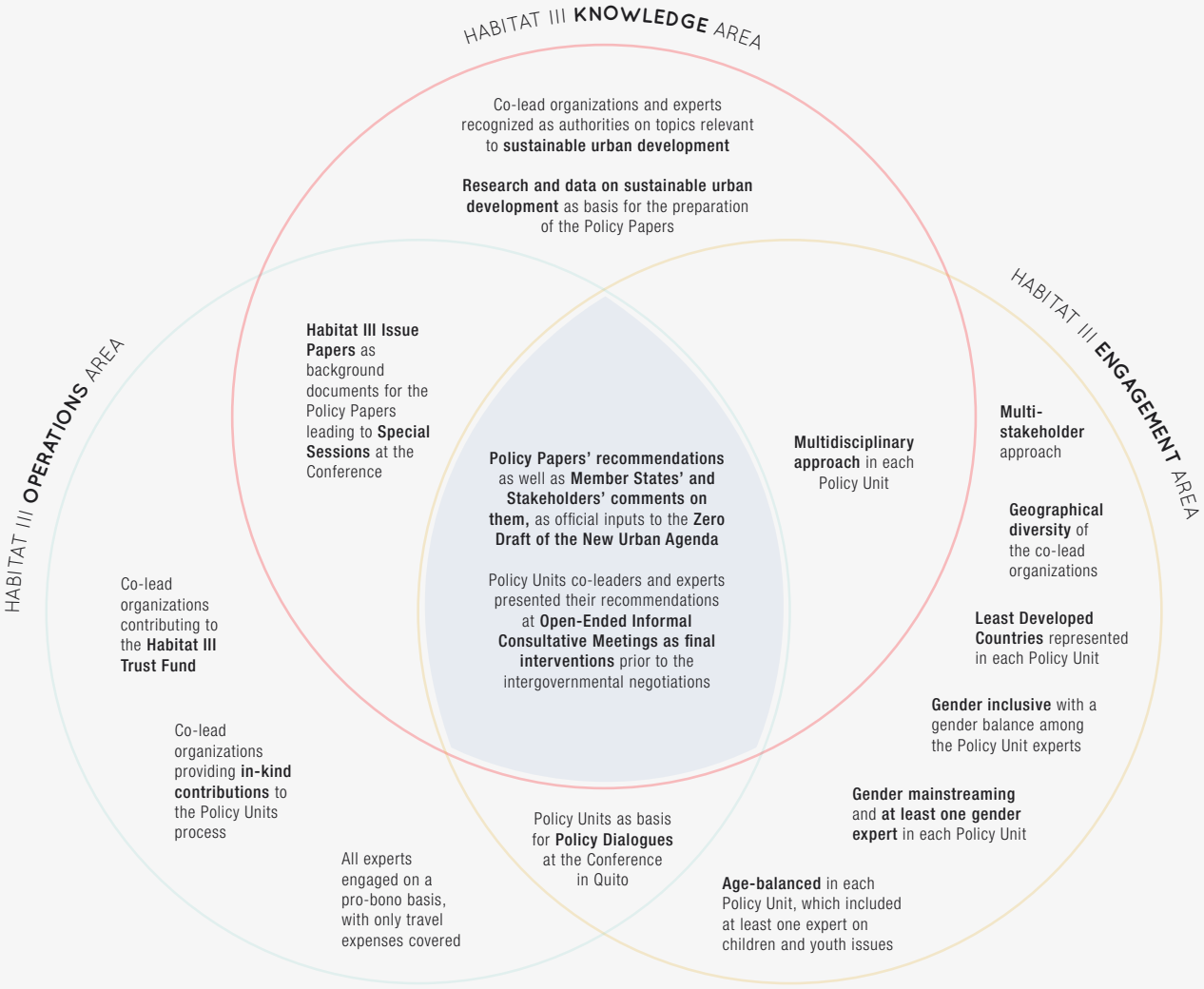
FIGURE 6. POLICY UNITS' ROLE IN THE HABITAT III STRATEGIC FRAMEWORK

Policy was one of the four conceptualized areas, along with knowledge, engagement, and operations, in the Habitat III strategic framework, which laid out the efforts necessary to achieve the goals and objectives of the Habitat III Conference and its preparatory process.

The Policy Area, composed of Policy Units and Regional and Thematic Meetings (see Figure 1), played an important role in providing significant substantive inputs during the Habitat III preparatory process and the formulation of the New Urban Agenda.

The Policy Units brought together 200 experts and 20 co-lead organizations recognized as authorities on sustainable urban development to create ten Policy Papers, which resulted in key building blocks of the New Urban Agenda in an inclusive, innovative, and participatory manner.

Apart from the results of the Policy Units in the Policy Area, each of the Habitat III strategic areas maximized its synergy effect and its role by interacting across and interlinking among the other three areas, ensuring that the entire process in the run up to the Habitat III Conference was integrated. This figure demonstrates how the Policy Units enabled the successful work of the Policy Area, while complementing and contributing to the other areas, with the active involvement of Member States, the United Nations system, local governments, stakeholders, and other key urban experts.


HABITAT III KNOWLEDGE AREA
Co-lead organizations and experts recognized as authorities on topics relevant to sustainable urban development
Research and data on sustainable urban development as basis for the preparation of the Policy Papers
HABITAT III OPERATIONS AREA
Habitat III Issue Papers as background documents for the Policy Papers leading to Special Sessions at the Conference
Co-lead organizations contributing to the Habitat III Trust Fund
Co-lead organizations providing in-kind contributions to the Policy Units process
All experts engaged on a pro-bono basis, with only travel expenses covered
Policy Papers' recommendations as well as Member States' and Stakeholders' comments on them, as official inputs to the Zero Draft of the New Urban Agenda
Policy Units co-leaders and experts presented their recommendations at Open-Ended Informal Consultative Meetings as final interventions prior to the intergovernmental negotiations
Policy Units as basis for Policy Dialogues at the Conference in Quito
HABITAT III ENGAGEMENT AREA
Multidisciplinary approach in each Policy Unit
Multi-stakeholder approach
Geographical diversity of the co-lead organizations
Least Developed Countries represented in each Policy Unit
Gender inclusive with a gender balance among the Policy Unit experts
Gender mainstreaming and at least one gender expert in each Policy Unit
Age-balanced in each Policy Unit, which included at least one expert on children and youth issues

Policy Unit 9 on Urban Services and Technology

Co-Lead Organizations

ASSOCIATION OF GERMAN CITIES

The Association of German Cities was founded in Berlin 1905 and is the country's largest national federation of municipalities, comprising more than 3,400 cities and towns with about 51 million inhabitants. More than 200 cities are direct members, including all autonomous German cities such as the city-states of Berlin, Hamburg and Bremen. It has also twelve special members: regional groupings of local authorities, regional associations and professional associations. The Association of German Cities is the voice of cities and the national local-authority association of cities. As a community of solidarity of cities it represents the idea of local self-government to Federal Government, Federal States (Bundesländer), European Union, governmental and non-governmental organisations, international networks and the United Nations. The work and services of the Association of German Cities are primarily geared to the needs and interests of the direct member cities and their citizens.

www.staedtetag.de

UNION INTERNATIONALE DES TRANSPORTS PUBLICS/ INTERNATIONAL ASSOCIATION OF PUBLIC TRANSPORT (UITP)

UITP represents the local public transport community worldwide. Member organizations are public transport operators (from the public and private sectors), regulators (at local, regional and national level), and providers of goods and services for public transport. The focus of UITP is on urban and suburban passenger transport and all local transport modes are represented (bus, rail, taxi and shared mobility). With about 1,400 member organizations, in 350 cities, in 90 countries, UITP represents a large number of urban mobility players.

www.uitp.org

Co-leaders[1]

ASSOCIATION OF GERMAN CITIES

Hilmar von Lojewski

Councillor for Urban Development Building, Housing and Traffic German Association of Cities (DST)

Mr. Hilmar von Lojewski is an urban planner by profession with a long record in German cities (Frankfurt, Dresden, Berlin) and in international cooperation (Morocco, Yemen, Nepal, and Syria). Since 2012 Mr. Lojewski has worked as the Councillor for Urban Development, Building Housing and Traffic for the German Association of Cities which represents the interests of 200 direct member cities and more than 50 million urban inhabitants to the Federal Government of Germany, as well as networks amongst the cities and engages in international cooperation.

Sabine Drees

Senior Advisor, International Affairs, the Association of German Cities

Ms. Sabine Drees is a "Diplom" economist, and at the Deutscher Städtetag (Association of German Cities) and is responsible for the International Affairs Division. Ms. Drees is the Head of the Association of German Cities' Working Group on International Affairs and is in charge of the Expert Committee on "Municipal Development Cooperation" of the Council of European Municipalities and Regions (CEMR). Furthermore, Ms. Drees represents the CEMR in the European organisation "Platforma", the European voice of municipal development cooperation. Ms. Drees is the Deputy Chair of the Advisory Board of Global Engagement and is a member of the Advisory Council and Programme Commission of the "Service Agency Communities in One World (SKEW)". Ms. Drees is also the Managing Director of the German Delegation to the Congress of Municipalities and Regions (CEMR) in the Council of Europe.

[1] All biographies of the co-leaders and experts are as of the date of the establishment of the Policy Units in September 2015.

UNION INTERNATIONALE DES TRANSPORTS PUBLICS/INTERNATIONAL ASSOCIATION OF PUBLIC TRANSPORT (UITP)

Alain Flausch

Secretary General, International Association of Public Transport (UITP)

Mr. Alain Flausch was selected Secretary General of UITP in September 2011 by the UITP Executive Board. This appointment acknowledged Mr. Flausch's long-standing commitment to public transport on the international stage. Mr. Flausch was previously the Chairman of the Finance and Commerce sub-committee of the UITP Metro Committee (2001-2009); he has also been a member of the UITP Executive and Policy Boards (2004-2009), an Executive Member of the UITP International Metro Committee (2001-2009), a member of the Transport Management Committee (UITP), and the Chairman of the Design and Culture Platform.

Jérôme Pourbaix

Head of Policy, International Association of Public Transport (UITP)

Mr. Pourbaix is the Head of Policy at UITP, where he leads its international advisory activities, currently focusing on the economic case for public transport and future role of public transport in cities. Mr. Pourbaix also supervises UITP's urban transport data collection and analysis activities. Previously Mr. Pourbaix worked at the European Commission and the international city network Polis. Mr. Pourbaix studied Sociology in Belgium and the United Kingdom. Mr. Pourbaix is also an author of several publications on transport systems and urban planning.

Mircea Steriu

Advocacy and Statistics Manager, International Association of Public Transport, Romania

Before joining UITP, Mr. Steriu was a Communications and Projects Officer at the European Transport Safety Council in Brussels, Belgium where he coordinated the dissemination of activities on a wide range of programs. Mr. Steriu was involved in the Road Safety Performance Index or PIN (Performance Index) project that ranks European Union member states' performance on key road safety topics and manages the BIKE PAL project which analyses the safety of cyclists across Europe. Mr. Steriu holds an master's degree in European Politics and Policies from the Catholic University of Leuven, Belgium and B.A. degrees in Political Science and Journalism from the American University in Bulgaria.

Experts of Policy Unit 9 on Urban Services and Technology

Placido Jose Hernandez Aguilar
Urban Development Section, European Commission
Mr. Aguilar has an engineering background, including territorial planning, and is a team leader of the Urban Development section within the European Commission. Mr. Aguilar works with UN-Habitat, UNOPS, and UNDP on urban-related matters, and has a specialization in engineering and rural development. Since 1992, Mr. Aguilar has been working as a policy officer in the European Commission, and has a mixed experience of working in developing countries' European Union Delegations and in Commissions headquarters. Mr. Aguilar has long-standing experience dealing with policy-making and implementation related to urban development and the improvement of living conditions in urban areas. Mr. Aguilar also has experience in dealing with negotiations for urban development and environmental international agreements.

Miimu Airaksinen
Ms. Airaksinen works as a research professor in Technical Research Centre of Finland, VTT. In her current work, her responsibilities include the scientific level of research and the co-operation with industrial partners and municipalities. Most often the cooperation is done either in confidential research and development projects together with industrial clients or in joint European Union projects as well as in national projects. Ms. Airaksinen is also actively involved in policy-making, with the latest being the renewal of Finnish Building code in 2012 and the renewal of energy certificates for buildings between 2012 and 2014. At the moment, Ms. Airaksinen leads a CIB (International Council for Research and Innovation in Building and Construction) task group for smart cities and prepares a CIB roadmap on that topic. Her expertise is in the field of smart cities, energy, and eco-efficiency of buildings and districts as well as building physics and good quality of living and working areas. Ms. Airaksinen's previous work as a head of research and development in the Optiplan Oy, the daughter company for NCC Construction, provided her with a strong understanding of industrial processes and development of energy efficiency in practical building and area developments.

Habiba Al Marashi
Chairperson of Emirates Environmental Group
Ms. Al Marashi is the Co-founder and Chairperson of Emirates Environmental Group, the first environmental NGO in the world to receive an ISO 14001 certification in 2001 and is the only organization of its kind in the GCC, with accreditation with two highly esteemed UN bodies, the United Nations Convention to Combating Desertification (UNCCD) and the United Nations Environment Programme's (UNEP) Governing Council. Through her leadership, Ms. Al Marashi initiated the first corporate social responsibility (CSR) network in the country in 2004 as the only multi-stakeholder forum with local and multinational entities. The network has grown and evolved into an independent body known as the Arabia CSR Network. Ms. Al Marashi is one of the founders of the Emirates Green Building Council (EmiratesGBC) and serves as a Treasurer to the council. Ms. Al Marashi was the first Arab woman to become a board member of the UN Global Compact and is a member of the Global Reporting Initiative (GRI) Stakeholder Council. Ms. Al Marashi is also on the advisory committee of the DNV Certification Advisory Board for the Middle East and a member of the Patronage Committee of myclimate – an international climate protection organization based in Switzerland. Ms. Al Marashi is the global NGO representative to UNEP's Major Groups Facilitating Committee, and sits on the advisory board of Entrehub in Australia and is involved in many leading initiatives on environment, women, and development at the national, regional, and international levels. Ms. Al Marashi is a recognized representative and spokesperson for West Asian Arab nations.

Bernard Abeiku Arthur

Senior Urban Specialist for Cities Alliance in Ghana

Mr. Abeiku is an urban development planning professional who has worked in urban policy planning, city development and management, urban mobility, and infrastructure planning and financing over the last 15 years within Ghana, Nigeria, and France. Mr. Abeiku has recently worked as a visiting professor with CNAM-France in the Rhone Alpes Region. Mr. Abeiku has a good working experience with international organizations such as the World Bank, Agence Francaise de Development, the German Technical Cooperation, Cities Alliance, as well as the Swedish Development Organization over a period of 16 years. On policy formulations. Mr. Abeiku worked extensively in the preparation of the first ever urban policy for Ghana, and also worked with the German Technical Cooperation between 2006 and 2008 to set up the programme to formulate of the policy. Mr. Abeiku also worked on the City Development Strategy for Kumasi Metropolitan Authority in Ghana. In December 2010 Mr. Abeiku became the Chief Executive Officer for the Centre for Urban Transportation in Ghana focused in research and policy formulation as well as knowledge transfer for policy-makers and practitioners in public and private sectors in Ghana. Mr. Abeiku holds a master's degree from the Institute for Housing and Urban Development Studies at Erasmus University, the Netherlands, and holds a degree in Sociology and Law and a post-graduate Diploma in Integrated Urban Planning from Blekinge Technical University, Sweden, along with other professional diplomas.

Ton Dassen

Deputy Head of the Department of Spatial Planning and Quality of the Local Environment of PEL Netherlands Environmental Assessment Agency

Mr. Ton Dassen (MSc) studied Physics at the Eindhoven University of Technology. After being with the National Aerospace Laboratory (NLR) and the National Institute of Public Health and the Environment (RIVM), Mr. Dassen began working with the PBL Netherlands Environmental Assessment Agency in 2003, where he led a research program studying various aspects of the local environment. In 2009, Mr. Dassen carried out a comprehensive study on sustainable cities involving about 100 stakeholders and using participative backcasting as a research methodology. In 2012 Mr. Dassen was the project leader and the first author of PBLs' Human Environment Assessment report, and subsequently, in 2013, of a future-oriented study on trends, developments, and uncertainties published as the Horizonscan Welphare and the Environment. In 2014, Mr. Dassen contributed to the International Architecture of Rotterdam entitled 'Urban by Nature', among other things with the book Smart about Cities — visualizing the challenges for 27st urbanism, prepared in co-authorship with Maarten Hajer, the Director-General of PBL. Mr. Dassen is currently the Deputy Head of the Department of Spatial Planning and Quality of the Local Environment of PEL Netherlands Environmental Assessment Agency and leads an interdisciplinary research program focusing on urban metabolism and smart cities. Mr. Dassen is involved in various national and international networks of scholars and practitioners active in the field of urban research.

María Rosanna Forray Claps

Associate Professor at the Facultand de Arquiteclura, Diseno y Estudios Urbanos, Pontificia Universidad Catolica

Ms. Forray is an architect and holds Master of Science and a PhD in Urbanism from the Université Catholique de Louvain, Belgium. Ms. Forray is also a permanently invited professor at the Université Catholique de Louvain, Faculté LOCI, and is a member of the Centre of Sustainable Urban Development [CEDEUS, Fondap, Chile], and a member of the Institute for City and Mobility [IVM France-Latin America]. Ms. Forray has international experience in urban regeneration processes in France and Belgium, and worked as a consultant on social urban development in France, Belgium, Madagascar, Nicaragua, and Mexico, and also has national experience in public space and BRT (bus rapid transit) corridors design, and in mobility-oriented local planning. Ms. Forray's current research focus is public space and mobility oriented urban planning and design in a sustainable urban development perspective, moved by the need to improve everyday life space and time experience and equal opportunities in the city as social, cultural, and economic space.

Emelina Nava Garcia

Architect from Universidad Veracruzana

Ms. Garcia has a MURP and PhD in Urban Planning from the National Autonomous University of Mexico (UNAM). Ms. Garcia is a professional urban transport technician from the World Bank-SEDESOL-UNAM and the Planning and Transport, Research and Computation-PTRC in the UK. Ms. Garcia has taken specialized courses in GIS, statistics, urban planning, and regional analysis, among others. Ms. Garcia teaches a master's program in Urbanism at UNAM, and Urban Studies in El Colegio de Mexico, besides tutoring a Bachelor or Landscape Architecture in UNAM. Ms. Garcia has worked on Issues of urban mobility and transport, BRT (bus rapid transit) systems, urban structure, and polycentric cities, geographic information system, urban planning, and regional development.

Elisabeth Glenn

Deputy Director Baltimore County Department of Planning

As the Deputy Director of the Department of Planning, Ms. Glenn directs the operations, strategic planning, and overall administration of Baltimore County's housing and community development programs. Ms. Glenn is responsible for the administration of federal, state, and local funds, as well as program income and other revenues derived from program and lending activity, and provides administrative oversight and manages the housing finance program, grants administration, the fair housing program, and the homeless services. Ms. Glenn also established and implemented program policy and was responsible for strategic planning, program development, affordable housing development and finance, loan and real estate grants portfolio management, marketing, and promotion of agency programs. Ms. Glenn was also the Chief of Community Office of Planning and Development to provide administrative oversight and management of Baltimore County's Federal Entitlement and Competitive Funds. Further, Ms. Glenn is the Vice President of the National Association of Housing and Redevelopment Officials (2013-2015), and the Chair of International Research and Global Exchange for the National Association of Housing and Redevelopment Officials (2011-2013). Ms. Glenn has also been Faculty Associate at Johns Hopkins University School of Nursing and Public Health and Hygiene; the Chief of Community Planning and Development at Baltimore County Office of Planning; and the Manager of Housing Opportunities Program and Multifamily and Rental Housing Specialist in Baltimore County Office of Community Conservation.

Dominiq Heron

Vice President of Environment and Energy Commission at ICC - French Committee

Mr. Heron is the Chairperson of the Environment and Energy Commission of ICC, France. Mr. Heron is the former Director of Partnerships at Veolia Environment, a French company managing environmental services (water, waste, energy, and transportation) with operations in 70 countries. Before joining Veolia in the early 1990s, Mr. Heron was the Vice President for Human Resources at AP- Hopitaux de Paris and previously worked for the Ministry of Interior. Mr. Heron graduated from the French Institute of Political Studies and is a former alumni from French National School of Administration (ENA), and first began his career as a civil servant at French Home Office which involved local urbanistic management issues. Then Mr. Heron joined the private sector as the Vice President for institutional partnerships: he participated actively in the World Urban Forum and committed Veolia as a founding member of UN-Habitat's World Urban Campaign. Mr. Heron contributed to the guidelines for decentralization and access to basic services. In France, Mr. Heron took the responsibility of working groups focused on sustainable urbanization though the French Partnership for Cities (PFVT). As chairperson of the ICC commission, in the frame of COP21, Mr. Heron also worked on a code of friendly climatic principles for business to enhance adaptation and resilience.

Jorge H Kogan

Senior Advisor on Infrastructure and Head of the Transportation Group of CAF-Development Bank of Latin America

Mr. Kogan is the Senior Advisor to the vice president of the infrastructure at CAF-Development Bank of Latin America and also the head of the transportation group. Mr. Kogan has more than 40 years of experience in the transportation and infrastructure fields working for both the public and private sectors. He is a former consultant to the World Bank, IDB, UNDP, OECD, IICA, and other international agencies and private firms, and has worked in the planning, management, and analysis of economic and regulatory issues and public policies and in the privatization and public-private partnerships of different projects. He has lectured in different institutions in Latin America, North America, Europe, Africa, and Asia, and contributed to different publications, wrote many articles, and is the author of the book "Rieles con Futuro" (Rails with a Future), winner of the first prize in social science of the National Book Award in Venezuela in 2006. Mr. Kogan graduated from the School of Engineering at the University of Buenos Aires and received a Master of Science in Transport from the Imperial College London.

Emani Kumar

Deputy Secretary General, ICLEI – Local Governments for Sustainability

Mr. Kumar is the Deputy Secretary General of ICLEI since 2013 and is has also been the Executive Director of ICLEI South Asia since its founding in 2005. With degrees in Environmental Management, Environmental Planning, and Civil Engineering, Mr. Kumar has more than eighteen years of professional experience in issues related to climate change policy and planning, local governance, renewable energy and energy efficiency, social accountability, systems management, and auditing. Previously Mr. Kumar has worked with the Confederation of Indian Industry (CII) and also with the National Institute of Urban Affairs (NIUA). Apart from overseeing the organization's strategic development, Mr. Kumar also coordinated various multi-year and small scale projects and research work supported by various donor and United Nations agencies, as well as the state and national governments of India, and research organizations. Mr. Kumar also liaised for various projects like Promoting Low emission Urban Development Strategies in Emerging Economy Countries (Urban LEDS), SUNYA- Towards zero waste in South Asia, and more. In his role as ICLEI Deputy Secretary General, Mr. Kumar works with all the offices in Asia to ensure cohesion in the implementation of ICLEI's agendas and to spearhead advocacy activities in the region; he also supports the Secretary General in representing ICLEI at all international fora. Ms. Kumar is a certified Environmental Management System Auditor of ISO 14001 and Certified Social Management System Auditor of SA 8000. Ms. Kumar holds a degree in Environmental Management from Bradford University, UK. Ms. Kumar is a member of the Indian Town Planner Association and s an Environmental Management Division Counselor at the Confederation of India Industry, New Delhi, India.

Oliver Lah

Project Coordinator at the Wuppertal Institute

Mr. Lah focuses on climate change mitigation policy analysis and sustainable urban mobility, and currently coordinates several projects, such as SOLUTIONS on urban mobility around the world and SUSTAIN EU-ASEAN, which facilitates collaboration on climate and resource issues between Europe and Southeast Asia. Mr. Lah is actively involved in several other projects, including TIDE, EVIDENCE, FLOW, and EMPOWER. Mr. Lah also worked with international organizations, such as the OECD/ITF, UN-Habitat, UN Environment, and GIZ on urban mobility issues. Mr. Lah is a lead author for the Fifth IPCC Assessment Report where he focused on costs and potentials, co-benefits, and linkages between mitigation and adaptation actions in the transport sector. Prior to that, Mr. Lah worked for the government of New Zealand, the University of Munich, and the Minister of State to the German Federal Chancellor. Mr. Lah holds a Bachelor of Arts with Honours in Political Science, and a Master of Environmental Studies from Victoria University of Wellington.

Vlad Mykhnenko

Lecturer in Human Geography, Urban Adaptation, and Resilience at the University of Birmingham

Mr. Mykhnenko is a lecturer in Human Geography (Urban Adaptation and Resilience) at the University of Birmingham, UK. Mr. Mykhnenko holds a Ph.D. in Political Economy from Darwin College, University of Cambridge, UK; and a post-graduate Certificate in Academic Practice from the Centre for Learning and Academic Development at the University of Birmingham, UK. Mr. Mykhnenko has held the following positions: visiting professor, Al-Farabi Kazakh National University, Almaty, Kazakhstan; Research Fellow and Principal Investigator, School of Geography, University of Nottingham, UK; Research Fellow, Centre for Public Policy for Regions and Department of Urban Studies, University of Glasgow; and International Policy Fellow, Central European University Centre for Policy Studies and Open Society Institute – Budapest, Hungary. Mr. Mykhnenko is also a Fellow of the Higher Education Academy, and a Fellow of the Regional Studies Association.

Madjyara Nguetora

Expert, Commune de la Vile de N'djamena

Mr. Nguetora is an independent consultant, and has experienced years in African countries as well as in the Caribbean. Mr. Nguetora specializes in the area of potable water and sanitation, hydraulic roads, urban hydraulic, agricultural hydraulic and integrated water resources management. Mr. Nguetora received PhD at the EIER de Ouagadougou and then was as head of the Water Training and Research Unit at the AGRHYMET Regional Center in Niamey. Mr. Nguetora was responsible for training several technicians and engineers in the field of water resources management. Mr. Nguetora has been also consultants in several projects with the European Union, African Development Bank (AfDB), and Agence Française de Développement (AFD), and is therefore very knowledgeable for procedures and building relations with international donors and development agencies. Mr. Nguetora also worked for three years at the AfDB as a public servant before he became a freelance consultant. Mr. Nguetora also worked as an international consultant with a Belgian research firm on a project of the AfDB and a French consultancy firm on an AFD and European Union project.

Edgar Pieterse

Professor of the African Centre for Cities

Mr. Pieterse's work focuses on two South African cities, Johannesburg and Cape Town, and African cities as part of larger discourses on sustainable urban transitions and Southern urbanism. Mr. Pieterse's research agenda for the next five years under the broad theme of adaptive urbanism with the interrelated sub-themes: radical social economies, sustainable infrastructure, adaptive urban governance, speculative urban experiments, urban innovative systems, and urban pedagogy and southern urbanisms. Mr. Pieterse holds a PhD in Urban Planning and Geography via Social Policy from the London School of Economics and Political Science. Mr. Pieterse is the South African Research Chair in Urban Policy at the University of Cape Town and is the Director of the African Centre for Cities. Formerly a special policy advisor to the premier of the Western Cape, Mr. Pieterse is the author of City Futures: Confronting the Crisis of Urban Development (2008), among several others.

Maksudur Rahman

Professor at the Department of Geography and Environment, University of Dhaka

Mr. Rahman's interests include urban environmental planning and management and urban hazard, risk and resilience. Previously he was a lecturer (since January 2000) at the Department of Geography and Environmental Studies at the University of Chittagong where he was promoted to an assistant professor in 2001 and subsequently as an associate professor in 2009. Mr. Rahman worked there until he joined as an associate professor at the University of Dhaka in January 2010. Mr. Rahman served in various capacities in several research projects with different national and international organizations. Mr. Rahman represents the University of Dhaka as a member of the Project Steering Committee of Dhaka Mass Rapid Transit Development Project. Mr. Rahman holds a PhD in Human Geography from the Department of Geography, University of Hull, UK. Mr. Rahman also completed a post-graduate Degree on Urban and Regional Planning at Bangladesh University of Engineering and Technology in 2001, and spent a considerable length of time to earn his Bachelor of Science (Honours) and Master of Science in Geography at the University of Dhaka. Mr. Rahman also teaches Urban Environmental Planning and Management, Research Methodology, and Urban Disasters at the postgraduate level, and Land Use Survey and Geography of Natural Resources at the Honours level.

Gina Rey

Architect, University of Havana, specializing in urban and regional planning

Ms. Ray holds in PhD in Technical Sciences, a master's degree in Urban and Territorial Studies, and is on the faculty of Architecture at Polytechnic Institute (ISPJAE) on Havana. Ms. Ray's previous positions include as a planning professor and researcher at the Center of Urban Studies, the former Director of the Urban Planning Office of Havana City; the Director for the Master Plan of Havana City; the Director-founder of the Group of the Comprehensive Development of Havana City; and the Director of the Urban Planning Office of Havana City responsible for the Strategic Plan of Havana City, community planning process, and community development projects in neighborhoods. Ms. Ray was also a planning consultant for the human settlements system and regional and urban planning at the Ministry of Urbanism and Housing in Angola, and a member of the Cuban delegation at Habitat II in Istanbul in 1996. Ms. Ray's research works include Neighborhoods Workshops in Havana City – which include a social laboratory on community planning methodology based on participation of slum settlements that focuses on physical, include housing, environmental, and social dimensions--, urban governance in Caribbean countries, and case studies in Cuba, the Dominican Republic, Puerto Rico, and Haiti, among other research.

Jane Weru

Executive Director of Akiba Mashinani Trust

Ms. Weru is the Executive Director of Akiba Mashinani Trust, a nonprofit organization working on developing innovative community-led solutions to housing and land tenure problems for the urban poor in Kenya, a Board Member of Slum/Shack Dwellers International (SDI), an Ashoka Fellow, and a member of the National Task Force for the preparation of the Community Land Bill and the Evictions and Resettlement Bill. Ms. Weru is a lawyer and holds a Master's Degree in NGO Management from the London School of Economics. Ms. Weru's early work focused on public interest litigation on behalf of poor communities threatened with forceful evictions and violent demolitions. Ms. Weru helped found Pamoja Trust, a nonprofit organization that mobilized and supported grassroots movements of the urban poor in Kenya by providing technical, legal and financial support.

POLICY PAPER 9

URBAN SERVICES AND TECHNOLOGY

Executive summary

Urban services and mobility are key to inclusive, safe, resilient and sustainable cities and human settlements

The New Urban Agenda needs to make concrete recommendations for cities and human settlements to become inclusive, safe, resilient, and sustainable by including access for all to adequate, safe, affordable, accessible and sustainable basic services and infrastructure. This requires particular attention to the most vulnerable groups in society, such as the urban poor, women, children, older people and those with disabilities. Urban services like water, energy, waste treatment and transport are vital enablers for social and economic development opportunities and are thus key to achieving the 2030 Agenda for Sustainable Development and the Sustainable Development Goals. Hence, access to these services ought to be a basic human right.

Over the coming decades, services and infrastructure for transport, water, sanitation, waste management and energy have to be provided for a rapidly growing urban population. Global urban growth poses enormous challenges, in particular with regard to greenhouse gas emissions, social exclusion, safety and air quality. This requires a transition towards more sustainable, safe and inclusive provision of urban services. Providing access to urban amenities, transport has a key role to play in this. Furthermore, with greater vulnerability to various types of risks, there is more need to improve the resilience of all service-providing infrastructures. Finally, equal access to basic services for all groups and communities should be available, with the emphasis on affordability and safe environments where basic services can be enjoyed for all, especially for the most vulnerable and those dependent on these services for living a decent life. Services and access to amenities are not merely the provision of infrastructure but also boosting efficiency, embracing local innovation and grass-roots initiatives.

Technology solutions must be fit for purpose to contribute to equality and access to urban services for all, including vulnerable groups. The advancement of smart city concepts and the high pace of information and communications technology (ICT) becoming nested within the urban sphere both call for further yet careful integration into infrastructure and service polices under the conditions of inclusiveness, safety, resilience and sustainability, while taking into account the distinctive governance and innovation dynamics of urban services and infrastructure. Resilience may be improved by developing adaptive systems and networks, including decentralized ones facilitating the self-sufficiency of municipalities and communities.

Towards new modes of governance: time for concerted action

A human-centred, inclusive and multilevel governance approach, integrated urban development, applying the principle of subsidiarity and appropriate legislative frameworks and enforcement mechanisms are critical to the delivery of urban services and ensure coordinated action. To support this, intra- and intercity learning and capacity-building can help to leapfrog to sustainable solutions.

International efforts to implement the New Urban Agenda need to focus on all levels of governance and decision-making to ensure that multilateral and bilateral organizations, local authorities as well as national Governments conform to and adopt the New Urban Agenda. Thus the New Urban Agenda should respond to the following key messages.

Key messages on urban services and technologies

Access for all

Cities have the responsibility to provide adequate, sustainable and resilient urban infrastructure and services to all. These refer to both high-quality living conditions — through services such as safe water supply, waste management and electricity — and to facilitating convenient and equal, non-discriminatory access to urban opportunities like jobs, education, health care and public spaces through transport systems and mobility services. To supply these services, local authorities need funding stability and predictability as well as appropriate policy and planning capabilities. This requires support by national Governments and the international community.

Efficient use

Efficient and effective use of urban services require local and national policies that support people to reduce the consumption of finite resources and shift demand towards sustainable options, including reducing water, waste, energy use, and demand for private motorized travel. Local and national governments should prioritize dense urban development and employ the most appropriate policy and technology options to support sustainable choices for services, consumption and mobility.

Local leadership

Local authorities should take responsibility and leadership for inclusive well-being and the sustainability of cities. To do so effectively, they need to engage and develop alliances with the relevant stakeholders at the local, national, and international levels.

National policies and funding support

National Governments need to enable local authorities to provide adequate services to urban population. This includes frameworks for the funding of the development and operation of services and the ability for local authorities to associate and coordinate beyond city boundaries.

Introduction

1. Urban services like water, electricity and heat, waste treatment and transport are vital enablers for social and economic development and thus key to achieving the Sustainable Development Goals. Access to these services should be regarded as a basic human right.

2. This paper outlines findings of Policy Unit 9 on urban services and technologies based on the contribution of an international team and comments from governments and international and civil society organizations. It focuses on the main policy challenges, criteria for priorities and actions for implementation to be included in the New Urban Agenda. It explores the key actors for implementation and elaborates on the policy design, implementation and monitoring of urban services and technologies in the New Urban Agenda.

3. The New Urban Agenda builds on the Habitat Agenda, which included the human right to adequate housing and water, and the corresponding obligations of States and Governments. Transport plays a key role in the urban context as it provides access to jobs, goods, social and cultural exchanges, health services and education. Planning and operation of urban services and transport should ensure an adequate level of mobility to ensure the functioning of cities for all inhabitants. Implementation strategies for urban services need to consider different regional and socioeconomic conditions, local administration and management, regulatory frameworks and applicability of technological solutions. Accessibility is crucial for the vulnerable population as it is a key factor for providing equal opportunities in the urban environment.

4. Urban services are major ingredients for the provision of chances for a self-determined life in urban areas. This applies to urban residents as well as all other users of urban services, whether for economic or social interaction, education, health or tourism purposes.

5. Emphasizing equal access and inclusiveness is vital for poverty alleviation and the generation of social and economic opportunities for all. In the spatial sense and for the purpose of the preparation of a policy paper for the Habitat III New Urban Agenda urban services and technologies are oriented towards urban areas. This does not imply any spatial limitation to municipal boundaries but covers the urban-rural nexus, the interchange of people, services, tasks and needs. To take sustainable decisions on urban services, it is necessary to promote equal opportunities for all sexes in their diversity and use this as an opportunity for targeted action.

I. Vision and framework of the policy paper's contribution to the New Urban Agenda

6. The New Urban Agenda needs to outline concrete steps for cities and urban agglomerations to deliver on a number of major global targets and frameworks, notably the 2030 Agenda for Sustainable Development, the Addis Ababa Action Agenda, the Sendai Framework for Disaster Risk Reduction and the Paris Agreement.

A. Moving on from Habitat II

7. The Habitat Agenda provides the foundation for the New Urban Agenda by stating that "science and technology have a crucial role in shaping sustainable human settlements and sustaining the ecosystems they depend upon". It highlights that "the lack of adequate basic services, a key component of shelter, exerts a heavy toll on human health, productivity and the quality of life, particularly for people living in poverty in urban and rural areas". It identifies the related actions for governments at appropriate levels to promote provisioning for adequate and affordable basic infrastructure and services.

8. Related to the transformative agenda for sustainable transport, Habitat Agenda partners committed to "improving access to work, goods, services and amenities, inter alia, by promoting effective and environmentally sound, accessible, quieter and more energy-efficient transportation systems and by promoting spatial development patterns and communications policies that reduce transport demand, promoting measures, as appropriate, so that the polluter bears the cost of pollution, taking into account special needs and requirements of developing countries". In spite of all progress during the last 20 years, this still holds.

B. Urban services delivering on Sustainable Development Goals and the Paris Agreement

9. The New Urban Agenda is key to delivering on the 2030 Agenda for Sustainable Development with all Sustainable Development Goals and the Paris Agreement. Equally relevant from an urban services perspective is the Addis Ababa Action Agenda regarding a framework for financing relevant infrastructure and the Sendai Framework for Disaster Risk Reduction to ensure that this infrastructure is resilient.

10. The New Urban Agenda closes the gap between the overarching frameworks and their concrete reference to a dimension for implementation: it provides the physical and geographical reference to these frameworks — urban areas stretching far beyond municipal boundaries and constituting an urban-rural nexus. It also provides the social, economic and environmental rationale — access, equality and the provision of development opportunities to all urban beneficiaries, both city dwellers and all other users of urban areas, regardless of their reasons for staying in urban areas, e.g. economic exchange, administration, education, health, visits and tourism.

11. The New Urban Agenda will be integral to the success of the Sustainable Development Goal framework given the cornerstone role for cities in achieving the goals. Goal 11, Sustainable cities and communities, refers directly to cities, recognizing their role as global economy powerhouses, drivers of innovation and centres of social interaction, making urban agglomerations indispensable in reaching the global ambitions encapsulated by the other Sustainable Development Goals.

12. This builds on the Rio+20 document, which recognizes the contribution of "water and sanitation within the three dimensions of sustainable development" and of the "importance of integrating water in sustainable development". The emergence of pollution control and wastewater management is part of the agreement. The Rio+20 outcome document also recognizes that transportation was central to sustainable development. It stresses the development of energy-efficient, multimodal and public transport systems and the importance of integrated policymaking at the national, regional and local levels.

13. The session of the Conference of the Parties to the United Nations Framework Convention on Climate Change in 2015 (COP21) achieved a remarkable consensus on climate action. The Paris Agreement shows a clear attribution of the role of cities and their specific contributions to implementing and measuring action. Ambitious steps are required to limit global warming to less than 2ºC above pre-industrial levels. Cities are crucial in this context. A number of initiatives have been launched such as the Urban Electric Mobility Initiative (UEMI), the Global Fuel Economy Initiative, the Green Freight Action Plan, the Global Energy Efficiency Accelerator Platform, the Business Alliance for Water and Climate and commitments by the International Association of Public Transport (UITP) and the International Union of Railways (UIC) to demonstrate that action is being taken. Cities have a wide range of opportunities to contribute to such initiatives to boost local climate action.

C. 2030 vision for urban services and technologies

14. The above overview of the existing framework firmly links the 2030 vision for our planet with the role of urban services and technologies in the New Urban Agenda. The relevance of urban areas in achieving the Sustainable Development Goals has been widely acknowledged. The interlinkages between all relevant sectors as energy, transport, water, sanitation and waste management services have been strengthened. Integrated approaches of policies, programmes and plans have become a prerequisite for funding. Implementation on the ground constantly seeks to achieve synergy effects among the urban services and transport sectors. Wherever possible, services are delivered at local level. Smart city concepts are in line with integrated and sustainable development. Smart technologies are not considered as an end in itself, but enablers to adequately deliver urban services and infrastructure to the urban population. Technical norms and standards fully comply with the Sustainable Development Goals and do not determine political decision-making. They allow governments at all levels to decide on investment priorities, the bias being not on technological innovations but on benefiting the urban population. The New Urban Agenda provides space for the urban areas in the world to define their sustainability and level of technological "smartness" according to their legitimate yet individual principles of governance and government which shall best decide how cities want to develop in a sustainable way and improve their economic and environmental situation and their financial abilities.

15. Urban services take into account the increasing level of digitization and optimally use available knowledge, data and "smart" technologies as far as this contributes to serving the urban population and maintaining or achieving an equal and fair distribution of resources. Open access to information and data is crucial to democratizing technical contents of political decisions. Gender-responsive urban investments are planned and implemented with due consideration to gender dimensions and adequately addressing women's infrastructure needs, priorities and preferences.

Water, energy and resources

16. Everyone in urban areas has access to basic services, urban infrastructure and transport. Basic services, urban infrastructures, transport, and accessibility for everyone are recognized as the key triggers for people's development opportunities and a sustainable development of urban areas. Everyone has access to basic services, economic and employment opportunities, educational and health amenities in urban areas, without any discrimination.

17. Basic services need to be resilient, reliable and of appropriate quality, which cannot be provided by public authorities free of charge in the case of profit-oriented and greenfield developments of private developers and proprietors. Local authorities are fully mandated to collect investment contributions and fees to cover the full infrastructure and service costs. Mechanisms for cross-subsidizing of basic infrastructure have been introduced.

18. Energy for industries and households in urban areas is largely generated and supplied through renewable resources and distributed via a grid, allowing for minimal losses and high efficiency rates.

19. The focus is always first on reducing energy use and then using the energy most efficiently. Global, national, regional and local actions encourage non-fossil fuelled urban services, delivery and transportation.

Transport, mobility and access to urban opportunities

20. The quality of life in urban areas has improved significantly and cities play their role as catalyst of innovation by efficiently and smoothly linking people to places and activities.

21. All citizens have access to public spaces and services, economic, employment and educational opportunities and health services in urban areas, without discrimination.

22. Urban transport supports overall sustainability objectives through the delivery of resource- efficient, space-efficient, people- oriented, operational, clean and safe mobility, which adds to the quality of public spaces; negative externalities, such as congestion and greenhouse gas emissions, and fatalities or injuries due to urban traffic are minimized.

23. Sustainable transport infrastructure and services are adequately funded through contributions from users and indirect beneficiaries.

24. Urban areas are well connected with each other and with rural areas. Mobility is organized at the level of the metropolitan areas, beyond the administrative boundaries of cities, through adequate collaboration between relevant entities.

II. Policy challenges

25. Cities now account for more than half of the planet's people, with 30 per cent of all city dwellers living in slums. By 2050, urban populations are projected to increase to 6.3 billion (WWAP 2012). Developing countries account for 93 per cent of global urbanization (UN-Habitat 2010). Global gross domestic product (GDP) increased at an average of 3.5 per cent per year from 1960 to 2012 (World Economics, 2014), and much of this growth came at a significant social and environment cost. During this period, urbanization and economic growth, together with increases in production and consumption, generated increasing demands for urban infrastructure (United Nations World Water Development Report 2015, WWDR 2015).

A. States and trends of the thematic areas covered

Water, energy and resources

Water and sanitation

26. A quarter of the global population live in developing countries that face water shortages due to weak governance, deficiencies of professional capacities and a lack of infrastructure for water transport and treatment (WWAP 2015). Almost a fifth of the world's population (1.2 billion people) live in areas with physical water scarcity (UN-Water/FAO, 2007). 748 million people lack access to an improved drinking water source, while 1.8 billion people are without safe drinking water (WHO 2014, p. 1). In 2012, 2.5 billion people had no access to an improved sanitation facility. One billion people do not use any sanitation facility, defecating instead in the open (Sustainable Development Goals 2015); consequences for water and health are severe. By 2050, global water demand is projected to increase by 55 per cent, driven mainly by manufacturing, thermal electricity generation and domestic use (WWAP 2015). Increased demand for water can indicate positive economic growth but also implies huge challenges in allocating scarce water between and within industry, agriculture and the minor but yet decisive share of domestic water use. Increased water demand often marginalizes the poor population and excludes it from safe water accessibility.

27. The convergence of climate change and growing economic development in least developed countries is to intensify the water insecurity of the poor. OECD (2012) estimates that by 2050, water demand from manufacturing industries and thermal power generation will increase dramatically, especially in developing countries and BRICS. In the manufacturing industry alone, the total share of water demand by 2050 is expected to increase from 7 per cent to 22 per cent (WWAP 2015). In spite of outstanding advances in water provision in the last decades, over 80 per cent of wastewater worldwide is not collected or treated, and urban areas are the main source of pollution. 90 per cent of all wastewater in developing countries is discharged untreated directly into rivers, lakes or the oceans, causing environmental and health risks (WWDR 2015).

Energy and energy efficiency

28. Over 1.3 billion people lack access to electricity, and roughly 2.6 billion use solid fuels for cooking (IEA, 2012 in WWDR 2014, p. 13). Another estimated 400 million people rely on coal for cooking and heating purposes, causing air pollution and creating serious health implications when coal is used in traditional stoves (WWDR 2014, p. 13). Global energy consumption increased by 31 per cent from 2000 to 2013 (IEA 2015). Household energy consumption increased by 18 per cent (IEA 2013). The share of household energy consumption varies between regions; in OECD countries and Asia, housing represents 20-30 per cent of the total energy consumption whereas in Africa the share of household energy consumption is 56 per cent, in the Middle East 17 per cent and in Latin America 15 per cent (IEA 2013). In all regions, the absolute energy consumption of households has increased; the increase is very modest in OECD and Middle East countries. The major share of global energy production is generated from fossil sources, and the share of renewables has not increased globally in the last 13 years (IEA 2015). CO2 emissions have increased 47 per cent over the same period (IEA 2013).

29. Global power generation continues to be dominated by thermal electricity production from coal, natural gas and nuclear energy production. The share of renewables is expected to double, accounting for 30 per cent of all electricity production by 2035 (IEA 2013). Wind and solar PV make up just 3 per cent of the global power mix. Although they are expected to grow rapidly over the next decades, they will probably not represent much more than 10 per cent of global electricity generation by 2035, not enough to achieve the climate goals (IEA 2012).

Waste and resources

30. The amount of municipal solid waste, one of the most important by-products of an urban lifestyle, is growing even faster than the rate of urbanization. In 2000, 2.9 billion urban residents were generating about 0.64 kg of municipal solid waste per person per day (0.68 billion tons per year). More than 1.3 billion tons of municipal solid waste was estimated to have been generated in 2012. By 2025, 4.3 billion urban residents are likely to generate about 1.42 kg/capita/day of municipal solid waste (2.2 billion tons per year, World Bank 2013). To this globally about a third of food produced for human consumption needs to be added due to its loss or waste, which amounts to around 1.3 billion tons per year (UNEP 2013, p. 13).

31. In developing countries, municipalities tend to spend 20-50 per cent of their available recurrent budget on solid waste management (World Bank 2011). Some 30-60 per cent of all urban solid waste in developing countries is uncollected and less than half of the population is served (World Bank 2011). In developing and emerging countries, collection coverage can be as low as around 40 per cent, compared to 98 per cent for developed countries (UNEP 2013). The global waste market, from collection to recycling, is estimated at $410 billion a year, excluding the huge informal segment in developing countries (UNEP 2011, p. 290). Recycling a ton of aluminium saves 1.3 tons of bauxite residues, 15 m3 of cooling water, 0.86 m3 of process water and 37 barrels of oil, which prevents the emission of 2 tons of carbon dioxide and 11 kg of sulphur dioxide (UNEP 2013, p. 13).

32. Some 3.5 billion people, or half the world's population, have no access to waste management services, and open dumping remains the most widespread waste-disposal method in most low- and lower-middle-income countries (UNEP 2013, p. 13). A ton of electrical and electronic waste (e-waste) contains as much gold as 5 15 tons of typical gold ore, and several times the amounts of copper, aluminium and rare metals found in typical ores (UNEP 2013, p. 13). Globally, organic waste decay contributes 5 per cent of greenhouse gases. Waste is a major economic drain, especially on city budgets: frequently, half of a city's budget is spent on waste management (UNEP 2013, p. 8).

Transport, mobility and access to urban opportunities

33. In contrast to the vision highlighted above, the current situation in many urban areas is far from ideal. In a significant number of cases, the mobility situation hinders sustainable growth and the quality of life of urban populations. Some of the issues are identified below, while the following subsection will look at the institutional and policy inconsistencies that have led to this state of affairs.

34. Developing and transition economies will see the bulk of population growth, with urban populations in Africa and Asia projected to rise by 90 per cent by 2050. This will cause mobility demand to triple and place even more acute pressure on the current infrastructure and services in these countries.

35. Transport policies implemented in the past, as well as urban planning and infrastructure, led to an automobile dependence lock-in, with many destinations in or around cities requiring travelling for longer distances, making them reachable primarily, if not solely, by car. This has led to an imbalance in the use of different transport modes: private motorized modes of transport are dominant in developed economies and absorb an extremely high proportion of energy in comparison to their transport effects. The number of daily car trips in urban areas worldwide is set to increase substantially if no action is taken: from 3.5 billion trips in 2005 to 6.2 billion in 2025.[1]

36. While the appeal of private cars for urban populations in developed economies is starting to wane, urban areas in developing and transition economies increasingly embark in the trajectory of car dependency.

This would not only impact developing and transition economies but have a strong global impact, notably in terms of resource consumption, greenhouse gas emissions, congestion and road risk. Fossil fuelled transport needs to be drastically downscaled in favour of sustainable transport modes for passengers and goods.

37. Cities are increasingly confronted with levels of traffic congestion, offsetting the benefits of agglomerations and negatively impacting their attractiveness and competitiveness, as well as citizens' well-being. In the European Union, the 2011 White Paper on Transport estimated the cost of road traffic congestion at nearly 100 billion euro annually, approximately 1 per cent of total European Union GDP in 2010. It is very useful to note the disproportionately high cost this is putting on the economic value produced in the urban area itself, particularly in developing cities. A 2014 study estimated that losses due to congestion in the metropolitan areas of São Paulo and Rio de Janeiro alone have reached a billion Brazilian real, 8 per cent of GDP produced in the two areas. The settlement structure, increasingly characterized by urban sprawl, creates unnecessary traffic. However, cities in developed countries are starting to reverse the sprawling trend.

38. Motorcycles and mopeds are taken up as a regular means of transport, particularly in developing countries, as an alternative to private car use. However, they add further externalities to urban transport, decreasing the quality of life in urban areas, primarily due to additional pollution (both noise and air quality) and higher levels of road risks.

39. Disadvantaged groups within the urban population, particularly the poor, cannot take full advantage of the urban opportunities and services — including public spaces, health, education, meaningful employment — as the distances and costs associated with urban travel restrict their full access and participation. Social inequalities become sharper instead of being attenuated.

40. Policies prioritizing the use of private vehicles limit the potential to improve the quality of urban life and promote social interactions. In these cases, urban mobility has negative effects on quality of life and the overall livelihood in the city. Poor quality of urban life has many aspects, including unacceptably high risks: 380,000 road deaths were recorded in urban areas in 2005. Roads are primarily designed for car use without taking into account the needs of vulnerable road users. The World Health Organization states that 90 per cent of the total number of road deaths occur in developing countries, where most of the urban growth is expected: road safety needs to improve by fostering safe behaviour of road users, infrastructural improvements and promoting safe vehicles. Other externalities refer to bad air quality coming from tailpipe emissions, as well as noise pollution from the car engines. Furthermore, the lack of physical activity associated with using private cars as the main mode of urban travel puts a high burden on health-care systems.[2]

41. The current pattern of vehicle use in cities is inefficient, in terms of both passenger and goods transport. Public transport vehicles are underutilized at off peak times, leading to high service provision costs. On the other hand, private vehicles are parked about 95 per cent of the time, and when they are moving, the average occupancy rate of private cars — usually having four seats — is well below two passengers per car. Technological innovations and better data on transport demand and supply can improve these inefficiencies. The development of the sharing economy, combined with the digitalization of urban mobility, offers an opportunity to reduce car ownership and use vehicle capacity in a more efficient way.

B. Policy issues and challenges

42. The overarching challenge for urban services and technologies is to apply a participatory approach in the form of inclusive partnerships at different levels of government and among the relevant stakeholders and the public. Further key challenges lie in fostering growth and overall development while guaranteeing equal access for all urban beneficiaries to urban services and transport.

43. All relevant sectors tend to claim a dominant role (water, waste management, energy, transport, etc.). The challenge lies in establishing a joint understanding of integrated sustainable urban development showing the sectorial interdependencies and providing for priority setting and the mobilization of synergies among the sectors. Sectorial approaches need to recognize that the "win" for the one predominantly means a "loss" for the other, i.e. optimizing water supply for one area often implies a lack of basic supply for another, mechanizing waste management means marginalizing the informal waste sector, optimization of traffic standards lowers the quality of public space, etc. This highlights the need for integrated and cross-sectoral approaches for urban services and mobility.

44. Investments for urban services need to consider and understand the investment rate of technological and innovative solutions and bring them in line with the requirement to serve all urban beneficiaries. The resilient design and implementation of urban infrastructure requires weighing and decisions on the dilemma whether to opt for more flexible, "robust" low-tech structures that can easily be repaired or re-established after disasters or technologically more sophisticated infrastructures with a higher level of redundancy to sustain disasters.

[1] UITP 2011, Towards a smart future for cities: urban transport scenarios for 2025, Public Transport International Magazine, May/June 2011.

[2] UITP 2016, Unlocking the health benefits of mobility.

45. In this context, international and national norms and standards also pose a relevant challenge: the setting of standards and norms through the International Organization for Standardization (ISO) and other norming institutions (IEC on electrotechnology, ITU for telecommunication) under the umbrella of the World Standards Cooperation has an enormous influx on investment patterns of public administrations and the private sector. In the context of the New Urban Agenda, this plays a vital role as most of the investments in urban services are subject to technical or even non-technical standards.

46. Provision of urban infrastructure and services, especially in greenfield development, is commonly not based on a full or even part cost recovery, absorbing local government resources that would be better allocated to service provision for the urban poor.

47. Conventional finance mechanisms and financial resources are insufficient to meet the costs of establishing and extending urban infrastructure and basic services. This also holds for the operation and maintenance of facilities. Proper transfer through transparent, accountable and legally sound procurement and delivery processes requires a global consensus on transparency, sound procurement procedures and quantitative and qualitative controls on delivery patterns.

48. Often, the transfer of tasks related to urban services to the responsibility of local authorities (principle of subsidiarity) does not go hand in hand with the simultaneous transfer of political mandates, administrative structures, financial resources and room for local decision-making. Common to all areas of the provision of urban infrastructure, basic services and transport is the frequently inefficient use of available resources. The challenge is to carefully integrate sectors, take into account life-cycle costs and sustain investments in areas with the best effects on accessibility for all urban beneficiaries, social inclusiveness and technological appropriateness.

49. Often, gender-responsive urban investments are not designed and implemented according to gender dimensions and adequately addressing women's infrastructure needs, priorities and references. Within this scenario, it is also necessary to recognize the increasing incorporation of women into the labour market and the lack of investment and mechanisms for adequate security on public transport as a measure against harassment and sexual violence in transport.

50. Policy issues and challenges refer to the visions above. To achieve them, the following challenges have to be dealt with:

Water, energy and resources

51. The investment gap towards basic water, sanitation services and energy supply (construction of basic infrastructure) urgently needs to be bridged.

52. Although renewables are increasing in proportion to conventional energy, they remain underdeveloped and undersubsidized in comparison to fossil fuels (WWAP 2014). The production and distribution of energy tends to be highly centralized, also in areas with obvious opportunities for delivery and improvement through decentralized schemes based on renewables.

53. Reducing the demand for both materials and energy while enhancing access to household energy among the urban poor is a major challenge.

Transport, mobility and access to urban opportunities

54. The issues highlighted above are primarily the result of a number of structural policy elements, notably inconsistencies between policies at different levels, which lower the quality of urban life and access opportunities available to urban populations.

55. While the main goal of urban mobility policies is to provide access to opportunities and amenities, there is no systemic perspective on urban mobility. Transport and land use planning, environmental or urban economic development policies are usually not interconnected and coordinated, despite local authorities generally being responsible for these policies.

56. In a number of countries, competence for planning and procuring urban mobility services has been devolved to the local level, but without sufficient funds being allocated or the competence to raise or decide on funding being devolved simultaneously.

57. While promoting public transport use, decreasing congestion or improving air quality often are priorities at the local level, the user costs of private motorized transport modes do not reflect their full costs, notably due to the widespread subsidisation of fuel prices, which is decided at the national level. Conversely, while social protection and equality may be a priority of national level policies, practices related to urban development and planning at local level may sometimes create or perpetuate social inequalities (e.g. lack of adequate access to amenities or service provision in poorer neighbourhoods).

58. The necessary appraisal of transport projects and options is complicated by the lack of assessment frameworks (ex ante, ex post) and the difficulty and cost of collecting relevant data. In some cases, projects are pursued according to political or individual preferences, rather being guided by an evidence-based assessment of their benefits in terms of access to urban populations.

59. The benefits of providing access to urban opportunities through sustainable transport means are difficult to estimate and quantify. As such, both public authorities and private entities tend to view sustainable transport of goods and passengers as a cost rather than an investment.

III. Prioritizing policy options: transformative actions for the New Urban Agenda

A. Targets

60. Targets should be interlinked with the adopted Sustainable Development Goals, COP21 goals, the outcomes of international conferences and national policy-setting. In addition targets also need to reflect the ambitions linked with the expansion of urban services and the improvement of urban transport towards better urban environments and living. Ambitious targets as: full coverage of urban areas by urban services which comply with basic standards up to the end of the decade, halt of open waste dumping sites within 5 years' time, urban transport's greenhouse gas emissions reduced by 50 per cent in 10 years' time, etc. To ensure effective implementation, these targets should be aligned at the local, national and global levels and should be backed by broad consensus. Ambitious targets can set the direction of current and future action, and are useful to show governmental commitment and to send a clear message to the market.

Linkages between the thematic areas covered and the Sustainable Development Goals

61. The links between the Sustainable Development Goals agreed at the global level and the New Urban Agenda highlight the role envisioned for urban services, mobility and technologies in fulfilling them. These links show the interconnectedness between global goals and the urban fabric and the role urban services play in making the most of this relationship. The New Urban Agenda should recognize that the Sustainable Development Goals' urban dimension is much broader than Goal 11. Goal 11, Make cities and human settlements inclusive, safe, resilient, and sustainable, targets other Goals. In particular, Goal 3, on health, Goal 5, on gender, Goal 6, on water, Goal 9, on infrastructure, Goal 13, on climate, and Goal 17, on implementation, are strongly linked to Goal 11 (Habitat Unit/TU Berlin 2015). Urban services can make a substantial contribution to sustainable development, reducing poverty, improving health, equality, protecting the environment, biodiversity, combating climate change and improving the quality of life in our cities. However, unsustainable transport can significantly impact on many of the Sustainable Development Goals, too. This is vital to consider in planning urban services systems.

Linkages between the thematic areas covered and results of COP21 goals

62. The COP21 agreement aims to strengthen the global response to the threat of climate change, in the context of sustainable development and efforts to eradicate poverty. This requires keeping the increase in global average temperatures to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change. The decarbonisation of the energy and transport sectors has a vital role to play. It needs to be pursued closely not only in view of the objectives set on access to safe, affordable, accessible and sustainable urban development but also to add the contribution of the urban sector to the climate objectives and the related decarbonisation to mitigate further climate change. Finance will play a vital role here, and the Green Climate Fund and the Addis Ababa Action Agenda have a key role to play in this context, which also includes enabling cities to directly access international, multilateral and bilateral climate finance and development cooperation funding sources.

Linkages between the thematic areas covered and results of Habitat II

63. Habitat II emphasized the need to combat the deterioration of living conditions within human settlements, which is needed to address unsustainable consumption and production patterns; population changes, including changes in structure and distribution, considering the tendency towards excessive population concentration. Furthermore, the lack of basic infrastructure and services and adequate planning, growing insecurity and violence, environmental degradation, and increased vulnerability to disasters need to be addressed.

64. Habitat II also strengthened to extend adequate infrastructure, public services and employment opportunities to rural areas in order to enhance their attractiveness, develop an integrated network of settlements and minimize rural-to-urban migration. Habitat II promoted full accessibility for people with disabilities, as well as gender equality in policies, programmes and projects for shelter and sustainable human settlements development.

Criteria

65. In keeping with the vision of urban services and transport that was expressed in Section 1, the following values and criteria have to be kept in mind when designing and implementing urban mobility policies.

66. A key criterion for the selection of policy priorities relates to striking a balance between individual and collective goals. From an urban services and transport point of view, most of the policies previously adopted have favoured individual goals over collective goals.

67. Sustainable growth should be at the core of urban service and mobility policy. Sustainability can foster the streamlining of policies to provide better urban services and more public transport using clean fuel technologies. Furthermore, as discussed above, urban services and

transport should act as a lever for growth, and policymakers should ensure that sustainable urban services and mobility also leads to economic growth.

68. Equity and affordability should be observed in all service- and mobility-related policies, because access to urban opportunities should be provided equitably. This criterion is particularly salient in the wider context of favouring social integration and inclusion, and it is important to note that good urban services and public transport connections strongly favour the development and improvement of the human capital within cities.

69. A key criteria for a balanced and integrated approach to deliver on the Sustainable Development Goals and climate targets is to mobilize stakeholders and resources for all urban services, strengthen the administrative structures through capacity-building and develop workable governance structures to boost implementation action.

70. Decentralization is the prerequisite to deliver urban services applying the principle of subsidiarity, giving responsibilities and resources to the appropriate level of government, putting cities and municipalities at the heart of urban service delivery. Investment decisions can then be based on criteria such as equality, fit-for-purpose service delivery, resilience, the generation of economic and social opportunities and cost-recovery considerations.

B. Policy priorities

71. Based on these overarching targets, policy priorities arise to deliver the stated objectives. The following policy priorities refer to visions and challenges above.

Water, energy and resources

Water and sanitation

72. Urban water services (water supply, drainage, and wastewater) need to be developed to match the natural resources and soil available in order to provide a sustainable service. Water services demand should be matched with the natural risks, resource availability and protection through choices made in urban design of buildings and neighbourhood (cascading uses of water, rainwater harvesting, grey water recycling, wastewater collection and treatment, etc.) which shape the urban form. Once basic infrastructure is supplied and operational, water and sanitation systems need to be developed towards full operational cost recovery but taking into account the social impacts of their pricing.

73. In order to avoid waste of water and an unequal distribution of water resources, pricing systems incentivizing the efficient use of water in the agro and mining industry need to be introduced which reflect the water footprint.

Energy supply and energy efficiency

74. Energy efficiency and access to renewable energy sources needs to be achieved with a focus on the synergy of various areas. The key objective is the decarbonisation of energy production, distribution and consumption. Central and decentralized energy systems should be integrated, and two-way energy networks should be efficiently used. When more fluctuating power supply is increasing (solar, wind), it is extremely important to ensure efficient demand side measures and smart control systems. In addition, long- and short-term energy storages are gaining significance.

75. It is essential to manage the transition to sustainable energy supply and delivery. The challenge lies in managing the increasing energy demand while enhancing access to household energy among the poor at the same time.

Waste and resources

76. Access to decentralized waste management systems needs to be provided, and alternatives to unregulated and inappropriate forms and locations of unregulated disposal of waste (open burning, landfilling without groundwater protection) must be pursued.

77. Waste needs to be treated as a resource, and “circular economy” mechanisms have to be established. Decent work among a formalized waste collection and recycling system and informal waste workers and recyclers, ensuring a coherent, efficient and dignified system for waste collection, recycling and disposal are a prerequisite for the acceptance of a coherent waste policy.

Transport, mobility and access to urban opportunities

78. Starting from the criteria given above, the following priorities should be set in terms of urban design and access to city opportunities and services.

79. Compact, dense and inclusive urban design, mixed land use, as well as the integration of transport and land-use planning, should be promoted. The goal should be to reduce the distances travelled to enjoy and take advantage of urban opportunities. This includes controlling and reversing urban sprawl and prioritizing urban development in areas already served by public transport services. Wherever new urbanization is to be implemented, the concept should include public transport and non-motorized mobility.

80. The quantity, quality and integration of sustainable transport options in urban areas should be improved. This includes three different elements:

    (a) Investment in infrastructure dedicated to public transport services, walking and cycling and other upcoming forms of moving as well as improving facilities for non-motorized travel modes;

    (b) The promotion of a more efficient use of existing infrastructure, exploiting the potential of digitalization of urban mobility as well as shared mobility;

    (c) Improving sustainable travel options, making the travel experience by collective and public transport modes a seamless alternative to private car travel.

81. The demand for private motorized travel should be managed and urban transport rebalanced in favour of people rather than vehicles. Priority should be given to sustainable travel modes which reduce the cost of transport for the community and the negative externalities of urban transport.

82. A resilient and predictable mix of funding sources for sustainable urban travel should be achieved. Efforts should be taken to better internalize the costs of various modes of urban transport, and revenues directed towards sustainable modes. Infrastructure investments should also prioritize sustainable travel in the attempt to decarbonize urban transport.

C. Critical recommendations for implementing the urban agenda

83. A New Urban Agenda requires policies, programmes, projects and measures to be taken in a systematic multilayer approach interlinking activities of governments, regions and the local level. A range of measures need to be regarded as a prerequisite for change. In addition, a variety of immediate activities are needed to generate a "momentum of change" with some "quick wins". This also encourages all related parties to enter the "agenda of change" as early as possible.

84. A range of cross-sectoral recommendations prove valid for all sectors. Out of these, one administrative issue appears to be relevant: inter-municipal cooperation and shared services offer an alternative full service delivery by one municipality through the division of responsibilities and task sharing. Inter-municipal cooperation can work as an arrangement between two or more local governments and support the provision of urban services and transport, gain substantial advantages through the economies of scale or solve problems the cities and their hinterland have in common. The following section provides additional sector-specific recommendations.

Water, energy and resources

Water and sanitation

85. Assess the water-related risks and resource limitations and maximize the advantages of the natural environment prior to planning the city development, so that the limitations may be accommodated, the natural potential best valorised and risks mitigated, while synergies with other sectors are implemented for maximum efficiencies.

86. Launch an integrated water planning approach to manage urban-rural linkages, minimize conflicts and ecological disasters as well as to maximize positive synergies and mutual benefits, at local and regional scales.

87. Make the best use of waters through an integrated water cycle approach, limit the resource movement, maximize its reuse by drawing it from diverse local sources, optimize its productive use (e.g. by using water at qualities that are fit for purpose), prevent pollution and treat "waste" as a resource (for energy and materials) and by fostering synergies at the water-food-energy nexus.

88. Plan adaptive urban water systems with the necessary resources to build greater adaptive capacity to respond to the inherent uncertainties associated with global change issues.

89. Assure public health through strong local leadership and adequate investments in sanitation infrastructure and services, develop citywide universal sanitation access strategies and apply innovative, context-specific and culturally sensitive solutions.

Energy supply and energy efficiency

(a) Promote an immediate and strong shift towards a low-carbon energy system in line with a 1.5ºC stabilization pathway;

(b) Boost energy efficiency by optimizing building-related energy consumption, improved industry processes, business and households, district cooling and efficiency through cogeneration (block or district heating networks);

(c) Consider increasingly different energy aspects jointly, as heat and electricity supply in conjunction with mobility and waste-to-energy technologies;

(d) Create opportunities for developing countries to leapfrog to renewable solutions for energy storage and warming water; e.g. Solar power and local small-scale smart grids in rural areas where conventional power lines do not exist;

Waste and resources

(e) Take a circular economy approach, emphasizing waste prevention, source separation and the use of waste and waste products;

(f) Facilitate urban mining and the reuse of wastes; establish material recovery facilities;

(g) Ensure the appropriate, transparent and prudent management of hazardous waste in line with international treatment and health standards;

(h) Establish extended producer responsibility schemes that include producers in the financing of urban waste management systems and reduce the hazardousness of waste streams and recycling rates by better product design;

(i) Develop local waste prevention concepts that take into account the specific urban metabolism and focus on the most urgent waste streams with the highest cost-saving potentials.

Transport, mobility and access to urban opportunities

90. Setting the priorities described above requires concerted action from a large number of stakeholders who are involved in urban mobility, whether directly or indirectly. This section will make recommendations, for each priority area, on how the array of stakeholders should work together to achieve these priorities.

Urban design and planning

91. Local governments are one of the main institutional actors in this priority area, but they are definitely not the sole actor involved. Promoting compact, dense cities requires an urban land-use plan linked with a transport plan for the city prioritizing the multifunctional neighbourhoods and spaces within the city that can be reached easily through public transport.

92. Local authorities must foster cooperation and provide the conditions to create a mutual understanding between transport and urban planning departments.

93. At the same time, local administrations must have the necessary knowledge and capacity to draft a transport and land-use plan, and the legal capacity to enforce it upon adoption.

94. In many cities, both in the developing and developed countries, basic land inventory information, such as a cadastre, is not readily available, and local administrations should have the support of the national (or regional if relevant) and international level to obtain and make good use of such data and information.

95. Land-use and transport plans are most effective when they are covering the most appropriate scale, also taking into account regional travel and urban-rural linkages. As such, a strong framework and culture of cooperation should be created for cities and municipalities in the same metropolitan area.

96. In places where infrastructural needs are acute and the capacity for action at both local and national level is missing, international institutions (such as United Nations agencies and multilateral development banks) also have a role to play as well.

97. Yet plans set the main framework for investments in the cities. They also have to be signed up and "appropriated" by private business and civil society to be successfully implemented. For example, to promote transit-oriented development, a fine balance needs to be struck between offering land developers incentives to develop next to high-capacity lines and capturing the extra value that public transport would bring to the land itself through the agglomeration of activities around stops. Transport companies, whether incumbent operators or private ones (even if informal), should also be involved to make the best use of connections, setting up feeder services and multi-modal connection facilities needed for seamless door-to-door travel.

Increasing the quantity and quality of sustainable travel options

98. Infrastructure investments in urban projects should be decided upon according to the benefits they bring to the area. For urban transport infrastructure projects, access is the key benefit, but — in accordance with the values above — the goal should be appraising the benefits in terms of access for people, rather than for vehicles. Current frameworks for appraisal should be adapted to adequately reflect the wider economic, quality of life and accessibility benefits of sustainable travel and road safety. It is important that all such projects are appraised using a common framework, and that the local authorities (who would propose the projects in question) are capable of estimating and identifying the benefits of sustainable transport infrastructure.

99. Cooperation with academia is a very important aspect in the goal of raising the efficiency of the use of current infrastructure in order to increase its resilience and adaptability. As technologies often hold the key to using existing urban infrastructure more efficiently, it is important that regulators, (innovative) businesses, researchers and transport providers work in tandem to ensure that the right framework is in place to better use the transport infrastructure to attain sustainable, people-oriented urban mobility.

100. Good governance and coordination, underpinned by technological solutions, is also required to improve the quality of sustainable mobility services. Starting from the assumption that mobility policy should be based on equity (as included in the criteria for priorities above), the key recommendation is that both mobility providers and regulators cooperate to provide sustainable travel conditions and services which allow convenience and flexibility similar to what car travel has up to now. Local authorities and mobility providers in metropolitan areas must have a clear and enforceable contractual relationship defining the obligations of both parties related to requirements of service and remuneration.

Managing the demand for private motorized travel

101. Setting up access restrictions or congestion charging schemes, which discourage private cars and motorcycles from entering certain neighbourhoods, helps reducing congestion, as well as sound pollution, improving air quality and reducing road risk that stem from private motorized traffic. It is paramount that accessibility to an area is also provided through sustainable modes and that any revenue from such schemes is reinvested into improving access and transport options. National Governments should adapt legislation to allow the creation of restricted traffic zones within cities.

102. The availability and price of parking is an important element in determining modal choice for people in urban areas. Removing minimum parking requirements for development of residential and commercial locations would reduce building costs and increase the amount of space that is available. As such, local authorities could seek out alliances with land developers and the business community in the city for such policies.

103. It is also important that the goals of local and national policies are aligned to promote sustainable travel options in urban areas. In particular, subsidized fuel prices, or tax advantages for car ownership (company cars) should be abandoned.

Secure adequate funding

104. As providing access to urban amenities and opportunities requires funding — both as infrastructure investments and as funding for the maintenance and operation of services — stable sources of income should be found. Clear frameworks of cooperation should be put in place to ensure that while local authorities are being given responsibilities for the planning and provision of services, they also have a matching ability to raise the required finances to actually deliver. Furthermore, local governments should maintain open and transparent avenues of dialogue with local businesses, which benefit when cities are more accessible. As indirect beneficiaries of sustainable mobility, the latter should also be involved in providing a share of the funding for sustainable mobility services in metropolitan areas.

IV. Key actors for actions: enabling institutions

105. This section will build upon the critical recommendations highlighted in section III.C by mapping out the players and stakeholders who would ideally be involved in the policymaking process. Furthermore, the envisioned links, relations and interactions between the actors in order to transform policy priorities and outcomes successfully will be highlighted. While the stakeholders will be mentioned as a list starting from the highest to the lowest level of aggregation, the relations between them should not be hierarchical but cooperative and based as much as possible on an equal footing.

A. Public administration

National Governments

106. National Governments should recognize that urban areas represent the powerbases of national competitiveness, productivity and growth. The higher quality of life that provides the availability of urban services such as water, energy and waste management attract urban populations, concentrating the potential for growth in cities; as such, national Governments should enable local administrations to provide these in a sustainable fashion, using technology to address resource finiteness. Furthermore, national Governments should work with city representatives to ensure that urban mobility policies serve their purpose of unleashing this development growth potential and identify ways in which obstacles to productivity and economic development — such as traffic congestion, lack of accessibility and high road risks — can be removed.

107. The role of national Governments is critical in providing funding, as is a critical appraisal of projects and strategies that require major investments. This includes both investments in services that improve the quality of living conditions in cities (provision of energy, water and sanitation and waste management) and those providing access to urban opportunities (sustainable transport infrastructure and services).

108. National Governments should recognize the intrinsic link between the spatial layout and geography of urban areas and access urban populations have to opportunities within cities. In doing so, they should support the integration of land-use planning and transport policies at local level. Setting up and maintaining a land-use inventory, which local authorities can access, is an important prerequisite.

109. National Governments should — in cooperation with international institutions if needed — set up a national urban infrastructure funds with the express goal of enabling cities to work towards reaching target 11.2 of the Sustainable Development Goals. Eligibility for such funding should

be linked with the implementation of integrated urban development strategies (such as sustainable urban mobility plans), and the decision on disbursing and approving the funding should follow an appraisal procedure taking common elements into account.

110. Cooperation between national and local-level governments should take place in a well-defined framework considering the potential to create value that the provision of urban services and transport projects bears for private businesses in urban areas. Cities should be allowed to capture a share of this value and mandated to reinvest it into urban services to improve the quality of life within the area.

111. Additionally, through their fiscal and regulatory powers, national Governments have a key role in shaping the scene for urban services and mobility policies. National legislation should clearly set the way in which urban services and mobility policies are being defined. Legislation deciding on the powers, responsibilities and funding streams available to local authorities that manage service delivery and mobility in urban areas is needed to offer clarity and set the rules of the game for local-level governments.

112. Fiscal policies and taxation, for which national Governments have nearly exclusive authority, are important levers for shaping the construction, operation and maintenance of urban services and transport in urban areas. Taxation and subsidies from the national level should focus on promoting sustainable urban services and mobility, while also lowering the costs per capita of urban services and transport.

113. In this respect, national and local governments should coordinate to align their urban services (for example by jointly defining minimum service standards) and transport policy goals (for example by complementing travel demand management policies at local level by reducing any fuel subsidies or reducing incentives for companies to offer company cars). Having signed up to the ambitious Sustainable Development Goals and targets, national Governments should cooperate with other stakeholders to reduce the level of energy consumption and carbon footprint of urban mobility systems.

Regional and local governments and authorities

114. Local governments are key to improving urban services and transport. To foster public policies in public services and transport delivery and in view of the increasing technical and financial constraints, policy dialogue and continuous collaboration among all levels, with the private sector and the communities, needs to be initiated by regional or local governments as they have the responsibility to serve the urban beneficiaries. The dialogue incorporates key stakeholders (central Governments, service operators, trade unions, civil society) and can result in drawing up charters defining roles and responsibilities, financing and management and minimum standards to set qualitative and quantitative levels and standards of urban services and transport in line with the sustainability goals.

115. To contribute to strengthening urban services and transport, the effectiveness of regional and local government departments and public providers must be improved by investing in human and technical resources and implementing appropriate management systems and technologies.

116. When urban services and transport provision is entrusted to external partners, regional and local governments should be active and demanding partners in order to ensure universal access to services and preserve public goods. They need to develop and maintain the internal capacity to monitor and provide oversight to ensure that access, quality and tariffs meet the needs of citizens. For many cities, this requires a collaborative approach with other cities to upgrade their capacities and promote these tasks.

117. Local governments should acknowledge the role played by small-scale and informal operators in basic service and transport provision and promote co-production of basic services with local communities, particularly in informal settlements and slums. They should assume responsibility for monitoring quality, harmonizing prices and coordinating service delivery with official providers to avoid provision gaps.

118. Local governments should be aware of the potential impact of new urban infrastructure on the preservation of cultural heritage, cultural practices and symbols. Cultural impact assessment tools should be used to carry out an ex ante analysis of potential negative impacts, and a precautionary principle should apply whenever necessary.

119. The urban-rural and urban-urban interlinkages in all fields of urban services and transport highlight the importance of coordination between local governments in the same metropolitan area or region. The successful design and implementation of strategic infrastructure and mobility policies at metropolitan or regional level requires a good level of cooperation between local governments as well as with national Governments.

120. Furthermore, local governments are best placed to integrate urban infrastructure and mobility with other local policies and objectives, particularly housing and land use policies. Decisions on housing, building permits and zoning regulations will strongly affect the provision of urban services, mobility and transport in the city, so it is paramount that the relevant departments coordinate their actions and policy goals.

B. Stakeholders

Operating companies, urban services and mobility providers

121. Due to their practical expertise, companies providing urban services and transport services to urban residents should be involved in the policymaking process regarding transport policies. Furthermore, given their direct relation with customers, such companies are familiar with consumption and travel behaviour and preferences, which can be fed into policymaking processes.

122. On the other hand, public authorities and not the private sector, particularly at the local level, should strive to formalize organized transport within metropolitan areas by setting standards and guidelines that professionalize the sector and improve travel across the city.

Stakeholders, beneficiaries and civil society

123. Urban service and mobility policies, programmes and plans need to be developed in close collaboration with stakeholders, beneficiaries and civil society. Without the integration of bottom-up aspirations and demands, policies, programmes and plans tend to remain fragments. Making investments in urban services and mobility among the urban population a success requires a broad consensus on the rationale, goals, objectives and means.

124. Civil society groups and various associations play an important role in shaping and influencing consumption pattern (water, waste, energy) and travel behaviour, and can consequently support authorities in reaching their goals, particularly on moving towards sustainable consumption patterns and travel modes.

Private developers, the business community, and service providers

125. Private developers for real estate can add to the value of urban services provided they pay for the urban services rendered based on a full cost recovery or add to the urban infrastructure in line with the quality standards set by the local bodies. On the other hand, private developers may not escape with windfall profits from increasing land prices and real estate development in the formal and informal housing economy without contributing to urban services and public amenities.

126. The business community has a lot to gain from adequate urban infrastructure and efficient urban mobility services as better services, connectivity and transport links enable businesses to gain access to a wider and more diverse workforce, offering better productivity.

127. Additionally, as transport amounts to lower transport costs for the community (as a share of the GDP produced within the urban area) in cities less dependent on private car travel,[3] businesses stand to gain from the higher purchasing power of the urban residents. The business community should cooperate with authorities at both national and local levels to reinforce this virtuous circle and participate in the funding of inclusive, equitable and sustainable urban mobility projects. Moreover, as improved public transport connections offer more opportunities for residents to access urban services, the value of land and buildings in well-connected areas increases. Businesses stand to gain from this increase in the physical capital within the city and should be encouraged to support public transport projects.[4]

128. Privately organized service providers play a decisive complementary role to the public sector if they operate efficiently and in line with clear-cut performance and delivery standards. These need to comply with the overarching objectives set at the different government levels. They need to be monitored closely and are obliged to report to their public clients.

129. Businesses are more likely than public authorities to be among the early adopters of new technologies that could improve the quality and efficiency of urban services. Through cooperation and engagement with the research community as well as authorities, businesses in the metropolitan areas can act as “test beds” for technologies before they are rolled out at city level.

Housing agencies and cooperatives

130. Housing agencies and cooperatives can cater for a considerable proportion of urban housing needs primarily for the lower income groups while also being partners in the provision of urban services, their (co-)financing, management and operation. Cooperatives often play a role in the transport sector and can be part of a multimodal urban transport policy. They are usually highly adaptive to changing needs and requirements and can complement the public transport services.

131. Cooperatives can also contribute to waste management as an intermediary between formalized public or private waste services and the informal sector. They are ideal means to maintain a high job rate in the waste sector and have proved highly flexible and efficient in adapting to waste management requirements if properly integrated into the waste management economy.

[3] Extract from UITP, Mobility in Cities Database, 2006. The cost of transport for the community is defined as the sum of public transport operation and investment expenditure, road building, maintenance and operations expenditure, as well as expenditure for the operation of private vehicles (fuel, insurance, parking, amortization, etc.).

[4] Reference to literature on physical capital.

C. International community and academia

International community, multilateral banks, city networks and institutions

132. International institutions play a key role in helping actors at both national and local levels build capacity and knowledge to identify and implement strategic urban services and transport projects. Capacity-building is also relevant from a governance point of view, and international institutions can offer assistance in the building of institutions that facilitate good cooperation between local actors.

133. They also provide support in the setting of the policy agenda for national Governments and other stakeholders. Furthermore, they are well placed to gather, analyse and disseminate knowledge of policy options and trends from all over the world. The role of international institutions is essential in identifying good practice examples at urban as well as national level.

134. Through their inclusive and participatory structures, international institutions can act to facilitate the exchange of knowledge. The knowledge should be linked to capacity-building. From their position of gathering knowledge, international institutions are also in a good position to observe where knowledge gaps exist, and should be working with the stakeholders involved to develop the capacities needed to fill these gaps.

135. The measurement and appraisal of urban services and mobility outcomes is an area where international institutions should cooperate more with both governmental actors — at national and local level — and with civil society, academia and the business community to develop this capacity. At the same time, international-level actors and institutions can also work with governments and authorities at national and local levels to help the latter set up a workable framework for the sharing of responsibilities and competences regarding urban services and mobility, particularly related to funding arrangements. International institutions also play an important role in mobilizing private funding for urban services and mobility projects, and can foster cooperation between governmental actors and civil society and academia for the successful design and implementation of urban mobility strategies.

136. In addition to the international financial institutions, such as multilateral development banks, have a key role in financing, providing technical cooperation and advising national, regional and governments in urban mobility matters.

137. International, regional and national city networks play a key role in designing, requesting and supporting frameworks for effective and sustainable urban services.

Academia

138. Apart from their general role in improving the skills and qualifications of the (future) workforce, thus improving human capital available within cities, universities provide unique knowledge in terms of generating knowledge related to the appraisal of the outcomes of urban services and mobility policies and strategies.

139. Academia has a central role in providing and fostering innovation, which can be applied or implemented directly. Innovation should not be limited to technical or engineering aspects. Innovation in e.g. organizational and governance fields as well as marketing can be beneficial for both transport and other urban services. Private and public actors should take advantage of, and foster good relations with, the research community.

V. Policy design, implementation and monitoring

140. The derivations from the vision, challenges and priorities should become the basis for the monitoring of design and implementation of the key actions that anchors the New Urban Agenda on urban services and technologies.

A. Policy design, governance and technologies

141. The realization that urbanization represents a unique opportunity to be harnessed to support economic growth and social advancement has grown in the last decades. This makes it more imperative to acknowledge the diversities in the urban sphere and ensure that governance, planning, design and implementation for urban services are driven by multilevel governance, decentralized local governance, and inclusive, accountable, participatory and people-centred principles.

142. Decentralized policies could provide expanded mandates and resources to local governments. However, the gap between allocated responsibilities and the capacities to implement the policies must be aligned to local revenue generation. This is a huge challenge for their credibility towards their citizens.

143. Achieving good governance requires that local government, civil society and all stakeholders involved in knowledge, industry, technology and finance are given equal opportunities at the same decision-making level for their cities. Appropriate legislations, regulations and policies as well as enforcement mechanisms are relevant to anchor and sustain inclusivity, participatory decision-making and collective monitoring and evaluation of city development.

144. The New Urban Agenda framework has to focus on technologies, since it is a crucial element of urban infrastructures and offers many opportunities. The availability of (digital and physical) infrastructure and the use of big data is important for the future development of cities and their ability to cope with challenges. As new infrastructure technologies evolve and become increasingly inter-linked, their co-evolution needs to be considered holistically if cities are to fully optimize the overall benefits of innovative urban infrastructure systems.[5]

145. In this context international standardization as a crucial condition for scaling and replication can contribute to strengthening the possibilities for the utilization of technology for urban challenges. Standardization should be set up in such a way that it sustainably guarantees competition among multiple vendors and systems. Therefore, it should be defined to create open infrastructures or open ecosystems. Standards should focus on technologies and not behavioural patterns. They need to be developed together with all stakeholders relevant for the delivery of urban services contributing to inclusive, safe, resilient and sustainable cities and human settlements.

146. Policy learning in a triple helix context approach between science, industry and government is vital. Urban infrastructure and technology demand cooperation among various stakeholders. Next to government, civil society, private organizations and individuals must be given equal opportunity to develop and apply smart solutions and this involves access to information for all. Experimenting with and learning from the social possibilities of new technologies through a "learning-by-doing" approach and urban living labs is also required.

147. Smart city concepts can provide inputs into effective urban services and provision. However, since cities are unique, a careful integration of the smart city concepts into integrated urban development concepts is required to assure that technology supports people and is fit for purpose. This may be guided by an active exchange between cities to avoid mistakes and replicate success.

B. Implementation and finance

148. Clearly defined financial mechanisms should facilitate local authorities' access to financial resources, attract domestic and foreign direct investment, establish and improve revenue generation and collection systems at subnational level, and engage in a transparent and productive way with the private sector. The need to develop and implement monitoring and evaluation mechanisms to monitor progress and document impacts of spatial plans should also be highlighted.

149. Support should be provided to local authorities in developing coherent and implementable urban management tools and parameters (i.e. spatial plans, regulations) in order to provide the territorial framework within which governance tax and fee collection, infrastructure provision, environmental management and service provision are prioritized and implemented. This includes expanding and updating the information of the local authorities' cadastre.

150. In addition, progressive tax systems must be introduced to finance infrastructure outside development grants/tax revenues. This ensures a good tariff and structured/tiered rates determined by the quality of the services or the product provided.

National urban infrastructure and transport funds

151. Urban infrastructure funds based on a diversity of funding sources should be developed at the national level. This could include contributions from international funding institutions as well as earmarked revenues from dedicated taxes. Different models could be envisaged for such funds, ranging from grants to public to leverage for contributions from other public entities and the private sector. Eligibility criteria for the funds could include the following:

(a) Prioritization of integrated urban strategies including urban development, housing and public transport; this helps hedge the risks linked to individual projects;

(b) Integrated in reflection at national level on development potential and balance between different cities and regions;

(c) Subject to appraisal procedures set out at national level;

(d) Appraisal based on integration within a sustainable urban transport plan.

Generation of funding for infrastructure and services at local level

152. Frameworks should be developed at national level allowing local authorities to perceive taxes and charges related to value created by investment in transport schemes. In parallel, capacity should be built to provide local governments with adequate tools to capture such value.

153. Partnership should be developed between players at local level to support the acceptability of the measures.

[5] World Business Council for Sustainable Development, The Urban Infrastructure Initiative, Final Report, April 2014.

C. Monitoring

154. Monitoring of progress in implementing sustainable urban services policies and infrastructures can help guide and redirect local decisions and share experiences with the global community. The main elements for the monitoring of urban services and technologies are focusing the various urban services sectors. The selection of indicators should build on the upcoming indicator set for the Sustainable Development Goals provided this is developed with local authorities associations and city representatives adequately involved.

Data in support of urban infrastructure and transport policies

155. Data are required to support policy design, setting of targets, and appraisal and monitoring of implementation. Regarding in particular appraisal, only reliable data should be measured that account for the wider benefits of investments in urban infrastructures and services.

156. Capacity-building should be provided for the identification and measurement of adequate input, output and outcome indicators which reflect the reliability of data in its specific national or local context. Appropriate procedures should be developed at local level for collection, management and sharing of data. Analytical frameworks should be established at national/international level for comparisons of data between cities.

VI. Conclusion

An urbanizing world and the crucial role of urban services and infrastructure

157. Urban services are fundamental to human living for all people, in all cities and settlements of the world. In many places, adequate, safe, affordable, accessible and sustainable basic services and infrastructures for all are yet to be realized. The provision of the whole range of urban services remains the driver for social and economic development and the well- being of the urban population, in particular to the most vulnerable, such as the urban poor, women, children, older people and those with disabilities. The urban world becomes highly differentiated; high-technology applications and inadequately low provision of basic services take place at the same time and often physically side by side.

158. Serious disparities prevail between the developed and the developing world regarding the level of service provisioning in general and across groups and communities in particular, especially in Africa. Even in developed countries, the development and/or maintenance of safe, healthy, resilient and sustainable infrastructures is still a major task. Access to urban services is linked to the Sustainable Development Goals and the ambitious goals for climate change mitigation formulated at the COP21 Conference.

159. Global urbanization urgently calls for basic service delivery and infrastructure development as core themes for the New Urban Agenda. In cities, nearly 1 billion slum dwellers are deprived of all basic services, especially in African cities, while urban infrastructure has yet to be constructed for 3.5 billion people. Crucial to this is the rapid development of appropriate policy, governance and funding frameworks. The delivery of services needs to go in line with efficient operation and maintenance practices. The smart use of fast advancing technologies, especially ICTs, can help in this respect.

160. In order to boost the implementation of the New Urban Agenda in the area of urban services and technologies, governance structures are needed that give clear responsibilities to different levels of government, and encourage active participation and engagement of all stakeholders, including citizens and the private sector.

Key actions for each level of government

161. To achieve inclusive, safe, resilient and sustainable human habitats based on adequate urban services, the different stakeholders need to undertake key actions:

National level

(a) National Governments need to provide the mandate and the means to local governments to deliver urban services;

(b) Key national policies that are required include fiscal policies (e.g. energy and fuel taxation), minimum standards for basic services, water safety and recycling, regulation for efficiency, and procurement frameworks;

(c) The provision of funding from national level goes along with conditionalities and appraisal of projects and strategies that require major investments;

Regional and local governments and authorities

(d) Local governments are key to improving urban services and transport. They need to set political priorities and ensure that infrastructure, technology and policies deliver on those priorities. For this to be effective, strong local leadership is needed with a clear vision and support from local businesses and citizens;

(e) Local governments are best placed to establish integrated urban development plans, which bring infrastructure and mobility in line with other local policies and objectives, particularly housing and land use policies. It is essential that the relevant departments coordinate their actions and policy goals. In doing so they can better match demand with ability to deliver services to all;

International institutions

(f) International funding institutions have a key role to play to support local action and to leverage further funding;

(g) International agencies play a key role in facilitating knowledge exchange and providing capacity-building. This can include institution-building, policy and infrastructure development, needs assessment and measurement of impacts.

162. It is necessary to reach a collective agreement on the role of sustainable urbanization within a wider agenda of sustainable development. This cannot be achieved if levels of government act in isolation. They need to adopt a systemic approach on multilevel governance, ensuring that policy priorities are in line and actions are mutually reinforcing in delivering on the New Urban Agenda.

POLICY PAPER 9

ANNEXES

Annex I

Case studies

This annex brings together a selection of case studies in the thematic areas covered by Habitat III Policy Unit 9. Given the interdisciplinarity of several of these case studies, there are many overlaps with themes of other Policy Units. Several of these case studies come from the case study series of the Connective Cities project.

Infrastructure including energy

Ahmedabad, India

Connecting 200,000 households in slums to the grid

Ahmedabad is situated in West India. It is the fifth largest and one of the fastest growing cities on the subcontinent. 40 per cent of its 5.6 million inhabitants live in slums and informal settlements, mostly without any public service provision. In 2001, the city initiated a pilot project, connecting 800 households to the electricity grid within three years and removing illegal power lines in streets and homes with the goal to ensure tenure security for slum dwellers and payment of bills for energy companies. In order to accomplish these objectives, the city collaborated with two energy companies and two NGOs. The NGOs (SEWA, a women's association, and the charity organization SAATH) were responsible for information, education and active participation of the 800 households included in the project to ensure buy-in, the project financial viability (also through microcredit), its realistic implementation and its sustainability. They also built confidence and trust between slum dwellers, city administration and private energy companies, the cornerstone for the successful collaboration among the actors involved. The pilot project received financial support from the American development agency USAID.

Experiences made in the pilot phase have motivated the city to expand the programme. From 2004 to 2008, all poor households in Ahmedabad's slums, in total about 200,000, were connected to the grid. The Federal State of Gujarat transferred the idea to other cities, where similar services are now being offered. Meanwhile, the programme has also spread to Mumbai and even to cities on the African continent.

For additional information: http://www.connective-cities.net/en/connect/good-practices/ahmedabad-connects-200000-households-in-slums-to-the-grid/.

Delitzsch, Germany

An energy-efficient City

Situated to the north of Leipzig, the town of Delitzsch has an innovative energy management system using photovoltaics, wind energy and biomass to generate electricity and obtaining heat from geothermal and solar thermal sources. The Delitzsch "Energy-Efficient City" project received an award by the Federal Ministry of Education and Research (BMBF) in 2008 to implement innovative ideas in the energy sector. The current project implementation phase is expected to continue until May 2016.

The goal of the city is to achieve an at least 40 per cent reduction in CO-emission levels by 2020 (against 1990 levels). Energetic renovation is to result in improvements in the structure of buildings, enhance the quality of housing and reduce heating costs.

The city has been divided into districts with inhabitants bearing similar socioeconomic features and comparable types of buildings. The development of a software tool supports the modelling of district-related characteristics based on population statistics, data on types of buildings, the state of renovation or the type of energy supply. Networking business, science and technology is also part of the strategy. The role of the so-called "Energy Efficiency Manager" is to bring together relevant actors from the various areas. Owners of landed property, associations, the retail trade, service providers and many other institutions are part of a constantly expanding learning network.

The energy efficiency of the city has increased significantly thanks to the energetically renovated districts of the old city. Delitzsch also serves as a model municipality for further cities in east Germany that have a similar socioeconomic structure and seek to orient themselves on energy-efficient and sustainable urban development.

For additional information: http://www.connective-cities.net/en/connect/good-practices/delitzsch-energieeffiziente-stadt/.

Stockholm, Sweden

The Hammarby District: a closed-loop system integrating water, waste and energy [a]

Hammarby is a new district in southern Stockholm. The district's planning and development dates back to 1996 and will be completed by 2018. First designed to host the 2004 Olympic Games, after a failed bid, the area was subsequently converted, into an ambitious eco-district, along the guidelines of Local Agenda 21 and the Smart Growth theory, with the goal of reducing its environmental footprint by 50 per cent.

As of 2008, compared to the early 1990s, the overall consumption of non-renewable energy, water resources and greenhouse gas emissions revealed significant reductions amounting to 40 per cent. The district's compactly designed environment and the promotion of alternative means of transportation through public awareness campaigns, has successfully encouraged its residents to favour walking over car use for their everyday journeys.

The Hammarby district developed its own integrated water-energy-transport systems Urban NEXUS: the decentralized sewage treatment plant and recycling models are based on the "closed-loop urban metabolism" concept, which promotes the cascading of waste and water resources. The composting of organic waste and sewage sludge produces soil nutrients, while energy recovered from waste incineration and water treatment supplies the district's heating system. Biogas is also recovered through these processes for stoves and buses.

Further, the advanced infrastructure has created the potential for cross-sectoral institutional integration, enabled by the national Local Investment Programme (LIP), allowing the Swedish national Government to financially support municipalities engaging in ecological sustainable development. Stockholm City developed the area through a joint partnership between Birka Energi, the Stockholm Water Company and the City of Stockholm Waste Management Bureau. This approach facilitated the integration and coordination between water, waste and energy sectors while building Hammarby's resource-efficient system, to achieve scaled-up design and technology systems and delivery models.

The district planning and development was underpinned by a strong focus on technological innovation. Affordable housing was however not embedded in the district development. Despite improvement possibilities on the social integration side, the project provides a successful example of brownfield reconversion with integration and high sustainability standards at its core.

For additional information: http://www2.giz.de/wbf/4tDx9kw63gma/20_Urban NEXUS_CaseStory_Stockholm.pdf.

e'Thekwini, South Africa

Communal ablution blocks for informal settlements

e'Thekwini is a metropolitan area comprising the City of Durban and its surroundings. In 2004, the e'Thekwini municipality's Housing, Architecture, Health, and Water and Sanitation Departments jointly came up with the concept for the community ablution blocks (CABs) programme to provide sanitation and water services as well as skills training and job opportunities to the residents of unserved informal settlements hosting approximately 1 million people in the urban and peri-urban areas of e'Thekwini.

The communal ablution blocks (CABs) were designed and installed by the municipality. CABs are mobile modified shipping containers, each having two showers, two flush toilets, two hand basins, four basins used for washing clothes, a small locked storeroom for cleaning materials and outside lighting to improve safety. They are connected to the municipal sewerage and water systems and are installed in pairs — one for women and one for men. To address the potential health hazard of grey water run-off, a vertical garden was designed so that grey water could filter directly to the roots of vegetables. To achieve community buy-in, the e'Thekwini Water and Sanitation (EWS) in partnership with Africa Ahead (NGO), established health clubs among the residents and conducted focus groups to determine what their needs were. People from the community were employed to assist in the installation process and a caretaker is employed to manage each CAB.

More than 800 CABs have been installed, servicing an estimated 500,000 residents of informal settlements. The CABs have become social development hubs, with health clubs, kindergartens, food gardens and play areas, tuck shops and telephone services, contributing to the development of a strong sense of social cohesion within these communities. The key ingredients for the success of the programme were the sound leadership, the working environment and the institutional capacity at the EWS department in the municipality. This allowed the EWS to form creative partnerships with the local ward councillors, NGOs and the municipality, and it enabled each partner to play a very meaningful role in the successful implementation of the programme. The partnership with the University of KwaZulu-Natal was crucial as the research conducted informed the municipality of possible conflicts and dissatisfaction with the process, as well at highlighting its shortcomings.

For more information: http://www.connective-cities.net/en/connect/good-practices/communal-ablution-blocks/.

[a] Excerpt from the Hammarby District case study part of the GIZ and ICLEI, 2014, Operationalizing the Urban NEXUS: towards resource efficient and integrated cities and metropolitan regions.

Freiburg, Germany

Efficient and sustainable facility management

Like other towns, the City of Freiburg, a university city in the south-west of Germany with a population of just under 219,000 inhabitants, has a considerable real estate portfolio. In order to establish centralized supervision and support of all city-owned buildings regarding constructional measures, energy management, cleaning, operation and letting, the city founded "Gebäudemanagement Freiburg" in 2006. It is responsible for a total of 470 buildings, above all schools, school sports halls, museums and fire stations. City-owned housing and real estate used predominantly for commercial purposes are excluded.

With the aid of an electronic facility management system (CAFM, Computer-Aided Facility Management), the inventory and consumption data of all 470 buildings are captured centrally. Thus "Gebäudemanagement" establishes available area and space in the individual buildings on a continuous basis. A virtual "Tenant-Lessor Model" provides each city institution using a building with regular statements of rent levels and service charges. It is planned to transform these virtual rents into real rents. In addition, the city conducts a long-term cost-benefit analysis in all retrofitting and new construction projects incorporating not only the costs of reconstruction or new construction but also the operating costs over the next 30 to 50 years. This database enables politicians and administrators to supply a better justification of higher investment costs to achieve good quality and high energy-related standards even if that makes the project more expensive in the short term.

Central facility management creates a sound database for sustainable planning of the retrofitting and extension of buildings as well as new buildings of Freiburg's City Administration. It enables the establishment of specific space requirements, comparisons of construction costs, the grouping of procurements and the optimization of energy management. This allowed to significantly reduce material and staff costs for facility management. Thus a reduction of CO2 emission from municipal buildings related to gross floor area by more than 40 per cent has been achieved compared to 1990.

The example of city facility management in Freiburg shows that targeted modifications in the organizational structure of an administration and in its process organization can make a considerable contribution to more cost transparency, cost reduction and a more efficient use of energy in the city's real estate portfolio.

For additional information: http://www.connective-cities.net/en/connect/good-practices/efficient-and-sustainable-facility-management-in-the-city-of-freiburg/.

City level, Indonesia

Improvement of public service delivery by means of public participation in Indonesia

In Indonesia decentralization received a great push forward following a "big bang" approach which was launched in 1999. From 2001 onward most public service functions were transferred to local governments, both cities and districts, now being in charge of education, health and other infrastructure services. Yet hopes for more customer-oriented service delivery did not materialize, given insufficient internal and external control of public administrations' activities, non-transparent procedures and a civil service with inadequate remuneration and lacking incentives for performance improvement. The Indonesian State Ministry for Administrative Reform supported by German development cooperation in 2000 therefore embarked on a process to improve public services by means of public participation, embedding it in the national Five-Year-Plan 2004-2009. The approach addressed two levels: on the one hand guidelines and legal regulations to improve service delivery processes and enhance control of public sector institutions, on the other hand instruments for citizens and civil society to control public sector agencies and officials in pilot regions. One of the latter instruments was the development of a method to interview service users in 15 different service sectors (initially applied in two local governments) with the support of a local multi-stakeholder facilitating team. The results of the survey were entered into a "customer complaint index" and made available to the public. The analysis of complaints distinguishes between complaints caused by the service delivery unit itself, and those dependent on higher-level conditions or institutions. The first types of complaints were addressed directly at the operational level and committed activities to remedy them are published in a "service charter" signed by all officials involved. The second types of complaints were addressed by developing "response recommendations" which are forwarded to decision makers. The experiences gained in the pilot regions were published as manuals on methods and instruments. Repeated complaints surveys in selected local governments confirm that the quality of services and the satisfaction of customers have increased measurably in sectors such as education, health and water provision where improvements were implemented. These outcomes led to a huge demand among other local governments so that until 2009 the survey method and consecutive steps were applied in 485 service provider units in 75 local governments throughout Indonesia. This positive development was enabled by political, legal and financial support provided by the State Ministry for Administrative Reform.

For additional information: http://www.connective-cities.net/en/connect/good-practices/improvement-of-public-service-delivery-by-means-of-public-participation-in-indonesia/.

Heidelberg, Germany

Area-wide passive house standard in Bahnstadt [b]

Bahnstadt, a new district, is arising on the area of the former freight and switch yard in Heidelberg, a university city in south-west Germany (145,000 inhabitants). With its 116 hectares, it is one of the largest urban development projects in Germany and one of the largest area of passive houses in the world. The Heidelberg Development Company (EGH) was established in order to develop and market Bahnstadt. Its stockholders are Sparkasse Heidelberg, the Heidelberg Housing and Real Estate Company (GGH), and Landesbank Baden-Württemberg.

The course for the sustainable development of Bahnstadt was set by integral environmental and energy concepts. By reusing the freight and switch yard, closed in 1997, this urban development saves a lot of space. Transportation is minimized by the central location of the district which allows for a high percentage of non motorized traffic. Two thirds of Bahnstadt's roofs will be vegetated to foster nature conservancy, microclimate and rainwater retention. Rainwater from roofs is drained and retained. Hence, discharging into channels is minimized.

Heidelberg's energy conception is the basis for the energy concept of Bahnstadt. It defines high energy standards for municipal buildings, the management of estates, and urban development. In 2010, the energy conception was updated with a focus on the passive house standard. According to the calculations regarding profitability and emissions of carbon dioxide of different types of heat supply, district heating proved to be the most efficient solution due to the urban density — despite the passive house construction — also because the grid can be used as infrastructure for a gradual increase of the share of renewable energies for the heat supply. The first step towards "green district heating" is the construction, by Heidelberg's municipal energy supplier (Stadtwerke Heidelberg) of a co-generation power station using wood next to Bahnstadt. It enables the city to use the renewable, but only limited energy source (wood) efficiently for cogeneration. Completely natural wood is used to cover the entire demand of heat and energy of Bahnstadt. Furthermore, the basic load of Heidelberg's district heating can be covered in summer.

The factor of success for the district Heidelberg-Bahnstadt with its passive houses and zero-emission buildings is the total package of a coherent energy concept, binding planning acts and contractual guidelines, the development of a positive image, specialist counselling in terms of energy, financial support, and sophisticated quality management.

For additional information: http://www.energy-cities.eu/db/Heidelberg_Bahnstadt_2014_en.pdf.

Mexico

ECOCASA: aligning the Mexican housing sector to meet climate challenges

ECOCASA as an innovative financing scheme is helping Mexico to tackle climate change by unlocking financing to build sustainable housing and increasing the amount of mortgages for low-carbon residences. In addition to its many climate and environmental advantages, the activity is bringing about long-lasting benefits to Mexico's housing sector and to its sustainable development in general. Providing financing to build more low-carbon houses will help decrease energy consumption and spending, improve level of comfort of beneficiaries and strengthen government policies. In the first seven years ECOCASA is helping to build 27,600 energy-efficient houses and finance an additional 1,700 "green" mortgages.

The Mexican Government has introduced the program in search for new ways to curb greenhouse gas emissions and to increase energy efficiency in the residential construction sector. Currently Mexico's housing sector already accounts for about 16 per cent of total energy use and 26 per cent of total electricity use. The energy demand, however, is expected to increase even further with rapidly expanding cities and inefficient transport patterns. ECOCASA is thought as a measure to counter that trend. The program provides financial incentives and technical assistance to housing developers so that they adhere to new energy efficiency standards, which are aimed to transform the Mexican residential housing sector in line with the national climate change strategy.

These houses, built mostly for low-income families, incorporate technologies to reduce their carbon footprint resulting primarily from reduced energy consumption. Among these modern technologies is the insulation of roof and walls, the usage of reflective paint, efficient gas boilers, efficient refrigerators, or energy-saving windows. These houses will reduce greenhouse gas emissions by at least 20 per cent compared to regular ones.

ECOCASA is a joint initiative of Sociedad Hipotecaria Federal (SHF), the Inter-American Development Bank (IDB) and the German development bank KfW within the framework of the Mexican National Appropriate Mitigation Action for Sustainable Housing (NAMA), which was launched by the Government of Mexico at the Climate Change Conference in Durban, South Africa, in 2011. ECOCASA receives financial support from the IDB (out of its own resources as well as from the Clean Technology Fund — CTF) as well as the German Ministry of Economic Cooperation and Development (BMZ) and the European Union's Latin American Investment Facility (LAIF) both administered by KfW. The project has been recognized by UNFCCC as a model project in their 2013 Momentum for Change awards.

For additional information: http://cld.bz/BfGB4je#8 and http://unfccc.int/secretariat/momentum_for_change/items/7848.php.

[b] Excerpt from 2014, Energy-Cities, Urban Development and the Passive House Standard — Heidelberg's new Bahnstadt District is Growing Dynamically.

Bottrop, Germany

InnovationCity Ruhr — Model City Bottrop: revitalizing an industrial region through low-carbon redevelopment and active public-private partnerships [c]

Bottrop is a city of 117,000 inhabitants in the Ruhr region with deep roots in coal mining and industry — both economically and culturally. However, structural economic changes due to globalization since the 1970s, coupled with higher environmental standards and policies in Germany since the 1980s, have initiated a post-industrial redevelopment in Bottrop and the entire metropolitan area of Ruhr.

These processes are intrinsically interconnected with one another and pose significant adaptation challenges to both public and private interests. Bottrop was selected as pilot city (Model City Bottrop) by the Ruhr Initiative Group for its "InnovationCity Ruhr" programme with the goal of enhancing overall quality of life and reducing greenhouse gas emissions by 50 per cent by 2020. The "blueprint" for Bottrop's redevelopment focuses on energy efficiency and renewables in both commercial and residential areas, with measures for environmentally friendly mobility and adaptation of urban space for increased quality of life for its residents.

The City of Bottrop chose to drive the "Model City Bottrop" project management and coordination forward through the founding of a private company, InnovationCity Management GmbH, composed of five key public and private shareholders. The company serves as a platform and facilitator to bring together all stakeholders and foster new partnerships and networks.

To achieve the goal of a significant reduction in CO2 emissions, a systematic energy efficient retrofitting of existing buildings was necessary. Since November of 2011, InnovationCity Management has offered individualized energy consulting to both households and businesses through their Centre of Information and Advice (Zentrum für Information und Beratung — ZIB) which analyses energy consumption data and develops customized retrofitting proposals. Through the extensive consultation efforts towards homeowners an outstanding energy refurbishment ratio of 7.82 per cent was achieved in 2013, outperforming by far the common European and German average rate of energy efficient retrofitting of about 1 per cent.

Since October 2012, InnovationCity Management — together with its local consortium and strategic partners, worked on the creation of an exportable "blueprint" alias "master plan" as an example of successful climate-friendly urban redevelopment. Central to Bottrop's development blueprint is the active role of the community within projects and the bottom-up approach to implementation. Following InnovationCity Management's collection of numerous suggestions for the redevelopment of the seven pilot districts through citizen planning workshops, multi-stakeholder district management committees were established.

In each of Bottrop's pilot districts, a district manager coordinates the integration of all activities, namely: urban renewal, energy efficient retrofitting, historic preservation, energy consulting and social considerations. In addition to consulting building owners, tenants and businesses, district management committees are also actively involved in outreach to schools in topics of environmental and climate education in cooperation with universities of applied sciences.

For additional information: http://www.icruhr.de/fileadmin/media/downloads/ICLEI_cs_169-Bottrop_2014.pdf.

Mobility

Medellín, Colombia

Metrocable — mobility as fundamental factor of integrated and inclusive urban development

The city of Medellín stretches from a narrow valley to vast areas on hilly slopes. The latter settlements often resulted from informal settling processes are characterized by insufficient transport, low presence of State institutions and lack of public services which inhibited development and employment opportunities for residents and produced physical and social marginalization of those districts.

Since the start of the millennium, the local government has initiated comprehensive and integrated interventions in order to upgrade the districts in collaboration with their communities.

In 2004, Medellín opened the first cable car route (Metrocable line K) as part of a public transport system worldwide. It reaches around 230,000 inhabitants in 12 localities and links the city's north-east with its centre. It reduces the average transfer time from 120 to 65 minutes. This gondola lift is supported by the municipality and embedded in an integrated urban development programme focused on equal access to mobility. Integration to Medellín's public transport system through the cable car increases comfort and reduces expenditures on time and costs. Particularly low-income customers save money because they pay per ride, independently from the distance travelled.

The "Civic Card", a rechargeable swipe card, reduces waiting time since commuters can pay for their rides in advance. Moreover, the project provided for investments in a public library, kindergartens, public space and sports facilities. Inter-institutional cooperation promotes the planning and development of comprehensive concepts, meanwhile known as "social urbanism". The second cable car route was inaugurated in 2008. In 2011, the metro system was complemented by Metroplus, a bus-rapid-transit. Its large, energy-saving buses use separate bus lanes, similar to a metro or tram.

[c] Excerpt from 2014, ICLEI, ICLEI Case Study 169: Bottrop, Germany.

Introducing the Metrocable and connecting marginalized areas were the starting point for a physical and social transformation of Medellín and its communities. The formerly excluded population is now more included in the city's social, economic and political life. They also participated in the decision-making on future urban development projects. Meanwhile, the newly connected neighbourhoods have been upgraded noticeably: local businesses have settled and crime rates went down.

For more information: http://www.connective-cities.net/en/connect/good-practices/medellins-metrocable/.

Curitiba, Brazil

A model of transit oriented planning [d]

The City of Curitiba is the capital of the Paraná state in southern Brazil. The city has a population of 1.9 million people within an area of 430 km². Since the 1970s, Curitiba has integrated public transportation planning into the overall city plan. In 1972, Curitiba created one of the world's first pedestrian malls in order to reduce vehicle traffic in a busy area. Today, public transportation is the priority in Curitiba's long-term structural plan for urban development.

Curitiba is regarded as an excellent example of transit-oriented development (TOD), which implies that residential, business and recreational areas should be built in high-density areas and close to public transport stations. In addition, rather than promoting segregated zoning of land uses, TOD proposes land-use mix to reduce the travel distances. By coupling the development of a pedestrian-friendly community with an efficient low-emissions bus-rapid-transit (BRT) system and lower car parking availability, Curitiba has successfully reduced the overall travel of its residents.

The BRT system in Curitiba has set an example for successful public transportation worldwide. The system currently contains 390 bus routes with 2,000 vehicles that are used for approximately 2.1 million passenger trips daily, nearly 50 times the number of travellers 20 years ago. After its construction in 1974, the BRT gained an annual ridership of 2.3 per cent of the population for over 20 years. Based on a survey of travellers, it is estimated that the BRT system has led to a reduction of approximately 27 million car trips every year, which translates to nearly 27 million litres of fuel saved yearly. The bus system has transformed into a mass transit system with features such as exclusive priority lanes, free transfers between routes, pre-board fare collection, information displays and traffic signal priority.

The modal share of Curitiba is approximately 23 per cent private vehicles, 5 per cent motor bikes, 5 per cent bicycles, 21 per cent pedestrians, and 45 per cent BRT. BRT has a very high capacity, a necessary element given the size and expansion of the city. In one BRT lane, 10,000-20,000 passengers can be carried at one time, with a capacity of 40,000 passengers on busy roads. BRT is used by 85 per cent of Curitiba's population. The public transportation system is exceptional in terms of its affordability for customers, the use of enclosed prepay stations, and the integration of transfer terminals.

For additional information: http://www.iclei.org/fileadmin/PUBLICATIONS/Case_Stories/4._EcoMobility/ICLEI_CaseStories_EcoMobility_Curitiba.pdf.

Smart Cities

Jamalpur Pourashava, Bangladesh

E-governance in municipal administration: bringing services closer to citizens

Under the motto "Vision 2021: Digital Bangladesh", Bangladesh has been intensifying its use of modern information and communication technology. The aim is to make municipal services more effective and citizen-oriented and to curtail corruption. Several municipalities started digitizing their administrative processes. The German Development Cooperation has been supporting the project since its inception and accompanied two e-governance pilot projects in the municipalities of Narayanganj und Jamalpur from 2011 to 2013. In both cities, inhabitants were invited to participate in discussions in order to clarify demands and ideas for public services.

Three main innovations were generated: the establishment of one-stop service centres (OSCC), where citizens have access to all municipal services in one place; the development of a municipal information management system, enabling a more transparent, efficient and faster administrative processing; the creation of a public website integrating social media elements to inform citizens and to start a dialogue.

The processes and innovations introduced have been evaluated positively by all stakeholders, including citizens, administration employees and mayors. Services are delivered much faster and in a more effective manner. Staff has been trained in IT, which reduced reservations against modern media. Meanwhile, communication via e-mail and social media has become natural for many, including elderly employees. Investments in improving administrative processes paid off in both cities. The OSCCs run profitable and were able to increase non-tax-based revenues in the municipalities. They are being replicated all over the country.

For additional information: http://www.connective-cities.net/en/connect/good-practices/e-governance-in-municipal-administration/.

[d] Excerpt from 2011, ICLEI, EcoMobility Case Story, Curitiba, Brazil: A model of transit oriented planning.

Annex II

Key reference documents

Corcoran, E., et al. (2010). *Sick Water? The central role of wastewater management in sustainable development. A Rapid Response Assessment.* United Nations Environment Programme (UNEP), UN-Habitat, GRID-Arendal.

Food and Agriculture Organization of the United Nations (FAO) (2016). *Key facts on food loss and waste you should know*. Available from http://www.fao.org/save-food/resources/keyfindings/en/.

International Energy Agency (IEA) (2012). *World Energy Outlook 2012*. Paris: OECD/IEA.

_____. (2013). *World Energy Outlook 2013*. Paris: OECD/IEA.

_____. (2015). *World Energy Outlook 2015*. Paris: OECD/IEA.

Organization for Economic Cooperation and Development (OECD) (2012). *OECD Environmental Outlook to 2050: The Consequences of Inaction*. Paris: OECD Publishing.

World Bank (2011). *Municipal Solid Waste Management in Small Towns.* Available from http://documents.worldbank.org/curated/en/824261468011757523/pdf/WPS5767.pdf

_____. (2013). *What a Waste: A Global Review of Solid Waste Management*. Urban Development Series Knowledge Papers, World Bank. Available from https://siteresources.worldbank.org/INTURBANDEVELOPMENT/Resources/336387-1334852610766/What_a_Waste2012_Final.pdf

United Nations Department of Economic and Social Affairs (UNDESA) (2015). Statistics Division, Inter-agency and Expert Group on Sustainable Development Goal Indicators, Open Consultation on Green Indicators. Available from http://unstats.un.org/sdgs/iaeg-sdgs/open-consultation-2.

_____. (2015). *Open Consultation on Grey Indicators*. Available from http://unstats.un.org/sdgs/iaeg-sdgs/open-consultation-3.

United Nations Environment Programme (UNEP) (2011). *Towards a Green Economy: Pathways to Sustainable Development and Poverty Eradication*. Available from https://sustainabledevelopment.un.org/content/documents/126GER_synthesis_en.pdf

_____. (2013). *Guidelines for National Waste Management Strategies: Moving from Challenges to Opportunities*. United Nations Environment Programme.

United Nations Environment Programme (UNEP) and United Nations Institute for Training and Research (UNITAR).

United Nations Human Settlements Programme (UN-Habitat) (2010). *State of the World's Cities 2010/2011 — Cities for All: Bridging the Urban Divide*. Available from https://unhabitat.org/?mbt_book=state-of-the-worlds-cities-20102011-cities-for-all-bridging-the-urban-divide#

UN-Water/FAO (2007). *Coping with water scarcity. Challenge of the twenty-first century.* Available from http://www.fao.org/3/a-aq444e.pdf

World Health Organization (WHO) (2014). Progress on drinking water and sanitation, 2014 Update. Available from https://www.unicef.org/publications/index_73448.html

World Economics (2014). *World Economics: Global Growth Tracker*. Available from http://www.worldeconomics.com/papers/Global%20Growth%20Monitor_7c66ffca-ff86-4e4c-979d-7c5d7a22ef21.paper.

United Nations World Water Assessment Programme (WWAP) (2012). *The United Nations World Water Development Report 4: Managing Water under Uncertainty and Risk*. Paris: UNESCO.

_____. (2014). *The United Nations World Water Development Report 2014: Water and Energy*. Paris: UNESCO.

_____. (2015). *The United Nations World Water Development Report 2015: Water for a Sustainable World*. Paris: UNESCO.

World Water Development Report (WWDR) (2015). *United Nations World Water Development Report 2015: Water for a Sustainable World*. Paris: UNESCO.

_____. 2014, United Nations World Water Development Report 2014: Water and Energy, UNESCO, Paris.

POLICY PAPER 9

APPENDICES

Appendix A. Policy Units selection process and criteria

HABITAT III POLICY UNITS

SELECTION PROCESS AND CRITERIA

BACKGROUND

In the framework of the preparations towards Habitat III, a total of ten Policy Papers on relevant topics will be developed by Policy Units (each Policy Unit will develop one Policy Paper) composed of 20 experts each, coming from different geographic areas and constituencies. The main objectives of this will be:

// To bring together high-level expertise to explore state-of-the-art research and analysis on specific themes;

// To identify good practices and lessons learned; and

// To develop policy recommendations on particular issues regarding sustainable urban development.

The ten Policy Units will focus respectively on the following ten topics:

1. Right to the City, and Cities for All;
2. Socio-Cultural Urban Framework;
3. National Urban Policies;
4. Urban Governance, Capacity and Institutional Development;
5. Municipal Finance and Local Fiscal Systems;
6. Urban Spatial Strategy: Land Market and Segregation;
7. Urban Economic Development Strategies;
8. Urban Ecology and Resilience;
9. Urban Services and Technology; and
10. Housing Policies.

IDENTIFICATION OF EXPERTS

The process to identify experts for the composition of ten Policy Units will include the following steps:

"# Request to Member States to officially propose, to the Secretary-General of the Conference, suitable experts to be part of specific Policy Units.

To this aim, a letter was sent on 8 May 2015 to all Member States.

2. Request to accredited stakeholders to officially propose, to the Secretary-General of the Conference, suitable experts to be part of specific Policy Units.
   To this aim a letter to all ECOSOC, Habitat II, and specially accredited organizations will be sent.
   In addition to the accredited organizations, the Habitat III Secretariat in consultation with Bureau Members may invite other international organizations, recognized for their contributions to specific Policy Units' topics, to propose suitable experts. The Habitat III Secretariat is not limiting the number of nominated experts.

3. The Habitat III Secretariat will also request the UN Task Team, building on the work done for the preparation of Issue Papers, to propose suitable experts to be part of specific Policy Units.

[See Terms of Reference for Experts]

CRITERIA OF SELECTION

Based on the proposals received, the Secretary General will appoint 20 experts for each Policy Unit. The selection, conducted in close consultation with the Bureau of the Preparatory Committee for Habitat III, will be based on the following criteria:

// DEMONSTRABLE COMPETENCE
The candidate should be able to demonstrate a highly recognized competency at the level of work experience and production of research/studies on subjects directly related to the topic of the Policy Unit. To this aim, research and publications issued on the topics, relevant work experience, and participation and engagement in other intergovernmental processes and/or global development frameworks will be considered and evaluated.

// GEOGRAPHICAL BALANCE
The selection will strive to ensure a fair balance on the geographic origin of the experts in order for all five geographic regions to be fairly represented in each unit.

// GENDER BALANCE
Whenever possible and depending on the availability of suitable candidates, the selection will ensure that male and female are equally represented in all the units.

In addition to the above, careful considerations will be made, as relevant, on ensuring the diversity of approaches and sub-thematic focuses. When necessary, other mechanisms such as interviews could be carried out during the selection process.

The selection will be nominative based on the above criteria.

As part of the nominations, the Habitat III Secretariat is expecting to receive the CVs of experts.

CO-LEAD ORGANIZATIONS

Each Policy Unit will be co-led by two organizations appointed by the Secretary-General of the Conference. The organizations willing to co-lead a Policy Unit will be selected in close consultation with the Bureau of the Preparatory Committee for Habitat III, based on the following criteria:

// International scope of the organization and high level demonstrable recognition in the subject area and/or specific topic of the Policy Unit;
// Priority will be given to international organizations that can demonstrate participation and engagement in other intergovernmental processes and/or global development frameworks; and
// Diversity in their constituent groups.

[See Terms of Reference for Co-lead organizations]

FINANCIAL SUSTAINABILITY

The cost of the Policy Units has been calculated in approximately 2.5 Million USD, including travel for two meetings (and one virtual meeting), the Habitat III Secretariat support and travel, the documentation, publication of documents, translation in six official UN languages, and the technical support for the open consultations. Each Policy Unit would cost 250,000 USD. Member States and other potential donors are being approached for contributing to the Habitat III Trust Fund.

Appendix B. Terms of reference for co-lead organizations

HABITAT III POLICY UNITS

TERMS OF REFERENCE FOR
CO-LEAD ORGANIZATIONS

Each Policy Unit will be co-led by two organizations appointed by the Secretary-General of the Conference, upon selection by the Secretary-General of the Conference in close consultation with the Bureau of the Preparatory Committee for Habitat III.

Organizations should be nominated to co-lead Policy Units based on the following criteria:

// International scope of the organization, and high level demonstrable recognition in the subject area and/or specific topic of the Policy Unit;
// Participation and engagement in other intergovernmental processes and/or global development frameworks;
// Diversity in their constituent groups; and
// Geographical balance.

Policy Unit co-leaders can be nominated by Member States, stakeholders recognized by the UNECOSOC, and Habitat II accreditations, and specially accredited organizations.

Based on the proposals received, the Secretary-General will appoint 20 organizations to co-lead ten Policy Units.

STARTING DATE: September 2015

CLOSING DATE: 29 February 2016 (involvement until the end of the Habitat III process might be requested at the later stage)

DUTIES AND RESPONSABILITIES OF CO-LEADERS

In close collaboration with the Habitat III Secretariat:

- Coordinate contribution on substantive documents prepared by selected Policy Unit experts;
- Coordinate preparation of a detailed structure of the draft Policy Papers;
- Support analysis of the available data, including available statistics, information available in Habitat III Issue Papers, outcomes from official Regional and Thematic Meetings, etc.
- Support presentation of the structure and the preliminary contents and messages of the Policy Papers at Expert Group Meetings;
- Coordinate meetings organized online; and

- Submit draft and final deliverables of respective Policy Units to the Secretary-General of the Conference.

BENEFITS AND EXPENSES

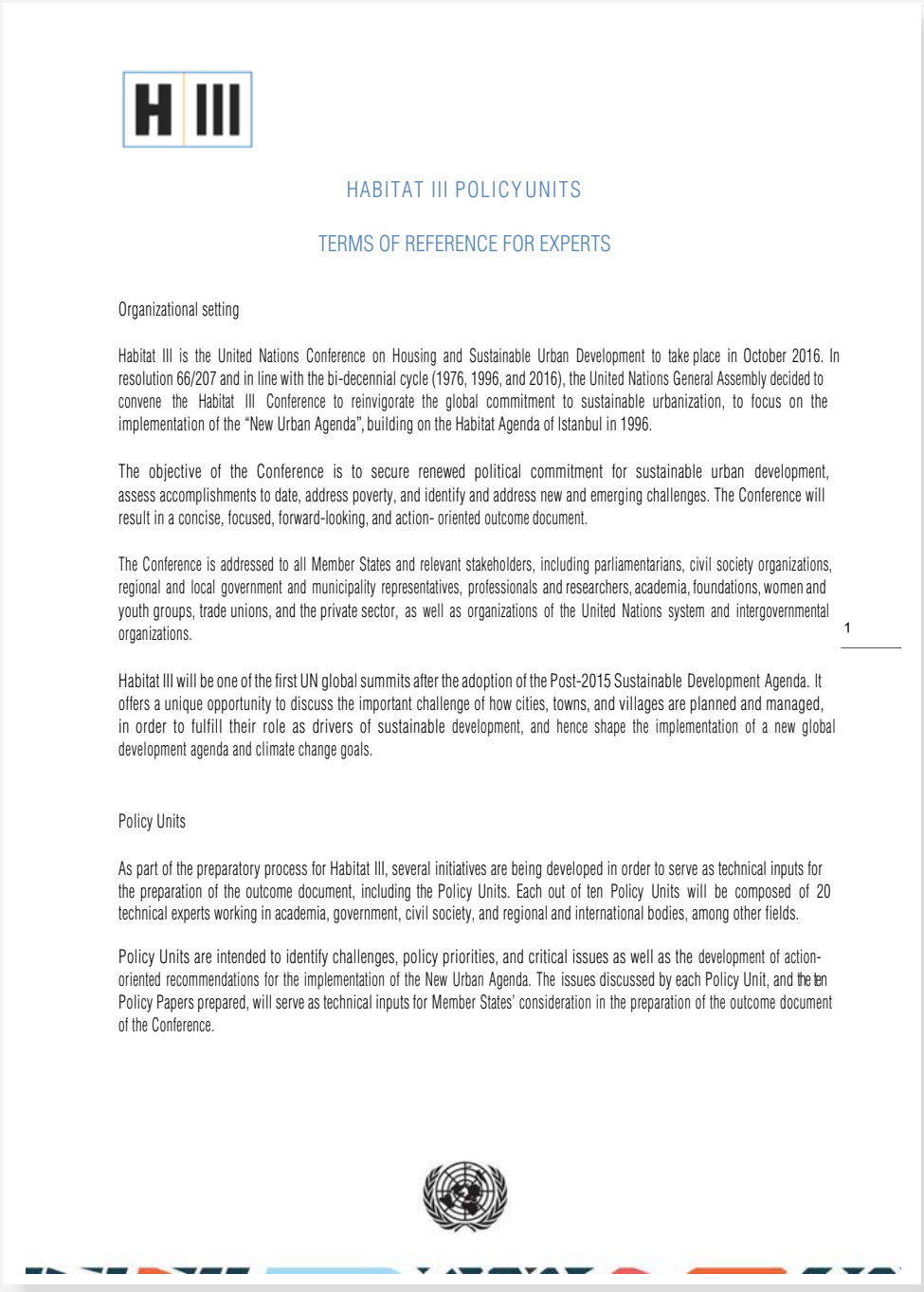
The work of co-lead organizations is on voluntarily basis. The Habitat III Trust Fund will cover travel expenses and associated daily allowances for the two planned Expert Group Meetings.

The working language will be English.

CALENDAR

- September 2015: work of experts starts. Introduction, orientation kit, background documents, strategic framework for each Policy Unit, decisions on each group on calendar of Expert Group Meetings, operational arrangements, etc.
- October 2015: first Expert Group Meeting
- November 2015: second Expert Group Meeting
- December 2015: first draft of the ten Policy Papers (as established by PrepCom2)
- January 2016: written comments by Member States and stakeholders submission period
- February 2016: final presentation of the ten Policy Papers
- Virtual meetings may take place within the period of work of the Policy Unit

Appendix C. Terms of reference for Policy Unit experts



HABITAT III POLICY UNITS

TERMS OF REFERENCE FOR EXPERTS

Organizational setting

Habitat III is the United Nations Conference on Housing and Sustainable Urban Development to take place in October 2016. In resolution 66/207 and in line with the bi-decennial cycle (1976, 1996, and 2016), the United Nations General Assembly decided to convene the Habitat III Conference to reinvigorate the global commitment to sustainable urbanization, to focus on the implementation of the "New Urban Agenda", building on the Habitat Agenda of Istanbul in 1996.

The objective of the Conference is to secure renewed political commitment for sustainable urban development, assess accomplishments to date, address poverty, and identify and address new and emerging challenges. The Conference will result in a concise, focused, forward-looking, and action- oriented outcome document.

The Conference is addressed to all Member States and relevant stakeholders, including parliamentarians, civil society organizations, regional and local government and municipality representatives, professionals and researchers, academia, foundations, women and youth groups, trade unions, and the private sector, as well as organizations of the United Nations system and intergovernmental organizations.

1

Habitat III will be one of the first UN global summits after the adoption of the Post-2015 Sustainable Development Agenda. It offers a unique opportunity to discuss the important challenge of how cities, towns, and villages are planned and managed, in order to fulfill their role as drivers of sustainable development, and hence shape the implementation of a new global development agenda and climate change goals.

Policy Units

As part of the preparatory process for Habitat III, several initiatives are being developed in order to serve as technical inputs for the preparation of the outcome document, including the Policy Units. Each out of ten Policy Units will be composed of 20 technical experts working in academia, government, civil society, and regional and international bodies, among other fields.

Policy Units are intended to identify challenges, policy priorities, and critical issues as well as the development of action-oriented recommendations for the implementation of the New Urban Agenda. The issues discussed by each Policy Unit, and the ten Policy Papers prepared, will serve as technical inputs for Member States' consideration in the preparation of the outcome document of the Conference.

The main objectives of the Policy Units are:

// To bring together high-level expertise to explore state-of-the-art research and analysis on specific themes;

// To identify good practices and lessons learned; and

// To develop policy recommendations on particular issues regarding sustainable urban development.

The ten Policy Units will focus respectively on the following ten topics:

1. Right to the City, and Cities for All;
2. Socio-Cultural Urban Framework;
3. National Urban Policies;
4. Urban Governance, Capacity and Institutional Development;
5. Municipal Finance and Local Fiscal Systems;
6. Urban Spatial Strategy: Land Market and Segregation;
7. Urban Economic Development Strategies;
8. Urban Ecology and Resilience;
9. Urban Services and Technology; and
10. Housing Policies.

2

The Policy Unit co-leaders

Each Policy Unit is co-led by two organizations appointed by the Secretary-General of the Conference, upon selection by the Secretary-General in close consultation with the Bureau of the Preparatory Committee for HabitatIII.

In close collaboration with the Habitat III Secretariat, the Policy Units co-leaders:

- Coordinate contribution on substantive documents prepared by selected Policy Unit experts;
- Coordinate preparation of a detailed structure of the draft PolicyPapers;
- Support analysis of the available data, including available statistics, information available in Habitat III Issue Papers, outcomes from official Regional and Thematic Meetings, etc.
- Support presentation of the structure and the preliminary contents and messages of the Policy Papers at Expert Group Meetings;
- Coordinate meetings organized online; and
- Submit draft and final deliverables of respective Policy Units to the Secretary-General of the Conference.

The Habitat III Secretariat
The Habitat III Secretariat is the main focal point for the Policy Unit experts and works closely with the Policy Unit co-leaders in ensuring the coordination of the elaboration of the Policy Papers.

The Policy Unit experts
Selected experts will be home-based.

Starting date: 1 September 2015
Closing date: 29 February 2016 (involvement until the end of the Habitat III process might be requested at the later stage) Duties and responsibilities:

- Contribute to reviewing substantive documents prepared for the Post-2015 process, and other relevant intergovernmental conferences;
- Support the analysis of the available data, including available statistics, information available in Habitat III Issue Papers, outcomes from official Regional and Thematic Meetings, etc.;
- Support preparation of the structure and the preliminary contents and messages of the Policy Papers at the first and second Expert Group Meetings (EGM1 and EGM2);
- Participate in the meeting organized online and other virtual exchanges;
- Advise on incorporating proposed changes into the draft Policy Papers, harmonize Policy Papers, and submit it to the Habitat III Secretariat.

3

Benefits and expenses:
The work of experts is on voluntarily basis. The Habitat III Trust Fund will cover travel expenses and associated daily allowances for the two planned expert group meetings.
The working language will be English.

Calendar:

- September 2015: work of experts starts. Introduction, orientation kit, background documents, strategic framework for each Policy Unit, decisions on each group on calendar of expert group meetings, operational arrangement, etc.
- October 2015: first Expert Group Meeting
- November 2015: second Expert Group Meeting
- December 2015: first draft of the ten Policy Papers (as established by PrepCom2)
- January 2016: written comments by Member States and stakeholders submission period
- February 2016: final presentation of the ten Policy Papers
- Virtual meetings may take place within the period of work of the Policy Unit

Appendix D. Policy Paper Framework template

HABITAT III POLICY UNIT - POLICY PAPER FRAMEWORK

	Expected Accomplishment	Activities	Scope	Outcome
1. Challenges	Identify challenges, including structural and policy constraints	Review of the Habitat III Issue Papers Review/ analysis of key publications/documents Identification of examples/projects/practices Identify research and data	Local level, national level, stakeholders ... Other specificities: type of country (small island, landlocked...), type of city (intermediate, megalopolis...), specific area (tropical zone, subregion...)	**Problem definition** is established after an analysis and assessment of the state and trends regarding the issues of the specific policy unit.
2. Priorities	Identify the policy priorities and critical issues for the implementation of a New Urban Agenda	Establish a criteria for identifying policy priorities Define key transformations to achieve by policy priorities Identify conditions or external factors favourable for the success of the policy priorities Create targets for those policy priorities		**Policy options** are established and a criteria to prioritize them in terms of impact and transformation is created
3. Implementation	Develop action-oriented recommentations	Identify key actions at all levels of implementation Analyse financial resources required and instruments for their sustainability Establish indicators of successful implementation, monitoring and evaluation Analyse linkages with the Agenda 2030		**Policy design**, implementation and monitoring

HABITAT III POLICY UNIT - POLICY PAPER FRAMEWORK (CHALLENGES)

	Expected Accomplishment	Activities	Outputs
1. Challenges	1.1. Identify challenges, including structural and policy constraints	a. Review of the Habitat III Issue Papers	a.1. Main recommendations to take into account from the issue paper
			a.2. Disagreements/controversy
		b. Review/ analysis of key publications/documents	b.1. Bibliography / Key documents
		c. Identification of examples/projects/practices	c.1. List of examples/projects/practices
		d. Identify research and data	d.1. SDGs targets and indicators related
			d.2. List of other indicators to be taken into account

HABITAT III POLICY UNIT - POLICY PAPER FRAMEWORK (PRIORITIES)

	Expected Accomplishment	Activities	Outputs
2. Priorities	2.1. Identify the policy priorities and critical issues for the implementation of a New Urban Agenda	a. Establish a criteria for identifying policy priorities	a.1. List of criteria
		b. Define key transformations to achieve by policy priorities	b.1. List of key transformations
		c. Identify conditions or external factors favourable for the success of the policy priorities	c.1. List of external factors
		d. Create targets for those policy priorities	d.1. List of targets

HABITAT III POLICY UNIT - POLICY PAPER FRAMEWORK (IMPLEMENTATION)

	Expected Accomplishment	Activities	Outputs
3. Implementation	3.1. Develop action-oriented recommentations	a. Identify key actions at all levels of implementation	a.1. Key actions
		b. Analyse financial resources required and instruments for their sustainability	b.1. Financial resources
		c. Establish indicators of successful implementation, monitoring and evaluation	c.1. Indicators of success c.2. Monitoring mechanisms c.3. Linkages with the Agenda 2030

Appendix E. Policy Paper template

United Nations Conference on Housing and Sustainable Urban Development

Policy Paper Template

25 pages [Calibri (Body)/ font 11]

Executive Summary:
This section summarizes the key issues, contents, objectives, and strategic directions covered by the respective Policy Units. [2 pages]

1. Vision and Framework of the Policy Paper's Contribution to the New Urban Agenda
This section provides guiding principles, global norms, and frameworks (e.g. SDGs) that link to the New Urban Agenda. [2 pages]

2. Policy Challenges
This section discusses key policy issues and challenges and also provides analyses and assessments of the states and trends of the thematic areas covered. [4 pages]

3. Prioritizing Policy Options – Transformative Actions for the New Urban Agenda
This section identifies policy priorities and critical recommendations for the implementation of the New Urban Agenda, criteria for the policy priorities, and targets. [5 pages]

4. Key Actors for Actions – Enabling Institutions
This section identifies key actors such as central and local governments, academia, civil society organizations, private sector and social movements, and others to transform policy priorities to actions that will contribute to the achievement of the New Urban Agenda. [5 pages]

5. Policy Design, Implementation, and Monitoring
This section addresses operational means to implement policy recommendations, including possible financing options and monitoring instruments. It discusses analysis of linkages with the 2030 Agenda. [5 pages]

6. Conclusion
This section summarizes the key messages, highlighting the new opportunities for action in realizing the New Urban Agenda. [2 pages]

Annexes:
Policy Paper Framework
Other annexes to be considered such as case studies

Appendix F. Web links to Policy Unit 9 background documents

Policy Paper 9 Framework
http://habitat3.org/wp-content/uploads/PU9_HABITAT_III_DEC2015.pdf

Comments received by Member States to the Policy Paper 9 Framework
http://habitat3.org/the-new-urban-agenda/preparatory-process/policy-units/

Brazil
Colombia
Ecuador
European Union and Member States
Finland
France
Germany
Japan
Mexico
Myanmar
Netherlands (the)
Norway
Russian Federation (the)
Senegal
Thailand
United States of America (the)

Comments received by stakeholders' organizations to the Policy Paper 9 Framework
http://habitat3.org/the-new-urban-agenda/preparatory-process/policy-units/

Habitat International Coalition
HelpAge International
Institute for Global Environmental Strategies
International Council for Science
Union for International Cancer Control
World Resources Institute

United Nations

ISBN 978-92-1-132754-0