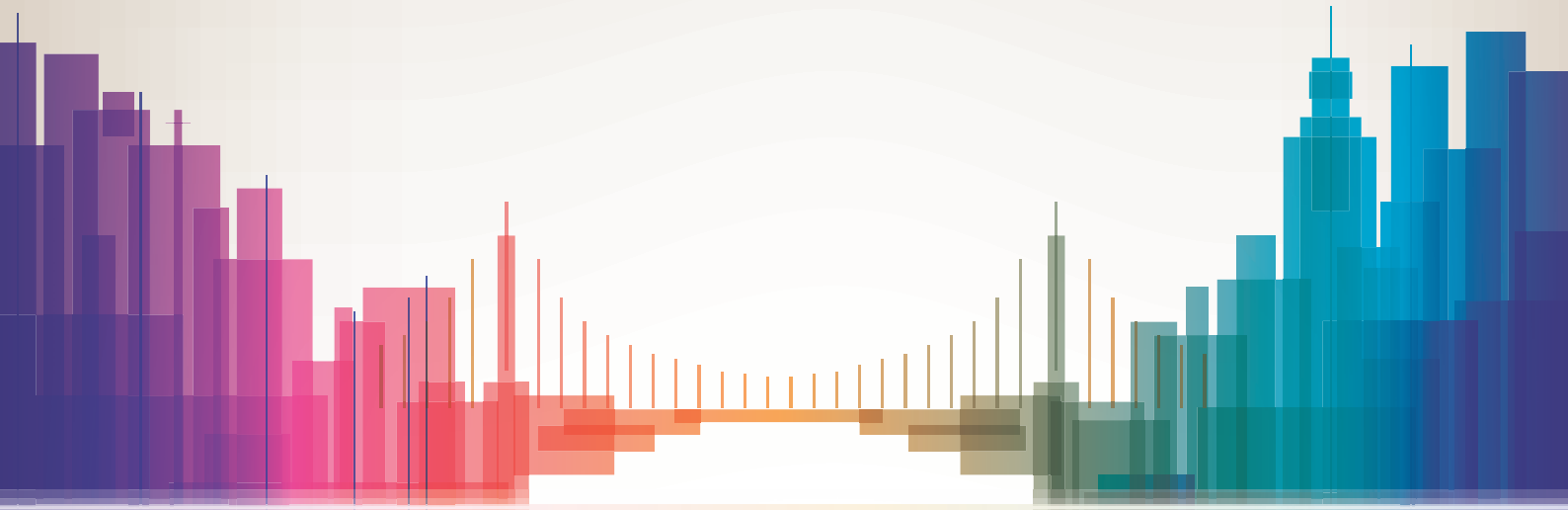
United 4 Smart Sustainable Cities



Implementing Sustainable Development Goal 11 by connecting sustainability policies and urban-planning practices through ICTs

Convention on Biological Diversity

United Nations ECLAC

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ITU

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Empowered lives.
Resilient nations.

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United Nations Educational, Scientific and Cultural Organization
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WORLD METEOROLOGICAL ORGANIZATION

Foreword

This publication on "Implementing SDG11 by connecting sustainability policies and urban planning practices through ICTs" has been developed within the framework of the United for Smart Sustainable Cities (U4SSC) initiative. This publication provides a study of the advantages of using ICTs to support the implementation of the Sustainable Development Goals, in particular SDG 11, by facilitating the missing linkages that exist between sustainability policies and urban-planning practices through digitally-enabled urban actions.

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Summary

In this guidance document, we study the advantages of using ICT technologies to support the implementation of the Sustainable Development Goals, namely SDG 11, by facilitating the missing linkages that exist between sustainability policies and urban-planning practices through digitally-enabled urban actions. These urban actions will be shaped as recommendations that will put forward physical and non-physical advice to help the user improve the implementation of both SDG 11 and the New Urban Agenda.

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Deriving recommendations to successfully implement Sustainable Development Goal 11, by transforming urban-sustainability policies into digitally-enabled urban-planning practices

1 Introduction

Today's common urban challenges such as climate change, crime, poverty, disease and the exhaustion of natural resources do not respect borders between countries or limits between the built and the non-built domains. Therefore, the scope of urbanization should always include the liveable environment[1] while also considering the global dimension.

International instruments and global agendas are aimed at providing the required guidance on urbanization and development to improve the liveable environment. These include Sustainable Development Goal (SDG) 11[2] and the New Urban Agenda (NUA)[3], which facilitate the implementation of effective public policies, adoption of enhanced novel planning techniques and the integration of technology-supported frameworks.

As such, treaties, conventions, charters, and declarations, amongst other instruments, are promulgated by international bodies such as the United Nations. These international instruments can often evolve as concrete international agendas, if implementation mechanisms such as indicators are elaborated upon for a more guided execution of their principles. Furthermore, these international instruments are usually voluntary and it is left to each country's discretion whether to adopt them. This often restricts the global scope of such agendas. It is also noted that even in countries where these agendas and instruments have been adopted, their practical application by local administrations is quite limited.

Relevant examples of finite implementations include the United Nations Rio Declaration of 1992, which later evolved as the Local Agenda 21 (LA21); or the EU SET Plan of 2000. This EU Set Plan of 2000, which moved towards the Covenant of Mayors (CoM), was intended to be the European energy agenda.

It is important to note that while the LA21 included several indicators to help measure sustainability, it could not be adequately implemented by cities around the world. A similar situation was faced with CoM, as implementation of the programme could not progress despite the inclusion of several indicators to deliver the 20/20/20 energy goals.

The limited uptake of international agendas is caused by two very diverse reasons:

- The first reason is the lack of correspondence between policies included in the agendas and the actual physical master planning for cities.
- The second reason is attributed to the fact that the data-collection process required to feed the indicators may be quite expensive.

As the adoption of the 2030 Agenda for Sustainable Development by world leaders is a landmark decision for the benefit of future generations, the attainment of its goals cannot be left to chance. The SDGs, specifically

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1 This includes both urban and non-urban areas.

2 SDG 11 forms one of the key goals of the 2030 Agenda for Sustainable Development. The specific target addressed by this output document is 11.3 – "By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries"

3 Please refer to the final page of this document for extracts on specific commitments made by the NUA to help achieve SDG 11.

SDG 11 is expected to set the basis for urban-planning techniques and policies for the future. It is noted that for the practical implementation of sustainability policies related to SDG 11 (and the NUA), these policies will have to be executed directly through urban-planning interventions. These interventions are expected to transform the intangibility of policies into physical manifestations, which can be addressed at a later stage. These executions will be helped by embedded ICT technology, to introduce smartness into these sustainable urban-planning interventions, especially for the evaluation of the implementation procedure.

Based on the above, this guideline document underscores the measures for the successful achievement of SDG 11 by:

- fostering the incorporation of transformative public policies into urban-planning actions;
- elaborating on urban-planning design values to support its technology-based execution in aspiring smart cities.

2 Implementation of SDG 11: Fostering the incorporation of transformative public policies into urban-planning actions

Before moving forward on the global smart and sustainable city aspirations within SDG 11 (and NUA), it is essential that an effective framework is in place. Such a framework will help boost the implementation of public policies through urban-planning actions, which will be executed as technology-based interventions and measured through KPIs (key performance indicators). These KPIs will be the basis for the establishment of future standards.

The conceptual operational model of the proposed framework for urban planning under the smart-city vision (in line with SDG 11) is depicted in Figure 1.

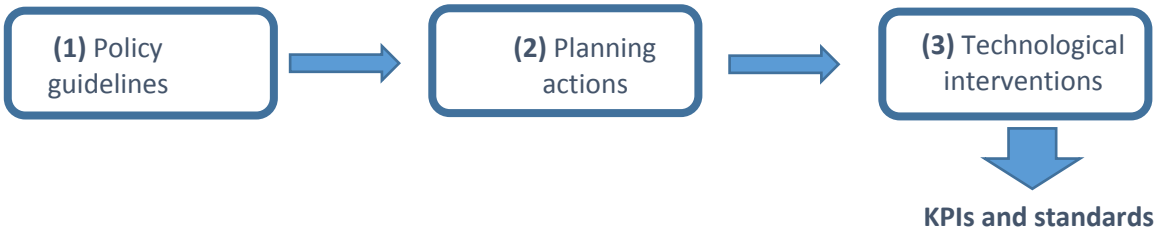

Figure 1 – Operational model for urban planning under the smart-city vision (in keeping with SDG 11)

Based on this model, the Future Living Framework (as depicted in Figure 2) is designed to identify, execute, and monitor sustainability and smartness of urban-planning interventions for implementing SDG 11. As given in Figure 2, the underlying structure of the framework has *policies* (SDG 11 sustainability policies) on one side and the relevant *practices* (living domain's urban and spatial master planning) on the other. An ICT interface will enable the implementation of *policies* through urban-planning *practices* (*executive smartness*).

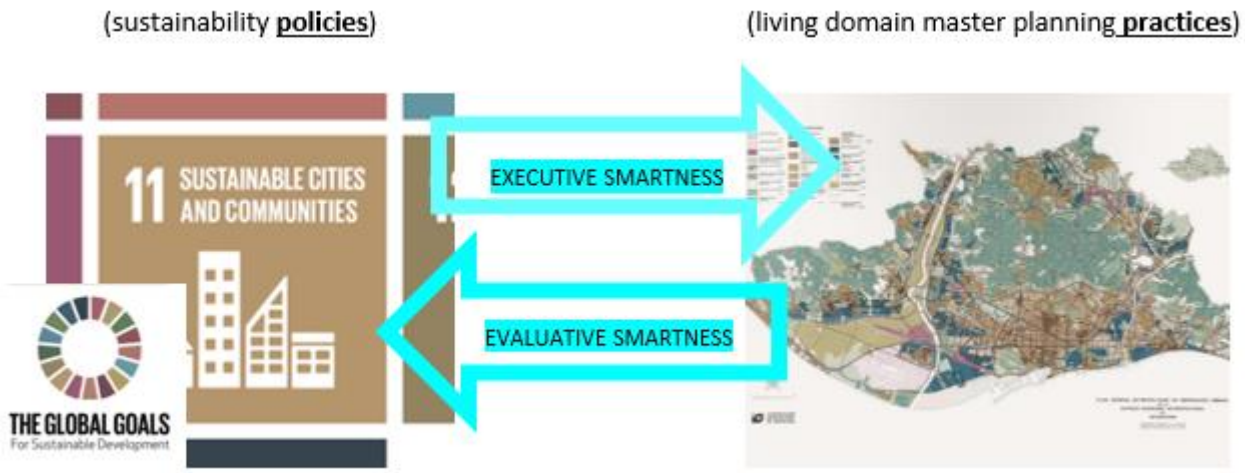

Figure 2 – Proposed Future Living Framework

ICT functionalities in the framework are designed for "two-way smartness", so that it will serve as both an implementation and a monitoring and control tool to assess the performance associated with implementing the *policies* (*evaluative smartness*).

UN-Habitat, the leading United Nations agency working towards a better urban future, has provided several basic principles related to urban sustainability in its reports. These principles can aid the provision of urban smartness based on ICT interventions, and assist with the execution and evaluation of performance vis-à-vis the sustainable development goals. For this section, the following UN-Habitat reports have been used as the primary source to understand the basic role of urban planning, and to derive planning principles for the implementation of SDG 11:

1) UN-HABITAT Planning Sustainable Cities: Global Report on Human Settlements 2009 sets *four basic roles for urban planning*:

- addressing rapid urbanization, urban poverty, and proliferation of slums;
- addressing sustainable urban development and climate change;
- addressing urban crime and violence;
- addressing post-conflict and post-disaster situations.

To address *sustainable urban development* and climate change, this report sets out *8 essential aims*, gathered under the policy referred to as "Bridging the Green and Brown Agendas":

- development of renewable energy;
- striving for carbon-neutral cities;
- distributed power and water systems;
- increasing photosynthetic spaces4 as part of green infrastructure;
- improving eco-efficiency;
- increasing sense of place;
- sustainable transport;
- developing cities without slums.

[4] Area utilized for photosynthesis. Photosynthesis in the process through which plants and other autotrophs convert light energy from the sun into chemical energy (using carbon dioxide and water). The chemical energy derived from this process is store as carbohydrates. Oxygen is a by-product of photosynthesis.

With respect to *sustainable urban development***,** the report further addresses and includes advanced policy on "Linking Spatial Planning to Urban Infrastructure" with *7 additional aims*:

- smart growth and transit-oriented development;
- integrating land use and transportation;
- strategic spatial planning and infrastructure planning;
- integrated urban management and development plans;
- strategic structure planning;
- linking spatial planning to infrastructure planning;
- linking mega-projects and major infrastructural developments to spatial planning.

Following on from understanding the role of urban planning for the *sustainable urban development* aims, the next pertinent question to be addressed is: What are the urban-planning principles supporting the implementation of *sustainable urban development aims* (as given above)*?*

This aspect is addressed in the following UN-Habitat report published in 2015.

2) UN-HABITAT International Guidelines on Urban and Territorial Planning (2015), which puts forward *four basic planning principles* that should be inherent to any master planning exercise:

- advocate physical compactness;
- promote social inclusiveness;
- enable integrated and connected cities and territories;
- facilitate resilience to climate change.

Combining the key findings from these two reports, the first exercise involves classifying the 8+7 aims included in the sustainable urban development role based on the four basic planning principles (Figure 3).

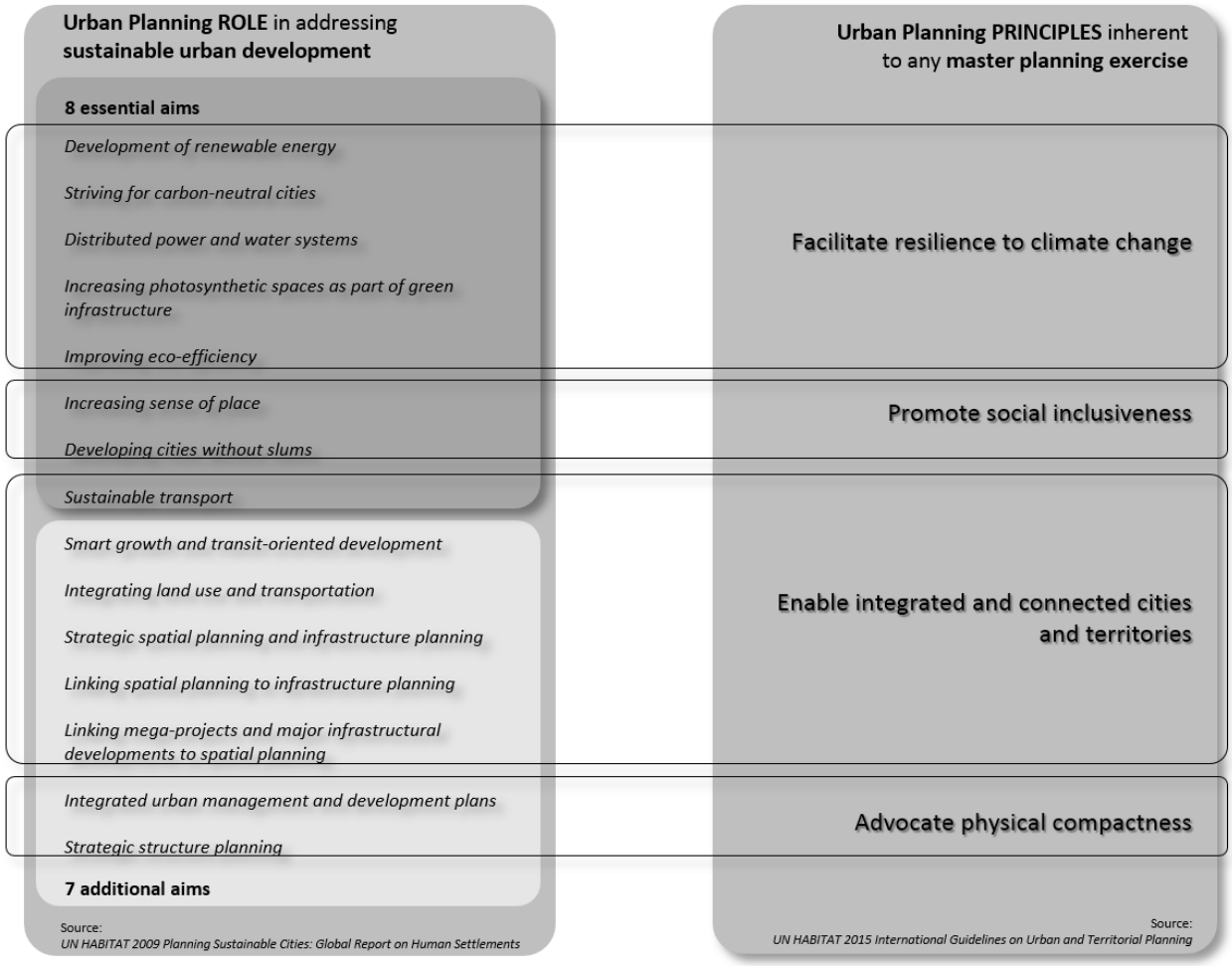

Figure 3 – Conceptual design of the Future Living Framework correlating urban-planning roles with principles[5]

Taking the *8+7 aims* as the *policies* addressing sustainable urban development (as envisioned in SDG 11) and the four urban-planning principles as the *practices* that will guarantee the achievement of SDG 11, specific actions to implement the *practices* to successfully deliver SDG 11 still need to be deciphered. To this end, the UN-Habitat 2015 Report was re-analysed, and the recommendations provided to urban planners[6] for designing each of the four urban-planning principles, were taken into account.

5 According to the UN-Habitat report on Human Settlements (2009), urban planning *roles* can be 'essential' or 'additional'. This distinction has been made evident in the figure.

6 Please see page 41, Section B of UN HABITAT International Guidelines on Urban and Territorial Planning (2015).

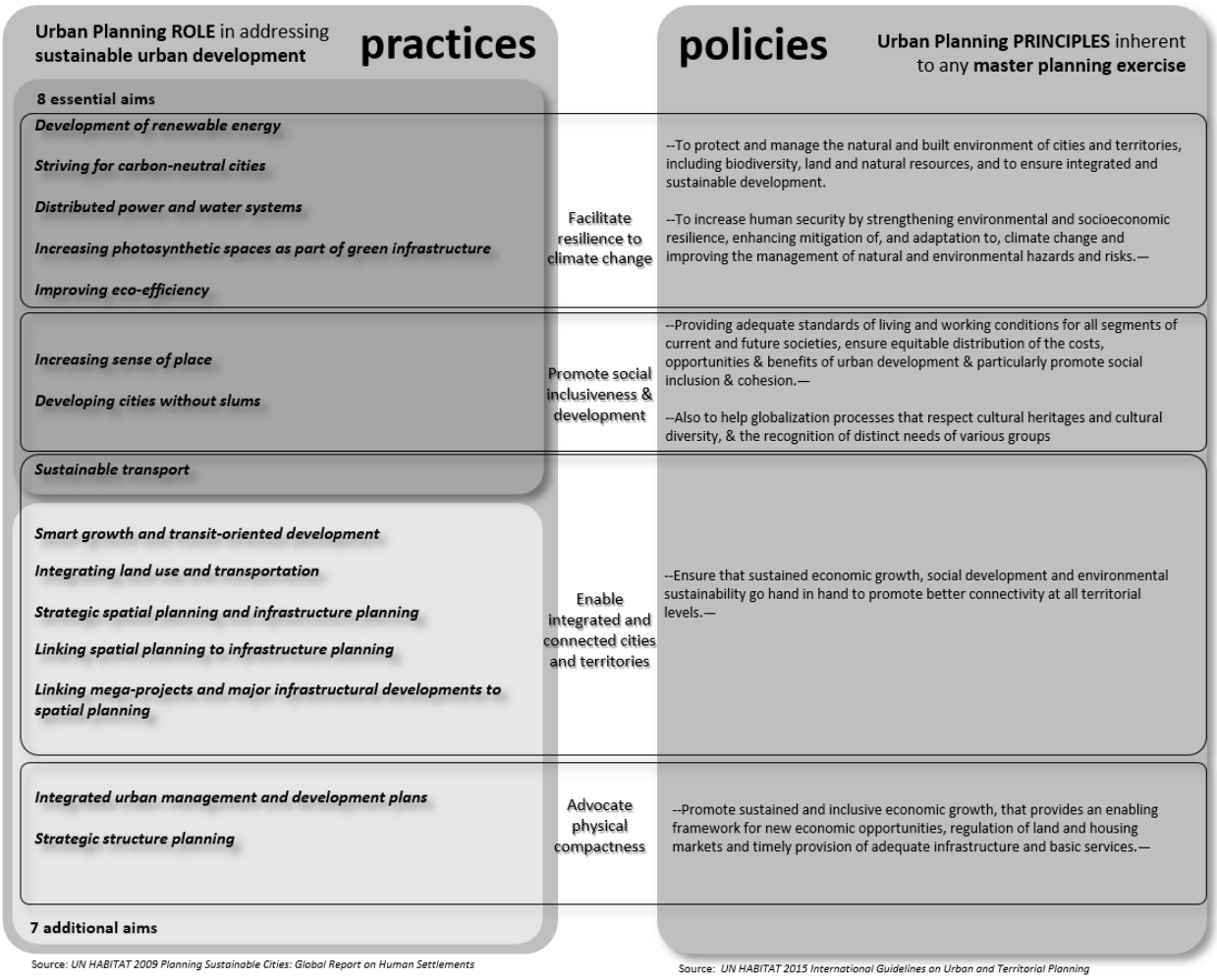

Figure 4 – Detailed PRACTICES developing the four urban-planning PRINCIPLES and their correspondence with POLICIES assigned to urban-planning ROLES

Based on this analysis of the recommendations, Figure 4 highlights the need for adding some *policies* and/or some *practices* to balance the different *policy-practice* packages. Areas needing further work have been identified with dotted circles in Figure 5.

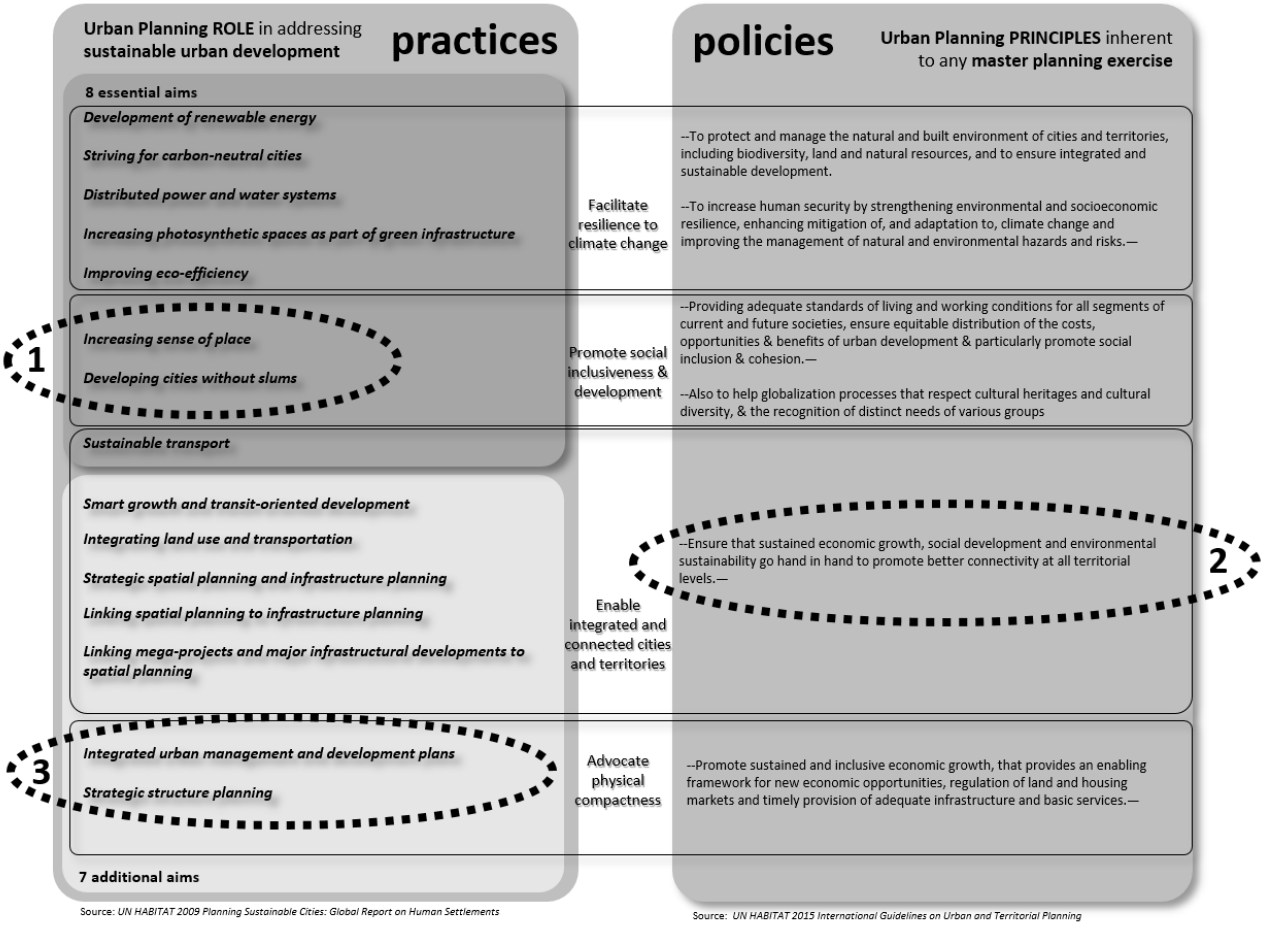

Figure 5 – Identification of policy and practice areas for completion

In order to discover additional policies and practices, an analysis of the 26 use cases contained in the UN-Habitat 2015 report has been conducted. At first instance, the projects have been classified under both the *policies* and *practices* columns (Figure 6). The colours indicate the ownership of projects, as distributed amongst contributors.

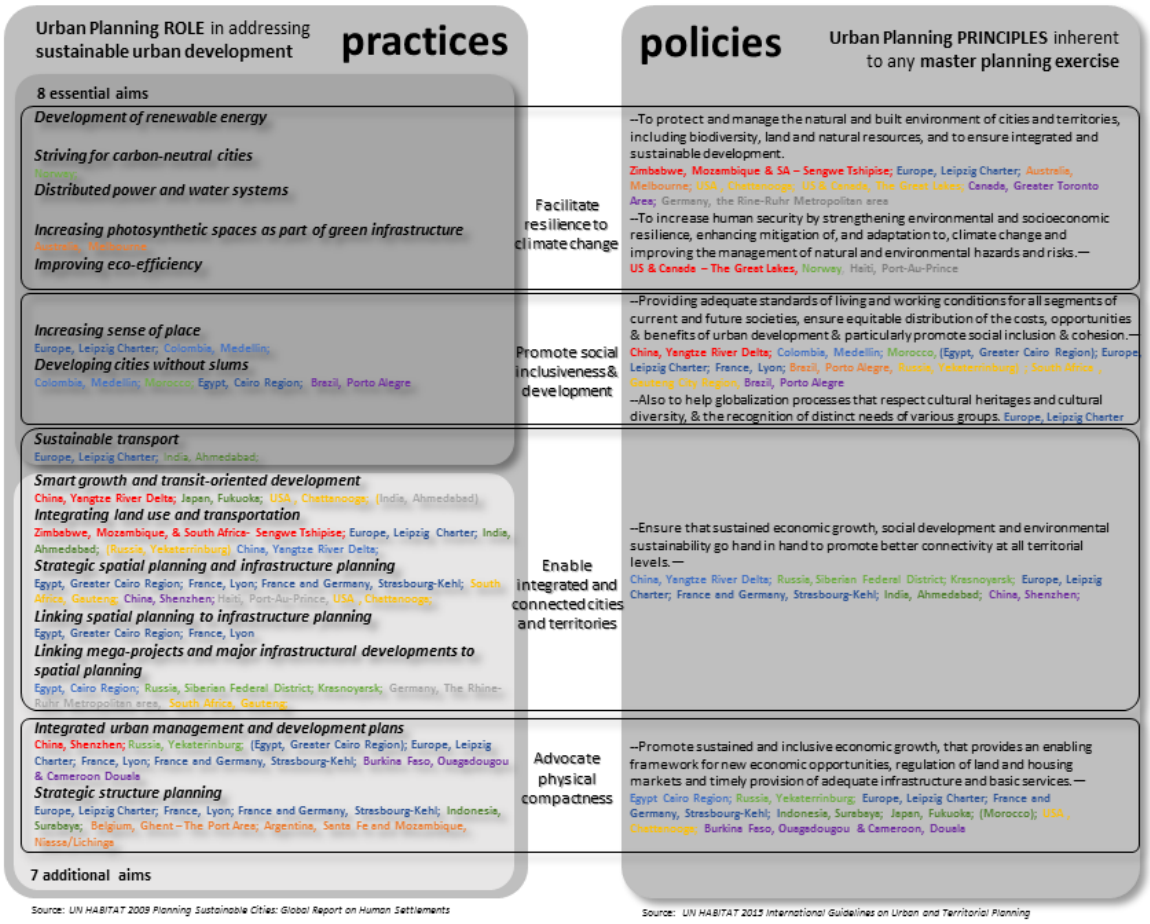

Figure 6 – Distribution of projects and uses cases included in the UN-Habitat 2015 report on International Guidelines on Urban and Territorial Planning

Special attention has been given to projects and use cases included in the dashed areas (1, 2, 3) shown in Figure 5. These projects have been analysed further to discover additional *policies* and *practices* completing the dashed areas. Figure 7 shows a complete list of additional *policies* and *practices*, leaving the original ones in black text and depicting the new ones identified by contributors, in different colours.

The colour code in Figure 7 is the same as for Figure 6 in order to ensure better identification of the source project and the contributor proposing a given *policy* or *practice*.

Finally, the main *policies* and *practices* have been identified in bigger text (in Figure 7). These will be carried forward into the next stages of work.

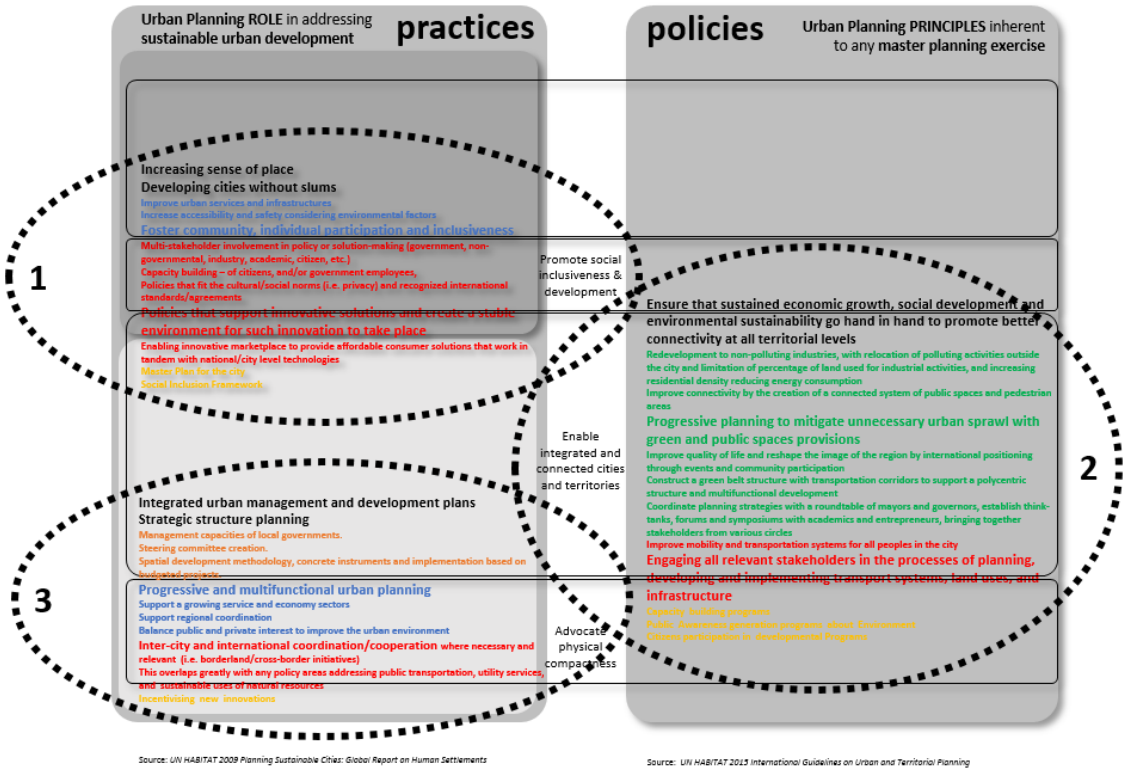

Figure 7 – Completion of the policies and practices in dashed areas, highlighting the selection of the most relevant ones to be carried forward into next stages

Figure 8 shows the final recollection of *policies* and *practices* resulting from a second review of projects. The *policies* and *practices* highlighted in colour correspond to the additions proposed by contributors during the second round of analysis of the projects and use cases contained in the UN-Habitat 2015 report.

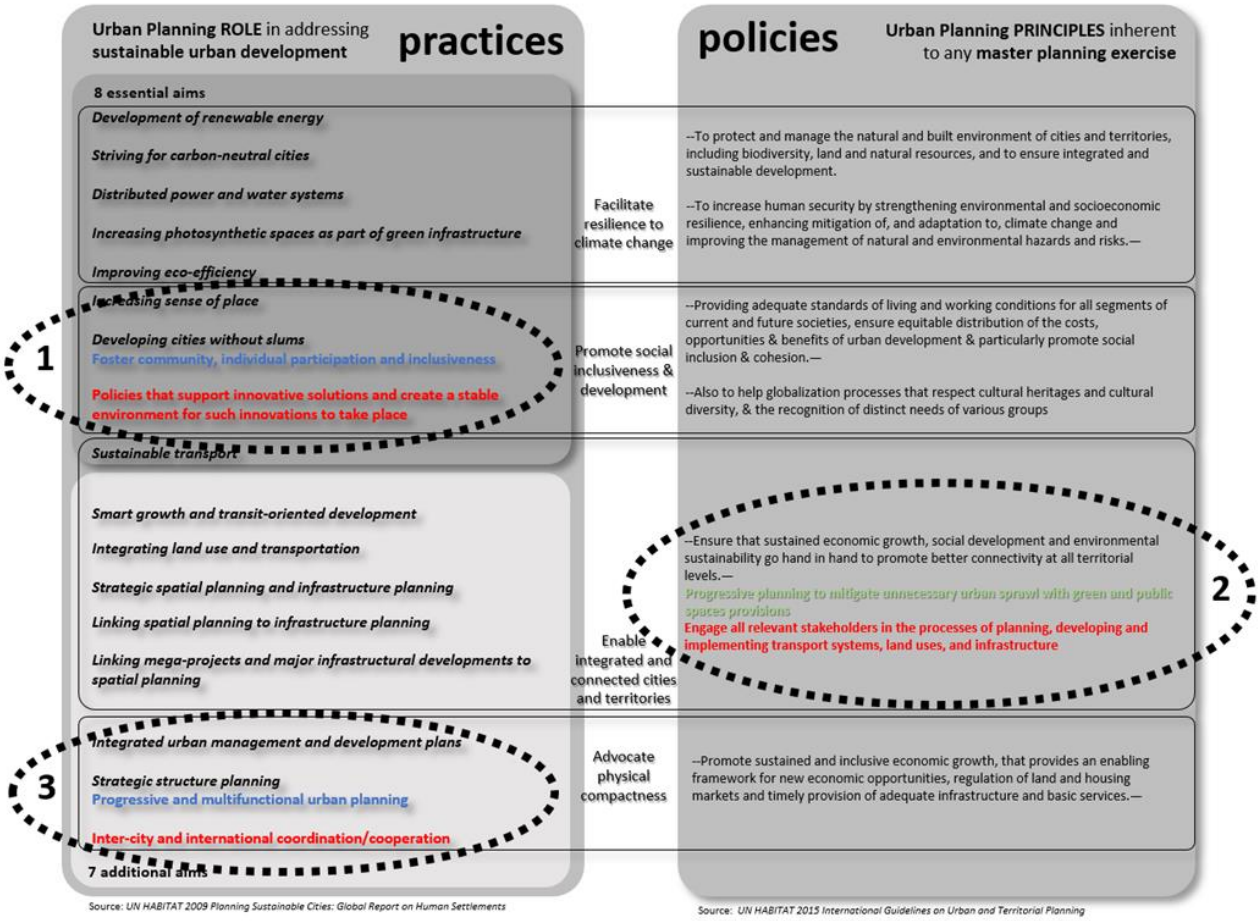

Figure 8 – Complete list of policies and practices which the next phases of work will be built on

The *policies* and *practices* that have been previously added by contributors to Figure 8 are now underlined in Figure 9. It is also important to note that one of the added *policies* has been moved as it fits better with *practices* under "Advocating physical compactness". The transfer has been illustrated with a yellow arrow in Figure 9.

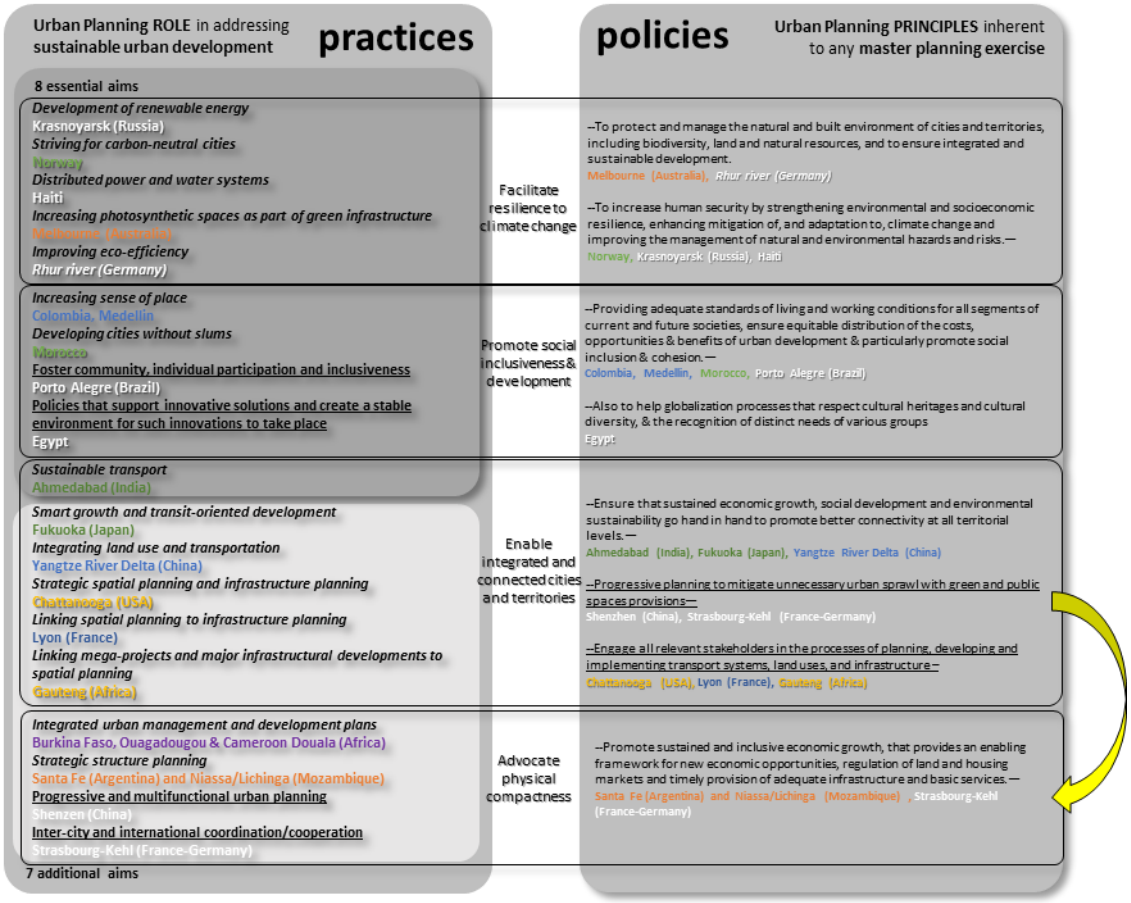

Figure 9 – Complete list of policies and practices with urban-sustainability flagship projects[7]

As revealed by the allocation of projects within the different *policies*, the *practices* can be sub-grouped according to the *policy* they serve (Figure 10). The four main categories into which the *policies* and *practices* are grouped are:

1) facilitate resilience to climate change;
2) promote social inclusiveness and development;
3) enable integrated and connected cities and territories; and
4) advocate physical compactness.

These categories will be henceforth referred to as *strategies* (Figure 10).

7 Underlined *policies* and *practices* indicate additions previously made by contributors.

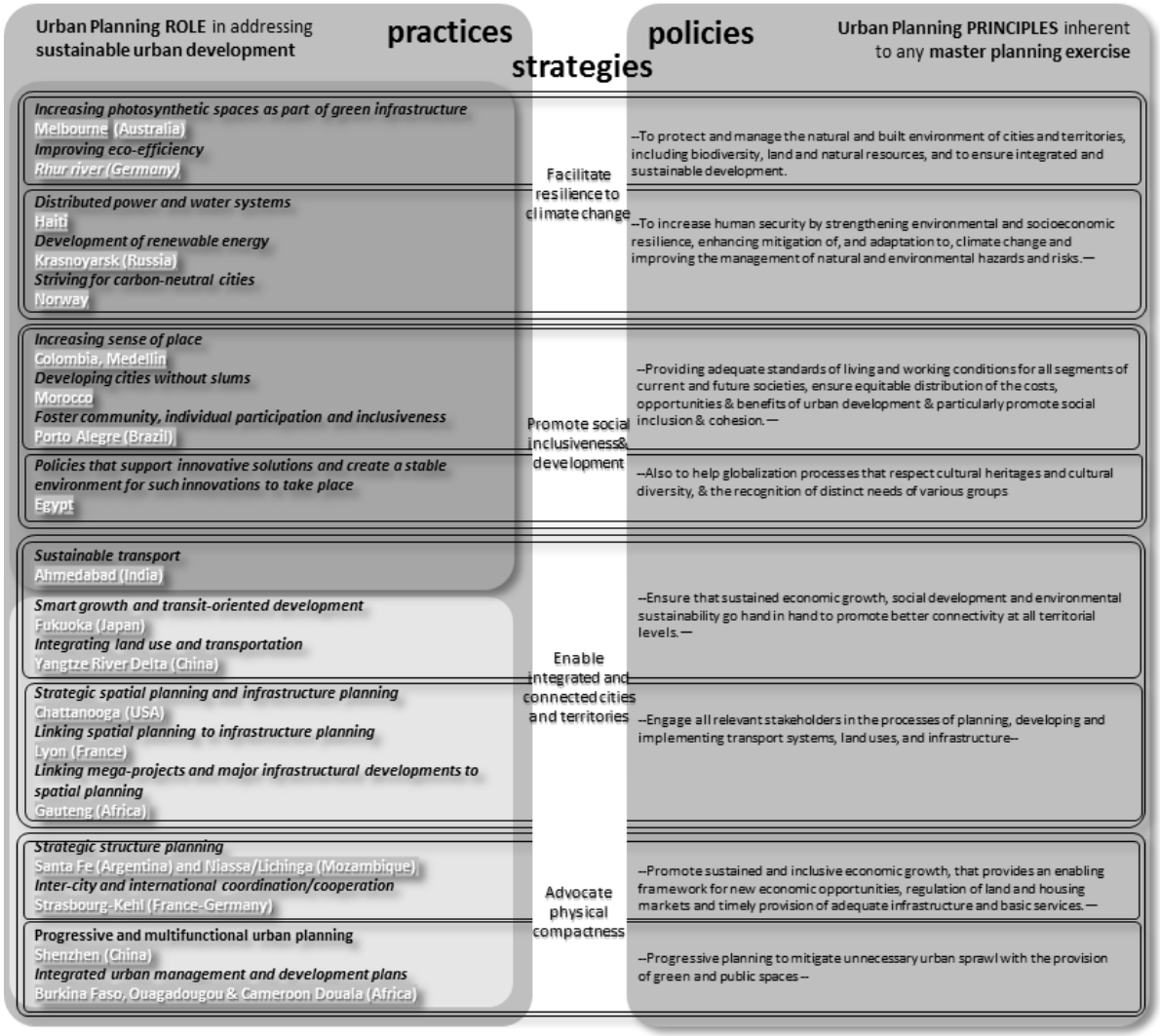

Figure 10 – Practices sub-grouped per policy and classification per strategy[8]

Following the meticulous surmising of *policies* and *practices*, this section moves on to providing a summary of recommendations for a successful transformation of SDG 11 linked *policies* into urban-planning *practices*. These recommendations have been organized as per *strategies* and *policies*. All *practices* belonging to the same *policy* are presented in the same table. The recommendations have been collected from the UN-Habitat projects analysed in this section. Although not shown in the following summary because of space limitations, original recommendations included the flagship project and other projects classified under the same *practice*.

Two different kinds of recommendations have been provided: tangible and intangible. These can be better described as "*Recommendations on physical urban-planning interventions"* and *"Recommendations on non-physical urban-planning actions"* (as shown in the following section).

8 Underlined policies and practices indicate additions made by contributors.

3 Implementation of Sustainable Development Goal 11: Elaborating on urban-planning design values to support its technology-based execution in aspiring smart cities

Recommendations in the tables below result from the analysis of the sustainable smart-city examples studied earlier. These recommendations are ready to be used and urban-planning design values would be obtained in each implementation.

By following the recommendations below, we will be improving SDG 11's delivery since, according to our working hypothesis, "sustainability policies will have better implementation if executed through urban-planning interventions". Moreover, if we are to support the implementation of recommendations with ICT, we will be enhancing the execution of urban-planning interventions as these will allow for measurement and performance accountability.

Recommendations on STRATEGIC urban-planning PRACTICES to implement urban-sustainability POLICIES	
STRATEGY	Facilitate resilience to climate change
POLICY	--To protect and manage the natural and built environment in cities and territories, including biodiversity, land and natural resources, and to ensure integrated sustainable development and resilience to climate-related and natural disasters--
PRACTICES	***Increasing photosynthetic spaces as part of green infrastructure*** ***Improving eco-efficiency*** ***Striving for climate-resilient infrastructure***
Recommendations on physical urban-planning interventions	
▪ Increase the overall green spaces in the city. ▪ increase the city's tree canopy (9m^2 per person);[9] ▪ retrofitting of buildings to make them climate and weather friendly; ▪ develop/update and enforce land use plans and zoning ordinances; ▪ implement a water-harvesting network and reduce reliance on potable water; ▪ promote recycling and provide a second life for unused items; ▪ green retrofitting as part of building reimagining programmes; ▪ introduce multipurpose and climate-adaptable buildings; ▪ promote climate-resilient infrastructure – buildings, roads and other physical infrastructure; ▪ make unused spaces of the city more attractive by converting them into green spaces and equipping them with mobile facilities.	
Recommendations on non-physical urban-planning actions	
▪ Detailed implementation plans should be made by prioritising budget allocations; ▪ public consultation and citizen engagement actions should be encouraged to raise public awareness of the impacts of climate change and to co-design implementation plans; ▪ increased sense of ownership of urban-planning interventions is encouraged by including fundraising campaigns in the context of public-private funding schemes such as 'infrastructure foster programs' and crowd-funding campaigns.	

9 Please note that these values may vary per country

Recommendations on STRATEGIC urban-planning PRACTICES to implement urban-sustainability POLICIES	
STRATEGY	Facilitate resilience to climate change
POLICY	--To increase human security by strengthening environmental and socioeconomic resilience, enhancing mitigation (of), and adaptation to, climate change, and improving the management of natural and environmental hazards and risks--
PRACTICES	***Distributed power and water systems*** ***Development of renewable energy*** ***Striving for carbon-neutral cities***

Recommendations on physical urban-planning interventions

- Relocate any vulnerable and non-efficient infrastructure which causes disruption to decentralization efforts;
- retrofit existing networks for a more distributed system that can be operated in a clustered manner;
- install appropriate renewable equipment in both domestic and public buildings;
- relocate industrial polluting activities to release space for technological and green industries;
- promote compactness by increasing densities wherever possible. This will have a positive impact on the reduction of energy consumption for heating and transportation. Increase in densities should go hand in hand with the creation of a connected system of self-sustainability;
- foster strategic positioning of trees around buildings to reduce congestion, promote greenery, facilitate air circulation and reduce heating and air-conditioning costs;
- promote affordable climate-resilient housing with good connections to public transportation;
- redesign mobility lanes to prioritise public transport and non-fuel vehicles;
- identify most polluted streets and ban high-emission vehicles in these areas.

Recommendations on non-physical urban-planning actions

- Mapping and identifying the existing infrastructures is encouraged, along with the inclusion of socio-urban surveys to assess the distribution fitness of the current infrastructure network along with social characteristics. It is essential to combine this with the mapping of areas with potential for renewables (solar radiation, wind speed, etc.).
- The mapping of areas vulnerable to air and soil pollution along with high-risk zones (including flood prone areas and low-lying coastal regions with potential inundations) to implement diagnosis before designing subsequent resilience plans, should be encouraged.
- It is important to ensure alignment with laws and institutions responsible for the implementation of resilience plans.
- Seamless integrated planning and multi-sectoral urban management should be fostered.
- Using a systems-of-systems approach to infrastructure planning and leveraging complimentary network capabilities should be facilitated.
- Decentralized planning requires more collaborative funding models to succeed. PPPs should therefore be more engaging for stakeholders and provide a better participatory setting with an orientation towards the new economy of knowledge to offer attractive business opportunities.
- Effective distribution systems have a direct positive impact on the fair distribution of resources. Therefore, resilience plans should include the new distribution channel for city resources along with the proposed decentralized infrastructure network.
- Developing a forum for ideas where all stakeholders (including insurance companies) can share options should be promoted to mitigate climate change and increase urban resilience. This will provide opportunities for entrepreneurship, to create new products and services that are more “fit-for-purpose” and based on the needs reported in the forum.
- It is pertinent to set up municipal programmes to promote greener attitudes amongst residents.

Recommendations on STRATEGIC urban-planning PRACTICES to implement urban-sustainability POLICIES	
STRATEGY	Promote social inclusiveness and development
POLICY	--To provide adequate standards of living and working conditions for all segments of current and future societies along with ensuring equitable distribution of the costs, facilitating opportunities and benefits of urban development, while promoting social inclusion and cohesion--
PRACTICES	***Increasing sense of place*** ***Developing cities without slums*** ***Foster community, individual participation and inclusiveness***
Recommendations on physical urban-planning interventions	
▪ Deliver 'revitalizing' projects where it is most needed in order to reconnect citizens with their places. These projects should address a local need (such as transportation, services, etc.) in an indigenous manner. This can be done by the citizens themselves. ▪ Deploy housing schemes as a mixture of social and private housing offers, in combination with well-balanced and accessible green spaces and public facilities. Inclusion of employment opportunities should be considered as well. ▪ Favour redevelopment to prioritize renewal projects instead of facilitating urbanization in new areas.	
Recommendations on non-physical urban-planning actions	
▪ It is important to develop socio-civic plans to promote dynamism and connectivity, to boost economic activities where there are less opportunities. ▪ Supporting social inclusion through specific programmes is required, especially where higher crime rates exist. ▪ Executing plans and programmes with efficient and transparent management of resources is important. This will have a positive collateral effect on tax collection and citizen engagement. ▪ It will be beneficial to put in place different and complimentary mechanisms of public participation (in an array of digital and analogue means) for citizens to participate based on their abilities. ▪ It is pertinent that all city investments are subject to participatory budgets approval. Additionally, it is also essential to deploy the approval process locally through several meetings to maximise participation.	

Recommendations on STRATEGIC urban-planning PRACTICES to implement urban-sustainability POLICIES	
STRATEGY	Promote social inclusiveness and development
POLICY	--To help globalization processes that respect cultural heritages and cultural diversity, along with the recognition of distinct needs of various groups--
PRACTICES	***Policies that support innovative solutions and create a stable environment for such innovations to take place***
Recommendations on physical urban-planning interventions	
▪ Prioritise interventions in areas needing reinvention due to lack of services, transportation, housing or job offers. ▪ Interventions should include a mixture of uses in a well-blended socio-economic fabric, to avoid 'ghettoization'. ▪ Built spaces should carry the right proportion of accessible green spaces and multipurpose public facilities to allow for the accommodation of services to different cultural groups.	
Recommendations on non-physical urban-planning actions	
▪ It is important to develop interventions in a PPPP (People first Public-Private Partnerships) format to ensure future uptake at the lowest level and to help implementation. ▪ Develop a jobs programme which can be introduced in parallel to innovative policies aimed at promoting liveability and minimising commuting.	

Recommendations on STRATEGIC urban-planning PRACTICES to implement urban-sustainability POLICIES	
STRATEGY	Enable integrated and connected cities and territories
POLICY	--To ensure that economic growth, social development and environmental sustainability go hand in hand to promote better connectivity at all territorial levels--
PRACTICES	***Sustainable transport*** ***Smart growth and transit-oriented development*** ***Integrating land use and transportation***

Recommendations on physical urban-planning interventions

- Provide a duality of point-to-point public travel options though alternative routes and transportation means to guarantee public mobility across the whole urban network in route failure situations.
- Prioritise polycentric urban structures with diversified and complementary urban functions. This will allow for decentralized and distributed multi-modal network schemas with well-connected and efficient interchanges in nodes.
- Connect low-income with higher-income areas to help catalyse development and social inclusion across the city.
- Connect residence with related economic/business areas to allow all population segments to use public transport to commute for work.
- As a strategy to remove private cars from the city centre and narrow streets, prioritise pedestrianization and public transport. This same strategy should also be used to preserve certain patrimonial cityscapes and historical sites.
- Promote urban renewal instead of allowing urban sprawl. Urban renewal and new urbanization interventions should include job schemes which focus on providing citizens with employment options within the urban territories.
- Invest judiciously in public transport systems to promote affordability of mobility services.

Recommendations on non-physical urban-planning actions

- Reduction of commuting time has a positive impact on productivity and quality of life. Before drafting a mobility plan, conduct an analysis of the need for travelling in order to focus the planning efforts on reducing the need for commuting.
- If new areas are to be developed and in the process new streets will be built, it is important to include land–value capture mechanisms as a means to subsidize public transport and make it affordable to all income groups.
- Designing local mobility plans in collaboration with surrounding municipalities will assist with better integration of the mobility needs of external commuters.

Recommendations on STRATEGIC urban-planning PRACTICES to implement urban-sustainability POLICIES	
STRATEGY	Enable integrated and connected cities and territories
POLICY	--To engage all relevant stakeholders in the processes of planning, developing and implementing transport systems, land uses and infrastructure--
PRACTICES	***Strategic spatial planning and infrastructure planning*** ***Linking spatial planning to infrastructure planning*** ***Linking mega-projects and major infrastructural developments to spatial planning***
Recommendations on physical urban-planning interventions	
▪ Focus on visible and feasible projects that allow for civic leadership and build confidence. ▪ Very large projects should be broken down into smaller parts so that certain portions can be completed earlier. This will help facilitate benefit-realization and awareness of project progress among tax-payers. ▪ Strategic spatial planning should focus on the creation of new centralities or the revitalization of existing ones as a main strategy. ▪ Link and ensure consistency between all scales of planning, from strategic plans to development plans. ▪ Spatial planning and infrastructure planning should go hand in hand with programmes for urban renovation, renewal and revalorization, to improve the provision of services and the quality of life in low-income neighbourhoods.	
Recommendations on non-physical urban-planning actions	
▪ The retrofitting of existing public infrastructure can be an opportunity to create a new economy, and a social and environmental transformation. The whole community should be engaged to have a share in these new opportunities. ▪ Spatial planning and infrastructure planning should be conducted at the highest possible administrative level, but implementation, management and maintenance should be monitored by local teams to ensure that the high-level vision responds to neighbourhoods' needs. ▪ A monitoring mechanism for the performance of urban interventions should be put in place, either through permanent dialogue with locals or through surveys/consultation. ▪ Municipal and regional governments should work together to create a unified territorial agenda, with the view to promote the city-region concept, as well as urban-rural linkages among stakeholders and beyond.	

Recommendations on STRATEGIC urban-planning PRACTICES to implement urban-sustainability POLICIES	
STRATEGY	Advocate physical compactness
POLICY	--To promote sustained and inclusive economic growth that provides an enabling framework for new economic opportunities, regulation of land and housing markets, and the timely provision of adequate infrastructure and basic services--
PRACTICES	***Strategic structure planning*** ***Inter-city and international coordination/cooperation***

Recommendations on physical urban-planning interventions

- Identify cross-municipality challenges and develop shared masterplans involving these municipalities. Masterplans should tackle these challenges in a holistic manner, considering all subsystems involved and the effects on the overall territorial system.
- Encourage planning through projects that are more strategic in addition to those that have a domino effect and create 'cascade projects' for the future.
- For inter-municipal projects, prioritise those that bring connectivity and strengthen ties between cities as these will provide more robust foundations for future projects.

Recommendations on non-physical urban-planning actions

- Ensure that a base plan exists for any city. The base plan serves as a guideline for urban planning, incorporating flexible strategies to strengthen the management capacities of local governments, and provide an entry point for further integrated physical and strategic planning.
- Inform the current profile of the city by collecting as much data as possible and mapping all relevant elements before taking any action.
- The methodology in any planning process should include need-discovery workshops and other engaging activities to facilitate implementation and improve the uptake of the proposed master plan and the base plan. Moreover, decisions on future projects should be made collectively with all relevant stakeholders.
- For successful cross-municipal planning, it is recommended to set up an inter-municipal agency with an impartial vison to help resolve any disputes and conflicts of interest emerging from planning.

Recommendations on STRATEGIC urban-planning PRACTICES to implement urban-sustainability POLICIES	
STRATEGY	Advocate physical compactness
POLICY	--To promote progressive planning to mitigate unnecessary urban sprawl with the provision of green and public spaces--
PRACTICES	***Progressive and multifunctional urban planning*** ***Integrated urban management and development plans***

Recommendations on physical urban-planning interventions

- The promotion of local potential should be accompanied by an array of subsidiary actions supporting the main capabilities in a multifunctional fashion.
- Progressive and multifunctional planning should have a territorial scope and vision. However, they should be managed and developed locally to ensure that projects implementing the plan meet local needs.
- Projects should be prioritised based on a benefit realization strategy that should be decided by locals.

Recommendations on non-physical urban-planning actions

- Progressive urban planning might require economic, environmental and social reforms. Therefore, appropriate socio-economic and environmental programmes should accompany progressive planning instruments.
- Successful multifunctional planning activities should be governed by representations of the different sectors involved, to ensure rapid buy-in when projects are implemented.
- Hands-on participation mechanisms should be part of the planning process and equally important during the implementation of projects, to inspire a sense of ownership among the residents. Moreover, this more inclusive and integrated urban-planning approach provides a more transparent and credible framework which has a positive impact on attracting investment and partners.

ANNEX – Extracts of specific commitments made by the NUA to help achieve SDG 11:

- We commit ourselves to promoting the development of urban spatial frameworks, including urban planning and design instruments that support sustainable management and use of natural resources and land, appropriate compactness and density, polycentrism and mixed uses, through infill or planned urban extension strategies as applicable, to trigger economies of scale and agglomeration, strengthen food system planning, and enhance resource efficiency, urban resilience and environmental sustainability.

- We will support the implementation of urban planning strategies, as appropriate, that facilitate a social mix through the provision of affordable housing options with access to quality basic services and public spaces for all, enhancing safety and security, favouring social and intergenerational interaction and the appreciation of diversity. We will take steps to include appropriate training and support for service delivery professionals and communities living in areas affected by urban violence.

- We will strive to improve capacity for urban planning and design and the provision of training for urban planners at national, subnational and local levels.

- We will promote best practices to capture and share the increase in land and property value generated as a result of urban development processes, infrastructure projects and public investments. Measures such as gains-related fiscal policies could be put in place, as appropriate, to prevent its solely private capture, as well as land and real estate speculation. We will reinforce the link between fiscal systems and urban planning, as well as urban management tools, including land market regulations. We will work to ensure that efforts to generate land-based finance do not result in unsustainable land use and consumption.

- We will foster the creation, promotion and enhancement of open, user-friendly and participatory data platforms using technological and social tools available to transfer and share knowledge among national, subnational and local governments and relevant stakeholders, including non-State actors and people, to enhance effective urban planning and management, efficiency and transparency through e-governance, approaches assisted by information and communications technologies, and geospatial information management.

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