Sustainable Cities

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*The **Global Forum on Sustainable Energy (GFSE)** is a neutral multi-stakeholder platform which is facilitating international dialogue on energy for sustainable development by taking into accounts the special interests and challenges of developing countries. GFSE aims at the establishment of a sustainable world energy system from a social, economic and environmental perspective.*

GFSE contributes to both international discourse and information dissemination on sustainable energy. The multi-stakeholder platform plays a crucial role in facilitating sustainable energy projects by bringing together donors, investors and project developers. Their interaction creates new opportunities and enhances existing initiatives in the field of sustainable energy.

New business models, community empowerment, collaborative engagement of multiple stakeholders, awareness raising, as well as new financial and institutional mechanisms are needed to adequately address the urban energy and poverty challenges.

Background

SDG 11 calls for inclusive, safe, resilient and sustainable cities. The world is currently experiencing an unprecedented trend of rapid urbanisation. As of 2014, the share of the urban population in developing and newly industrialising countries had already reached 63 percent. According to (United Nations 2018: 2), cities and towns will host around 60 percent of the world's projected population (8.2 billion people) by 2030. Cities with a population ranging from 500,000 to one million inhabitants are the fastest growing cities in the world and are primarily located in the global south.

Currently, most cities rely primarily on fossil fuels for their main energy source, resulting in significant GHG emissions. In order to guarantee that cities continue to be liveable urban centres, governments need to invest in clean, reliable and affordable energy sources. Early integration of low-carbon urban planning measures is critical for the development of sustainable cities. Among other things, cities should focus on retrofitting old buildings and funding the building of energy- and resource-efficient buildings, designing public transportation options, and adopting an efficient municipal waste management system (see United Nations 2018: 2).

Urbanisation and industrialisation are two interlinked processes, which are both driven by energy. Access to cleaner and affordable energy options is therefore essential for improving the livelihoods of the poor in developing countries, and particularly in their exponentially growing urban areas. However, poor segments of the population live in low-cost housing areas or informal settlements with little or no infrastructure, experience severe liquidity constraints and have to satisfy the most pressing short-term needs before they can pay their energy bills or undertake other investments. New business models, community empowerment, collaborative engagement of multiple stakeholders, awareness raising, as well as new financial and institutional mechanisms are needed to adequately address the urban energy and poverty challenges. Renewable energy and energy efficiency can help provide energy services to low-income customers in urban areas of developing countries.

Developing and emerging countries face a number of challenges to meet basic needs, address inequality, build infrastructure, overcome shortage of skills, alleviate poverty, diversify and modernise their economies, promote the private sector and reduce unemployment, among others. Through innovative policy frameworks, technologies, business models and financing schemes, renewable energy and energy efficiency can substantially contribute to tap synergies between economic development and poverty reduction, on the one hand, and climate protection on the other. Low-carbon energy systems will also have to be robust to be able to survive the variety of climate outcomes they might need to face in the future.

Though cities tend to be more resource-efficient, they are quite susceptible to the risk of climate change, since such changes put an increased burden on the cities' management structures and resources (see IBRD/WB 2010: 3). On the other hand, cities are well positioned to undertake climate protection actions and implemented integrated city planning approaches. Numerous cities and towns have recognized the need to design sustainable cities with integrated low-carbon measures and have shown this commitment through a variety of initiatives, which will be touched upon in greater detail below. This policy brief will also look at the benefits of renewable energy penetration and energy efficiency, while touching upon the challenges cities will face due to climate change effects.

International Initiatives, Goals and Agreements

The 2030 Agenda for Sustainable Development[1] laid out a plan of action to tackle numerous global challenges, including eradicating extreme poverty and shifting the world onto a sustainable and resilient path. The 17 Sustainable Development Goals and the 169 sub-targets are designed to stimulate action over the period of 2015 to 2030. The Sustainable Development Goal 11[2] is especially important in the context of cities as it focuses on making cities and communities sustainable until 2030 by (a) ensuring access to adequate, safe and affordable housing, (b) providing access to sustainable transport systems, (c) reducing the adverse per capita environmental impact of cities, and (d) enhancing inclusive and sustainable urbanization.

The United Nations Conference on Housing and Sustainable Urban Development (Habitat III), which took place in Quito, Ecuador in October 2016, was the first UN global summit on urbanization since the adoption of the 2030 Agenda for Sustainable Development. This conference addressed the important role of cities, municipalities and towns as drivers of change; their engagement is also critical to the timely fulfilment of the Sustainable Development Goals and the Paris Agreement alike. In Quito, global leaders adopted the New Urban Agenda[3] that set standards of achievement in sustainable urban development, while emphasizing the need to cooperate with actors at all levels of the government, of civil society and of the private sector

During the 21st Conference of the Parties of the United Nations Framework Convention on Climate Change (UNFCCC), where the Paris Agreement was signed, mayors and other key stakeholders of cities reaffirmed their commitment to undertake bold climate action towards a more sustainable future. Several initiatives bundling the joint power of community-wide action already exist, such as C40[4], the Covenant of Mayors[5], the World Bank's Global Platform for Sustainable Cities[6], the Sustainable Cities Platform[7] and the Rockefeller Foundation's 100 Resilient Cities (100RC)[8].

Figure 1: Integral Components for Sustainable Cities

These existing city-based initiatives should be utilized to form partnerships with cities in developing and emerging countries. Such initiatives can not only help to draw attention to common problems, but city representatives and other involved actors can learn from various experiences to avoid similar deadlocks and adapt successful approaches to develop local solutions.

Figure 2: Energy Use in Selected Cities in 2030 (Source: Figure 12, IRENA 2016: 36)
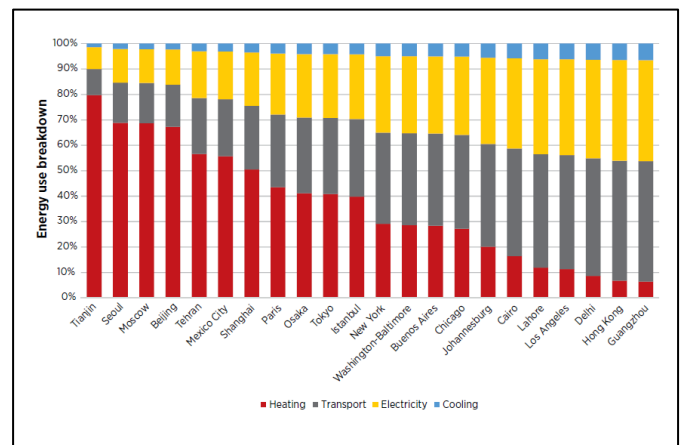
Though smart city concepts can contribute to providing overall solutions in areas with urban poverty, they must be adapted to the local conditions. A transparent exchange of the use of smart-city technologies between citizens, city administration, energy suppliers and other utilities should help prevent poorer segments of the society from being disadvantaged. Increased knowledge enhancement and management on the local, national, regional and international level is needed to develop common integrated approaches. Additionally, partnerships with the private sector and other civil society groups should be formed (or further strengthened) to improve the level of investments related to sustainable cities, while also spurring new businesses with jobs focusing on green technologies and environmental services.

Solution pathways exist for each city, but due to the various differences among cities, tailored and more localised approaches should be taken for renewable energy deployment (and for energy efficiency measures). The complexity of cities and their specific challenges depend to a large degree on their size. For example, "cities with lower population densities consume more than twice as much energy per capita than cities with higher population densities." (IRENA 2016: 35)

Importance of Clean Energy & Climate Change Awareness for Sustainable Cities

Renewable Energy & Energy Efficiency

Clean energy systems are a key element in making cities climate-smart and a critical area for sustainable energy deployment. Access to affordable renewable energy and energy efficiency can also substantially improve the livelihoods of the urban poor. Energy efficiency also enhances economic competitiveness, creates jobs and saves consumers' money. Specifically, low-income consumers can substantially benefit from energy efficiency, which helps them reduce their energy bills and thus their vulnerability to price changes as well as decrease their investments on energy technologies, while freeing resources to satisfy other needs.

Energy efficiency can also be effectively combined with renewable energy. For example, the deployment of decentralized renewable energy technologies in combination with energy efficiency can reduce the vulnerability of consumers to weather-related outages. Synergies between energy efficiency and renewable energy can be exploited in a number of sectors, such as buildings, industry and transport. Tackling energy efficiency and renewable energy options in the building sector is especially critical, since the building sector consumes approximately 30% of all energy usage. City governments should undertake actions to renovate existing infrastructure to promote energy savings, while also making sure to support the use of renewable energy technologies in new buildings.

Energy efficiency is one of the best options to reduce greenhouse gas emissions, since it minimizes the need to build new capacity on the energy supply side, leading to a reduction in investment on capital-intensive technologies. It also reduces the pressure on limited domestic energy supply sources and energy imports, thus, leading to improvements in national security of energy supply. Energy efficiency is a cost-effective, near-term option with multiple benefits. In addition to mitigation of climate change, it also reduces local, regional and global air pollution with related positive health effects.

Cities can also capitalize on the benefits of a new (or upgraded) district energy network, which offers multiple flexibility and storage benefits when combined with cogeneration, while also allowing for the integration of renewable energy into the energy mix (see United Nations 2018: 5). Due to their condensed layout and structure, cities provide increased possibilities for onsite power generation. Through the adoption of feed-in tariffs and grid connection regulations, citizens can be allowed to sell clean energy to the energy grids (see United Nations 2018: 4).

Green Industrialization

Greening rapidly growing cities in the developing world must become a cornerstone of green industrialization. Cities need low-carbon, climate resilient infrastructure in a number of sectors such as energy, transport, waste management, communications, sanitation, water supply etc. Synergies between these sectors should be exploited. For example, green industrial parks and clusters in combination with renewable energy and energy efficiency provide opportunities for creation of green value chains in cities. The clean energy transition creates opportunities for new industries. Green industrialization powered by renewable energy and energy efficiency has a significant potential to create jobs and develop business in developing countries. By developing value chains that address green market opportunities, including the clean energy business, and establishing competitive industries, developing countries can build linkages to other sectors of their domestic economies but also regional linkages, encouraging trade. Special attention has to be given to energy services and industrial products for rural and urban low-income population segments, still existing in developing countries. These markets have a significant size and inclusive, affordable and sustainable solutions are needed to tap the business opportunities provided by them and include the low-income population itself into the value chain. To serve these markets, technology, social, business model and financing innovations are required.
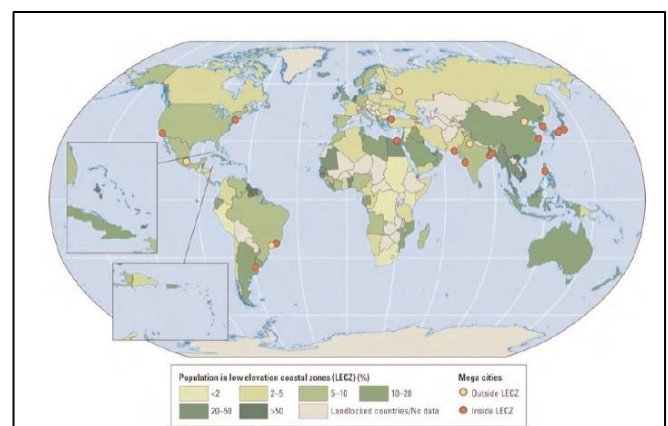
Climate Change & Cities

Cities are vulnerable to climate change and already today are being affected by its impacts. Extreme weather events (e.g. storms, floods, droughts, heat waves, sea level rise) can, for example, disrupt urban infrastructures and services. Economic effects of climate change are sizeable, particularly on their agriculture and tourism industries, and even moderate storms and unpredictable weather changes can take a sizeable economic toll. Despite the geographic advantage, cities' proximity to large bodies of water increases their vulnerability due to rising sea levels (see Figure 3). Many major mega cities are poised to potentially suffer from tremendous loss of value from abandoned infrastructures due to flooding (see IBRD/WB 2010: 11).

High population density can complicate the impacts of such climate-triggered disruptions, given that the rapid urbanisation trends already pose a considerable strain on water and energy supply, land use, waste management, sanitation and transport. In developing countries, the elderly, the ill as well as children are especially more vulnerable to climate change effects. Already existing causes of strife, such as limited food distribution or energy provision, can be further exacerbated due to climate change, leading to more social unrest.

Despite these climate risks, cities are well positioned to undertake climate protection actions. Climate change mitigation and adaptation (SDG 13) have to be integrated with development goals. Low-income people in developing and emerging economies will be strongly affected by climate change given their higher vulnerability and lower capacity to cope with damages. Their vulnerability is driven by geographical factors (e.g. location in the tropical zone, large cities along the coast, low-lying islands, high population density, high share of dry-lands etc.) as well as a lack of human and financial resources and institutions. Long-lived urban infrastructures have a substantial influence on the ability to mitigate greenhouse gas (GHG) emissions and to adapt to climate change. Therefore, it is important that decisions made today pave the way for low-carbon, climate-resilient urban infrastructures. These infrastructures can also have multiple benefits in different areas such as air pollution, poverty reduction and sanitation. Governments need to adopt more energy-efficient policies and practices across all sectors in order mitigate and adapt to climate change-related effects.

Figure 3: World Population Concentrated in Low-elevation Coastal Zones (LECZ) (Source: Figure 4a, IBRD/WB 2010: 9)

Spotlight: Transport Sector

The transport sector is absolutely critical for sustainable development and for fighting climate change, since the sector accounts for just over a third of global energy use in cities today (see IRENA 2016: 23). Electric mobility has significant potential in many regions of the world and could have a wide range of applications, from individual (cars, bikes, trikes, etc.) to public transport (buses, taxis, car sharing, bike sharing), from private to commercial to municipal fleets. Increased electrification of the transport sector can not only reduce air pollution and greenhouse gases, but it can also drive up the use of renewable energy in cities.

Municipal governments can implement, among others, the following strategies to boost the sustainability of the transport sector:

- Install solar panels on rooftops of metro stations to eventually power the entire metro system by 100% renewables
- Support the introduction of electric buses on the roads
- Integrate renewable energy to power the light rail transit network
- Develop schemes to support the construction of charging stations around the city
- Promote liquid biofuels, biomethane and hydrogen as vehicle fuels

The integration of storage system options will also be critical to maximize on the interconnection between the transport and power sector. The batteries of electric vehicles can help balance electricity loads to allow for more grid flexibility and support demand side management.

Sustainable City Practices in Developing Countries

Cities offer a multitude of opportunities for utilizing existing synergies by creating employment and fostering clean energy innovation, while improving living conditions. However, cities, especially in developing countries, often have to make the difficult choice in allocating funds to development versus climate change mitigation/adaptation. Despite these challenges, cities will be able to fulfil all targets by having clear policy vision that covers a wide number of sectors. The following examples of sustainable city projects in major cities of developing countries are only a selection of the numerous measures the cities are undertaking and are by no means an exhaustive collection.

Abidjan, Cote d'Ivoire

The city of Abidjan has experiences increased rapid urbanization resulting in fragmented urban growth, namely dense neighbourhoods not connected to the city centre. Additionally, it is especially vulnerable to climate change risks, including increased average temperatures, inconsistent rainfall and rising sea levels. For example, it is predicted that sea levels could rise up to "1.2 meters in the Greater Bassam and Abidjan areas" (World Bank 2018a) resulting in loss of life and infrastructure as well as possible mass relocation. Like many other cities in developing countries, Abidjan also suffers from wastewater management and solid waste treatment challenges (see Sid'ahmed 2016).

Due to the layout of the city and the very narrow streets, only 40% of the homes are included in the household trash collection meaning that a lot of waste is dumped on the road side. As a result of irregular electricity supply, many residents and businesses in the city have to rely on unclean sources of fuel such as diesel generators (in businesses) and solid fuels (in residential lighting and cooking). In order to improve transport infrastructure and tackle a number of these above-mentioned problems, while also decreasing air pollution as a result of the strong dependency of cars for mobility, Abidjan is investing (together with international finance institutions) in projects to improve urban mobility. Through an intelligent transport system plan, the city will be able to monitor air quality, introduce a cleaner vehicle fleet and also enforce vehicle maintenance standards due to better management. One project is the introduction of a metro system to connect densely-populated neighbourhoods with larger business centres. Residents will be able to reduce commuting time, while also limiting the use of private motorized vehicles, through the promotion of public transportation. The initiatives will also target the existing gender disparities in the country: women tend to have longer commute times due to their limited access to motorized vehicles (see World Bank 2018b). Expanding the public transportation system will not only increase their mobility, but also increase their chances to better participate in the job market.

Bhopal, India

India accounts for about 18% of the world's population and is projected to be the most populous country in the world by 2030. The already fast pace of urbanization is expected to continue as the country faces a wave of economic growth. This development, however, presents a number of challenges to the already existing city problems, including water pollution, lack of a proper waste treatment system, air pollution and high emissions. Most of these problems are a direct result of unplanned city development coupled with rapid growth. Several Indian cities are investing in projects to improve their liveability. One such city is Bhopal, the capital of the state of Madhya Pradesh, that is implementing cross-cutting measures (see BSCDCL 2019), including the application of energy-efficient technologies in buildings, the introduction of policies with sustainable practices, water management, emphasis on the 3Rs (reduce, reuse, recycle), and the integration of transport with the city structure, on its path toward a more sustainable future. Furthermore, Bhopal is actively looking for ways to foster a thriving start-up ecosystem in the central part of India through its end-to-end support for new ventures that was set up in May 2018. As part of the Bhopal Smart City Mission, the support focuses on six key sectors, namely agri-tech, citizen surveillance, app development, waste management, healthcare and IOT(Internet of Things)-based solutions.

Gorakhpur, India

The city of Gorakhpur has been a beneficiary of the Asian Cities Climate Change Resilience Network (ACCCRN), which has helped ten Asian cities respond to their climate risks. "Water logging" was seen as the most critical risk to the city's systems especially due to the predicted effects from climate change.

The Energy and Resources Institute (TERI) identified five sectors to appropriately address the risk, including flood management, health and ecosystem conservation, urban planning, housing and basic services (see TERI 2012: xi). As a result of waterlogging and regular flooding in peri-urban areas of Gorakhpur, small farmers regularly suffer from extreme crop losses. Under the ACCCRN initiative, "models of climate-resilient integrated agriculture-horticulture-aquaculture-livestock systems" (GEAG 2018) were developed together with a SMS-based weather-agriculture advisory system to better help farmers deal with climate change patterns more easily. Low-income housing is often built in low-lying areas in cities making poorer individuals even more vulnerable to climate hazards. Under the program, experts looked at options to facilitate micro-financing mechanisms in Gorakhpur to help low-income households be able to finance the purchase of resilient houses (see Singh/Singh 2016). Furthermore, in order to increase long-term resilience of the city, the project included a community institution and capacity building aspect to raise awareness of pressing climate change-related issues. For example, as part of the overall climate-resilience strategy of the city, areas prone to flooding were kept free from construction.

Manizales, Colombia

Due to its location on the slopes of a tropical rainforest area in the Colombian Andes, Manizales is especially vulnerable to flooding and other natural disasters like earthquakes. In 2012, a new disaster risk management law was introduced across Columbia requiring disaster risk reduction (DRR) to be integrated with land use and environmental planning. Manizales has not only implemented the basic requirements of the law, but has also taken steps to go further, for example, by relocating homes in high-risk areas prone to landslides and flooding and by structurally retrofitting hospitals to be more resilient to disasters. Furthermore, it has provided tax incentives to property-owners who reduce their risk vulnerability. Manizales also has a risk management system in place that has helped create contingency and emergency plans in case of natural disasters.

Melaka, Malaysia

In Malaysia, more than 75% of the population lives in cities and this number is expected to rapidly increase over the coming years due to rapid industrialization. Already high GHG emissions and air pollution in cities are exacerbated by a strong dependency on fossil fuels and the existence of a poor public transportation system. Melaka, a part of the 100RC initiative pioneered by The Rockefeller Foundation, already suffers from coastal flooding, coastal erosion and increased risk of rainfall flooding due to inadequate drainage facilities. Melaka was one of the first cities in Malaysia to take it upon itself to represent the country in creating a sustainable and green city and has undertaken a number of measures since 2015. The sustainable city development in Malaysia was launched in May 2018 as part of the Global Environment Facility's (GEF) Sustainable Cities Integrated Approach Pilot (SC-IAP) and will target the energy, transport and buildings sector.

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The initiatives under the SC IAP project will complement Melaka's Green City Action Plan 2020 and will include priorities such as the development of a Green Mobility Master Plan and a number of pilot projects supporting energy efficiency in governmental and commercial buildings (see GPSC 2019). One further government initiative is the 7,248 Melaka World Solar Valley, which aims to power most of the daily tasks of famers and other stakeholders by 2020. The city's success is a result of comprehensive planning, private sector engagement, as well as strong government and citizen commitment.

Rosario, Argentina

The transport sector is responsible for more than 33% of CO_2 emissions in Latin America and this number is expected to more than double by 2050 due to increased motorization and vehicle use (see World Bank 2016). Rosario, the third-largest city in Argentina with a population of over 1.2 million, is a key player in the industrial landscape of Argentina due to its proximity to Buenos Aires. Since 2010, Rosaria has been taking steps to make significant improvements to its public transportation system and the green public spaces as part of a comprehensive mobility plan. By promoting the use of bikes through a public bicycle system, Unibici, and free bike parking facilities around the city, the city has managed to drastically reduce congestion, while simultaneously improving the city's liveability. Together with a number of stakeholders, Rosaria has also enabled the use of less energy-intensive transport modes, including the development of pedestrian corridors and the designation of exclusive bus lanes (see World Bank 2016). However, modernization of the transport sector is not the only step Rosaria has taken towards becoming more sustainable. The city faced severe unemployment and poverty in the early 2000s. In order to create job opportunities and improve economic status of its residents, the city initiated an urban agriculture programme to make use of utilizing spaces unsuitable for other commercial development. For example, the city government mapped out all the fertile areas near railways or low-lying peri-urban lands that could be suitable for farming. Through an ordinance, the government established a process to quickly grant vacant urban lands to residents, especially low-income residents, for agricultural purposes. Due to its efforts, the city was awarded the UN-HABITAT International Award for Best Practices in urban development in 2004. After the first phase of the programme, "10 000 low-income families were directly involved in gardening, and that producers were earning from sales up to US$150 a month, well above the poverty line" (FAO 2015).

Conclusion: Integrated Approaches

The uptake of renewable energy and energy efficiency can further yield substantial co-benefits and should be coordinated with other urban infrastructures. Thus, there is a need for a nexus approach between water, energy, land use, waste management, sanitation and transport in urban areas – a fact which was examined in more detail in the above section on sustainable city practices in developing countries. Actors need to cooperate so that infrastructure projects fit together into a low-carbon, climate resilient city system. A range of multi-sectoral investments is needed to promote sustainable, since it requires implementing a number of measures including designing green pedestrian-friendly areas, creating an efficient municipal waste management system (preferably with resource recovery) and a clean and affordable public transportation system, as well as promoting resource efficiency in the commercial and industrial sectors (see United Nations 2018: 2). Energy efficiency can also be integrated with resource efficiency (i.e. water or materials), which combined can be implemented in the framework of resource efficiency strategies. For instance, water efficiency programmes also contribute to reduce energy consumption for pumping and treating water.

Energy efficiency can also be integrated into climate change adaptation strategies. For instance, deployment of energy efficiency technologies in end-use sectors and in generation, transmission and distribution of electricity can help compensating decreased output of power plants due to increased temperatures. In addition, demand-side management programmes aimed at peak shaving and demand response measures focusing on shifting energy demand towards times of the day in which a surplus of renewable energy is available, can help counteract increases in peak demand due, for instance, to a larger use of air conditioning and mitigate uncertainties in electricity generation and consumption caused by extreme weather events. Also, buildings can be designed according to expected future climate conditions, incorporating a combination of energy efficiency and renewable energy technologies that allow making them a tool for both climate change mitigation and adaptation. For example, an increased use of daylighting, window shading and natural ventilation can lead to buildings being able to withstand higher temperatures.

All cities should strive to build resilience to climate change through integrated approaches, which incorporate undertaking risk assessments, improving the adaptive capacity through the construction of robust buildings as well as developing emergency preparedness plans (see IBRD/WB 2010: 11). "Cities need an integrated approach that considers mitigation, adaptation and urban development." (IBRD/WB 2010: 11). In addition, given the shortage of public funds, cities must increase their ability to attract private investment to climate-resilient urban infrastructure projects.

City-level action must also be supported by national policies enabling cities access to sufficient resources and knowledge and guaranteeing sufficient coordination between city administrations and regional/national authorities. It is necessary to strengthen climate-resilient development in urban landscapes using a Water-Energy Nexus approach. The interdependencies and trade-offs between natural resource availability and demands on water and energy across different sectors in urban areas should be taken into account to ensure the resilience of cities

The financing challenges in cities are acute. Innovative financing mechanisms for funding sustainable infrastructure that expand city credit lines, without impacting ratings, raising taxes, or limiting other financial options are necessary. Cities require financing to build resilient and sustainable energy infrastructure. It is necessary to crowd-in private finance to complement public funds. For this purpose, the technical capacity of the public sector to attract private investments should be strengthened. National governments can support local governments with leveraging of private capital through municipal debt financing. In-depth self-assessment of cities' finances can serve as input to the development of multi-year action plan to address climate resilience challenges.

Creditworthiness is a vital step in ensuring cities can finance the infrastructure they need to reduce their carbon emissions and become more resilient to the effects of climate change. Action plans providing technical assistance on revenue and debt management, improved expenditure control and asset maintenance, capital investment planning, as well as transaction planning, structuring, and execution are essential to make cities sustainable. Accessing low-carbon infrastructure funding is a multi-layered challenge. City leaders can make urban infrastructure markets more attractive for private investment through an enabling environment using public funds to leverage private resources and prioritize sustainable development.

Dialogue platforms for dialogue between city officials and key stakeholders from the private sector and investor community would support mechanisms to finance infrastructure projects to make cities resilient. Sustainable urbanization strategies link infrastructure and private finance to invest in cities that are sustainable, competitive, and resilient.

[1]https://sustainabledevelopment.un.org/content/documents/21252030%20Agenda%20for%20Sustainable%20Development%20web.pdf
[2]https://www.un.org/sustainabledevelopment/cities/
[3]http://habitat3.org/the-new-urban-agenda/
[4]https://www.c40.org/
[5]https://www.globalcovenantofmayors.org/
[6]https://www.thegpsc.org/
[7]http://www.sustainablecities.eu/sustainable-cities-platform/
[8]http://www.100resilientcities.org/

Useful Resources
- UNEP Sustainable Cities Criteria:
  https://www.unenvironment.org/regions/asia-and-pacific/regional-initiatives/supporting-resource-efficiency/sustainable-cities
- GEF Sustainable Cities:
  https://www.thegef.org/topics/sustainable-cities

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