


# CITIES WITHOUT SLUMS

Seizing the Opportunity:

**RAPID URBANISATION  
AND THE CIRCULAR ECONOMY  
AT THE INTERSECTION OF  
CLIMATE CHANGE AND POVERTY**



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**Cities Alliance**  
Cities Without Slums

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## SEIZING THE OPPORTUNITY: RAPID URBANISATION AND THE CIRCULAR ECONOMY AT THE INTERSECTION OF CLIMATE CHANGE AND POVERTY



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# FOREWORD



**Rapid urbanisation and climate change are two of the major challenges of the 21st century. This publication explores how existing approaches of circularity and the informal economy can be taken up and reinforced to find solutions to reconcile these challenges. People living in cities' poorest areas are agents of change both in terms of climate mitigation and adaptation.**

**This paper complements and expands upon the Cities Alliance flagship publication, Building Climate Resilient and Sustainable Cities for All<sup>1</sup> which shed light on the intertwining nature of climate resilience and urban poverty. It also showcased how approaches of integrated policies of urban planning and management, centred around local climate risks and people, can make a difference in strengthening the resilience chain of a whole city.**

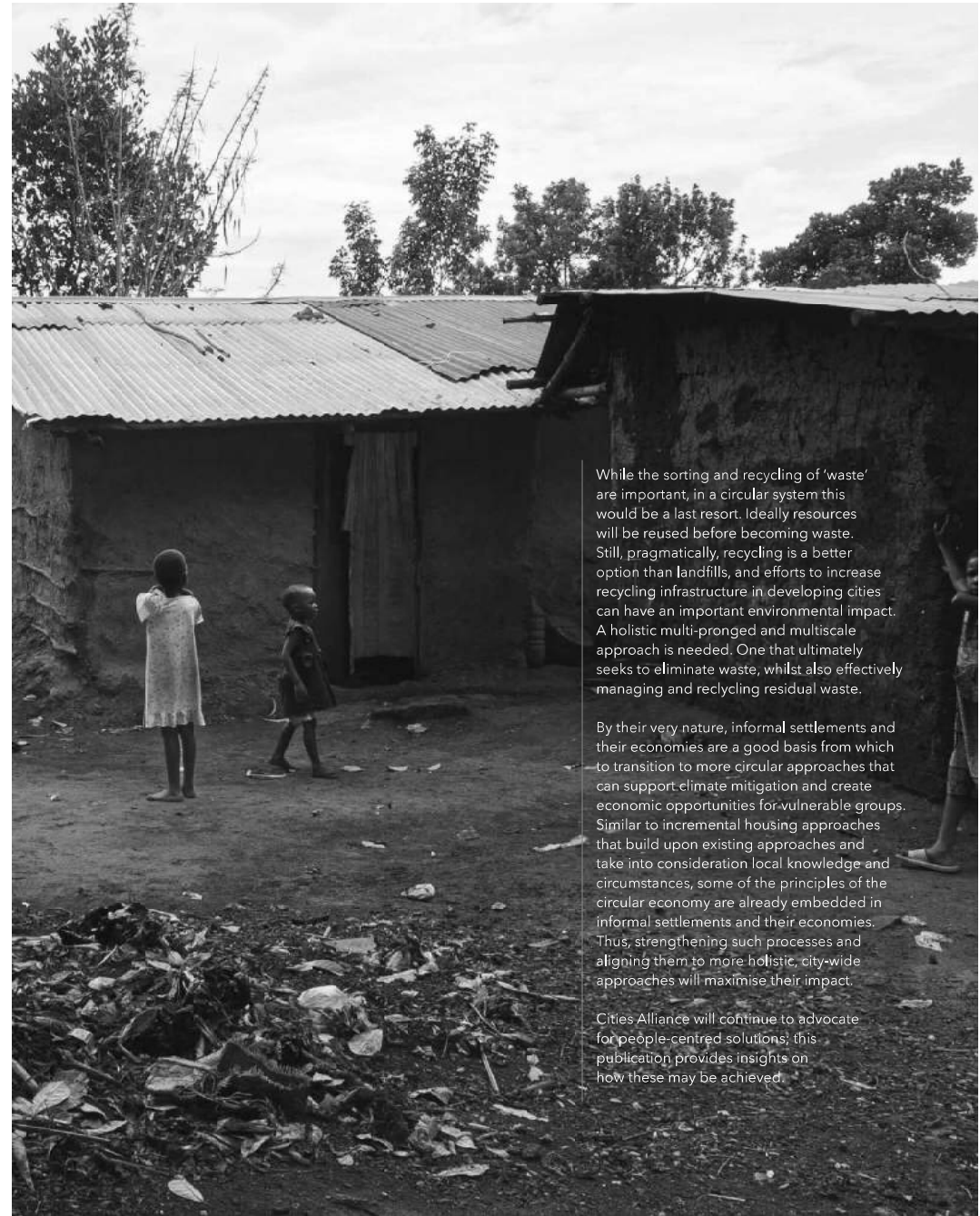
The choices that will be made on urban infrastructure in the coming decades - on urban planning, energy efficiency, power generation and transport - will have a decisive influence on the global emissions curve. Indeed, cities are where the climate battle will largely be won or lost. But in addition to their enormous climate footprint, cities generate the bulk of global gross domestic product and, as centres of education and entrepreneurship, they are hubs of innovation and creativity, including innovative ways for reuse, recycling or redoing. Cities Alliance has been supporting cities across Africa, Asia,

and Latin America to address informality, while supporting inclusive and sustainable growth for all. This publication discusses some of the major challenges of a circular economy approach and showcases established practices from the informal economy.

This includes climate mitigation and identifying low carbon development pathways - the predicted growth must be climate friendly. While our future resource use must take into account the 'limits to growth', especially in the Global North, at the same time there must be a **just transition** for the fast-urbanising countries of the Global South. Cities are central to the delivery of the climate commitments of the Paris Agreement and Sustainable Development Goals. Ensuring climate justice for the urban poor, who are at the front line of climate impacts and urban growth, will be critical to their wellbeing and livelihoods, and therefore for the city as a whole.

The circular economy is an approach that decouples economic growth from resource production, consumption and associated environmental impacts such as climate change, while enhancing social value. It rethinks the traditional linear economy (take-make-dispose) by adopting design approaches, business models and policies that regenerate natural systems and keep resources in continuous use at their highest possible value in distinct biological and technical cycles. Strategies to keep resources in use include sharing, reusing, maintaining, repairing, refurbishing, remanufacturing and recycling.

**Greg Munro**  
Director of Cities Alliance



While the sorting and recycling of 'waste' are important, in a circular system this would be a last resort. Ideally resources will be reused before becoming waste. Still, pragmatically, recycling is a better option than landfills, and efforts to increase recycling infrastructure in developing cities can have an important environmental impact. A holistic multi-pronged and multiscale approach is needed. One that ultimately seeks to eliminate waste, whilst also effectively managing and recycling residual waste.

By their very nature, informal settlements and their economies are a good basis from which to transition to more circular approaches that can support climate mitigation and create economic opportunities for vulnerable groups. Similar to incremental housing approaches that build upon existing approaches and take into consideration local knowledge and circumstances, some of the principles of the circular economy are already embedded in informal settlements and their economies. Thus, strengthening such processes and aligning them to more holistic, city-wide approaches will maximise their impact.

Cities Alliance will continue to advocate for people-centred solutions; this publication provides insights on how these may be achieved.

# EXECUTIVE SUMMARY



Cities account for 85 per cent of global GDP generation, but also the majority of consumption. In rapidly urbanising cities, the combination of fast and largely unplanned urban growth, increased consumption, and a lack of supporting infrastructure creates a recipe for rapidly increasing emissions, virgin material extraction and waste.



In the first two chapters, this report provides an overview of the nexus between the circular economy, climate change mitigation and socioeconomic development in rapidly urbanising countries. It then examines how circular economy and climate mitigation actions can improve socioeconomic conditions in developing cities, and the role of an integrated, inclusive city planning approach.

In many ways, rapidly urbanising, lower-income cities of the Global South still have a relatively small impact with respect to carbon emissions, while they already bear the brunt of climate impacts created by historic emissions of industrialised countries. Informal settlements within these developing cities already exhibit circularity, in the sense that materials of value rarely go to waste, and the residual value of items is maintained for as long as possible. However, due to a lack of investment, infrastructure, policy, administrative and regulatory capacity, there is a lack of planned and strategic approaches to ensure the rapid urbanisation follows a low emission path and is circular. It is therefore important that cities are supported to follow sustainable, low carbon approaches in their ongoing development, including circular concepts that are inclusive in supporting the most vulnerable.

## Cities are the Cause and the Solution



**55%** of the global population lives in cities.

**75%** of global greenhouse gas emissions derive from cities.

**70%** of cities are already dealing with the effects of climate change, and nearly all are at risk.



## The Opportunities

### Cities:



Cover only around **1%** of the Earth's surface.

Are home to over **55%** of the world's population.

Produce about **80%** of Gross World Product.

Consume about **80%** of the world's energy.

## Informality

**1 billion** urban citizens live in informal settings.

By 2030, this number could reach **2 billion** with many living in hazard-prone areas.



The circular economy is defined as "a model of production and consumption, which involves sharing, leasing, reusing, repairing, refurbishing, and recycling existing materials and products as long as possible. In this way, the life cycle of products is extended. In practice, reducing waste to a minimum."<sup>2</sup>





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### Circular Economy Approach for Supporting Climate Mitigation in Cities

The principles of the circular economy are key to global efforts to reduce carbon emissions. A global switch to renewable energy would address 55 per cent of emissions, while a circular approach to industry, agriculture, and land use would tackle the remaining 45 per cent.<sup>3</sup> An integrated approach can also connect the circular economy to local livelihoods, skills and learning, creating co-benefits for the overall environment, resource management and socioeconomic development. Existing infrastructure in many developing cities provides an opportunity to “leapfrog” past unsustainable technologies and towards low or net zero carbon ones.

Adopting a circular economy approach that supports climate mitigation within urban systems can be applied through the following main three principles:



#### Eliminate Waste and Pollution

A circular economy reveals and designs out the negative impacts of economic activity that cause damage to human health and natural systems. This includes the release of greenhouse gases and hazardous substances; the pollution of air, land, and water; and structural waste such as traffic congestion.



#### Circulate Products and Materials (at their highest value)

A circular economy favours activities that preserve value in the form of energy, labour, and materials. This means designing for durability, reuse, remanufacturing, and recycling to keep products, components, and materials circulating in the economy. Circular systems make effective use of bio-based materials by encouraging many different uses for them as they cycle between the economy and natural systems.



#### Protect and Regenerate Nature

A circular economy avoids the use of non-renewable resources and preserves or enhances renewable ones, for instance by returning valuable nutrients to the soil to support regeneration or using renewable energy, as opposed to relying on fossil fuels.<sup>4</sup>



#### Urban Planning, Governance and a Circular Economy

Cities Alliance have provided support to hundreds of developing cities over the past 20+ years, with approaches including CDS (City Development Strategy) and Eco2 Cities, which link environmental and socioeconomic development through integrated, inclusive planning. For rapidly growing cities, urban expansion planning provides a simple, cost-effective way for cities to secure space for sustainable growth and key infrastructure that supports the circular economy before land becomes built-up. This type of planning mitigates the need for financially and environmentally expensive and complex upgrading and resettlement at a later date. The opportunity exists for CDS, Eco2 Cities, urban expansion planning and incremental slum-upgrading practices to further promote a circular economy and help to address related requirements with respect to infrastructure, policy and regulation.

Chapters 3 and 4 explore opportunities for low carbon, circular economy transitions in the key sectors of solid waste management and construction and housing, while chapters 5 through 8 identify opportunities across additional urban systems and sectors, with examples drawn from projects around the globe, implemented by Cities Alliance and its diverse membership.



#### Solid Waste Management

Due to rapid and unplanned urban expansion, the amount of solid waste in rapidly urbanising cities is increasing day by day, while management and disposal capacity is often overwhelmed. Although the urban poor may generate less waste, they are much more likely to suffer the consequences of inadequate waste management than their more affluent neighbours. Poor resource and waste management practices can have a negative impact on air quality, water quality, drainage, and incidences of disease.

Supporting a circular economy for resource and waste management in informal settlements, low-income areas, and rapidly growing cities generally, can reduce environmental risks and create livelihood opportunities. “Waste” is a last resort in a circular system: ideally resources will be sorted and reused before becoming waste. Still, pragmatically recycling is a better option than landfill, and efforts to manage waste in developing cities can have an important environmental impact. A holistic multi-pronged, and multiscale approach is necessary that ultimately seeks to eliminate waste, but that also effectively manages and recycles waste that is created.

Cities Alliance have demonstrated such an approach to solid waste management in their work over the past 20 years including projects in Liberia and Brazil. The Cities Alliance can continue to work with cities and informal settlements to build local administrative capacity and legislative support for waste and resource management, which integrates informal settlements and livelihoods, as well as supporting the development of required infrastructure and supporting innovation in key sub-sectors including e-waste, textiles and food.





### Construction and Housing

Most of the built environment, including housing and infrastructure needed by 2050 in Africa has yet to be built. Because of this, there is the opportunity to further embed circular and low carbon principles and techniques from the outset, while “leapfrogging” outdated construction techniques.

In informal settlements self-help housing initiatives play an important role in the construction and regeneration of local communities. While self-help housing is often a positive solution to local housing challenges, there is the potential to better integrate circular and sustainable principles into self-help housing and wider slum upgrading projects. Some of these include proper building orientation to allow for passive ventilation; durable construction; the use of small-scale solar panels; and the use and reuse of local, sustainable, healthy and bio-based materials with low embodied energy, all of which can reduce environmental impacts. Whether major city renovation projects or community-led self-help housing, circular economy housing projects, especially in informal settlements, must be fully cognisant of local context and conditions, for example, land tenure, rental mix, wider socioeconomic conditions, and local political context. This must be combined with an understanding of local environmental factors and hazard risk profiles.



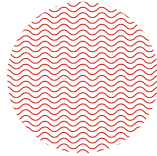
### Energy

Sustainable energy sources have a direct impact on resilience at the household, community, and city scale. Combining renewable energy and efficiency measures with circular economy principles, for example, the use and reuse of solar panels and waste-to-energy processes, and improving energy access can build the capacity of individuals and communities to better manage shocks and stresses.



### Water Management

Small- and large-scale water catchment and reuse programs, such as rooftop rainwater harvesting, city-scale wastewater treatment, and ecological regeneration can improve water quality and access. Circular economy principles can contribute to the effective management and protection of this vital resource, which is particularly crucial given the worsening effects of climate change.



### Transport

The need for supporting circular, low-carbon, and active transport systems in rapidly urbanising cities is paramount. As cities and settlements expand and upgrade, low-carbon mass transit must be written into plans to support socioeconomic development. These green transport solutions contribute to resilience and support climate-change mitigation through better air quality, better urban mobility inclusive of low-income individuals, and improved wider urban mobility by managing congestion.



### Agriculture and Food Production

Circular food systems ensure regenerative food production which both produces high quality food and improves the surrounding ecosystem, such as soil health. Greater efficiency can be generated and losses reduced by increasing the level of circularity within the agricultural value chain, in both rural and urban areas. This can increase food security and boost the livelihood productivity of millions.



### Cross Cutting Factors, Interdependence and Future Action

While the report presents circular economy actions and opportunities by sector, it is important to recognise the **interdependent nature of these sectors and systems**. Circular actions can affect and be affected by multiple other urban systems. Existing efforts and future initiatives must acknowledge this and comprise integrated, holistic solutions between cities, communities, and other affected stakeholders.

As cities rapidly urbanise, it is important that circular principles with socioeconomic co-benefits form the basis of urban planning strategies. Approaches should look at best practices replicability, but also be cognisant of the context-specific challenges that exist

in certain cities, including land and tenure issues, governance, and limitations with respect to basic infrastructure in the face of rapid urban growth and expansion.

Chapter 10 summarises the growing number of mechanisms, actors and agreements that are key to circular economy progress in rapidly urbanising, developing cities. An integrated effort is needed to support the existing circular practices evident in cities and informal settlements, build financial and technical capacity, and meet additional requirements – both physical and non-physical – for people living in cities. As an interface between international, national, city and community level actors, Cities Alliance is committed to these efforts.

