



The Potential for Sustainable Urbanisation in Africa

An Essay by Edgar Pieterse, Director of The African Centre for Cities¹, University of Cape Town, South Africa



Professor Edgar Pieterse is founding director of the African Centre for Cities (ACC) at the University of Cape Town. He is co-author of: *New Urban Worlds: Inhabiting Dissonant Times* (2017) and recent co-edited books include: *African Cities Reader III: Land, Property & Value* (2015), *Africa's Urban Revolution* (2014) and *Rogue Urbanism: Emergent African Cities* (2013). He serves on the Advisory Boards of: Indian Institute for Human Settlements (Bangalore), LSE Cities (London), the Gauteng City-region Observatory (Johannesburg), Pathways to Sustainability at Utrecht University, the International Panel on Social Progress (Paris), and the Coalition for Urban Transitions. During his recent sabbatical in Berlin he was a Research Fellow with the Alfred Herrhausen Gesellschaft and thereafter a Richard von Weizsäcker Fellow at the Robert Bosch Academy.

The African Centre for Cities seeks to facilitate critical urban research and policy discourses for the promotion of vibrant, democratic and sustainable urban development in the global South from an African perspective. ACC is an inter-faculty hub for interdisciplinary urban studies at the University of Cape Town.

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1. Reigniting Inclusive Visions and Actions

"...from a political, economic, military, and cultural point of view, [...] Africa has to become its own center. It has to become its own force. Not as a way of separating itself from the rest of the world, but as a precondition for it to exercise its weight among other forces in the world."²

It is incontrovertible that Africa is finally coming into its own a half a century since the beginning of the end of colonial exploitation. This confidence, finding its voice, is most eloquently expressed in the pan-African manifesto, *Agenda 2063: The Africa We Want*. It asserts:

"The aspirations reflect our desire for shared prosperity and well-being, for unity and integration, for a continent of free citizens and expanded horizons, where the full potential of women and youth, boys and girls are realized, and with freedom from fear, disease and want. Africa is self-confident in its identity, heritage, culture and shared values, and it is a strong, united and influential partner on the global stage making its contribution to peace, human progress, peaceful co-existence and welfare. In short, a different and better Africa."³

Though it does seem as if Africa's timing is a little off. The continent is finding a shared purpose and the political appetite for large-sca-

le reform at the very moment that the world seems to be retreating from multilateralism, liberal democracy, human rights, cosmopolitanism and openness. In the 2018 Munich Security Papers this time was characterised as being "out-of-joint"; manifested by the phenomenon that long held beliefs and painstakingly crafted institutions are fraying.⁴ This makes it virtually impossible to address shared problems such as climate change, rising xenophobia, tax evasion, off-shoring, forced migration and extremism.

There is an unmistakable backlash against the so-called rules-of-the-game that has produced unthinkable levels of inequality and a deep sense of cynicism in part because elites deploy the rhetoric of liberal democracy to mask unjust enrichment and large-scale social stagnation or exclusion.⁵ The breathless exposure of corporate corruption since the financial crisis of a decade ago reveal the myriad of ways in which public institutions at various levels have been "captured" by vested interests at the expense of the commons and foundational principles.⁶ There is clearly a need to pause, take stock and figure out collectively how best to reboot our economic, political and social protection systems. In an interdependent world, this cannot simply be a local or national or regional task; it is fundamentally a collective global responsibility, but one that can be energised through effective strategic action between Europe and Africa. The ethos of the

Sustainable Development Goals – leave no one behind – has to inspire efforts. This paper offers a perspective on what such cooperative action could be with a focus on one mega trend: urbanisation.

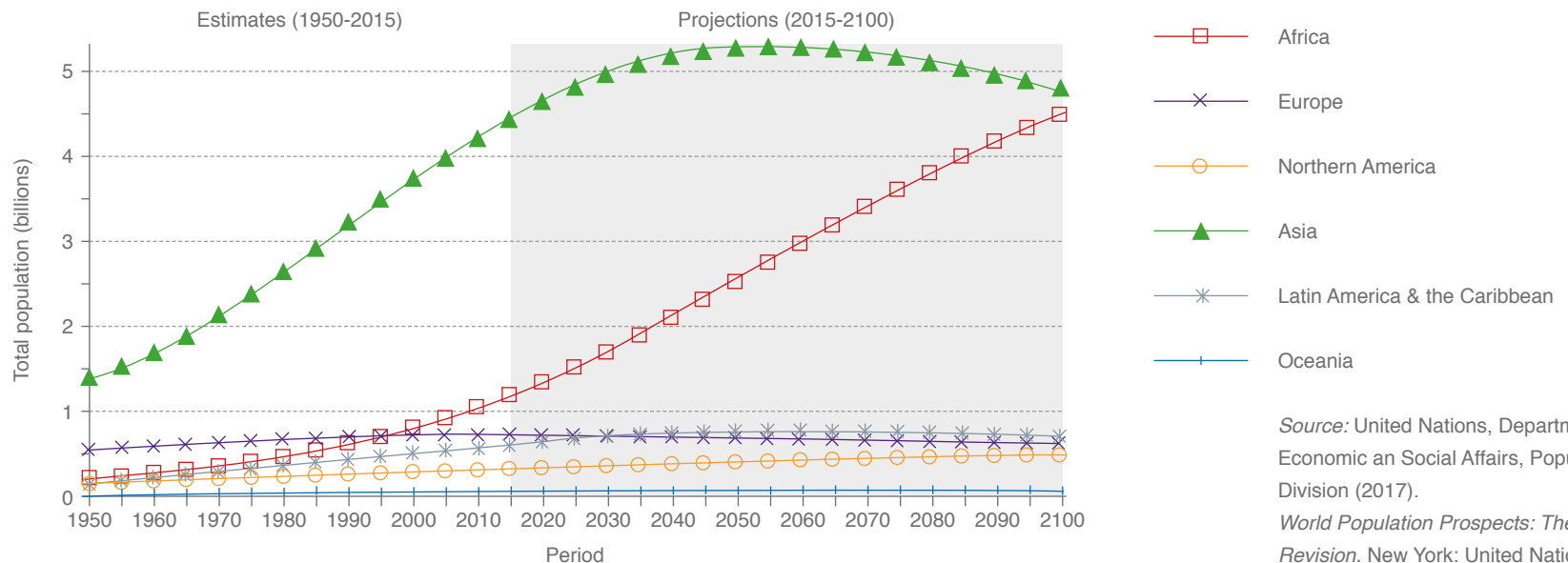
Taking Africa seriously as an equal and ally is about recognising that over the course of this century, the world will effectively become “Africanised” in demographic and cultural terms. It is projected by the United Nations that 40% of the global population will be African by the end of the century, up from the 17% in 2017; this is

very substantial given that the global population is projected to exceed 10 billion by then. One sobering implication of this trend is that Africa will have the largest labour force, even greater than that of China and India combined, by the end of the century. (Figure 1)

Most African countries have turned away from authoritarian rule, kleptocracy and blatant oppression of “undesirable” sections of populations. However, it is only a start. Many African countries have an incredibly long and difficult road to travel to institutionalise constitutional

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Figure 1: World population by region, 1950-2100



Source: United Nations, Department of Economic and Social Affairs, Population Division (2017). *World Population Prospects: The 2017 Revision*. New York: United Nations

democratic rule, effective social protections and viable economic pathways out of poverty.⁷ For example, the share of the population below the US \$1.90 per day poverty line has dropped from 45% to 35% between 1990 and 2013, but in absolute terms, there has been an increase in the number of people trapped in poverty, from 280 million to 395 million over the same period.⁸

Fortunately, there is a recognition at a Pan-African level that the fortunes and fates of African nations are profoundly intertwined, and it is important that both support and oversight should be strengthened through various pan-African institutions. More detail on these developments will be provided below. For now, it is important to recognise that there are numerous initiatives and processes that have been defined by Africans themselves that can be enhanced and strengthened by international partners, especially members of the European Union. These African initiatives are all infused by and consistent, with international norms as expressed in the Sustainable Development Goals, the Paris Climate Agreement and the New Urban Agenda.

In this paper we will argue that **this expansive international agenda can best be operationalised through a careful consideration of urbanisation and its potentialities.** To make our case, we will next provide some more context to appreciate the contemporary challenges facing Africa as the world contends with out-of-joint times. This sets the stage for a summative discussion in section 3 of the plan of action Africans have developed and are seeking to implement. These plans are comprehensive, ambitious and riddled with risks and threats. European and other partners can make an enormous contribution by understanding these risks and fortifying African efforts to implement their ambitious goals. Section 4 extrapolates from established macro development plans a refreshed paradigm to advance sustainable urbanisation whilst identifying emerging initiatives to drive implementation. The paper concludes in section 5 with a series of recommendations for action in the short- to medium-term. The recommendations are based on a set of assumptions about how best to focus and deepen policy dialogues on advancing sustainable urbanisation in Africa.

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2. Africa's Economic Challenges and Spatial Imperatives

Africa's most profound challenge is **the curse of path dependence**. In the context of this paper, path dependence denotes the process whereby a country's economy is trapped by historical determinations of economic focus connected to a structural position marked by limited bargaining power. To put it bluntly: due to colonialism, African economies were directed to be subservient to metropolitan economies as a supplier of primary commodities and cheap labour. In the postcolonial era this design was extended when economic resources and control transferred to companies based in the coloniser regions. Development economists recognise that this dynamic has, by and large persisted until today due to the ways in which global economic institutions are designed and governed. The unfair nature of trade rules compounds the problem.⁹

Countries trapped in this position do not have the resources to invest in new economic sec-

tors, research and development or technological innovation, and they lack the bargaining power to secure the requisite financing needed to catalyse new economic specialisations. Specifically, most African economies are dependent on the extraction and export of natural resources, whether they be fossil fuels, precious minerals, agricultural commodities or some combination of these. Since most African countries have relatively small economies due to the arbitrary carving up of nation states by the former colonial powers, it is virtually impossible to negotiate terms of trade that can empower their economies to shift from dependence on a few primary commodities towards a more diversified and complex structure. This is also why the pan-African and regionalisation agendas are so important.

The path dependent track was consciously designed and continuously reinforced through neo-colonial relations with former colonial em-

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pires and limited power for Africa in the Bretton Woods institutions that shape international economic and trade relations. This dynamic persists. It is equally clear that poor governance and political cultures built around corruption and patronage has made a bad situation even worse.¹⁰ The net economic effect of this is most starkly visible in the fact that only five out of 54 African countries are regarded as having diverse economies. **Table 1** offers a summary overview of the economic status, urbanisation rate, fertility rates, GNP per capita and categorisation of African states.

Path dependence causes economic stunting

The outcome of this history is that most African economies are effectively stunted. The transi-

tion from primary economic activity to secondary activities such as manufacturing and industrialisation did not happen in most African countries. Instead, as the world economy has shifted dramatically to being dominated by service sectors as financialisation set in from the 1980s onwards, most African economies reflect a tendency to skip the secondary phase. Most African countries now reflect an economic structure comprised of primary and service-based economic activities. For our purposes, the key insight is that workers who start off in primary sectors with informal employment do not get absorbed into formal jobs in manufacturing and industrial sectors. Instead, they remain trapped in vulnerable jobs that are mainly of a (low-end) service nature and cha-

Countries trapped in this position do not have the resources to invest in new economic sectors, research and development, or technological innovation, and they lack the bargaining power to secure the requisite financing needed to catalyse new economic specialisations.

Table 1: African countries by economic category, urbanisation rate and other variables

	Diversifiers	Early urbanisers	Late urbanisers	Agrarians	Natural resourcebased
Urbanisation rate	40-60%	35-50%	18-30%	<30%	30-70%
Fertility	<3 children	5 children avg.	>5 children	high	high
GNI p/c	<\$10000k	\$1-4000	\$1-2.200	<\$1600	\$500-20000
HDI	Above 0.60	0.40-0.57	0.38-0.51	0.34-0.48	Wide range
	5 countries	9 countries, mainly West African	11 countries, a number in East Africa	11 countries, many landlocked	13 countries

Source: OECD, AfDB and UNDP (2016)

African Economic Outlook 2016. Sustainable Cities and Structural Transformation. Paris: OECD

racterised by irregular and very low wages. This unusual scenario is graphically reflected in Figure 2 based on the analysis of Dani Rodrik. The “new normal” for Africa reflects how most workers jump directly from informal agricultural employment to informal service jobs. Only a small proportion go on to do informal manufacturing jobs and an even smaller share enter organised manufacturing jobs. This is a disaster for a youthful continent.

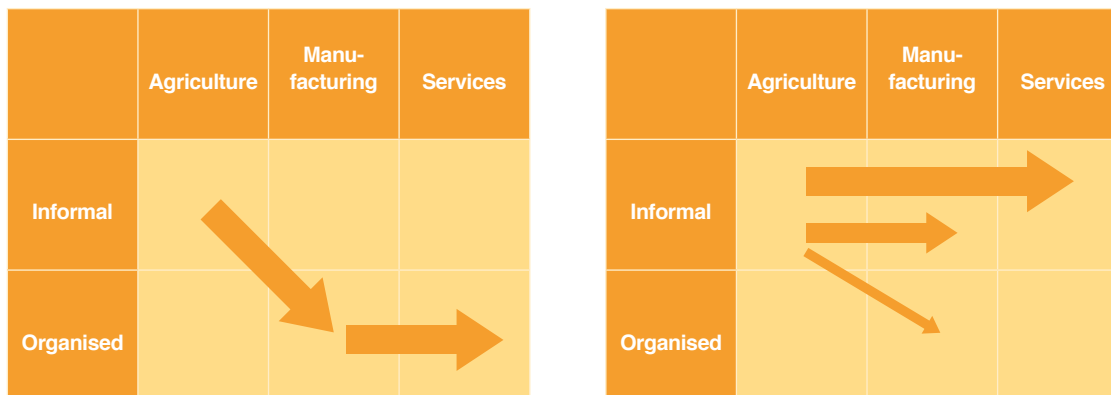
This prospect exacerbates the myriad of development challenges in Africa. It confines most workers to remain poor with few opportunities to achieve social mobility for themselves or their offspring. With a doubling of the labour

force, alongside substantial urbanisation over the next two decades, it is a profound problem that requires a gargantuan effort to overcome. This is understood and addressed by the African Union and various African development agencies. As set out in Agenda 2063 and a variety of substantial development reports by UNECA and AfDB, the most effective response against this dynamic is: **structural transformation**. Box 1 provides a technical definition of this concept as set out by the United Nations Economic Commission for Africa (UNECA).

At its core, structural transformation denotes processes to “shift labour out of low-productivity agriculture into higher-productivity manu-

Box 1: Structural Transformation
Structural transformation is the defining characteristic of the development process. It entails the allocation of resources—especially new investments—from low- to high-productivity activities within and across sectors, especially the agriculture, industry and services sectors. [...] Four quite relentless and inter-related processes define the structural transformation process: (a) a declining share of agriculture in gross domestic product (GDP) and employment; (b) the rapid process of urbanisation as people migrate from rural to urban areas; (c) the rise of a modern industrial and service economy; and (d) a demographic transition from high to low rates of births and deaths. The final outcome of structural transformation is an economy and society in which agriculture as an economic activity has no distinguishing characteristics from other sectors, at least in terms of the productivity of labour and capital or the location of poverty.

Figure 2: African labour market remains predominantly informal



Source: OECD, AfDB and UNDP (2016) *African Economic Outlook 2016*. Sustainable Cities and Structural Transformation. Paris: OECD, adapting Dani Rodrik.

A. Traditional pattern
 B. New patterns

facturing and modern services.”¹⁴ Across most of sub-Saharan Africa, this shift is not occurring fast enough and many countries display features of economic stunting. The declining share of manufacturing as a contributor to GDP since the onset of the postcolonial era demonstrated in Figure 3 makes this plain. Furthermore, one can glean that the relative shares of agriculture, industry and services have remained more or less the same. The worrying issue is that these patterns persist despite a dramatic expansion of the labour force and educational improvements, particularly over the past two decades. We have to conclude that large-scale, labour intensive

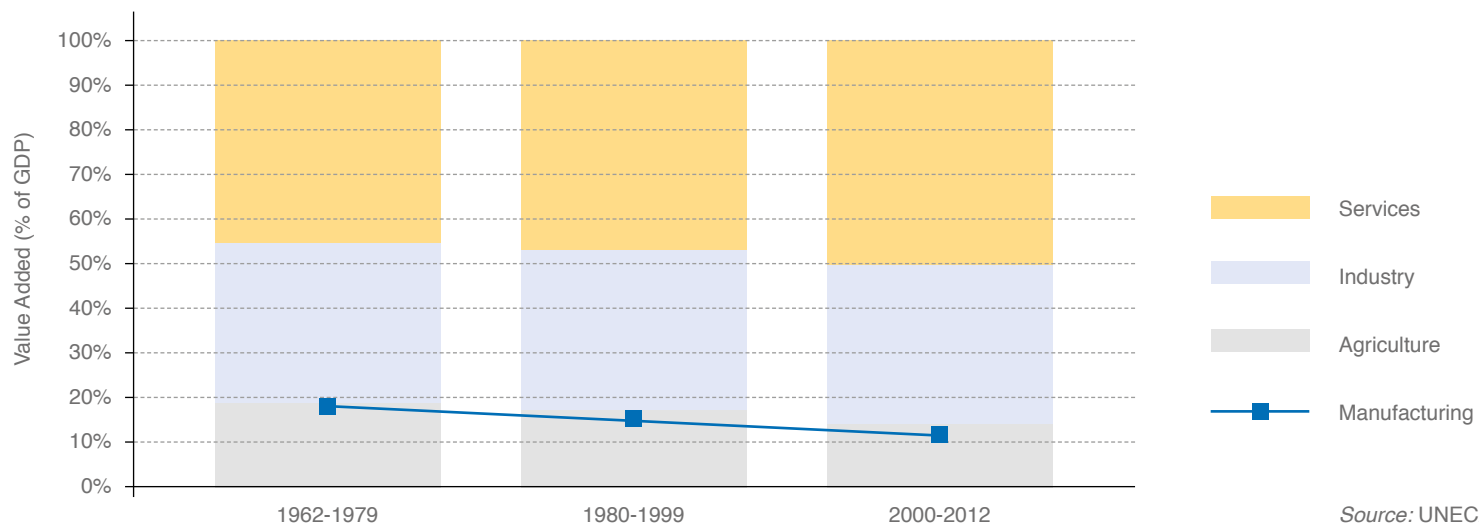
and productive industrialisation is not on the cards for most African economies a situation that leaves them marginal and vulnerable in an increasingly integrated global economy and, most importantly, unable to absorb new entrants into the formal labour market.

The spatial dimensions of structural transformation

Economic geographers have helped us understand the spatial underpinnings of successful economic development. Research demonstrates that there is a correlation between levels of urbanisation and economic development. Specifically, no country is able to

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Figure 3: GDP Composition by sector, Africa, 1961–2012.¹³



Source: UNECA (2015, 47)

raise average individual income (GDP/capita) without urbanisation. Furthermore, household incomes and opportunities are much greater in urban areas than in rural areas. Lastly, for high-value sectors related to sophisticated manufacturing and service sectors (insurance, banking, real estate) to take root requires the density of producers and consumers that cities offer.

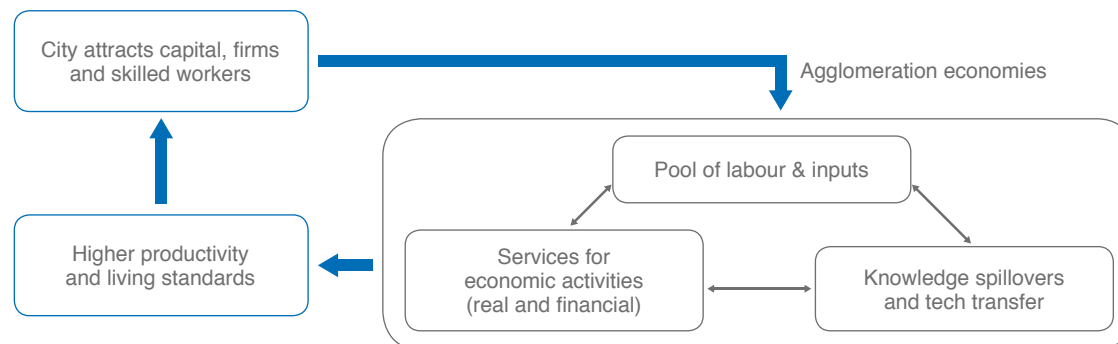
Figure 4 offers a simplistic representation of why urbanisation is a precondition for economic development and growth. Cities and towns offer a material context where a variety of labour classes (skilled, semi-skilled and unskilled) coexist as a resource for demand and new business growth. Furthermore, cities and towns are the spatial container where a variety of highly inter-dependent businesses coexist and are able to share and exchange vital

knowledge and technological know-how that improves their productivity. These firms are also then able to forge the necessary relationships with potential investors to raise the requisite capital to translate business ideas into entrepreneurial ventures. This unique ecology of actors, knowledge, capital and shared culture generates individual and aggregate productivity and wages, which in turn generates improvements in living standards and the quality of the urban environment. As this dynamic consolidates it becomes a stronger magnet for external capital, firms and skilled workers who want to partake in the success.

This is, of course, an idealised description of the potentially virtuous relations between urbanisation and economic development. It does assume that there is an effective state that is able to steer and direct investments into urban

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Figure 4: Positive links between spatial agglomeration, living standards and attracting capital¹⁵



infrastructure to achieve these outcomes. It also assumes that a given local economy has sufficient relative power to insert its economic outputs into globalised value chains. These conditions do not really exist in most African cities and towns and this is well understood by African experts. For example, in 2017, UN-ECA unpacked with refreshing candour the connections between African urbanisation and economic performance:

"African cities thus face low productivity, tepid job creation, huge infrastructure and service gaps, weak linkages with rural areas, high levels of informality, increasing inequalities, growing environmental damage and vulnerability to climate change and weak institutional systems and capacities. Unless resolved, these impediments will undermine Africa's urban potential for structural transformation. [...] The challenge confronting Africa is thus to accelerate structural transformation by harnessing the rapid urban transition to promote econo-

mic diversification, with a special focus on industrialisation that will create jobs, enhance access to basic services and reduce inequality and poverty."¹⁶

Put differently, structural transformation can be catalysed by a single-minded focus on harnessing inclusive urbanisation that is premised on the principles of sustainable development as concretised in the Sustainable Development Goals (SDGs) and the New Urban Agenda (NUA).¹⁷ Recent policy proposals on the institutionalisation of these global policy frameworks can help us focus on how best to move from policy intention to implementation. At the heart of the implementation question is the challenge of limited and unevenly distributed infrastructure. In terms of policy alignment, the SDGs and the NUA are consistent with the prescripts of Agenda 2063. In the next section we explore this strategic agenda with an eye on understanding the scope of the infrastructure constraints.

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3. Moving from Intent to Implementation

Agenda 2063 is undoubtedly ambitious, but it is also actionable. It strikes a fine balance between audacity and pragmatism. The policy is constructed around seven high-level visionary aspirations (see Box 2), which in turn are elaborated upon before a final section that points to a number of concrete actions to give effect to the aspirations. Furthermore, the policy framework is accompanied by “The First Ten Years Implementation Plan” that covers the period 2013-2023. This serves as a planning tool with specific goals, priorities, programmes and milestones in line with the seven aspirations set out in Agenda 2063. The idea is that the implementation plan will be updated and refined every five years, establishing a basis for learning and adaptation.¹⁸

At the heart of Agenda 2063 is the determined desire to shift Africa onto a new growth path that is simultaneously inclusive and sustainable. This points to the urgent need to foster national and regional economies that are labour-intensive, job generating and positioned to become resilient over the medium-term by avoiding carbon-intensive investments (e.g. coal-fired power stations) and paying attention to ecological regeneration. It demands that countries and sub-regions confront the structural drivers of path dependency and address the legacies of limited infrastructure coverage.

Infrastructure challenges

The biggest challenge to Africa’s developmental potential is undoubtedly its limited infrastructure. It is self-evident that reliable and affordable energy is a precondition for economic-development and the wellbeing of families. A business that is not able to run its equipment reliably is hardly able to be productive, let alone profitable. If the cost of reliable energy is excessive, it also prevents access, even when baseload energy might be available. In other words, given that the majority of households in Africa are income poor, they often can’t access energy just because they can’t afford to pay for it. The Africa Progress Panel summarises the development imperative as follows: “Universal access to reliable, affordable, low-carbon electricity is the key to Africa’s socio-economic transformation. The continent has enormous potential to generate the energy which it needs to drive inclusive growth and create jobs. Yet most of Africa is mired in an energy crisis.”¹⁹ A few data-based examples capture the scale and urgency of the energy crisis.

Ethiopia, with a population of over 90 million people, consumes one-third of the electricity of Washington DC, which has a population of 600 000.²⁰ More than half of Africa’s population (620 million) does not have access to elec-

Box 2: Aspirations of Agenda 2063

1. *A prosperous Africa based on inclusive growth and sustainable development.*
2. *An integrated continent, politically united based on the ideals of Pan Africanism and the vision of Africa’s Renaissance.*
3. *An Africa of good governance, democracy, respect for human rights, justice and the rule of law.*
4. *A peaceful and secure Africa.*
5. *An Africa with a strong cultural identity, common heritage, values and ethics.*
6. *An Africa whose development is people-driven, relying on the potential of African people, especially its women and youth, and caring for children.*
7. *Africa as a strong, united, resilient and influential global player and partner.*

tricity. With the high population growth rate, it means that by 2030 the problem will be even worse if the current rate of providing access extends into the future. There is therefore an urgent developmental and economic need to dramatically secure access, but to do so in a manner that ensures a low-carbon energy system for the long-term.²¹

However, apart from low levels of access, there is a larger structural issue of per capita rates of consumption. The African Progress Panel points that the “average American consumes over 13,000 kilowatt hours (kWh) of electricity a year and the average European somewhat less. The average African (excluding South Africa) uses just 160 kWh.” (See Figure 5.) South Africa is an outlier due to historical reasons that compelled the Apartheid state to invest in autonomous energy generation plants to secure sufficient baseload for security reasons.

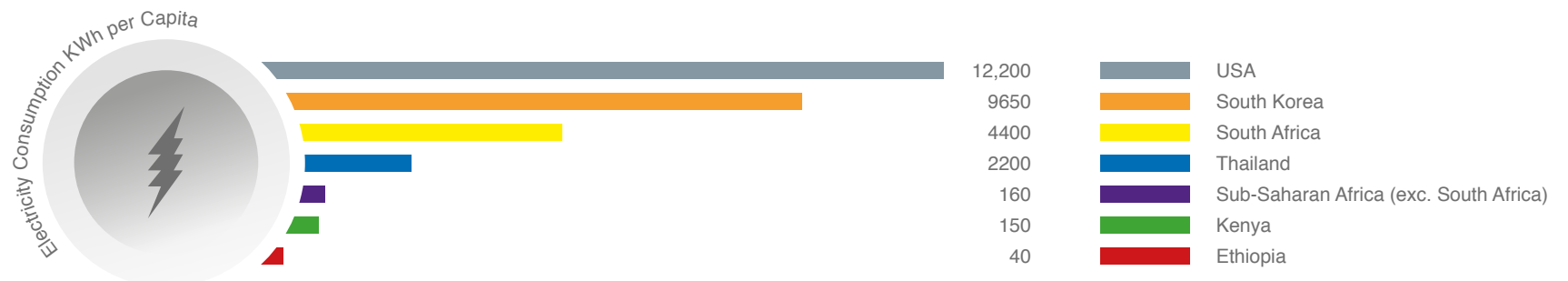
However, the South African energy system is predominantly based on coal and therefore thoroughly inappropriate for a low-carbon growth path.

The other infrastructural obstacles to vibrant economic development are connectivity infrastructures related to move of goods and services, and crucially, to ensure preparedness for the fourth industrial revolution through information communication technology. Again, as with energy infrastructure, Africa confronts grave backlogs when it comes to mobility infrastructure such as roads, rail, ports, and airport capacity.

Deficits in road coverage rare evident in the fact that SSA is far below the global average and characterized by major intra-Africa disparities. There is only 3.6 km of road per 1000 persons²² compared to a world average of approximately 7 km per 1000 persons. Only 34 per cent of

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Figure 5: Electricity consumption kilowatt per capita



African rural population live within 2 km of rural roads, of which only half of existing rural roads are in a fair to good condition.²³ Rail networks and ports are in a similar state of inadequacy. The bulk of the continent's railways are unconnected low-speed and undercapitalised lines that extend from ports to small inland markets, and performance and capacity is far below what is required.²⁴ Mobility deficits are highly significant because of the vast geographical distances that characterise African economies compared to other developing world regions and the number of land-locked economies. Also, since transport costs are important input costs, it also means that African firms will always find it near impossible to compete with counterparts in other parts of the world, reinforcing the lack of economic diversification.

Solving the infrastructure financing crunch

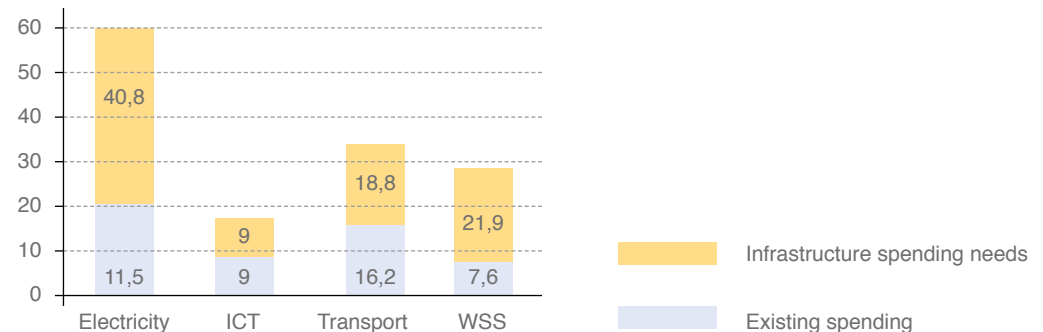
Apart from the infrastructural constraints, the second challenge to Africa's potential is the lack of affordable finance to address the massive infrastructure deficits and support local firms to enable them to raise their productivity and output. In 2010 it was estimated that addressing infrastructure backlogs, building new infrastructure, refurbishing of derelict assets as well as operating and maintaining all existing and future infrastructure, would require US \$93 billion annually for the next decade. Capital investment in construction and rehabilitation accounts for two thirds, while one third is needed for maintenance.²⁵

Figure 6 illustrates the infrastructure finance deficits. Energy and water sectors have the widest spending gap while the transport sector is underfunded by more than half. In 2010 it was estimated that only US \$45.3 billion²⁶ was being spent on infrastructure, however more recent estimates suggest that spending has almost doubled. The IMF posits that national budget spending by SSA countries reached US \$51.4 billion; priorities included the expansion of power production and transmission and the improvement of roads and transports infrastructure, demonstrating a growing commitment to act on Pan-African and regional

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Figure 6: Infrastructure spending needs by sector in bn. US \$²⁹



commitments.²⁷ Gutman et al. further calculated that total external financing commitments increased to \$30 billion per year as reflected in Figure 7.²⁸ This brings total infrastructure investment to just over US \$80 billion per year, underscoring a growing appetite to tackle the binding constraint that poor infrastructure represents. However, these positive investment trends bely the fact that given the continuous financing shortfall since the 2010 estimates, the current backlog is obviously significantly more than US \$93 bn per annum.

These changing investment patterns reflect a clear, even if emerging, consensus among African leaders that **a strategic infrastructure investment programme** is the only viable mechanism to simultaneously achieve a number of goals: employment creation, reduction in poverty through access to basic services, green industrialisation and proliferation of research and development (R&D) institutions. To achieve such compound outcomes demands a development approach that is alive to scale and space.

How scale and space matters in advancing Agenda 2063

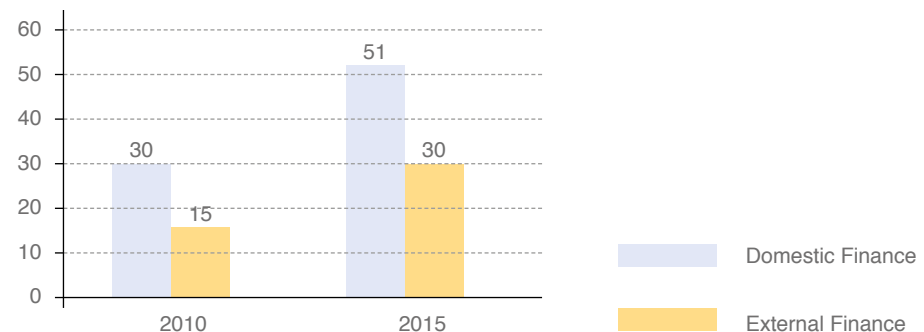
Agenda 2063 is fundamentally a pan-African vision that seeks to foster much tighter economic and cultural integration to benefit all countries while also elevating Africa's position in a changing global multilateral system. This focus emphasizes the importance of increasing

intra-Africa trade rooted in effective and fully integrated sub-regions. This geographic focus has revealed the importance of infrastructure investments that are crucial to advance regional integration, which in turn can enhance national and local productivity. For example, in 2016, UNECA and NEPAD published a compendium of sixteen infrastructure projects that are meant to act as a catalyst for African integration.³¹

However, most infrastructure investments happen within a national development framework, and, given the relative importance of larger cities for economic development, investments in these territories are particularly important. For example, airports, sea ports, and other logistical hubs matter greatly to facilitate trade and exchange with other economies. Furthermore, given the concentration of bus-

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Figure 7: Comparison of infrastructure spending in US \$ bn ³⁰



nesses and consumers in the cities, ensuring access to stable energy supplies, affordable data and other infrastructural aspects is vitally important. Thus, another scale of focus is indeed capital cities and other city-regions within the national space economy that matter greatly for the leading economic sectors that propel national and regional economies. However, there is often a mismatch between the authorities responsible for infrastructure planning and capital raising (often national utilities) and the local authorities who are best placed to manage the fine-grained territorial planning to optimise urban economies. Going forward, it will prove critical for African governments to empower metropolitan authorities to become much more central in infrastructure planning and coordination, especially if the outcomes are higher-order goals such as sustainable integrated urban development.

Institutional preconditions for implementation

Against this background, there is now a clear international consensus that development planning and implementation requires carefully designed multi-level governance arrangements, with strategic decision-making and power decentralised to the most local level. This principle of subsidiarity is of course well established in the European Union constitution. A precondition is putting the right institutional building blocks in place. If one correlates the institutional commitments of the SDGs, the Paris Climate Agreement and the New Urban Agenda one could argue that each country (wherever in the world) needs to put in place a number of governance components to facilitate coherent national planning, implementation and effective monitoring. In contexts of high demand and limited resources it is especially important to implement an approach as elaborated in this section.

Figure 8 summarises the importance of a national development strategy as an Apex framework that is informed by and guides a number of evidence-based pieces of planning to enable effective coordination and alignment, so that the SDGs can progressively be realised. In this scenario, the National Sustainable Development Strategy will provide an account of how the SDGs and Agenda 2063 are localised in the given country.

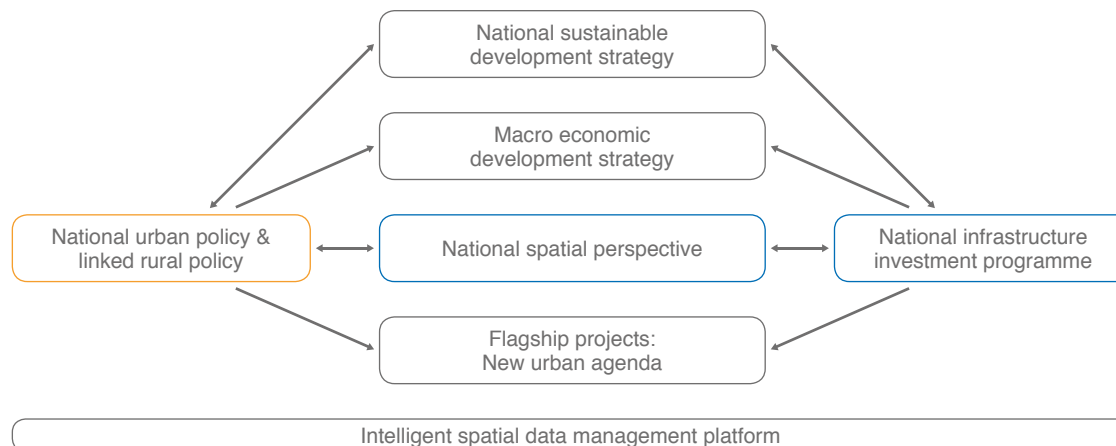
Brief elaboration of each component is relevant. One, macroeconomic policy must be subservient to the national sustainable development strategy that reflects the national agenda to achieve the SDGs and Agenda 2063. It is difficult to overstate this because

the history of development cooperation, multi-lateral support and development finance rests squarely on a narrow, often neoclassic obsession with macro-economic policy as the starting point. It will be impossible to address the path dependence of African countries if this is not fundamentally changed.

Two, spatial thinking, or an understanding of the differential nature of the national, regional and local space economy, informs economic development thinking and, most importantly, a **coordinated** approach to infrastructure investment. Three, there have to be emblematic flagship projects to capture the spirit and intent of the new Agenda 2063 pathway as defined within national parameters. Four, data

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Figure 8: Enabling national institutional mechanisms ³²



and analytics are absolutely critical to improve the quality of decision-making but also to reinforce transparency and accountability. Helping African governments get this institutional architecture and operations right requires numerous international partners and resource flows. The European Union should strive to be the leading partner. This is clearly an ambitious and far-reaching institutional agenda, as it should be given the scale of the challenges discussed before. However, it will be important to recognise that wholesale change is not feasible or realistic given the combination of institutional and financial constraints.

Five, it is therefore essential that a select number of catalytic investments are identified and pursued with vigour to demonstrate an alternative approach is possible, and to keep the change management agenda manageable.³³

Thus, it is important that each country and major city has a limited number of catalytic projects that can set the direction for long-term transformation.³⁴ This imperative provides external partners with tangible opportunities to provide direct technical, investment and other forms of support.

If a renewed partnership between Africa and Europe is to flourish, it is vital to support and expand the base of leadership across diverse African institutions – public sector, private sector, academia and civil society. Effecting transformative change across numerous sectors and levels of government rests on the quality of relationships (trust) and maturity of leaders across society. This is another obvious and crucial area of long-term support that must concern external partners.

If a renewed partnership between Africa and Europe is to flourish, it is vital to support and expand the base of leadership across diverse African institutions – public sector, private sector, academia and civil society.

4. Refreshed Paradigm for African-European Cooperation on Urbanisation

"In the age of globalization and the emerging fourth industrial revolution, the role of African cities and urbanisation must reverberate in the long-term economic, spatial and demographic planning of the continent. This role of cities is expressed in Agenda 2063 of the African Union, the United Nations' New Urban Agenda, UN-Habitat's State of African Cities reports and the World Bank's Africa's Cities report, among others."³⁶

The starting point of a refreshed paradigm for partnership and solidarity with Africa must be the vision and priorities of Africans.

It is therefore appropriate to distil that vision and explore how it can best be operationalised. At the broadest level, Africans are forging development pathways that will lead to robust and diverse economies, fully integrated globally, but on the basis of a seamless African market. It is recognised that this requires a strong and effective public service. This is presently a challenge due to the institutional impacts of three decades of misguided structural adjustment reforms, many failed privatisation experiments and political malfeasance. It will take effort and investment to rebuild competent, accountable and nimble public institutions at all levels of the state. In the short term, the key priority must therefore be the nurturing of **distributed leaders** across the state and other sectors of African societies; change agents that can support and drive the necessary institutional change management.

A further dimension of an African agenda is to ensure the production of **strategic development plans** to inform investment priorities and establish performance review mechanisms that are firmly rooted in the state and civil society. The most effective tool to accelerate public sector performance is public oversight and joint learning.

This leads to the next imperative: a political and cultural commitment to accept the continued co-existence of ancient, modern and aspirational practices in all domains of development practice. African societies remain richly endowed with a variety of cultural beliefs and social practices that function as a social glue to help individuals and collectives negotiate the hardships of material deprivation and economic uncertainty. These practices are a resource that can be tapped to foster of innovation and context-specific solutions.³⁷ In other words, traditional, religious and cultural institutions are very important to support and sustain Africa's structural transformation. In practical terms, as expressed by Agenda 2063, Africans are determined to use the next decade to establish a robust platform to ensure **a new development pathway that is resource efficient (low carbon), inclusive, culturally vibrant and economically robust**. From an urban perspective, this translates into a prioritised focus on driving the desired structural transformation through an effective focus on sustainable infrastructure investment.

The starting point of a refreshed paradigm for partnership and solidarity with Africa must be the vision and priorities of Africans.

Traditional, religious and cultural institutions are very important to support and sustain Africa's structural transformation.

Supporting Africa's urban transition

The central goal of Agenda 2063 is to ensure a deep structural transformation of the economy so that it diversifies, becomes much more labour intensive and more environmentally sustainable. This is very difficult to achieve because existing economic sectors are structurally inserted into global value chains in highly disadvantaged ways due to power asymmetries. Attempting to achieve that kind of structural transformation remains important for macro-economic and industrial policy, but it will become easier to achieve if states use their infrastructure investments to catalyse a dual structural transformation: greater economic diversification through labour-intensive industrialisation and a green economic transition. Big data analytics and ICT innovation can play a major part in this process. An important part of this agenda is a simultaneous focus on deep education reform across the spectrum: from early childhood development to basic education, tertiary education, vocational training and adult education. However, this is beyond the scope of this policy paper. Lastly, legal reform is always critical to both inducing and embedding radical public policy reforms. Again, even though this is a critical part of the puzzle, it is not covered by this paper.

Promoting sustainable infrastructure

At the intersection of Africa's employment, economic growth and cultural and environmental imperatives lies the question of infrastructure.

Traditionally, development policy would simply advocate for the roll-out of modern network infrastructure, through, first, a focus on governance reform so that the country in question could be sufficiently credit worthy to access the requisite development finance to implement infrastructure projects. This approach has demonstrably not worked for two main reasons: One, irrespective of the quality of governance, most sub-Saharan African countries are too poor to be considered credit worthy, and the prevalence of infrastructure poverty undermines political institutions. Two, modern infrastructure systems are often inappropriate not just because of costs, but also due to the associated negative environmental impacts: They are too resource-intensive and often a contributor to carbon emissions, especially when coal and other fossil fuels underpin the energy infrastructure systems.³⁶ These problems are well understood by African leaders and institutions and a different approach is afoot that should be reinforced by European partners.

In light of this, we refer to an operational definition of sustainable infrastructure put forward by Nicholas Stern and colleagues:

"Sustainable infrastructure is infrastructure that is socially, economically and environmentally sustainable... Sustainable infrastructure is inclusive and respects human rights. Such infrastructure meets the needs of the poor by increasing infrastructure ac-

cess, supporting general poverty reduction, and reducing vulnerability to climate change risks...It positively impacts GDP per capita and job outcomes. Sustainable infrastructure does not burden governments with debt they can never repay, or end users with tariffs they cannot afford including and especially the poor...Environmentally sustainable infrastructure mitigates carbon emissions during construction and operation (e.g., high energy efficiency standards). Sustainable infrastructure is also resilient to climate change (e.g., by building public transport systems in less fragile places or to different specifications due to climate change risks).³⁹

This agenda is not unique to Africa but is rather an imperative for the whole world. However, due to the extreme deficits in Africa and the extent of poverty and limited infrastructure finance resources, the challenges there are unique. Since Europe is equally confronted with dramatically reconfiguring the material and carbon intensities of its aging infrastructure networks, there is indeed an integrated debate to be had about new priorities to achieve the SDGs and low-carbon ambitions. Africa is confronted by four major infrastructural priorities that can focus the attention of European partners to lay the basis for sustainable urbanisation. Building on the earlier section that explored the infrastructural challenges that undermine Africa's structural transformation,

we will briefly consider four infrastructural transitions in the build-up to the recommendations.

Energy transitions

Energy security is a precondition for economic prosperity and peace. As explained before, Africa is hobbled by extreme deficits with regard to reliable and sustainable energy generation capacity. Addressing this issue ranks as a very high priority for all the key national, regional and pan-African institutions such as the African Development Bank (AfDB) and various infrastructure actors. Fortunately, the Sustainable Development Goals (SDG) agreement and processes have created considerable momentum to not only address energy deficits but to simultaneously consider the importance of building a low-carbon, future-proof system. Influential think-tanks such as the Africa Progress Panel argue that: "Governments should aim at a 10-fold increase in power generation by 2040, while laying the foundations for a low-carbon transition. Public spending on energy should be raised to 3-4 per cent of gross domestic product (GDP), supported by measures aimed at raising the tax-to-GDP ratio and avoiding excessive reliance on bond markets."⁴⁰ The emphasis on increased investment and building low-carbon systems are particularly important to ensure a more equal, inclusive and sustainable future.

This approach is being reinforced by the global platform Sustainable Energy for All (SE4-all) which operates under the auspices of

the United Nations. Their mandate is to work: "...with leaders in government, the private sector and civil society to drive further, faster action toward achievement of Sustainable Development Goal 7, which calls for universal access to sustainable energy by 2030, and the Paris Climate Agreement."⁴¹ SE4-all operates through three regional hubs around the world, including Africa. The Africa hub is embedded in the AfDB which means that they are able to reinforce and influence the electrification priority of the bank. Practically, SE4-all is working with numerous African countries to develop an explicit sustainable energy strategy for their country, linked to the 2030 targets and translated into an investment plan. This is an excellent institutional platform to reinforce. However, what seems under-developed to date, is the extent to which local government, civil society and the private sector (formal and informal) are enrolled in these schemes or how they relate to National Urban and Rural Policies (see Figure 8). This provides an excellent entry point for the German government and European partners to support.

Mobility transition

The second binding constraint on African economies is undoubtedly limited and poor transport infrastructure. A number of African firms are rendered uncompetitive simply because of the time lost to get goods from point A to point B. This refers to the existence and quality of road and rail infrastructure, the limited capacities of ports, and the pathetic state of passen-

ger transport, especially in terms of the public transport system.⁴² These problems seem to be recognised by African development institutions and governments. However, it is striking that, at present, a lot of the emphasis from a pan-African perspective is being placed on regional transport infrastructures that need to be enhanced to enable the vision of strong trade corridors that propel the regional integration agenda of the African Union, which aims at establishing a Continental Free Trade Area (CTFA). This agenda translates into the Action Plan for Boosting Intra-Africa Trade (BIAT) which is supported and promoted by the AfDB. It is in this context that there has been a marked increase in Foreign Direct Investment (FDI) towards regional mobility projects such as rail corridors, road corridors and ports.⁴³

This is indeed important, but it must be complemented with a much more ambitious package of investments to establish and grow integrated public transit systems in African cities and towns. Unless African cities are decongested, and are made safer for pedestrians and informal solutions are upgraded, it will be impossible to reap the urban dividend. Most African cities can be characterised in the following manner: Urban trips are done by walking due to the unaffordability of private and public motorised transport. However, despite this fact, there is hardly any provision made for pedestrians in how roads are designed and built, nor is public or mass transit prioritised in land-

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use. Due to the lack of public investment in public transport, partially informal minibus taxis and motorcycles often provide the bulk of mobility for urban dwellers. Furthermore, due to a lack of investment, inappropriate regulation and control systems marked by arbitrary extortion, these para-transit systems are often dangerous and inconvenient. Yet, quasi-informal mass transit systems have responded to market demands and the sprawled urban form evident in most African cities. For this reason, they have to be central to a more sustainable, affordable and convenient future system.

There has been a significant growth in policy awareness and development to systematically solve public transport.⁴⁴ For example, there have been a number of attempts to introduce bus-rapid transit systems in various cities, as well as investments in light rail and tram-based systems in North Africa. There has also been a steady increase in policy awareness of combining public transport planning with land-use planning so that the underlying problems of urban sprawl and car-dependency can be addressed over time. In other words, all African cities and towns must be supported to develop holistic integrated transport plans, linked with more effective land-use planning reforms so that new public and private land market dynamics can take root. At the heart of this agenda is the question of strategic intensification of land-uses and future systems that will be much safer and more integrated through digital ena-

blement and user-feedback through apps and other forms of crowd-sourcing. From a policy perspective, effective integrated transport planning requires effective city-level transport authorities with the resources and power to build integrated systems. This is a big institutional ask for most African countries but it gives one a sense of the challenges that will have to be surmounted to achieve greater urban sustainability.

Housing and land

Africa has the highest proportion of slum dwellers in the world. This stems from rapid and largely unplanned and poorly managed urbanisation. It is also a function of low and variable household income, compounded by a skewed market. Formal mortgage finance reaches less than 10 per cent of the population and most publicly financed housing programmes that target the lower middle class and civil servants are very small and achieve limited impact.⁴⁵ Residents in informal settlements struggle to formalise their dwellings because of a lack of access to affordable finance, insecure tenure arrangements, overpriced construction materials and limited depth in the construction sector. Yet, despite these drastic problems, housing and land regularisation remains a policy blind spot for most African government and especially the pan-African policy agenda. This is reflected in the fact that housing and land access does not feature once on the Agenda 2063 portal of the African Union.

The de facto reality is that the majority of shelter provision and production is achieved through the efforts of urban residents against the odds. However, even though one can admire the ingenuity and thrift of these residents, it does come at an enormous cost. Living space in informal areas are small and marked by overcrowding, poor insulation, damp and leakage, bad air circulation, limited infrastructure and often no sanitation provision. Furthermore, the collective living spaces in these neighbourhoods are also poorly lit, often dangerous for women and children, devoid of green and play spaces, prone to environmental disasters such as flooding and landslides, and overrun with solid waste that clog drainage systems and worsen environmental health problems. Most informal settlements exacerbate urban sprawl even though the occupational densities can be extremely high.

Given the youthful character of the urban population, the demand for accommodation and housing is not going to reduce anytime soon. It is remarkable that there is so little political and policy attention in the Agenda 2063 processes to address the housing and land crisis across the African continent. That said, there are three domains of policy advocacy and experimentation that can be aggregated and framed as a nascent African response. At the bottom-end of the income spectrum there are powerful social movements and support organisations that work with slum dwellers to address their

housing needs through their own initiative and resources, but with an eye on catalysing public funding to support their efforts.⁴⁶ The federations affiliated to Slum Dwellers International (SDI)⁴⁷ are one example and the work they have done with Cities Alliance to mainstream slum upgrading programmes are an important reference point.⁴⁸

Since most working people in African cities cannot participate in the mortgage market, there is a massive need for subsidised housing for the middle-class in most African cities. Over the last decade or so we have seen a number of African governments for example in Rwanda, Nigeria, Ethiopia, and Ghana establishing such programmes. However, apart from Ethiopia and Angola, none of these programmes have achieved any kind of scale and they have definitely not been able to stimulate a secondary market that grows from this stock. As a result, the need for this class of housing stock and associated financing instruments remains vast. Lastly, there have been attempts to strengthen mortgage market instruments so that the coverage can expand beyond 5-10 per cent of the population. Again, in this domain of reform, progress has been slow. According to the Centre for Affordable Housing Finance in Africa, the main reason for policy failure has been the lack of an integrated understanding of the full housing spectrum. They argue convincingly that this policy approach must find a receptive audience. Then it becomes possi-

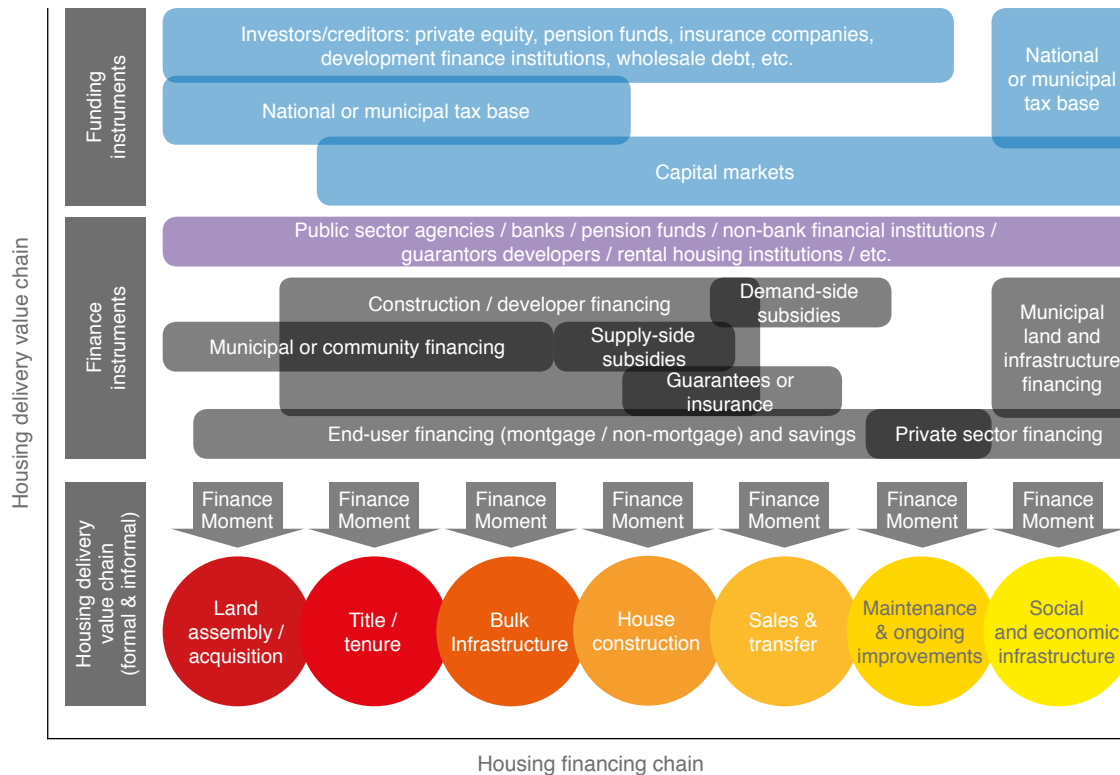
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ble to build credible and capable housing institutions to service different segments of the market. Moreover, it is crucial to recognise the inter-related nature of land reform, infrastructure planning and provision and housing construction and slum upgrading as summarised in Figure 9.

Digital revolution

The ubiquitous discourse on the so-called fourth industrial revolution reflects the extent to which digital platforms and technologies are seen as central to all economic sectors, global trade and future competitiveness. As intimated before, the intersection of urbanisation and economic pro-

Figure 9: Housing delivery value chain⁴⁹



ductivity demonstrates the importance of place in a more globalised economy and labour market, which points to the importance of city-level strategies of investment and coordination. Digital technologies are not only the lubricant of globalisation, they also hold the promise of transforming the function and efficiency of urban systems. This policy conclusion is strongly projected in the discourse on smart cities and the potential of smart infrastructure combined with e-governance to change the fortunes of cities and regions.

The substance of the smart city agenda is highly contested, but there have been some important efforts on the part of the UN and International Telecommunications Union (ITU) to promote a public interest definition. They propose that: “A smart sustainable city is an innovative city that uses information and communication technologies (ICTs) and other means to improve quality of life, efficiency of urban operation and services, and competitiveness, while ensuring that it meets the needs of present and future generations with respect to economic, social, environmental, as well as cultural aspects.”⁵⁰ The reason ITU and the UN Economic Commission for Europe (UNECE) promote this normative definition is because there are undeniable risks associated with an uncritical adoption of smart city rhetoric.

Most of the hardware and software that underpin the smart city is developed and supplied by

the private sector. In order to optimise value, these actors offer holistic propriety products which can lead to technological lock-in and skew the long-term investment priorities of city governments. Also, smart city dogmas tend to favour real estate and infrastructure proposals that service the (emerging) middleclass and formal businesses because they represent a viable market. This market bias can reinforce pre-existing urban inequalities or make them worse. It is also evident that smart city technologies can be used repressively through surveillance technologies that target independent civil society organisations and political opponents of the ruling party. In summary, smart city investments do not automatically represent progress unless their impacts are seen as contributing to enhanced urban sustainability and equity.⁵¹

Keeping these risks in mind, it is undeniable that digital technologies can be deployed to enhance a city's in terms of equitable access to basic services, political voice, government responsiveness and greater citizen involvement. Digital technologies can also reinforce broader goals to create more sustainable and inclusive urban systems by tracking the “performance” of both infrastructure systems and the administrative interface between citizens and public bodies. More precisely, smart city approaches can enable African cities to accelerate access to certain basic services that can be delivered in alternative ways. The obvious example is

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energy. Micro-grid sustainable energy technologies are easier to proliferate even if a national energy grid remains inaccessible for the majority of citizens. Mobile phone internet access plays a critical role in connecting poor citizens to these infrastructural opportunities by providing a relatively cheap technical interface.

Carefully designed e-governance systems can greatly enhance the efficiency of urban authorities. The most important driver is a political commitment to open government and free access to public information. Digital systems greatly enable this and can improve the efficiency of public sector services and enhance accountability through greater transparency. Relatedly, strategic digital investments can create an appropriate pathway to a city-wide digital platform required for the promise of the Internet of Things (IOT) to be realised over time. The biggest policy mistake that can be made is a policy obsession with IOT without a democratic process to make reasoned decisions about the pathway to follow to get there in a manner that particularly the vulnerable and excluded in the city. This normative orientation requires civic mindedness and an investment in developing e-literacy amongst the population. This is the best insurance to take out against the risks of smart city hubris mentioned before.

A significant initiative on the African continent that seems to be gaining traction is Smart Africa. According to the website, “SMART Africa is a bold and innovative commitment from African Heads of State and Government to accelerate sustainable socioeconomic development on the continent, ushering Africa into a knowledge economy through affordable access to Broadband and usage of Information and Communications Technologies.”⁵² It is spearheaded by President Paul Kagame of Rwanda and now includes at least 23 African Heads of State, the Secretary General of the ITU and the African union (AU) Commissioner for Infrastructure and Energy on its board. Smart Africa sponsored an initiative, the Africa Smart City Blueprint⁵³ how best to promote smart city projects that are in line with domestic developmental priorities. It is unclear what the current status of that initiative is apart from projects in Kigali, Rwanda. This status shows that a debate has started about the relevance of smart cities in the African context but there are few practical initiatives to move to a stage of implementation.

Up to this point the argument is that, if Africa is able to reorient its development paradigm and investments in its cities through a sustainable infrastructure approach that is digitally enabled, the prospect of achieving the goals of Agenda 2063 is greatly enhanced. However, Africa will need strong partnerships and appropriate investment to support this approach.

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There have certainly been efforts to forge these in the multilateral arena over the last few years and two initiatives are worth reflecting on: 1) The G-20 Compact with Africa and 2) The Programme for Infrastructure Development in Africa (PIDA). Both of these respond to the imperatives of structural transformation at the core of Agenda 2063 but require refinement to ensure a stronger and clearer urban focus.

The G-20 Compact with Africa

This initiative falls under the G-20 Finance Track.⁵⁴ It seeks to aid African countries through three frameworks of public policy: i) macro-economic, ii) business development and iii) financing. In each of these domains there are a raft of technical policy approaches that are promoted. For example, in the domain of macroeconomic policy the focus falls on sustainable public debt, increasing domestic revenue raising through an investment-friendly tax system, improving the performance of public utilities, and so on. What is striking about the full scope of policy reform priorities is how conventional they are in terms of the macro-economic policy thinking that produced the crisis of the neoliberal state as demonstrated through cogent analysis by Joseph Stiglitz.⁵⁵ Moreover, for our purposes here, the financing framework is so squarely within the dominant paradigm of mainstream development finance it will not usher in the promotion of sustainable infrastructure solutions that are so desperately needed on the continent. Germany can play a leader-

ship role in rethinking the policy assumptions of the G-20 Compact so that it truly advances the objectives of Agenda 2063.

The Programme for Infrastructure Development in Africa (PIDA)

The central purpose of PIDA is to address the massive infrastructure deficits of the African continent but in a manner that fosters greater regional integration and productivity. It adopts a pan-African perspective, and given its constituent members, endeavours to achieve greater synergy between diverse infrastructure investors active on the Continent. The formulation of PIDA was undertaken within a collaborative partnership process involving the African Union Council, UN Economic Commission for Africa (UNECA), NEPAD Planning and Coordinating Agency (NPCA) and the African Development Bank (AfDB), it was underpinned by an extensive and inclusive consultative process involving the Regional Economic Councils (RECs), Member States, as well as stakeholders from the public and private sector and grounded on strong diagnostic and analytical work. It has enormous legitimacy and potential policy influence. Moreover, PIDA recognises the importance of a sustainable energy solution and also focusses on transport, water and ICT. These sectors are all central to the fulfilment of the sustainable urbanisation agenda. However, to date, PIDA has prioritised a national and regional (cross-border) perspective but not necessarily an urban one. This can

be shifted through a careful engagement with allies in Europe along with the OECD and UN-ECA, especially in the context of the Africa-Europe Alliance announced by then President of EU Commission, Jean-Claude Juncker.⁵⁶

In brief, there is a need to reinforce the approach and agenda of PIDA but with a stronger sustainable urban development focus, whilst working to influence the G20 compact so that it is given a stronger spatial and sus-

tainable development focus. The G20 Compact matters because it serves to aggregate the most powerful actors in the international development system: the Bretton Woods institutions and Ministries of Finance. It is not possible to achieve deep transformation unless macro-economic policy is reformulated to reinforce sustainable development outcomes. On this note, it is appropriate to turn to a number of concrete recommendations.

In brief, there is a need to reinforce the approach and agenda of PIDA but with a stronger sustainable urban development focus.

5. Recommendations

The readers of this paper includes policy makers and researchers in Europe with a deep interest in the long-term prosperity of Africa wish who wish understand how to best engage with urbanisation as a mega trend. The recommendations adopt a systematic institutional perspective that proposes the following building blocks as crucial for crafting an effective engagement between European and African actors.

First, in terms of next steps, it is essential to deepen recent political commitment to see urbanisation as an opportunity to achieve the SDGs and the goals of Agenda 2063. **Second**, it is crucial to fortify the globally agreed upon policy mechanism to drive urbanisation policies at the country level: National Urban Policies (NUPs). Ideally, it translates political will into actionable steps to achieve policy coherence and implementation. If the NUP has a strong sustainability and inclusion

thrust, it creates an ideal platform for driving a more strategic focus. **Third**, as intimated throughout this paper, it is crucial to enhance the **knowledge system** in Africa on what contextually appropriate sustainable infrastructure means for rethinking development investment priorities and urban/territorial management. It is equally important to figure out the financing challenges that hobble most infrastructure investment plans, especially ones that seek to innovate and be inclusive. Infrastructure investments provide the bridge between the current unsatisfactory context and the ambitious vision of Agenda 2063. Lastly, the most important zone of action is the city level and it is also at this scale that new kinds of research and development eco-systems will have to be constructed to drive contextual innovation with deep impact. This section fleshes out each of these building blocks with more specific recommendations.

A. Consolidate the policy recognition that urbanisation matters for the long-term prosperity of the African continent.

- In the context of major high-level engagements between African and European countries and leaders, it is important that the urban dimension is deeply embedded. A high-level conference between African and European development policy leaders should be convened in 2020 to get high profile endorsement for the centrality of the African urban agenda to achieve both the SDGs and Agenda 2063. This could also be the forum where criticism of the G20 support package (discussed earlier) can be placed on the table.
- The African Union Special Technical Committee on: public service, local government, urban development and decentralisation should be enrolled as a core partner of such a conference to boost its profile and ensure the right political champions are targeted.
- Furthermore, the Urbanisation Unit in UN-ECA, UCLG Africa, UN-Habitat and strategic civil society partners such as the African Association of Planning Schools (AAPS), African Urban Research Initiative (AURI), African Research University Alliance (ARUA), Slum Dwellers International, among others, should be convened to identify how more impetus can be put behind efforts to popularise the urban question within African policy forums. This informal coalition will also be important to shape the design and outcomes of the proposed conference.
- It is widely recognised that most African governments have inadequate data on urban systems and intra- and inter-urban dynamics in their territories. It is vital that national statistical agencies are engaged as a matter of urgency to define protocols for how best to remedy this lacuna in data. It will be impossible for NUPs to be meaningful without sound data. Furthermore, the localisation of SDGs cannot be tracked without such data sets.

In the context of major high-level engagements between African and European countries and leaders, it is important that the urban dimension is deeply embedded.

- Establish a tracker of African cities that are demonstrating pan-African and global leadership in localising the SDGs and Agenda 2063. Again, it is vital to create and project the profile of leaders and cities who are doing the difficult work of embarking upon sustainable transitions in their city. These city level actors can then also be key actors in the 2020 conference. There will be a direct interest for UCLG Africa and Metropolis (a global network of major cities that is embedded in UCLG) to be central stakeholders in this initiative along with the SDG Localisation initiative of the office of the Secretary General of the UN. Cities Alliance will be a credible convener of such a process and knowledge management support can come from ACC, AAPS, AURI, C40 and the Coalition of Urban Transitions.
- B. Promote the participatory formulation and adoption of National Urban Policies (NUP) in all African countries as the linchpin between macro-economic, environmental and territorial policies.*
- Key public, private, civic and academic champions with an interest in sustainable urbanisation should form a NUP Hub to collate, review, critique, track and promote context-specific NUPs.⁵⁷
 - A sub-set of technical work should focus on streamlining indicator frameworks that underpin NUPs and National Urban Policy Forums.⁵⁸ It will be strategic to connect such research and design work with the initiative to mainstream urban statistics in national statistical agencies. Again, the UN SDG Localisation initiative can be called upon to support such a process.
 - UCLG Africa and other local government bodies should be supported so that they can provide advice and guidance on how to design and execute effective national urban policy dialogues that continuously refresh NUPs. This is crucial because it will go a long way to mainstream urban policy debates and create momentum behind bold urbanisation strategies and programmes.
 - A compelling communications strategy should support this cluster of recommendations. Until there are popular and persuasive means of communications about the value of these policy mechanisms, they will remain marginal in the larger political landscape of African countries.

C. Enhance the knowledge system in Africa on sustainable infrastructure solutions that are affordable and culturally appropriate.

- Technical knowledge on infrastructure systems is currently dominated by the (global) consultancy industry, and they have a disproportionate influence on policy decisions. This is wasteful and represents political risk because it means that urban majorities will not benefit from investment programmes. Most consultancy firms accept conventional norms about the pre-eminence of economic competitiveness, which reinforces narrow investment priorities.
- It is vital to strengthen African knowledge institutions to develop deep expertise on sustainable infrastructure approaches that are affordable, inclusive and consistent with a sustainable urban system emerging over time. (The priority sectors – energy, mobility, housing and land, as well as ICT – are discussed in earlier sections of the paper.) This group should also identify how best to interface with PIDA given its central role in driving pan-African infrastructure investment plans.
- A formal knowledge partnership between ARUA universities, the African Union, AfDB, UNECA, UCLG Africa and others should be established to create a multi-nodal pan-African Centre of Excellence on Sustainable Infrastructure Transitions. European partners that could play a facilitative role include the Robert Bosch Stiftung, AXA Research Fund, the Coalition for Urban Transitions and the C40 Cities Finance Facility. The first step would be a scoping study to establish the feasibility of such an initiative.
- In parallel, it will be important to update the municipal skills audit that was done a few years ago by UCLG Africa and Cities Alliance from the perspective of implementing Sustainable Infrastructure. This must connect with a pan-African capacity building, training and learning agenda to ensure that the human capital is strengthened to run these kinds of infrastructure systems. This is a massive undertaking by itself.

D. Address the infrastructure finance conundrum that confronts most African cities.

If one adopts the conventional infrastructure finance criteria on feasibility, bankability and risk, most African cities will simply never be able to access affordable finance to implement sustainable infrastructure plans. This is compounded by rigid inter-governmental systems in most African countries that prevent most city governments from engaging with various financing instruments and opportunities. It is self-evident that the previous recommendations will come to naught unless this institutional constraint is addressed.

- Establish a Task Team to formulate an original vision for financing sustainable infrastructure transitions (and associated governance processes) in diverse African settings. Such a Task Team should commission original research, consult widely and invest in experiments to test potential approaches.
- The Task Team should, at a minimum, include: AfDB, DBSA, UCLG, FMDV, Cities Alliance, C40 Cities Finance Facility, Coalition for Urban Transitions, UN-Habitat, AURI, and other nodes of expertise in African universities.
- The first step would be a feasibility exploration to establish the appetite for this kind of process.

If one adopts the conventional infrastructure finance criteria on feasibility, bankability, and risk, most African cities will simply never be able to access affordable finance to implement sustainable infrastructure plans.

E. Promote a decentralised model R&D on sustainable infrastructure transitions.

Historically, innovation systems have operated at a national scale, linked to macro-economic priorities of a given country and reinforced by the Science and Technology agenda. However, with the place-specific dynamics of sustainable economic development, it is crucial to complement these models with city-level innovation systems.⁵⁹ In most African countries, the requisite innovations explored in this paper will have to be designed with local conditions and institutions in mind. Furthermore, they will have to stem from concrete projects that can be demonstrative on how to actually do sustainable infrastructure investments that are linked to alternative land-use models, alternative financing flows and democratic oversight mechanisms. It is incumbent on Africa's major metropolitan nodes to take the lead in this regard.

- Establish an informal network of a select number of African metropolitan/regional governments with a demonstrable interest in innovating with regard to sustainable urban development. This can be driven by Metropolis in close working relationship with UCLG Africa, Cities Alliance, AfDB, PIDA, ARUA, AURI, SDI and African members of the World Business Council for Sustainable Development and the urban programme of the World Economic Forum.
- Establish an incentive fund for innovation in order to accelerate of experimentation in sustainable infrastructure solutions. This can work hand in hand with the proposed Centres for Excellence.
- Strengthen peer learning and leadership development between key actors driving these city-level innovation hubs. This will not only grow the professional cohort but also increase the status of this new area of urban practice.
- Connect key African experiments and innovations with various existing international prize giving bodies that seek to promote innovation in sustainable urban development.

6. Conclusion

There can be little doubt that Africa is finding its voice and purpose in these tumultuous times. Africa's generational purpose is evocatively captured in Agenda 2063, which reflects a willingness to draw on powerful African cultural roots to reimagine a future that is proud, united, prosperous and just. Moreover, what is exciting about the current moment is that there is widespread political recognition that actions must speak louder than words. Recent progress with regard to a single African market within a decade, a shared passport and open skies all suggest that we have entered an era of forward-looking rhetoric and ambitious action. Whilst recognising these impressive developments, this paper explored the importance of strengthening a spatial understanding in devising new institutions, priorities, plans, and implementation vehicles to give effect to Agenda 2063. Specifically, the centrality of urbanisation and achieving sustainable urbanism, has been the focus.

In the recent past International and African development institutions have all expressed an appreciation of the importance of cities

in achieving high-level development goals as expressed in the SDGs. The role of cities now seems beyond dispute but there remains a profound gap between policy pronouncements and concrete programmes at a pan-African and national scale. Based on the evidence set out in this paper it is apparent that too much policy formulation and prioritisation remain "space-blind" and not appreciative of the importance of urban development as a catalytic dynamic achieving structural transformation and a green economy. An argument was made for the promotion to sustainable infrastructure to achieve sustainable urbanism – the only viable bedrock for structural transformation that produces a labour-intensive and green economy over the next two decades. Development partners in Africa and Europe can use this paper as a resource to review their current priorities and identify practical ways to become more active and effective in advancing sustainable urbanism. A series of recommendations are offered as a starting point for such deliberations that will, hopefully, lead to renewed commitment and more strategic action.

7. Literature

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8. List of Abbreviations

AAPS	Association of African Planning Schools	IMF	International Monetary Fund
ACC	African Centre for Cities	IOT	Internet of Things
AfDB	African Development Bank	ITU	International Telecommunication Union
AU	African Union	NEPAD	New Partnership for Africa's Development
APP	Africa Progress Panel	NUA	New Urban Agenda
ARUA	African Research Universities Alliance	NUP	National Urban Policy
AURI	African Urban Research Initiative	PIDA	Programme for Infrastructure Development in Africa
BIAT	Boosting Intra-Africa Trade	SDGs	Sustainable Development Goals
CTFA	Continental Free Trade Area (CTFA)	SDI	Slum Dwellers International
FDI	Foreign Direct Investment	SSA	Sub-Saharan Africa
FMDV	The Global Fund for Cities Development	SE4-all	Sustainable Energy for All
ICTs	information and communication technologies	UCLG	United Cities and Local Governments
		UNECA	United Nations Economic Commission for Africa

Responsible:

Elisabeth Mansfeld
Alfred Herrhausen Gesellschaft

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