



United Nations University - Institute for Natural Resources in Africa



Briefing Note
March 2021

Building Forward Better Towards Africa's Green Transformation

Prospects for Africa-Europe Collaboration



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● Summary:

This policy brief is a supplement to 'Bridges of Opportunity: Partnering for Africa–Europe Green Development', a discussion paper prepared by the United Nations University Institute for Natural Resources in Africa (UNU-INRA) on Africa's development options and the green transition in light of COVID-19 and the new European Green Deal. The research was produced through the project Green African Transformation (GREAT) Pathways, coordinated by UNU-INRA, which aimed to highlight African perspectives on the green transition and identify priority areas for collaboration ahead of the upcoming AU-EU summit. The research outlines development pathways for African priorities and the need for an endogenous transition at an appropriate pace and scale given the contextual realities the continent faces. The research draws on expertise and engagement by key regional institutions, including the African Union (AU), African Union Development Agency (AUDA-NEPAD), African Development Bank (AfDB) and United Nations Economic Commission for Africa (UNECA). Literature and policy documents on greening, climate change and COVID-19 were reviewed and analysed, and this was supported by a series of expert interviews.

Keywords: Africa, Europe, green economy, minerals, COVID-19, energy, renewable, development, urban, trade

Recommendations:

1. Avoid the 'big squeeze' on Africa's economic recovery.
2. Ensure that 'Green' does not become the enemy of the "just' transition.
3. Reset the AU-EU partnership.
4. Develop an African-owned Green Deal which takes into account place, pace and scale.
5. Introduce smart incentives, investment and financing mechanisms.
6. Leveraging the AfCFTA.
7. Using energy, cities and land as drivers of the green transformation.



Introduction

Africa's growth is fragile because of its high levels of dependence on natural resources. COVID-19 is both a trigger for reforms and a solution to Africa's decoupling from the current mode of natural resource extraction-based growth.

COVID-19 offers new forms of partnerships for Africa to build forward better, especially with a strategic ally such as the EU: this is a relationship in which both partners share interests and can derive mutual benefits. Europe's mitigation ambitions would be 'stunted' without Africa's support, and conversely Africa's recovery from COVID-19 and climate change will be delayed without Europe's support. However, the partnership has had several issues, not least unequal power relations and difficult trade relations.

Recovery from COVID-19 will implicitly mean resetting new directions of travel that offer resilient development. Green transitions will require hard choices and difficult tradeoffs, particularly incurring losses related to stranded assets and the loss of fiscal revenue. However, this new direction offers new momentum and new points of departure for Africa to design its recovery with a long-term rather than a shorter-term view, and to build robust economic buffers.

Africa must first build its defences against the twin crises of climate change and COVID-19, which calls for a focus on sectors that will rapidly benefit from a green transition pathway, in spurring resilient economic growth.

Nonetheless, in this transition process, Africa cannot be left alone, doubly exposed to the consequences of climate change and externalities that it did not create, as well as bearing the costs of a green recovery that will mean reimagining its economies away from key assets such as its hydrocarbon endowments. No matter what the extent of its current crisis, a sustainable green transition for Africa is anchored in a just and equitable transition, one that is designed, managed and owned by Africans. This ownership means that Africa must look at its energy endowment and adopt a strategy that enables it to move towards low-carbon development, even if this means looking at natural gas as a transition fuel. These choices are inherently shaped by context, development and market considerations.

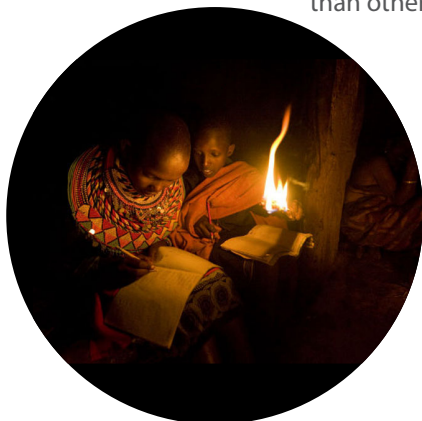
The imperative to 'build forward better' and the need for a green transition

Africa's development base, anchored on natural resources, faces multiple threats, not least climate change and land degradation. Although Africa is growing, its growth is in peril. Climate change impacts will reverse much of the progress made, given the continent's dependence on climate-sensitive sectors such as agriculture and the rapid depletion of its land base and resources. Africa's economic diversification cannot be delayed, especially given its vulnerability to exogenous shocks, rising populations, increased urbanization and heightened climate change risks. COVID-19 has triggered a tipping point that in many ways provides renewed opportunities for Africa to 'build forward better'.

Covid-19 and climate change have exposed the vulnerability of social and economic systems across the world, highlighting their interconnectedness and emphasizing the need for radical and sustainable solutions. The impacts of COVID-19 were projected to cause a contraction to African economies of 2.6% in 2020, equivalent to a loss of gross domestic product (GDP) of US\$120 billion (ECA, 2020). Additionally, it is predicted that healthcare spending will require US\$100 billion in expenditure, with an additional US\$100 billion for economic stimulus (ECA, 2020), while 28.2 million–49.2 million more Africans will fall back into extreme poverty, and more than 100 million people are at risk of hunger (Food Security Information Network (FSIN), 2020). An estimated 25 million–30 million job losses are anticipated in both the formal and informal sectors.

Adding to this, the impacts of climate change are projected to reduce GDP by 15% in West and East Africa, 10% in North and southern Africa, and 5% in Central Africa (UNEP, AfDB & ECA, 2020). Crop yields could decrease by up to 15% (sorghum) and up to 20% (millet), while more frequent and more intense extreme weather events are predicted (Sultan et al., 2019). Climate change could push 100 million people into extreme poverty by 2030 (Stephen Hallegatte et al., 2016). This is more evidence that Africa, home to 60% of the world's poor, must 'build forward better'.

Africa is more vulnerable and exposed to exogenous shocks, such as COVID-19 and climate change, which hit the continent harder because its capacity to mitigate or recover from shocks is lower than other continents. Thus, Africa's development is at the heart of its survival.



600 MILLION

Energy poverty, which has left about **600 million** people and about **10 million** medium-sized enterprises across the continent without access to electricity. (IRENA, 2020)



Food imports have skyrocketed to **US\$80 billion** annually and are set to increase further to **US\$110 billion** by **2025** (AfDB estimates) (AfDB, 2020)



60 % of the Africa's urban population lives in slums (sub-Saharan Africa - **189 million**). (Brookings, 2021)

The first aspiration of Africa's Agenda 2063 development framework is 'A prosperous Africa based on inclusive growth and sustainable development.' This vital element of sustainability opens up options for structural transformation, including the transition to a green economy.

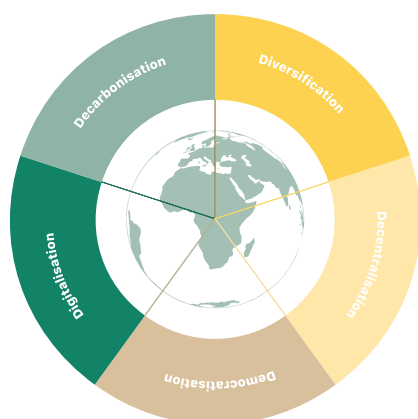
The Green transition is a pathway that comes with many benefits in terms of income, job creation, environmental sustainability and the prospect of building Africa's land, cities, and energy sectors. Both resilience and development can be achieved through a continent-wide green transition pathway that would see African economies adopt a low-carbon, high-growth formula.

A report by the New Climate Economy estimates that globally bold climate action has the potential to generate over 65 million low-carbon jobs, generate \$2.8 trillion in government revenues and produce at least \$26 trillion in overall economic benefits (NCE, 2016).

It has been demonstrated that every US\$1 million invested in green rather than brown energy generates a net increase of five more full-time jobs (Garrett-Peltier, 2017). Jobs in Africa's clean-energy sector, for example, could easily exceed 20 million by 2031 (UNEP, 2019).

Modest steps have already been taken to build Africa's green economy, but current greening strategies are disaggregated across countries and sectors, resulting in the lack of a consolidated regional approach. Countries such as Burkina Faso, Egypt, Ethiopia, Ghana, Kenya, Rwanda, Senegal, South Africa, Morocco and Tunisia have taken significant strides towards greening through clean energy investments, waste water management and land restoration. South Africa, which contributes half of Africa's emissions, has committed itself to achieving net-zero emissions by 2050, which will require a huge shift away from coal-powered energy to renewable energy. Egypt's Benban solar photovoltaic park is the fourth largest solar power plant in the world, with a capacity of 1,650 megawatts (peak). The Grand Ethiopian Renaissance Dam will be the largest hydroelectric power plant in Africa, with a projected capacity of 6.45 gigawatts. At the regional level, the AU Great Green Wall, a 7,704 km long and 15 km wide wall of forest across the entire width of the continent covering the Sahel, will restore degraded landscapes and transform the lives of millions of people by improving food security, jobs and livelihoods. Another regional project, the African Development Bank (AfDB)'s Desert to Power initiative will provide 10 GW of solar energy to 250 million people in the energy-poor Sahel region by 2030, making the Sahel the world's largest solar production zone. These initiatives are important steps towards the transition to clean energy, land restoration, environmental protection and livelihood development. However, the continent still needs to develop an African position towards greening in order to align policies, improve efficiencies, raise investments and negotiate better. As such, the continent would benefit from developing a regional blueprint—an African Green Deal—which would create a solid foundation for the green transformation and international partnership and diplomacy.

The transition should be built on five pillars: decarbonisation, diversification, decentralisation, democratisation and digitalisation.



- **Decarbonisation:** a gradual, sector-specific shift towards low-carbon technologies across Africa's industries, allowing its economies to benefit from its natural resource endowment where strategic, while managing the risk of carbon-based assets becoming stranded and contributing long-term benefits to the planet and its people.
- **Diversification:** managing the risks to African economies by diversifying revenue streams, sources of production, value chains, trade relationships and energy sources. Currently, the continent is increasingly reliant on its natural resource base as the main stimulant for economic growth, and much of Africa is locked into production systems that do not add value. As Yao Graham, Coordinator of Third World Network-Africa, argued, 'African governments must begin to take diversification and planning seriously. Policy coherence and coordination are required as well as very careful thinking and planning for Africa to be able to mobilize the capital resources needed to enable the transition. We are not there yet'.
- **Decentralisation:** to provide energy and services to both urban and rural populations. While Africa is experiencing rapid urbanization, 50% of its population is still rural: off-grid and mini-grid systems will be crucial in closing the energy gap for rural dwellers. Africa must also provide efficient services for its rapidly urbanizing population. Smart, sustainable cities will be engines of growth, enabling trade in goods and services to flow across various value chains.
- **Democratisation:** the green transition must be owned by and centred on Africa's people, which means enabling energy access for the more than 600 million Africans (half the continent's population of nearly 1.2 billion) who are currently without electricity (IRENA, 2020), sharing access to wealth creation and job opportunities, building resilience and addressing inequalities. In particular, the young population (more than 60% of Africans) and women (52% of Africans) must be key players in the transition.
- **Digitalisation:** harnessing the global shift to digital technologies, accelerated by COVID-19, to drive low-carbon economies. The rise of digital connectivity in Africa is already expanding opportunities for SMEs. A survey of eight African countries found more than three hundred unique digital platforms, mostly homegrown (80%), matching producers and consumers of goods and services across diverse economic sectors (Makuvaza et al., 2020) and with foreign platforms connecting markets in multiple countries (70%). However, the disparities in digital access between men and women, and rural and urban dwellers, must be closed through capacity-building, as well as access to credit and other facilities.

"Africa holds the foundation to a large scale emissions reduction. Africa can get there faster and be in a much more comfortable position in terms of its development trajectory."

— Lord Nicholas Stern

Africa's green transition cannot be achieved in isolation. To accelerate the shift to a green transition pathway, Africa can leverage its international alliances and partnerships to strengthen its capabilities and fill gaps in, for example, technological capacity and financing. Africa's strength in strategic partnerships rests on shared histories, geographies and investment choices that make the European Union (EU) a natural ally.

The European Green Deal, Europe's flagship growth plan, aims to achieve carbon neutrality by 2050 through mainstreaming sustainability into all EU policies, covering energy, biodiversity, food systems, agriculture, industry, construction and transport. The European Green Deal decarbonization programme may bring opportunities to Africa in terms of trade, debt relief, investment, job creation and technical assistance.

Europe is Africa's leading trade partner, largest donor and main investor. Indeed, in 2017, Europe imported more than US\$240 billion in goods from Africa, accounting for 36% of the continent's total exports (Oqubay, 2020). Africa and the EU have longstanding cooperation agreements, and a new proposal under the current EU leadership – 'Towards a Comprehensive Strategy with Africa' – is under discussion.

The Africa-European Union (EU) partnership, a new cycle of which is under discussion, provides mutually beneficial opportunities for greening. Africa could help strengthen the delivery of the European Green Deal and receive EU support to pursue its own green transition. COVID-19 has reinforced the well-rehearsed notion of interconnectedness and interdependence. It has also tested economies in both the Global North and the Global South. No one economy is inoculated against the tide of economic depression that is still unfolding as the pandemic plays itself out with its new variants and new uncertainties. Hence, this shared problem could offer a new window of collaboration to both Africa and the EU to reimagine its partnership and usher in new forms of cooperation.

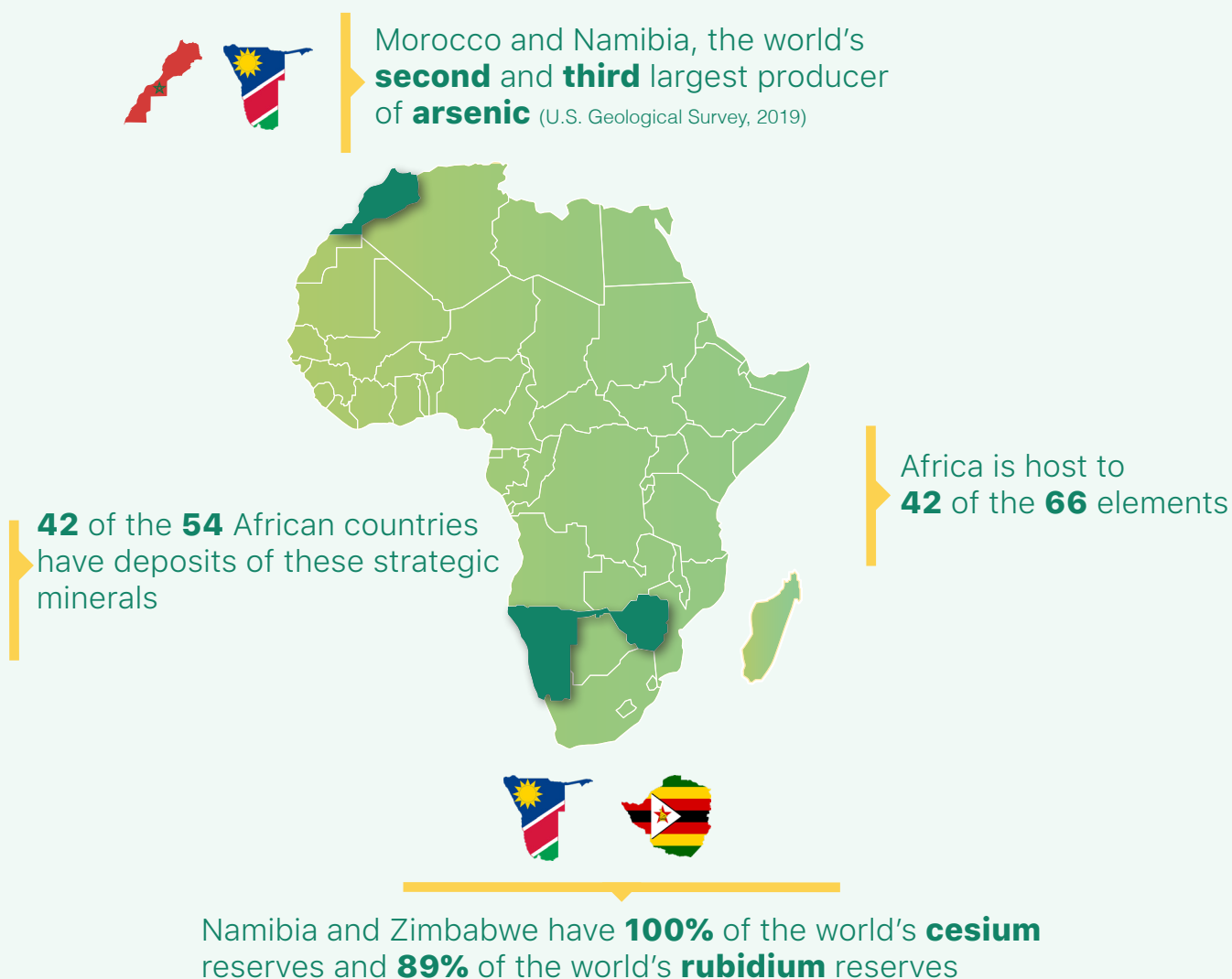
However, partnerships between Africa and Europe must recognize Africa's acute need for development to resolve longstanding issues such as poverty, inequality, food insecurity and injustice.

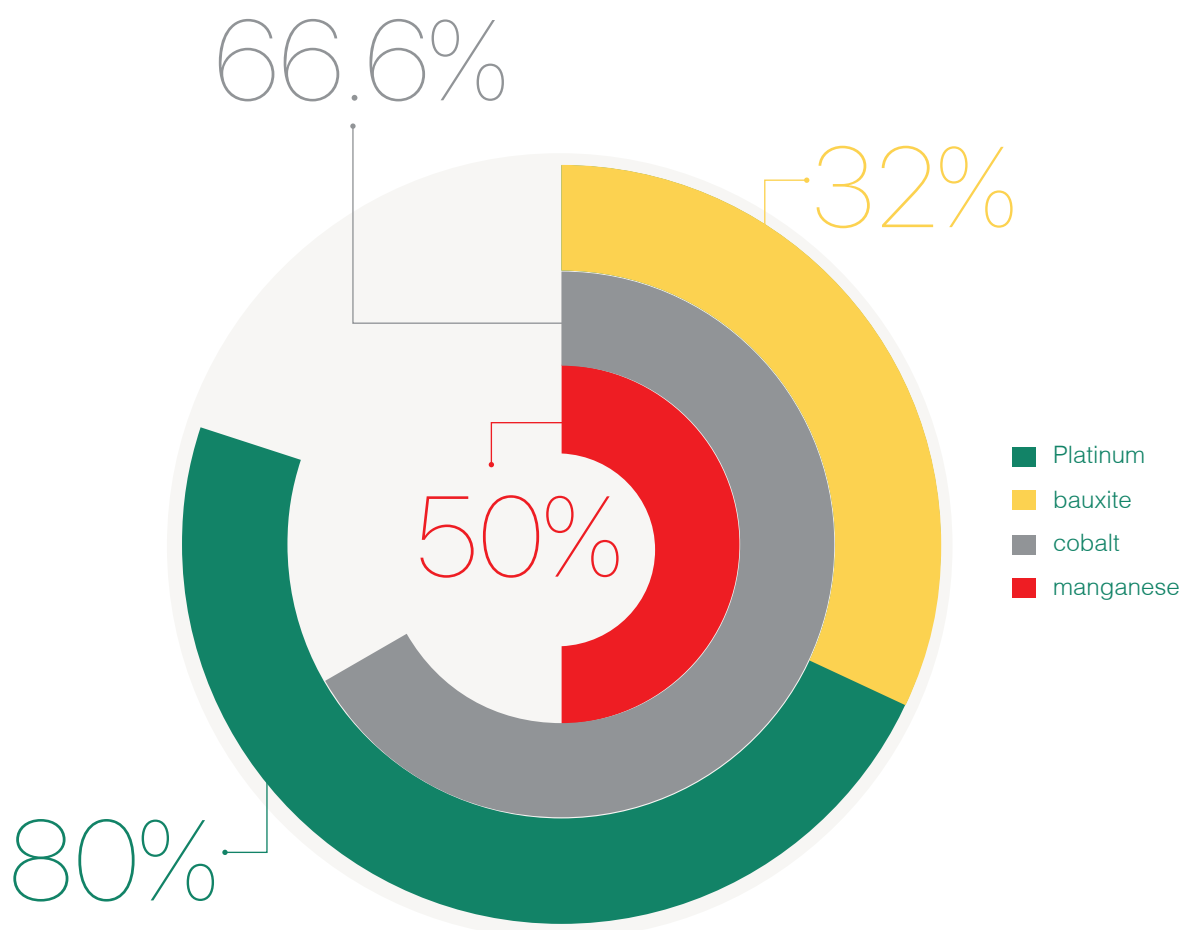
Diversification and key sectors of focus

There is a growing consensus that Africa's industrial pathway does not have to model itself on a business-as-usual approach that draws on high resource inputs. Africa's economy is heavily reliant on natural resources, many of which are subjected to external shocks, thus reinforcing the vulnerability of Africa's economy. Green industrialization will enable Africa to align its development pathway with sustainable and inclusive growth. This move will not only allow the continent to move away from high polluting industries, it will also displace current models of hydrocarbon-based growth.

Greening Africa's industrialization will mean reexamining different parts of the value chain, from design to marketing, and outsourcing goods that are closer to production sites, thus reducing the continent's carbon footprint and becoming less vulnerable to supply chain disruptions, as witnessed during the current coronavirus pandemic. A green industrialization pathway will also create new job opportunities and new forms of innovation that will boost the productive capacity of African countries and create new streams of employment in the manufacturing, energy, waste and building sectors.

In pursuit of this, the continent must prepare for a transition that capitalizes on the Fourth Industrial Revolution. The transition from fossil fuels to a low-carbon future will open up market opportunities for diverse minerals and metals. Wind and solar photovoltaic technologies, as well as fuel cells used to power electric vehicles, will drive up demand for materials such as copper, aluminium, chromium, iron, lead, manganese, nickel, zinc, titanium, silver, cobalt, platinum, molybdenum and neodymium. This presents huge opportunities to Africa, which is endowed with 42 of the 66 strategic minerals driving 4IR (UNU-INRA, 2019). Distributed across 42 countries, these minerals can position Africa as a major global player in low-carbon technological development.





Africa holds **two-thirds** of global **cobalt** production, **80%** of **platinum**, **half of manganese** production (IEA, 2019) and **32%** of the world's **bauxite** resources (U.S. Geological Survey, 2019)

Africa must look to these resources as an opportunity to stimulate more local transformations, the development of local content requirements and value chains linking extraction to the rest of the economy in African countries. As noted by Isabelle Ramdoo, 'For a strategic mineral policy, the first thing is to see what exactly we need in terms of raw materials and what makes them strategic. Define them and then, just like the European Union has done, build your domestic and regional policies and your external diplomacy around them.'

Similarly, Ade Freeman pointed out that 'knowing the value of our resource base will improve Africa's ability to negotiate. We need a better sense of the total economic value of the resources that we have and then use that as a basis for having a conversation with the EU in relation to the European Green Deal.'

Africa's population will double by 2050, and with an increasingly young population and rapid urbanization, feeding and providing livelihoods to the projected 2.5 billion people will be a challenge. Key issues will be ensuring food security, absorbing excess labour and providing power to support homes and businesses.

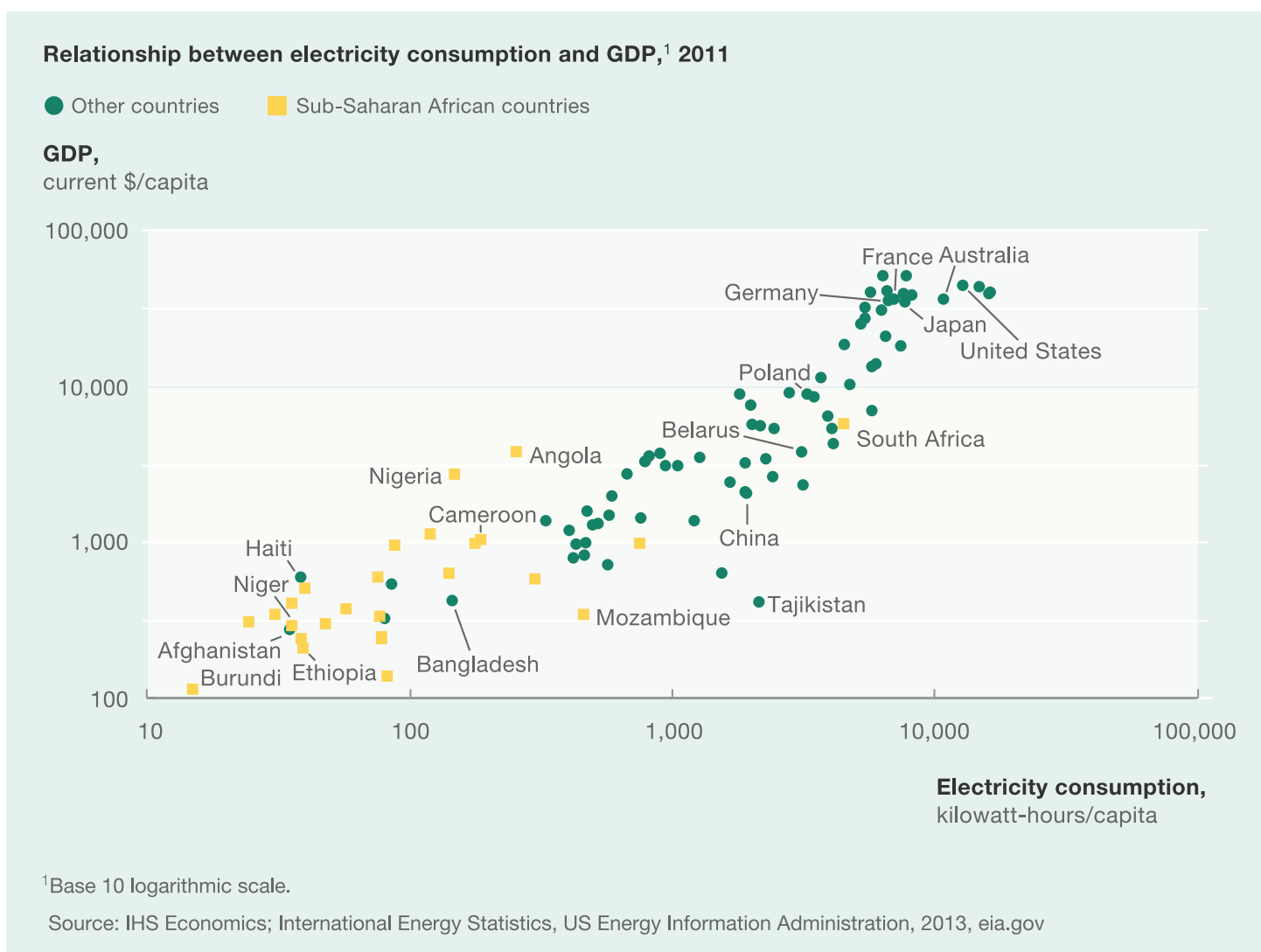
Opportunities lie in developing energy, cities and land. The links between these sectors can enable value chain development and job creation for inclusive growth. For example, African cities provide the largest food markets for African farmers — 80% of urban food sales (approximately \$250 billion annually) is provided by domestic suppliers (AGRA, 2020): developing land and agricultural systems will therefore be vital for food security. Meeting the continent's growing energy demand will also be a challenge, though this also presents opportunities for job creation and links across sectors such as manufacturing and transport. Thus, energy, land and cities are major growth enablers that are essen-

tial to Africa's development and will play a major role in the continent's green transition. The continent will have to reimagine these sectors in ways that promote the circular economy and renewable energy to avoid the risk of being 'locked-in' to outdated and unsustainable production systems based on fossil fuels and the revenue losses due to stranded assets (UNU-INRA, 2019).

Energy. An estimated 600 million Africans still lack access to electricity, and the energy gap is expanding, with a particular disparity in access between rural and urban areas, while around ten million medium-sized enterprises lack access to electricity (APP, 2015). Inefficient energy production and distribution hamper Africa's growth on multiple levels, costing African economies 1–4% of GDP annually, and adversely impacting on individuals and households. Electricity in Africa costs, on average, three times more than in Europe or the US, while a villager in northern Nigeria spends 60–80 times more on energy than a resident of an industrialized country (ibid.). On top of this, using unclear, kerosene-based energy costs more than US\$10 billion annually, a cost largely borne by poor people living on less than US\$2.50 a day (ibid.).

Poor energy infrastructure also affects essential services such as health facilities: one in four health facilities in Africa has no access to electricity, and 60% of refrigerators used to store vaccines must depend on an unreliable power supply, resulting in spoilage and waste (ibid.). Electricity access in primary schools averages 35%, and up to 80% of primary schools in some countries have no electricity. As such, widening access to energy is paramount for development and livelihoods.

Figure 1. Electricity consumption and economic development are closely linked; growth will not happen without a steep change in the power sector.



There are opportunities for decentralized and distributed renewable power across Africa, as well as for using green hydrogen for a transition to e-mobility in urban areas. Another important opportunity for consideration is using the continent's abundant natural gas as a bridging step to the energy transition. Greater use of natural gas would help to close the energy gap for people and businesses, as well as advancing the low-carbon transition and creating jobs. However, while natural gas is 40% cleaner than coal, it is still a fossil fuel with long-term implications for the climate and for whether the Paris Agreement targets will be met. Therefore, it can be treated as a bridging fuel that will address the energy deficit in Africa as the continent transitions to renewables, following a pattern set by Europe and the USA.

Land. African economies largely depend on land for income and livelihoods, with agriculture contributing over 30% to GDP and providing employment to around 70% of the population. Yet, paradoxically, hunger remains pervasive, with more than 20% of Africans undernourished, mostly women and children. Although Africa possesses more than 60% of the world's remaining arable land, it is poorly optimized. Additionally, the region's share of global agricultural exports has been declining over the last forty years, while food imports have skyrocketed to US\$80 billion annually and are set to increase further to US\$110 billion by 2025 (AfDB estimates). With population growth set to make greater demands on food production capacity, Africa is the only region in the world with a chronic and growing deficit in yield – agricultural yields fell from 59.9% of the world average in 1961 to 41.3% in 2014 (Tian, X., Yu, X., 2010). This is largely because governments have focused on agricultural expansion rather than productivity and have not invested adequately in the smallholders who produce 85% of Africa's agricultural output (Shirley, 2020). The sector, already affected by climate-related events such as floods and droughts, has been recently impacted by pandemic-related disruptions to value and supply chains for food and farming inputs. This has raised input prices and threatened to aggravate food insecurity (Blanke, 2020). Land also provide habitats linked to natural infrastructure and ecosystem goods and services. Land degradation and deforestation are exacerbating climate change, conflict and forced migration, and can even be a factor in the development and spread of novel disease outbreaks such as COVID-19 (IPCC, 2019). The adoption of climate-smart agriculture will therefore benefit habitats, livelihoods and food security. Improving the productive capacity of farmland and local value chains through green technology as part of a diversified and resilient production system will reduce carbon emissions, as well as providing more income for farmers and more food for people. Digital technologies are another important pathway here: for example, in Benin, TechnoServe 'uses digital solutions including drones, satellite data, and machine learning to improve the productivity and environmental sustainability of the country's cashew sector' (TechnoServe, 2020). A green transition in agriculture must benefit smallholders, particularly women who form the backbone of farming in Africa but whose access to land is limited (UN Women, 2018). Since 2003 African leaders have promised to allocate 10% of national budgets to agriculture (African Union, 2014), but few have even come close. The green transition could increase the productivity, efficiency, profitability and attractiveness of agriculture, especially for the younger generation.

Cities. Africa is the most rapidly urbanizing region in the world, and slums are proliferating. The lack of clean energy has resulted in dangerous levels of air pollution. The Organisation for Economic Cooperation and Development (OECD) estimates that air pollution caused over 450,000 premature deaths in Africa in 2013. To achieve SDG 3 (good health), SDG 7 (clean energy) and SDG 11 (sustainable cities), countries must urgently provide citizens and businesses with cleaner energy.

A high annual population growth rate (2.7%) and unplanned urbanization have increased the pressure on already limited infrastructure and competition for scarce resources (Yoshida, 2018), while industrial waste is poorly managed, with adverse consequences for the environment and human health (Abubakari, et. al, 2016). The projected increase in Africa's population to 2.5 billion by 2050, coupled with climate change, will require urgent action to avoid high levels of emissions from rapid urbanization by planning and building appropriate housing and infrastructure for green growth and low-carbon development.

Urbanization can also bring huge economic opportunities if it is harnessed to benefit both the people and the planet. Globally, urban areas generate more than 75% of GDP, but they also contribute about 75% of carbon emissions (Stern & Zenghelis, 2020). Africa's cities therefore pose both a climate risk

and an opportunity for jobs and wealth creation. Africa has the fastest growing youthful population in the world, but one-third of the continent's 420 million people aged 15–35 are unemployed (AfDB, 2016), so the creation of jobs through green industrialization and growth is vital. Key to this process is the huge informal economy and its capacity to innovate and 'test drive' new technologies and innovation in sectors such as food, energy and transport.

Africa's current infrastructural needs are estimated at US\$130–US\$170 billion a year, leaving a financing gap of US\$108 billion (World Bank, 2020). However, given its relatively low baseline, Africa is well-positioned to leapfrog over old, polluting and inefficient technologies in its cities. Digitalization and low-carbon decentralization will be key: smart grids, for example, will allow more efficient management of energy distribution, thus reducing costs and enabling more consistent production. M-Kopa Solar in Kenya and Lumos in Nigeria are already using financial technology and mobile applications for decentralized renewable energy investments (ECA & ECOSOC, 2020).

Harnessing these sectors for Africa's green transition will involve reimagining production and consumption systems.

Sustainable production through low-carbon, energy-efficient processes that harness and equitably distribute renewable energy assets; develop national and regional value and supply chains; implement green trade measures; and rationalise artisanal and small-scale mining.

Science, technology, innovation, research and development built around nurturing home-grown ideas and technologies to support green production and supply and value chains, with alternative uses for assets at risk of becoming stranded.

Sustainable consumption, particularly through food production systems that are less fertilizer- and water-intensive; a circular economy policy to encourage reduction, reuse and recycling; and efficient waste management.

AFRICA'S GREEN TRANSFORMATION

Sustainable human development, through gender-inclusive capacity-building with technical and vocational education and training; formalisation and greening of the predominantly informal economy; and planned urbanisation without slum growth.

Smart infrastructure that optimises domestic and cross-border water, rail, road and air transport; enables green means of transport (such as electric vehicles); and includes energy-efficient buildings.

Sustainable habitats and biodiversity that preserve inland and maritime resources and livelihoods; halt land degradation; and encourage reforestation, while building resilience with coordinated national and regional environmental management policies.

Economic diversification is essential for Africa's long-term development, but it will involve short-term costs and trade-offs. Africa's green transition should be flexible in sequence, pace and scale to reflect country and sub-regional specifics and development levels. Finding ways to build on existing greening initiatives and finance a broader transition will also be key.

The just transition and the opportunity costs of greening

Africa is only responsible for 3% of global emissions and is yet to achieve industrialization. On the other hand, the continent has the potential to offset large amounts of atmospheric carbon through carbon sequestration from forestry, agroforestry, grasslands, coastal ecosystems, soil and land-use changes. However, the continent's low emissions will change over time as population increase puts pressure on infrastructure, and the development imperative grows. Early action will matter in terms of both climate mitigation and adaptation.

Nonetheless, the green transition is a choice, and any regional strategy needs to factor in the diversity of African countries and the appropriate frameworks for deploying their human and natural resources at a pace and scale that meets the continent's development needs and aspirations.

The green transition has a price and entails opportunity costs. How to finance the transition is a matter of significance to global discussions, as Africa's compliance is vital for the global ambition to thwart climate change. The Africa Renewable Energy Initiative (AREI), launched during COP15 and endorsed by the AU, aims to accelerate and scale up the renewables sector across the continent to provide universal access to clean and affordable energy. AREI is set to deliver at least 10 GW of new and additional renewable energy generating capacity by 2020 and at least 300 GW by 2030 (AREI, 2016a). It is estimated that investments of around US\$500 billion will be needed to enable the full continental scale-up to 300 GW of new renewable energy generating capacity by 2030.

The African power sector already expects renewables-based capacity to increase from around 20GW to nearly 170GW by 2040, with renewables accounting for more than 50% of the increase in total capacity over the same period (SEforALL, 2020). Africa enjoys an average of 320 days a year of bright sunlight and radiation levels of almost 2 kWh per square meter (kWh/m²), making it a prime location for solar energy and green hydrogen plants. It also possesses many of the 'green minerals' required for low-carbon technologies such as lithium-ion batteries. However, to reap the full economic benefits of extracting these minerals, African countries must process them, adding value to create wealth and jobs locally, rather than exporting raw materials.

Sub-Saharan Africa will require an estimated US\$377 billion in for climate mitigation investments and US\$222 billion in climate resilience investments in order to reach nationally determined contributions (NDCs).

While the cost of funding the green transition is high, so are the risks associated with stranded assets and the opportunity costs of leaving fossil fuels in the ground. A UNU-INRA (2019) report estimates that financial losses from stranded fossil fuel assets in Africa could amount to more than US\$2 trillion, while potential revenues stand to be forgone from recoverable energy resources of 115.34 billion barrels of oil and 21.05 trillion cubic feet of gas. The real risks of stranded assets and the opportunity costs of forgoing fossil fuels must be balanced against the benefits of greening and financing the transition.

“There is an enlightened self-interest in supporting Africa's green transition because, simply put, Africa's 'fugitive' greenhouse gas emissions is Europe's abatement problem.”

— Bart Armah, Director of the Macroeconomics and Governance Division at the UN Economic Commission for Africa.

The green transition must not outweigh the just transition. There has been criticism that low-carbon development emphasizes the 'green' but pays little attention to the 'justice' elements. Focusing on mitigation without recognizing countries' different levels of adaptation needs and stages of development could compound the inherent vulnerabilities that may hinder countries in Africa as they emerge from the COVID-19 economic downturn with fiscal deficits, greater indebtedness and social malaise. Furthermore, mitigation tends to be favoured over adaptation, and the latter is essential for risk management and resilience. The just transition must be aligned to national and regional development goals to avoid creating a deep divide between winners and losers in the transition. While the just transition is about limiting disruption and hardship related to low-carbon development, local agendas and domestication imperatives related to the SDGs cannot be overlooked, nor can nationally determined contributions (NDCs). It is crucial that low-carbon transition is aligned with contextual realities and is endogenously led.

Beyond this, elements of the just transition are visible in the different financial capacities between developed and developing countries. For years, Africa has suffered from exploitative and even illicit activities that have resulted in significant trade distortions and have amplified vulnerabilities and inequalities on the continent. Africa lost an estimated US\$1.3 trillion in IFFs between 1980 and 2018, and illegal logging, wildlife poaching, illegal fishing, and dangerous mining and waste dumping, have been carried out by foreign companies, depleting African economies and ecologies, and depriving the continent of opportunities for wealth creation, ecosystem preservation and, better, healthier lives (ECA, 2014). The EU could therefore make a concerted effort to support Africa's efforts to crack down on tax evasion and increase domestic revenues by choking off IFFs from the continent to Europe.

Moreover, while the EU goal of carbon neutrality by 2050 is to be applauded, it is important to recognize the different historical responsibilities for global carbon emissions between the Global North and South. Africa is responsible for less than 3% of total global emissions (Ritchie & Roser, 2017), yet, due to the history of foreign extraction and exploitation, its economies and development plans are yet to fully benefit from the industries built on its natural resource wealth. The concept of the just transition will test the EU–Africa partnership, and how the partners address this issue will help to determine how inclusive and just the continent's green transition will be.

Europe must acknowledge Africa's developmental needs and the need for a just transition to ensure 'no one is left behind'. The road towards a green economy will need to follow a gradual transition, rather than leaping between a magnified dichotomy of 'dirty' versus clean energy. Africa's supply of natural gas is particularly relevant here. As a less polluting and flexible energy option, gas can be paired with renewable energy systems to ensure an adequate power supply. Such hybrid energy systems are cost-effective and may be better suited to Africa's needs for a reliable option to spark a clean energy revolution on the continent. Indeed, the Global North, including the EU and US, is using gas as a bridging resource to phase out more polluting forms of energy such as oil and coal, while ensuring energy security over the medium term. However, using natural gas as a bridging fuel will require concerted political alignment and management.

"If we are going to have a greener industrial development pathway, then that cannot come at the cost of reducing poverty. Meeting the basic needs of people in African countries is not negotiable."

— Harald Winkler, Professor, Faculty of Engineering and the Built Environment, University of Cape Town.

Owning the green transition:

Africa must own its transition to avoid the exploitation and asymmetric relationships of the past. While the European Green Deal embodies potential opportunities for Africa, the continent's green transition must be endogenously owned. It must serve as the gateway for African governments and companies to improve their value addition by generating wealth from the sustainable use of the continent's natural resource endowment. An African position and strong leadership are essential to improve negotiations and reduce the historical imbalances between Africa and the EU. Africa needs its own green deal that fits the development levels and realities of its diverse regions and countries. This will require competencies at the continental level to conduct successful trade and external diplomacy.

The AfCFTA must be leveraged to ensure that Europe and Africa meet on equal footing, and mutual benefits are maximised.

The AfCFTA must be leveraged to ensure that Europe and Africa meet on equal footing and that mutual benefits are maximized. The African Continental Free Trade Area will create the world's largest trading bloc, connecting 55 countries and 1.3 billion people with a combined GDP of US\$3.4 trillion. The trade area has the potential to reduce widespread poverty, increase economic growth and improve economic inclusion in Africa. The World Bank (2020) predicts that 30 million Africans could be lifted out of extreme poverty, while incomes could be raised by US\$450 billion by 2035, equal to a 7% average increase in GDP across the continent, reaching up to 12% for some countries like Côte d'Ivoire. Exports could increase by US\$560 billion, while wages may increase by 10.3% and 9.8% for unskilled and skilled workers respectively.

Currently, Africa's integration into global value chains is low (especially in the manufacturing sector) and is centered around the export of raw materials and energy, which are then used in production processes to produce the final goods. Although Europe is Africa's biggest trade partner (30.7% of Africa's total trade), 76.7% of Africa's exports to Europe are in intermediate goods (Brookings, 2021). On the other hand, intra-Africa trade consists of 62% intermediate goods and 38% of final goods. ECA predicts that the AfCFTA could boost intra-Africa trade by 52% as a result of tariff liberalization and trade facilitation, while more modest projections predict at least a 12% increase.

The launch of the landmark AfCFTA has become even more significant as COVID-19 has disrupted international supply chains, impacting African producers. The AfCFTA can also be used to 'green' trade in Africa, for example, by promoting environmentally friendly protocols and e-commerce. African countries can rally behind the new momentum of the AfCFTA to channel new entrepreneurship into a continental blueprint for green growth and transformation. Given the new momentum linked to the AfCFTA, a green industrialization can reduce Africa's high transaction costs expended on energy imports and purchases of foreign exchange, which will boost trade balances and imports. In boosting regional trade, the AfCFTA can also support green industrialization and encourage investment in green infrastructure that will integrate climate risks and act as a buffer for climate proofing to avoiding lock-in emissions through existing polluting infrastructure.

Home to six of the world's ten fastest-growing economies, Africa has enormous potential as an investment destination and market for European firms, as well as being an ally for climate-friendly trade, and investment. The eventual goal could be a free trade area agreement between Africa and the EU with an ambitious environmental content (ecdpm, 2020).

"African countries must take ownership of their own energy vision and create the conditions that will enable that vision."

— Youba Sokona, IPCC Vice-Chair

AU-EU partnership for the green transition

Cooperation should centre around financing, trade and job creation. The facilitation of which would require capacity development, knowledge and technology transfer.

Financing: International financial institutions have a crucial role to play in supporting green investments (particularly in renewable energy and green mobility), piloting new financing models and incentives, and providing guarantees. To date, Africa has benefited from only a small fraction of global finance for renewables. Unfortunately, official development cooperation has not yet been set up 'to support transformative climate action in developing countries' (Rapoport & Toubal, 2019). However, a conservative estimate by the OECD 'places official development finance for upstream and downstream fossil fuel activities at US\$3.9 billion annually over 2016–17' (OECD, 2019a).

This is an area in which the EU could support Africa: indeed, the new strategy proposes to 'substantially increase environmentally, socially and financially sustainable investments that are resilient to the impacts of climate change' in Africa (European Commission, 2020a: 8). This is in keeping with the EU's investments in Africa, such as the EU-funded Global Climate Change Alliance (GCCA), which supports climate-smart development in Africa and currently covers 33 countries with a total allocation of €311.26 million (GCCA+, 2020: 10). Other frameworks include sustainable growth (Africa Investment Platform) and infrastructure (EU–Africa Infrastructure Trust Fund). The EU also committed €100 million to the Pan-African Programme in 2014–2017 for education, research, and innovation, as well as €130 million for higher education with a focus on science and the development of technological skills. Additionally, Nigeria is benefiting from the Digital4Development initiative to promote digital infrastructure, literacy and entrepreneurship (EEAS, 2018). The EU is also providing €120 million to ECOWAS through the West Africa Competitiveness Programme to boost economic integration, growth and jobs (Mayaki, 2018). It is this type of investment funding, rather than aid, that could be scaled up in the next cycle of the partnership.

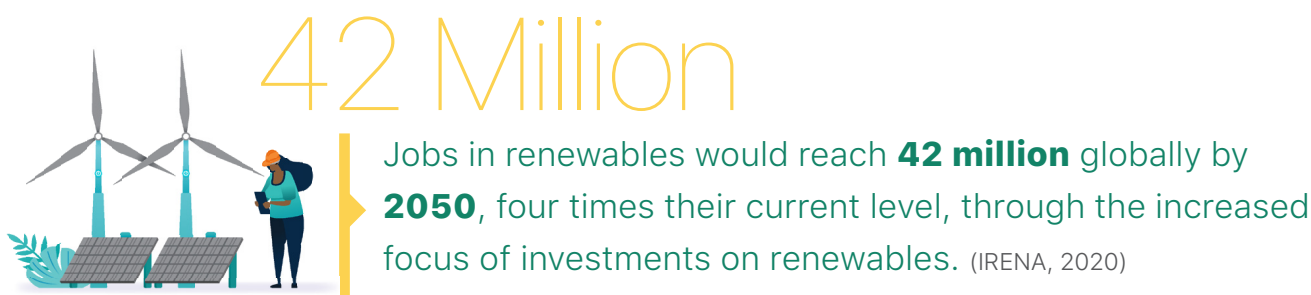
Meanwhile, improving domestic capacities to mobilize resources will improve Africa's ability to finance the green transition. IIED Senior Fellow, Simon Anderson, noted that, 'Covid-19 aggravates the real problem of domestic resource mobilization. Tax revenue in most African countries is less than 20% of GDP'. Furthermore, a just transition will require financing. As IGF/IISD Deputy Director Isabelle Ramdoo remarked, 'the cross-cutting mechanism for the just transition is financing. African countries need to mobilize domestic resources because dependence on development assistance brings conditionality'.

Trade: Trade and investment are a key element of the 2020 Council Conclusions on Africa, while the European Commission's proposed new strategy with Africa mentions trade as a facilitating factor for green transition. Given the AfCFTA, the EU has a long-term vision to create 'a comprehensive continent-to-continent free trade agreement', as highlighted by the European Commissioner for Trade, Phil Hogan (Hogan, 2020).

Trade in agricultural goods is often discussed as a key sector in the green transformation. Africa's agricultural raw material exports to the EU have largely been duty-free under various agreements, but exports of processed agricultural goods face both tariff and non-tariff barriers. Simplifying regulations and supporting compliant production could help African producers access the European market (Kornher & von Braun, 2020). This includes 'Aid for Trade' programmes or, more generally, directing (development) finance to build up economic sectors with export perspectives. Furthermore, the EU's internal policies are influencing the agricultural sector in Africa. Greening the EU's agriculture through the European Green Deal is likely to decrease European exports to African markets, possibly leading to other external producers taking over these market shares (Kornher, 2020). Supporting sustainable food systems would require a mixture of trade-related measures: strengthening trade agreement provisions, possibly with preferential treatment for sustainable production; providing targeted and sufficient Aid for Trade and finance to stimulate investment; and private-sector engagement (Rampa, et al., 2020; Kornher, 2020). Africa and the EU could intensify their efforts to leverage trade in support of green economies, for instance, in the agricultural sector. This could include jointly taking

stock of the effectiveness of and gaps in existing free-trade arrangements and Aid for Trade measures with a view to supporting the green transformation, as well as discussions on sharing technological solutions and fostering SMEs. A continuous and open dialogue on how to connect domestic sectoral transformation policies, development cooperation and trade regulations could allow the partners to work on a joint vision of interlinked and fair markets for green agricultural products that bolster growth and resilient food supplies and benefit populations more widely. Involving civil society on both sides in these dialogues would be beneficial. Achieving this vision, however, would require a paradigm shift in Europe's policies regarding Africa, away from the development aid approach and towards trade and investment (High Level Group, 2019). Only these measures will bring sustainable and resilient growth and employment for Africans. It will also require substantial work and negotiations to partner with the African continent as one entity rather than as a collection of sub-regional and national arrangements, but such a move will be critical to ensure coherent support for Africa's integration and continent-wide green transition.

Job creation: Despite the potential for job losses in some sectors, particularly the extractive industries, they would be more than offset by the possibilities for job creation in a circular economy. Jobs in Africa's clean-energy sector, for example, could easily exceed twenty million by 2031 (UNEP, 2019), and the International Labour Organisation estimates that up to sixty million green jobs can be created globally (ILO, 2012). The United States Environmental Protection Agency estimates that, for every 10,000 tonnes of used goods, six jobs are created when the waste is put in landfill, 36 jobs when it is recycled and as many as 296 jobs when it is reused and repaired (World Economic Forum, 2020). Innovation hubs and Climate Innovation Centres (CICs) are already emerging across Africa and demonstrating the job-creation potential and the economic and environmental benefits of the transition to circular and green economies. Through these CICs, young African entrepreneurs



247,000

Around **247,000** new RE jobs in Africa (2020)



are developing effective but affordable resource-recovery technologies in different sectors for societal impact.

These efforts notwithstanding, the continent suffers from limited technical and financial capacity to fully harness the job-creation potential of the circular economy and green growth. This is one area in which the EU could support Africa through capacity-building. Africa can benefit from Europe's experience in developing regional-scale policies and regulations, as well as transfers of innovative technologies, especially in waste management and resource recovery. The African Circular Economy Alliance (ACEA) and similar initiatives are a ready platform on which the EU and AU could build mutually beneficial partnerships.

Ultimately, sources of funding for job creation must be sought in order to achieve long-term gains, and this should include African governments facilitating more public-private partnerships for job creation.



Avoid the 'big squeeze'. Many African economies are already experiencing huge fiscal challenges given the drop in oil and other commodity prices due to COVID-19, and several will see a huge reduction in revenue streams into the recovery period. The heightened uncertainty has triggered general market turbulence accompanied by increasing indebtedness. EU partners should assist Africa to achieve a green transition and avoid a 'big squeeze' on the continent's economic recovery. Debt relief must consider strategies to support green entrepreneurship and the creation of green jobs.

'Green' should not be the enemy of the 'just'. Different countries have different capacities and points of departure, particularly as they recover from the impacts of COVID-19, and they will need to find their own space and pace for the transition. African countries should also be guaranteed a fair transition, given the significant perceived loss of income due to hydrocarbon resources becoming stranded for the sake of a zero-carbon future. The ability to determine the speed, scale and timing of the transition will matter, as will the relevant knowledge and skills to enable important decisions regarding the transition to be taken.

Reset the AU-EU partnership. Efforts must be made on both sides to negotiate new models of solidarity and cooperation. COVID-19 and climate change present opportunities to build long-term partnerships anchored in fair trade, the just transition and sustainable development. The COVID-19 recovery imperative in particular is a common trajectory that will bind all countries, rich and poor. It might also offer a new opportunity to address current perceptions of power asymmetries between the EU and Africa. The pandemic has revealed that no one nation has all the answers and that there are lessons to be learned from poorer countries.

Ownership - The formation of an African Green Deal. This takes into account context, pace and scale. The European Green Deal is an inspiring and ambitious blueprint capable of catalyzing Africa's own green transformation plans. Several African initiatives such as the 'Great Green Wall' are founded on the principles of a green development trajectory, but most greening efforts in Africa are purely national and therefore do not represent a continent-wide plan. The forthcoming Africa-EU Summit should set up a task force to identify transformative sectors for green growth in Africa, using the European Green Deal as a model for an endogenously owned green initiative. The sectors identified in this brief—energy, land and cities—offer a strategic framework for discussion. African countries can rally behind the new momentum ushered in by the AfCFTA to channel new entrepreneurship into a continental blueprint for green growth and transformation.

Smart incentives, investment, and financing mechanisms. There is a perception among senior African policymakers that the European Green Deal's Carbon Border Adjustment Measure (CBAM) is a taxation levy that will exclude Africa from potential trade deals with the EU. The principle of the border tax makes sense as part of EU efforts to avoid carbon leakage, but in practice it is countries in Africa that will suffer. The EU can level the playing field by using CBAM revenues to boost Africa's preparedness and ability to trade and to promote green investments, especially since Africa is unlikely to 'dump' heavy steel and other metal industry on the EU. Smart incentives can allow Africa to continue to trade with Europe in ways that foster sustainable development.

Leveraging the AfCFTA. The AfCFTA should be the foundation of all future trade deals between Africa and Europe to ensure that partnerships for the green transition support Africa's development goals and regional priorities.

Using energy, cities and land as drivers of green transformation. These key sectors offer the potential for green industrialization, the circular economy, job creation and resilience building. The EU should focus its partnership with Africa on supporting these high-growth sectors.

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