



Building Forward for an African Green Recovery



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António Guterres
United Nations Secretary-General

“ Making peace with nature is the defining task of the twenty-first century. It must be the top, top priority for everyone, everywhere. ”

“It is time to flick the ‘green switch’. We have a chance to not simply reset the world economy, but to transform it. A sustainable economy driven by renewable energy will create new jobs, cleaner infrastructure and a resilient future.”

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Executive summary

Africa is in the eye of a triple storm. The last half decade has been extremely challenging from a climate perspective: from Cyclone Idai in Mozambique to heavy snowfalls in North Africa, and from desert locusts and fall armyworm ravaging crops across East and Southern Africa to floods in Ghana and other countries in West Africa, the repercussions of climate change have been felt across the continent. The economic and health costs of climate change are acknowledged by all, and Africa is already spending some \$335 billion annually, equivalent to more than 5 per cent on of the continent's gross domestic product (GDP), to respond to climate disasters.¹

The coronavirus disease (COVID-19) pandemic has compounded the continent's woes. By the end of February 2021, some 2.7 million Africans had contracted COVID-19 and more than 70,000 people had died from the disease. While Africa has demonstrated considerable resilience, the continent's health-care workers, and institutions, already stretched before the pandemic, have paid a very high price. As the pandemic comes to an end, Africa must seek to establish stronger and more resilient health-care systems. In the short term, however, the priority for all will be to ensure that COVID-19 vaccines are given to at least 60 per cent of the population so that Africa can establish herd immunity. ECA estimates, however, that most African countries will need to set aside more than 20 per cent of government expenditure in order to achieve that objective.²

On the economic front, Africa is facing its first recession in 25 years as a result of the economic repercussions of the COVID-19 pandemic. Over 75 per cent of countries on the continent went into lockdown in 2020, while tourism receipts, remittances from abroad and government revenues all collapsed. Despite that challenge, Africa has demonstrated considerable resilience, owing in large part to the buffers established by many governments prior to the crisis and the support provided by the Group of 20, the International Monetary Fund (IMF) and multilateral development banks.

The perfect storm puts Africa at a crossroads of development, with the already-high costs associated with that storm increasing steadily for African countries. Immediate bold action is needed across all fronts to launch a response, recovery, and reset programme. Despite its satisfactory response to the COVID-19 pandemic, Africa has lost over 30 million jobs,³ poverty is once again on the rise, and debt pressures are mounting. A swift and bold response is needed to address the devastating impact of the climate, health and economic crises. African finance ministers have called for an injection of external assistance of \$100 billion each year for the next three years to close the financing gap of more than \$345 billion identified by the IMF. Additional liquidity, mobilized through the issuance and on-lending of IMF Special Drawing

¹ Total African GDP in 2019 at purchasing power parity (PPP) was estimated at \$6.6 trillion. Updated information is available at: www.imf.org/external/datamapper/PPPGDP@WEO/OEMDC/ADVEC/WEOWORLD/AFQ

² Discussed at a meeting, held on 5 February 2021 to consider emergency economic responses to the COVID-19 pandemic, that was attended by African ministers of finance together with representatives of ECA and the International Monetary Fund (IMF).

³ International Labour Organization (ILO), *ILO Monitor: COVID-19 and the world of work*. 7th edition. Available at: www.ilo.org/global/topics/coronavirus/impacts-and-responses/WCMS_767028/lang--en/index.htm Values of full-time equivalent jobs lost. The equivalent losses in full-time jobs are presented to illustrate the magnitude of the estimates of hours lost. The full-time equivalent values are calculated on the assumption that reductions in working hours were borne exclusively and exhaustively by a subset of full-time workers, and that other workers did not experience any reduction in hours worked.

Rights, by leveraging blended finance tools, such as policy-based guarantees offered by international financial institutions and the proposed liquidity and sustainability facility for Africa, and through the adoption of policies to crowd in the private sector and facilitate market access, will all be critical for powering the recovery. Investments in sustainable and technology-enhanced agriculture, renewable energy and transport, biodiversity and human capital development will also prove essential as African countries strive to recover and build forward better.

Finally, for climate, health, and the economy, one thing is clear: the entire international community must cooperate to reset and rebuild a stronger multilateral framework to respond to global crises and provide equitable, just and transparent processes and systems for the management and implementation of rapid, monitorable solutions. Without such an approach, African development aspirations, as set out in national development plans, the 2030 Agenda for Sustainable Development and Agenda 2063 of the African Union, will not be attained.

Turning climate change challenges into opportunities to build forward better

Climate change must be central to our approach to the recovery. Climate change is a global threat and is likely to cause more frequent and intense extreme weather events, including heatwaves, floods, droughts and cyclones, which can exacerbate the spread of infectious diseases.

Climate hazards and related disasters affect countries to differing degrees. The greatest damage and highest death tolls are experienced by developing countries. Africa, in particular, is disproportionately affected. Air pollution kills more Africans than childhood malnutrition or contaminated water. Fast-developing African nations, including Egypt, Ethiopia, Nigeria and South Africa, are particularly affected by the challenge posed by air pollution. Data provided by WHO shows that, of the annual 2.2 million environment-related deaths on the African continent, 600,000 are linked to outdoor air pollution.⁴

The anticipated escalating impact of climate change may dwarf the repercussions of COVID-19, particularly given the continent's weak adaptive capacity and insufficient concrete action at the global level to address climate change.

Climate change now threatens the viability of African countries' infrastructure investments. In some river basins, including the Zambezi river basin, climate change could result in the loss of up to 60 per cent of hydropower production capacity.⁵ Overall, climate change is predicted to reduce available water by up to 40 per cent in the western part of Southern Africa by 2050. In conjunction with human population growth, this could severely undermine Africans' food, energy and water security.

In 2019, African countries were already spending between 2 and 9 per cent of GDP to address climate events and climate-related environmental degradation. The immediate impact of climate-related extreme events such as floods, droughts and landslides are costly. The World

⁴ WHO, *Preventing disease through healthy environments: a global assessment of the burden of disease from environmental risks* (2016). Available at: www.who.int/quantifying_ehimpacts/publications/preventing-disease/en/

⁵For further information, see Agence Française de Développement and World Bank, *Enhancing the Climate Resilience of Africa's Infrastructure* (2015). Available at: www.worldbank.org/content/dam/Worldbank/Feature%20Story/Africa/Conference%20Edition%20Enhancing%20Africas%20Infrastructure.pdf

Bank estimates that, even with support from the international community, plagues of locusts in countries in the Horn of Africa caused economic damage of some \$8.5 billion in 2020 alone.⁶ The worsening climate crisis is, moreover, compounding the impact of the ongoing health pandemic across the continent. At the same time, Africa has continued to be hit by natural disasters, putting a strain on already-fragile safety nets and many African countries' chronically-weak infrastructure.

To date, Africa has proven more resilient in terms of its capacity to address the COVID-19 pandemic. Mask wearing, social distancing and hand washing were adopted across the continent very early on. It should also be noted that Africa has had to deal with a number of health crises in the past, including multiple Ebola outbreaks, and countries have established mechanisms and institutions that have served them well during the current health crisis. The COVID-19 virus also appears to be less deadly for younger people and, as more than 40 per cent of Africans are under 20 years of age, much of the continent was initially spared the fate of many developed countries. The second wave of the pandemic has, however, proven more severe and costly for Africa, with more than 3.7 million cases and more than 70,000 deaths reported across the continent by the end of February 2021. The prolonged nature of the crisis, the emergence of new variants, and the toll on health-care systems have led to an acceleration in death rates since the beginning of 2021. The crisis is still unfolding, with uncertainty compounding existing health and economic challenges.

The economic costs of the COVID-19 pandemic have been severe. GDP growth dropped from 3.3 per cent in 2019 to -2.6 per cent in 2020, but is projected to rebound to 3.7 per cent in 2021.

The initial response to the crisis saw over 42 African countries close their borders and impose various types of lockdown. Similar to the health crisis, Africa had established a number of buffers with which to manage the economic shocks of 2020. A prolonged economic recession, however, will stretch budgets and lead to insolvency if an immediate liquidity response is not put in place to mitigate the impact of the crisis.

The crisis is also causing massive human capital depletion, with a direct effect on future generations, as education and health outcomes across the continent are set back. It is endangering African countries' long-term development and exposing underlying weaknesses of their economies.⁷

Responding to this triple crisis in Africa will require substantial additional resources to build forward better and bolster the continent's resilience. Resources are needed immediately to respond to the health pandemic and related economic shocks. Over the medium- to long-term, additional resources will be needed to promote a sustainable recovery and an economic reset.

While addressing the ongoing health crisis, countries should draw up plans for kick-starting their recovery. This is a strategic opportunity for African countries to adopt alternative growth models that prioritize value addition in order to leapfrog technologically to a sustainable, inclusive, job-rich future. The African Continental Free Trade Area, which came

⁶ Financial Times, "World Bank pledges \$500m to fight locust swarms in east Africa and Middle East", 21 May 2020. Available at: www.ft.com/content/dd94cf1c-4e42-4210-a52c-c1da7b77afb8

⁷ Save our Future, *Averting an Education Catastrophe for the World's Children* (2020). Available at: inee.org/system/files/resources/Averting-an-Education-Catastrophe-for-the-Worlds-Children_SOF_White-Paper.pdf

into existence in January 2021, is an important springboard for recovery. Energy will be a key driver as it will help secure food supplies and enable growth in other sectors of the economy, including transport and industry. The current electricity access deficit of 62.5 per cent is one of the main obstacles to sustainable development. By delivering energy through renewables, African countries will not only limit their impact on the environment and the climate, but will be able to create jobs, increase the fiscal stimulus per dollar spent, and ensure that they do not find themselves locked into using obsolete fuel sources.

Studies have shown that investment in the green economy could create significant numbers of jobs and help accelerate the recovery. For example, a study published in the Oxford Review of Economic Policy⁸ revealed that targeted green investments could improve the quality of a recovery in terms of job creation and could enhance countries' resilience to climate change. In that connection, a case study on green investments in South Africa revealed that green investments provide a stronger gross value added and jobs creation pathway than "traditional" fossil fuel-based investments.⁹ Indeed, up to 250 per cent more jobs could be created in the short term and as much as 420 per cent greater economic value generated in the long term compared with traditional fossil fuel-based alternatives.¹⁰ The potential return on energy, nature-based solutions and clean transportation investments in South Africa suggest that other countries could generate similar returns, particularly if they make use of the job creation toolkit developed by the New Partnership for Africa's Development (NEPAD).¹¹

An analysis of options for the Democratic Republic of the Congo also revealed the potential gains of investing in natural capital. This includes reforestation and agroforestry, in addition to building nature-based facilities in urban areas. Utility-scale renewables could increase the extent of electricity penetration in the economy, while the extensive use of mini- and microgrids could bring electricity to as many as 10 million people. Overall, those investments could result in 130 per cent more jobs and 280 per cent greater economic output when compared to traditional investments in the same sectors.

The potential of green investment strategies is all the more important given how they would support the future development of the African economy. A recovery that provides high-quality jobs for Africans must be based on an innovative sustainable growth model that delivers both modernization and investment simultaneously, potentially supporting the shift from a low productivity to a high productivity economy. The adoption of such strategies also offers an opportunity to make African economies more resilient, in terms of education, skills, depth of supply chains, finance and climate resilience.

Over the medium term, a reset of the global economy will prove crucial. A renewed multilateral approach to respond to global public goods issues is critical to safeguard the gains of the past and build a more resilient future, including in terms of health, the economy and climate change. A number of global meetings will take place in 2021 to discuss health financing and security, including the meetings of the Group of 20 on financing, technology and trade, and

⁸ Cameron Hepburn and others, "Will COVID-19 fiscal recovery packages accelerate or retard progress on climate change?" Working Paper No. 20-02 (Oxford Review of Economic Policy, 4 May 2020). Available at: www.inet.ox.ac.uk/files/Hepburn-et-al-2020-Will-COVID-19-fiscal-recovery-packages-accelerate-or-retard-progress-on-climate-change-EMBARGOED-5-MAY-2020.pdf

⁹ Brian O'Callaghan and Julia Bird, "A Prosperous Green Recovery for South Africa: Could green investment bring short-term economic recovery while unlocking long-term sustainable growth?" (Oxford University Economic Recovery Project, SSEE, Vivid Economics and ECA, 2020).

¹⁰ Future studies will be extended to other countries.

¹¹ For further details regarding the toolkit, see: jobs.au-pida.org/index.html#/

the twenty-sixth session of the Conference of the Parties to the United Nations Framework Convention on Climate Change (UNFCCC). All those meetings should provide a space for the world to revisit its response to the crisis and redesign new ways of working. As future, more frequent crises are inevitable, a reset and redesigned world must arm itself with the tools to respond quickly and adequately to shocks. Building more transparent, harmonized and equitable systems must be the basis for a dialogue on the reset. An Africa that builds forward on the basis of that ambitious global agenda is an Africa that will be able to build resilience, deliver prosperity for its young people and women and accelerate the achievement of the Sustainable Development Goals.

A collaborative, cohesive and sustained response is particularly important in Africa because the consequences of failure are so high and the rewards for success so great. A coordinated response will generate greater positive spillovers, limit economic scarring and facilitate efforts to address climate change.¹² As a measure of what is at stake without such action, ECA estimates that the number of people living in poverty in Africa will increase by between 49 and 161 million as a result of the pandemic, with 100 million being the most likely estimate,¹³ while much formal employment has collapsed and many governments have exhausted their financial reserves. Despite the crisis, Africa has huge potential, both for economic growth and in terms of its contribution to global common goods using its abundant supply of key commodities. The scale of opportunities for mainstreaming climate resilience, through the continent's huge potential carbon sinks, renewable energy potential and its key role in supporting the economy of the future, means that supporting the continent's recovery must remain a top priority for the international community.

African ownership of the recovery, and of the solutions it can develop with global partners, must constitute the foundation of efforts to generate positive spillovers and deliver common goods that can benefit Africa and the rest of the world. The risks that climate change, pandemics and other natural disasters pose for an increasingly interconnected global economy are multiplying. The response to the current pandemic will set a baseline for coordinated action, or lack thereof, for all future crises.

¹² IMF, "How a Collective Infrastructure Push Will Boost Global Growth", 24 November 2020. Available at: blogs.imf.org/2020/11/24/how-a-collective-infrastructure-push-will-boost-global-growth/

¹³ ECA, "Reducing poverty and vulnerability in Africa in the time of COVID-19", unpublished report, 2020.

Key recommendations

To foster the emergence of a post-COVID economy in Africa, stakeholders must support focus on three inter-related phases, namely an immediate response, a sustained recovery and a growth model reset. The IMF estimates that this will require investment of some \$345 billion over three years. The following recommendations are made with a view to mobilizing resources and ensuring their strategic investment. Each phase will overlap with and be informed by the other phases, and will position the continent to fulfil its potential, both for its citizens and for the broader global community.

Response

In the immediate response, priority should be given to providing additional liquidity to economies through the extension to the end of 2021, or even the end of 2022, of the Debt Service Suspension Initiative (DSSI). It is, moreover, essential to facilitate the issuance and allocation of new Special Drawing Rights, ensure that development partners maintain their provision of assistance at current levels, including through mechanisms such as the Access to COVID-19 Tools (ACT) Accelerator, and support African efforts to gain equitable access to vaccines. The fiscal space created by those steps will help governments safeguard society and reduce inequalities, particularly in health care, access to education and worker protection mechanisms. Investment in human capital will establish a robust economic foundation for a sustainable recovery. Certain countries, including Chad, Ethiopia and Zambia are already facing solvency issues and require immediate debt relief. The Group of 20 common framework for debt restructuring could be used to provide relief to such countries. Enhanced clarity on the requirements for relief could help countries take advantage of debt relief mechanisms. Finally, multilateral development banks should support countries by accelerating financial disbursements.

African countries' active engagement in the recovery phase is delivering some early positive results on both the financing and the vaccines fronts. Africa will need to stay united and speak with a common informed voice to advance its interests. Leadership by the African Union and by finance, health, and environment and trade ministers has been a critical component of success so far and the continent must continue to build on its successes in that regard.

Recovery

The recovery should crowd in the private sector and build on the availability of additional liquidity via the issuance, voluntary reallocation and/or the on-lending of Special Drawing Rights, and the leveraging of blended finance tools. Debt swaps and/or Sustainable Development Goal bonds will also be important in the recovery phase. Countries must adopt enabling structural policies to crowd in the private sector and facilitate market access, both of which will be critical for powering the recovery. This will help countries invest in a green recovery and respond to the employment needs of citizens, increase productivity and set countries back on track to achieving the Sustainable Development Goals. Indeed, as previously stated, a recent study conducted in South Africa by ECA revealed that a green recovery would deliver up to 250 per cent more jobs in the short-term and as much as 420 per cent greater economic value in the long term compared with traditional fossil fuel-based alternatives.

While establishing the foundation for enhancing human capital, attention should also be given to the following five investment priority areas, which will facilitate an African green recovery and further leverage the multipliers stemming from green investments:

- **Investment in human capital:** facilitating the emergence of an upskilled workforce and healthy resilient citizenry in an economy creating decent jobs;
- **Investment in resilient infrastructure:** investing in enablers, such as modern resilient energy systems, sustainable transport and digitalization;
- **Investment in food security:** investing in agriculture and rural communities to ensure more secure and affordable food for consumers and better returns for farmers;
- **Investment in the African continent's natural capital:** investing in nature-based solutions to generate employment while also protecting natural resources. For the continent's extractive industries, it is time for a reset and a transition towards sustainable systems;
- **Investment in markets and financial systems:** developing domestic markets to enhance African resilience, investing in value chains within the context of the African Continental Free Trade Area, particularly for industries that have relatively short and sustainable national and regional supply chains.

Reset

To achieve the ambitions of a prosperous Africa by 2030, a global reset of the international financial and global public goods systems is needed in order to mobilize sufficient resources to address the climate crisis and achieve the Sustainable Development Goals.

Carbon taxation mechanisms will need to be discussed and agreed upon globally. As discussions on potential carbon border adjustment mechanisms and carbon pricing advance globally, Africa needs to engage in those talks and position its economies to prosper, while emphasizing that, compared with other continents, Africa has contributed very little to climate change and needs appropriate time and resources to achieve a green transition. Care should be taken to avoid locking in expensive stranded assets whilst delivering a competitive advantage stemming from low carbon manufacturing.

Domestic resource mobilization will remain critical, as will enhanced public finance management. Efforts must be made, in particular, to ensure transparency when drawing up and implementing budgets and contracts, so that legislatures, citizens and the media can track financial flows. Transparency in the extractive industry sector will be an important cornerstone of revenue mobilization as the sector itself moves to improve mining practices to make them more environmentally friendly and climate resilient. The vigorous enforcement of the United States Dodd–Frank Wall Street Reform and Consumer Protection Act could make a significant contribution in efforts to combat illicit financial flows originating in Africa.

Investment in digitization and e-commerce enablers, including digital connectivity, digital skills, e-transactions, data privacy and digital ID, will help unleash the potential of digital transformation. The access, cost and speed of digital infrastructure remain significant challenges in Africa. If those issues are not addressed, inequalities within countries, professions

and between men and women are likely to widen. On the international and multilateral fronts, agreement must be reached on the harmonization of innovative technologies, including so-called 5G technology. Continental and global rules on data flows established pursuant to the Agreement Establishing the African Continental Free Trade Area or by the World Trade Organization could promote the adoption of e-commerce in the informal sector and ensure inclusive growth of micro-, small and medium-sized enterprises, including those run by women. The so-called fourth industrial revolution has the potential to transform the continent's economies, foster sustainable productivity and enhance African countries' regional and global trade. Leveraging digital cooperation and partnership initiatives in the area of digital manufacturing could also enhance the effectiveness of interventions to advance the digital transformation of Africa and promote the continent's inclusive and sustainable industrial development.

Climate-smart agriculture and nature-based solutions must be given priority consideration by policymakers, particularly as African agriculture is responsible for 90 per cent of deforestation on the continent and two thirds of its greenhouse gas emissions.¹⁴ Deforestation and forest degradation are also directly linked to the loss of biodiversity, and the adoption of efficient climate-smart agricultural practices can prevent the decline in populations of key species and help the continent maintain healthy ecosystems. Climate-smart agricultural practices should be adopted in tandem with nature-based solutions to improve food security and preserve biodiversity, a critical prerequisite for future wealth creation. The International Finance Corporation has identified investment opportunities in sub-Saharan Africa worth some \$80.1 billion that could potentially create 5 million jobs while reducing greenhouse gas emissions by 9.7 million tons.¹⁵

Lastly, the extent to which African countries adopt **good governance and transparency** principles and engage with civil society will determine the extent and type of economic growth enjoyed by Africa in the coming decades.

Implementing green energy strategies in 2021

Many African countries are committed to transitioning to green energy within a relatively short time frame. Clean energy and agriculture are, for example, prioritized in over 70 per cent of African nationally determined contributions. That ambitious goal must underpin the economic development priorities of the continent. The Africa Union is drawing up a climate change strategy to guide low-emission development policies in member States. That strategy will position climate action and economic transition as investment and enterprise opportunities and accelerators of socioeconomic growth, and will recognize that Africa is disproportionately vulnerable to climate change due to its low levels of socioeconomic development.

In the run-up to the twenty-sixth session of the Conference of the Parties to the United Nations Framework Convention on Climate Change, a series of preparatory meetings will be held with a view to formulating critical evidence-based policy positions on the response, recovery and reset agenda. The timeline of events is illustrated in figure 1. A strong multilateral resource and policy position is needed to help Africa recover and build back better from the

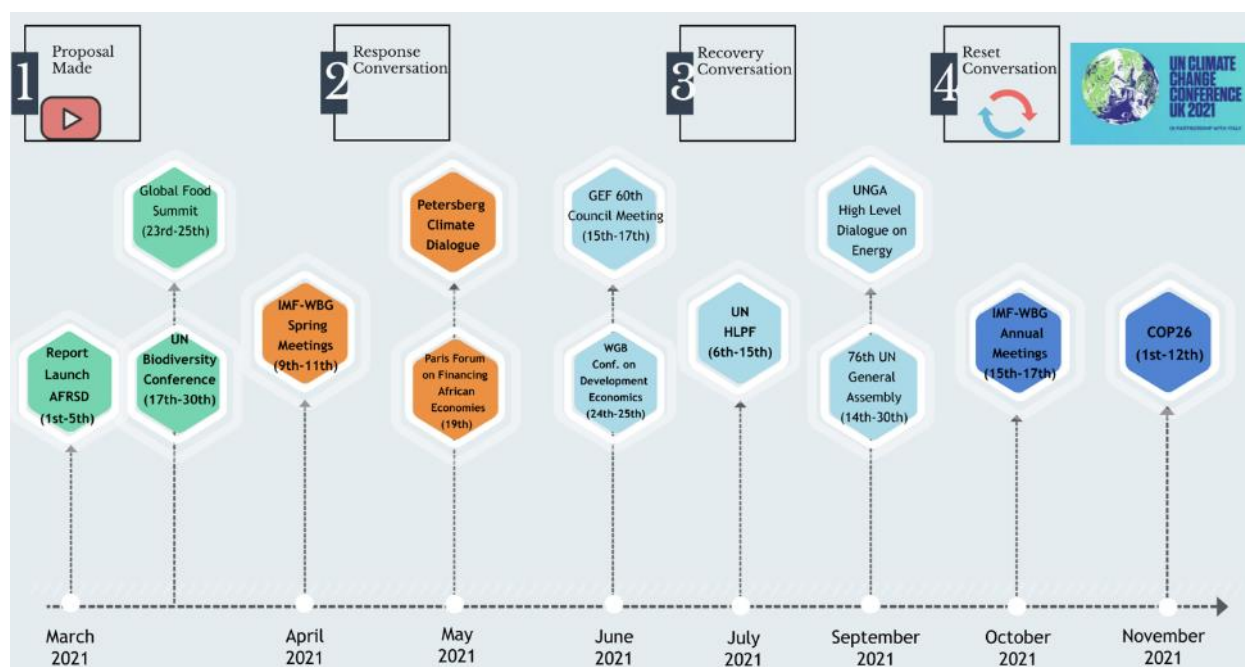
¹⁴ FAO, *The State of the World's Forests 2020*, Available at: www.fao.org/documents/card/en/c/ca8642en

¹⁵ International Finance Corporation (IFC) *Ctrl-Alt-Delete: A Green Reboot for Emerging Markets* (January 2021). Available at: www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/climate+business/resources/a+green+reboot+for+emerging+markets

current three-pronged crisis and accelerate efforts to achieve the Sustainable Development Goals and the goals aspirations and targets of Agenda 2063.

Figure 1

Timeline of key events in 2021 leading up to the twenty-sixth session of the Conference of the Parties to the United Nations Framework Convention on Climate Change



A triple scarring that could blight the African economy for a generation – climate, COVID-19 and the economy

Introduction

Africa is in the grip of a triple crisis that consists of a long burning climate crisis, the global COVID-19 pandemic, and an economic crisis that has been triggered by COVID-19 but exacerbated by underlying structural weaknesses. Urgent action is needed to respond to the most immediate of those three crises, namely the health crisis stemming from the pandemic, but action must also be taken to ensure that recovery efforts address the key challenges posed by climate change and promote the reset needed to enhance the broader stability of economic systems

This chapter explores each of these crises in turn, while the following chapters examine immediate response actions and broader recovery needs.

Climate change

Increasing threats posed by climate change

Climate change must be central to our approach to recovery. It is a global threat and is likely to cause more frequent and intense extreme weather events, including heatwaves, floods, droughts and cyclones, which can exacerbate the spread of infectious diseases. Climate change is also giving rise to shifts in habitats and agroecological zones, aggravating land degradation

and worsening food security challenges. In tandem with the challenges posed by many populations' limited access to modern energy services, climate change is exacerbating human encroachment into natural habitats, resulting in a vicious circle of increasing environmental degradation and further climate change.

Efforts to address the challenge posed by climate change are still far from adequate. In 2019, atmospheric concentrations of carbon dioxide reached 148 per cent of pre-industrial levels. Furthermore, concentrations of nitrous oxide, a powerful greenhouse gas that also damages the ozone layer, have increased by 123 per cent over the same time period. More alarming still, WMO has reported that emissions of nitrous oxide are now some 62 per cent higher than when international climate negotiations began in 1990.¹⁶

Furthermore, according to the Intergovernmental Panel on Climate Change (IPCC), most of Africa has already warmed by more than 1°C since 1901, while WMO has concluded that, if the planet keeps warming at its current pace, average global temperatures could increase by 1.5°C within ten years, worsening extreme weather events and perhaps making some of the dangerous effects of climate change irreversible. In its Fifth Assessment Report, IPCC projects that, under medium emission scenarios (Representative Concentration Pathway 4.5), extensive areas of Africa will exceed 2°C of warming relative to late twentieth century mean annual temperatures by the last two decades of the twenty-first century. All of Africa will reach that threshold under high emission scenarios.

The impact of climate change, together with inadequate access to modern forms of energy services, is accelerating human encroachment into natural habitats. COVID-19 is believed to be a zoonotic disease, namely a disease arising from a pathogen that crossed from wild animals to humans. As climate change accelerates, there is an increasing probability that other zoonotic diseases will emerge. Climate change is also having a serious impact on disease vectors, with serious repercussions for global health and, in particular, the health of Africans. For example, shifts in malaria types and patterns as a result of climate change pose serious risks to public health and could undermine the impact of pharmaceutical investments. As a result, massive new investments may be needed in order to redesign and implement pharmaceutical solutions to health-related challenges and public health programmes.

Although they are home to 17 per cent of the world's population, African countries' share of global greenhouse gas emissions remains small, and total continental emissions are estimated at less than 4 Gt CO₂e per year.¹⁷ Figure 2 illustrates that African countries produce significantly lower emissions of carbon dioxide than States in other global regions. African countries should therefore be expected to shoulder less responsibility for addressing climate change than other countries, particularly if historical responsibility and economic capacity are taken into account.¹⁸ It should be emphasized, moreover, that African States receive very little support to facilitate their efforts to respond to climate change and build resilience against increasing climate-related impacts.

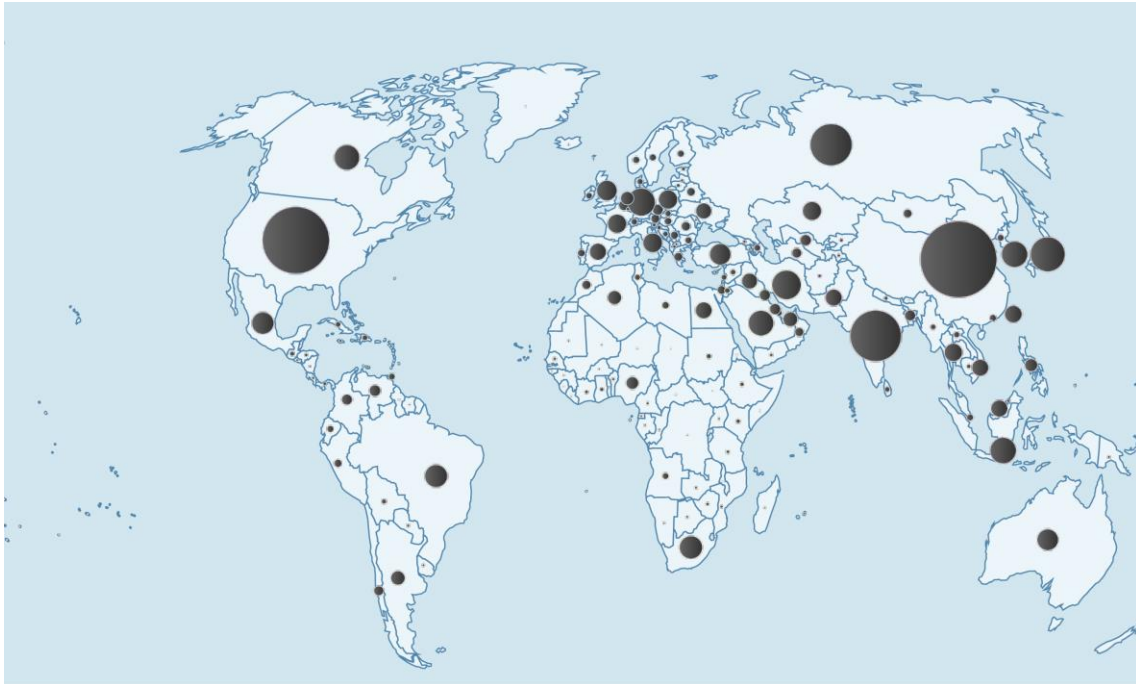
¹⁶ WMO, *State of the Climate in Africa 2019*, WMO-No. 1253 (Geneva, 2020). Available at: library.wmo.int/?lvl=notice_display&id=21778#.YEF7N5NKibs

¹⁷ For further information, see Climate Watch "Historical GHG Emissions". Available at: www.climatewatchdata.org/ghg-emissions?source=129

¹⁸ Amar Bhattacharya and others, *COP 21 at Paris: The issues, the actors, and the road ahead on climate change* (November 2015, Brookings). Available at: www.brookings.edu/research/cop-21-at-paris-the-issues-the-actors-and-the-road-ahead-on-climate-change/; See, also, EcoEquity and Stockholm Environment Institute, *Climate Equity Reference Calculator*. Available at: calculator.climateequityreference.org/

Figure 2

Relative sizes of States' carbon dioxide emissions, 2019



Source: Global Carbon Project, *Global Carbon Atlas*. Available at: www.globalcarbonatlas.org/en/CO2-emissions

Weather and climate variability is likely to increase in Africa as warming increases.¹⁹ While the world is understandably preoccupied with the immediate COVID-19 crisis, the climate change crisis has not gone away and continues to pose the single biggest challenge to the future of Africa. No solution to the COVID-19 crisis will be complete unless it addresses that challenge, and no recovery will be adequate unless it addresses the causes and repercussions of climate change.

The impact of climate change on Africa is already significant

According to WMO, 2019 was one of the three warmest years on record in Africa.²⁰ Unusual weather conditions in 2018 and 2019 included long-term lows in annual rainfall in Southern Africa and west of the High Atlas Mountains, above-average rainfall in Central and East Africa, and very dry conditions alternating with floods and landslides from heavy rainfall in the Horn of Africa. Extreme weather and climate events in 2019 included Tropical Cyclone Idai, one of the most destructive tropical cyclones ever recorded in the southern hemisphere, and Tropical Cyclone Kenneth, which together resulted in more than a thousand deaths and displaced hundreds of thousands. Tropical Cyclone Idai was estimated by the World Bank to

¹⁹ IPCC, *Global Warming of 1.5 °C: an IPCC special report on the impacts of global warming of 1.5 °C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty* (2018). Available at: archive.ipcc.ch/report/sr15/index_background.shtml

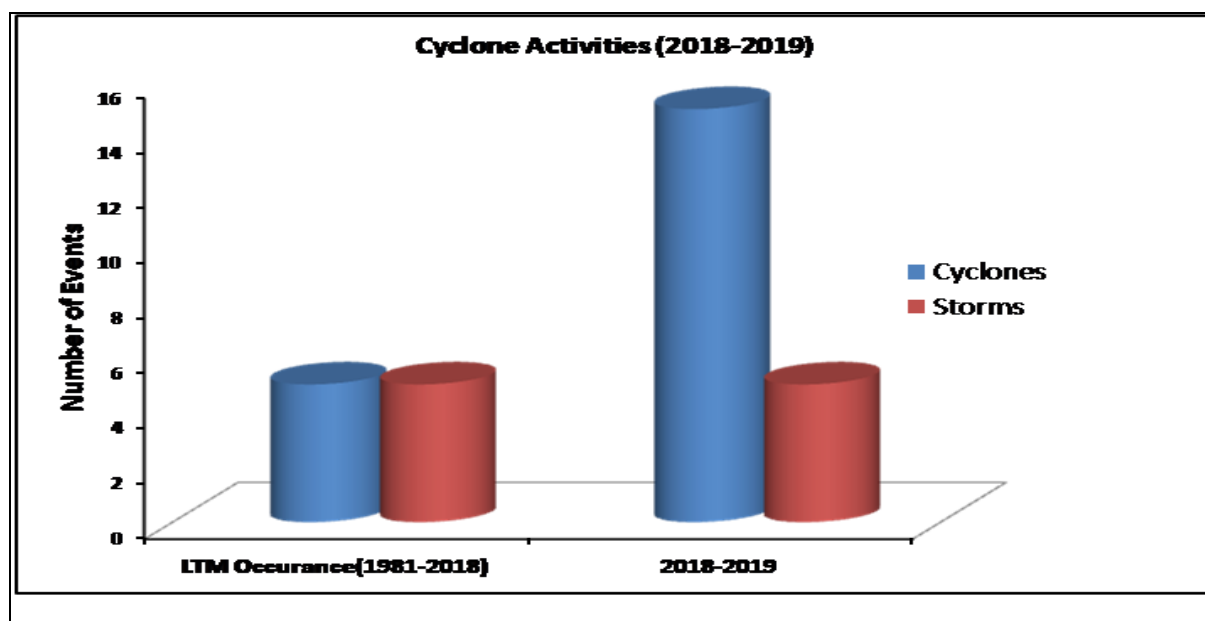
²⁰ WMO, *State of the Climate in Africa 2019*.

have resulted in direct economic losses of more than \$800 million, with an estimated economic recovery and rebuilding infrastructure cost of more than \$2 billion.²¹

Extreme weather events have increased in frequency and intensity in Africa in recent years. Severe floods affected Côte d'Ivoire, Ghana, Guinea, Mali and Senegal in 2017, killing more than a thousand people. In 2018 and 2019, it was the turn of countries further south, including Angola, Malawi, Mozambique, Namibia, South Africa, Zambia and Zimbabwe.²² The increase in storm and cyclone activity in the southern Indian Ocean is illustrated in Figure 3.

Figure 3

Number of storms and cyclones in the southern Indian Ocean, 1981–2018 and 2018–2019



Source: WMO, *State of the Climate in Africa 2019*.

Droughts have been particularly prevalent across Africa, contributing to famines in the most vulnerable semi-arid parts of the continent, including the Horn of Africa, the Sahel and the Kalahari. Just prior to the COVID-19 pandemic, extremely low rainfall led to crop failures in parts of Kenya and resulted in the worst cereal harvest in Somalia since records began in 1995. 2019 was also a dry year in North-West Africa, and particularly in Morocco. Droughts also affected energy production and, for example, caused power shortages in Zambia and Zimbabwe in 2019 as Lake Kariba fell to less than 10 per cent of capacity.²³

2019 was also a bad year for most of the continent in terms of flooding, with much of Eastern Africa and the Horn of Africa receiving double their average seasonal rainfall. There were over 400 deaths and widespread landslides. The heavy rains contributed to a locust plague, which started to affect the region at the end of 2019 and continued into 2020, resulting in further crop and pasture losses. Similarly, above-average rainfall in parts of West Africa triggered flooding in Benin, Côte d'Ivoire, Ghana, Mali, Niger, Nigeria and Senegal.²⁴

²¹ World Bank “Mozambique: Cyclone Idai & Kenneth Emergency Recovery and Resilience Project” (P171040). Further details available at: projects.worldbank.org/en/projects-operations/project-detail/P171040

²² WMO, *State of the Climate in Africa 2019*.

²³ Ibid.

²⁴ Ibid.

Southern Africa experienced strong heatwaves in 2019, with temperatures exceeding 45°C in parts of Mozambique, South Africa and Zimbabwe and a 2019 high of 50.0 °C was recorded on 14 July at Ouargla in Algeria. Nonetheless, parts of North Africa experienced a significant cold spell in mid-January, with snow depths reaching 55cm in Algeria, while temperatures fell to between -7 °C and -9 °C in certain areas. Heavy snowfall were also recorded in other North African countries.²⁵

In 2019, African countries were already spending between 2 and 9 per cent of GDP to address climate events and climate-related environmental degradation.²⁶ According to the African Climate Policy Centre, GDP in the five African sub-regions is likely to decline significantly as a result of global temperature increases. For scenarios ranging from a 1°C to a 4°C increase relative to pre-industrial levels, the continent's overall GDP is expected to decrease by between 2.25 and 12.12 per cent by 2030. Table 1 shows that the economic impact of a global rise in temperatures is likely to be particularly severe in West, Central and East Africa.

Table 1

Anticipated climate change-induced GDP losses by 2030 for temperature increases of between 1°C and 4°C

	GDP (% change/year) at temperature increases of between 1°C and 4°C			
African subregion	1°C	2°C	3°C	4°C
Northern (7 countries)	-0.76 ± 0.16	-1.63 ± 0.36	-2.72 ± 0.61	-4.11 ± 0.97
Western (15 countries)	-4.46 ± 0.63	-9.79 ± 1.35	-15.62 ± 2.08	-22.09 ± 2.78
Central (9 countries)	-1.17 ± 0.45	-2.82 ± 1.10	-5.53 ± 1.56	-9.13 ± 2.16
Eastern (14 countries)	-2.01 ± 0.20	-4.51 ± 0.34	-7.55 ± 0.63	-11.16 ± 0.85
Southern (10 countries)	-1.18 ± 0.64	-2.68 ± 1.54	-4.40 ± 2.56	-6.49 ± 3.75
Africa as a whole (55 countries)	-2.25 ± 1.52	-5.01 ± 3.30	-8.28 ± 5.12	-12.12 ± 7.04

Source: ECA and African Climate Policy Centre (2014), *Loss and Damage in Africa*²⁷

²⁵ Ibid.

²⁶ African Climate Policy Centre, "Africa is spending more than its fair share for adaptation" (2017) Available at: www.climdev-africa.org/sites/default/files/DocumentAttachments/Information%20Brief-Adaptation%20COP23_New.pdf

²⁷ ECA and African Climate Policy Centre (2014), *Loss and Damage in Africa*. Available at: climateanalytics.org/media/uneca__2014__loss_and_damage_in_africa.pdf

As the number of severe climate events increases, certain weather and climate-related threats are likely to make COVID-19 pale into insignificance. It is predicted, for example, that climate change will reduce the availability of water by up to 40 per cent in South-West Africa by 2050.²⁸ As it is anticipated that the population of that subregion will double from today's 250 million to some 500 million by 2050, any reduction in the amount of water available will undoubtedly threaten food and water security in addition to energy security (through its impact on hydroelectricity generation). Water reductions are likely to drive large scale human migration to other areas of Africa as people strive to obtain sufficient food, water and energy. Climate change is also threatening the viability of African investments in infrastructure and, according to a study by ECA and the World Bank, climate change could result in the loss of up to 60 per cent of the hydropower production capacity in some river basins, including the Zambezi basin.²⁹

Risks and repercussions for agriculture and food security

According to IPCC,³⁰ climate change is likely to have a severe impact on crop yields in Africa as a consequence of heat and drought stress, increased pest and disease damage and flood impacts. This will severely undermine food security and threaten the livelihoods of populations that depend on agriculture for a living. It should be emphasized in that connection that the agricultural sector provides employment for 60 per cent of the population of Africa. The repercussions for the region as a whole, and for individual countries and households are likely to be dramatic. The production of certain crops, including rice and wheat, will be particularly affected. By contrast, the impact on the production of millet and sorghum, which are more resistant to heat stress, is likely to be less severe.³¹ The level of risk has been identified as “very high” if global mean temperatures increase by between 2°C and 4°C above pre-industrial levels by 2080–2100.

Climate variability and extreme weather and climate events are among the key drivers of the recent increase in global hunger, exacerbating the effects of conflicts, instability and economic crises on food security. Almost 12 million people in Ethiopia, Kenya and Somalia, many of them children, were estimated to be severely food insecure at the end of 2019. FAO estimates that, between 2018 and 2019, the number of food insecure people in Somalia increased from 1.6 to 1.2 million, and in Kenya from 0.7 to 3.1 million. At the end of December 2019, East Africa and the countries around the Great Lakes hosted 4.6 million refugees and asylum seekers and over 7.7 million internally displaced persons. According to the Office of the United Nations High Commissioner for Refugees (UNHCR), some 60 per cent of all internal displacements in the East Africa subregion in 2019 were due to climate-induced disasters.³² As illustrated in figures 4 and 5, desert locusts also pose a serious threat to certain subregions.

²⁸ Olivia Serdeczny and others, “Climate change impacts in Sub-Saharan Africa: from physical changes to their social repercussions”, *Regional Environmental Change*, vol. 17(6), pp. 1585—1600 (August 2017). Available at: research.wur.nl/en/publications/climate-change-impacts-in-sub-saharan-africa-from-physical-change

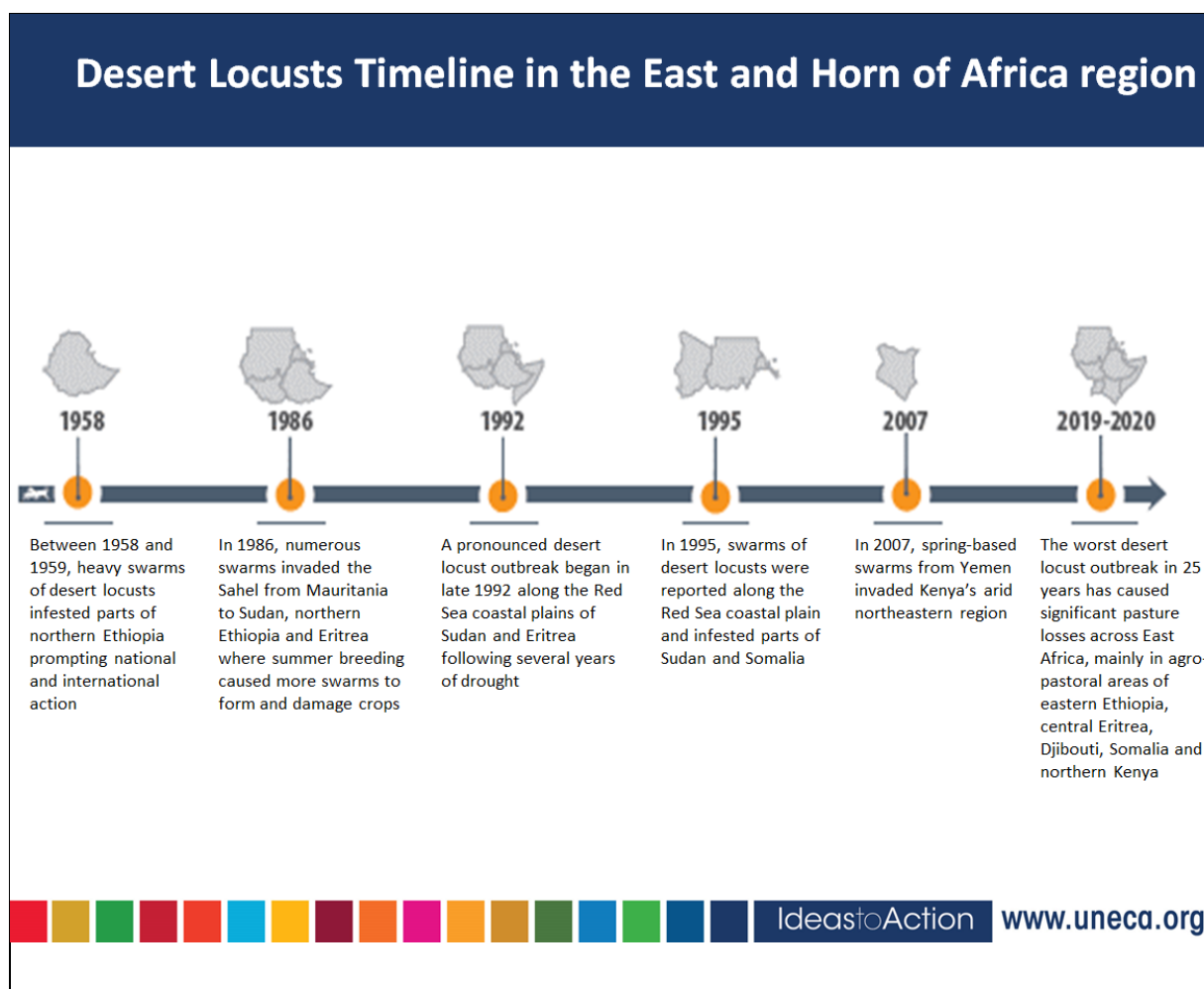
²⁹ Agence Française de Développement and World Bank, *Enhancing the Climate Resilience of Africa's Infrastructure*.

³⁰ IPCC (2014), *Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*.

³¹ WMO, *State of the Climate in Africa 2019*.

³² UNHCR, *Regional summaries: East and Horn of Africa and the Great Lakes* (2020). Available at: reporting.unhcr.org/sites/default/files/ga2020/pdf/Chapter_EastHornGreatLakes.pdf

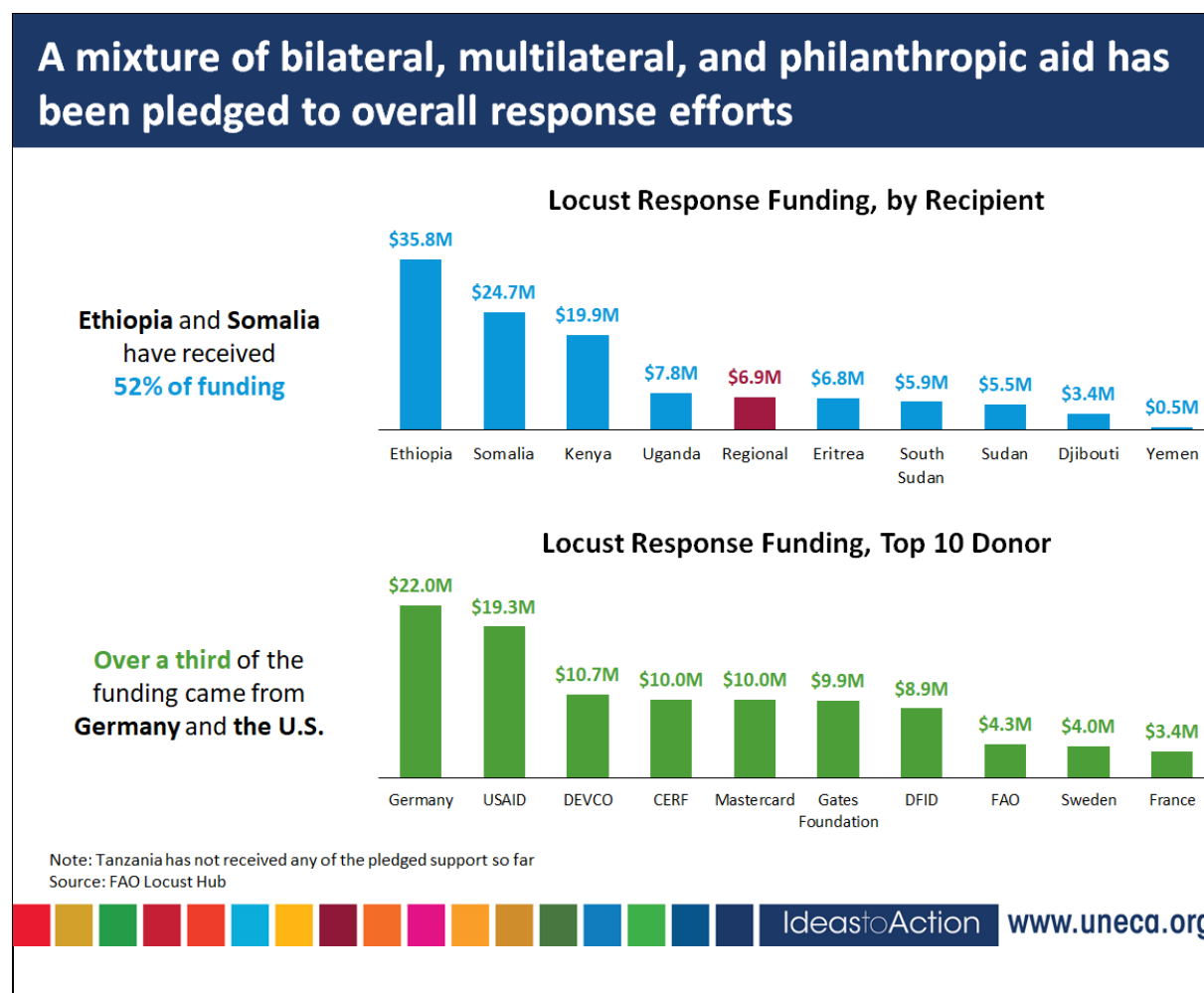
Figure 4
Desert locust timeline in the East Africa subregion



Source: ECA

Figure 5

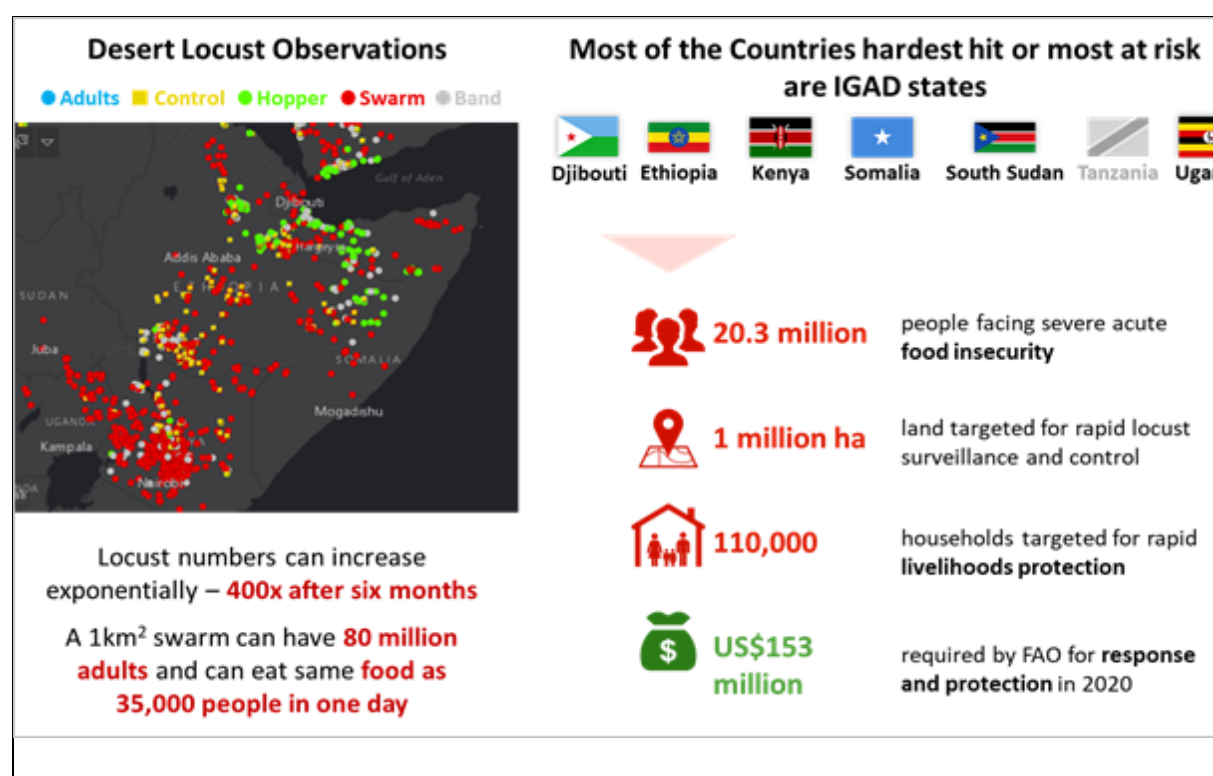
The 2019–2020 desert locust outbreak and food insecurity in Intergovernmental Authority on Development countries



The recent and ongoing climate disasters all draw attention to the importance of additional emergency funding from countries and development partners. A mixture of bilateral, multilateral and other funding, for example, has been mobilized to address the desert locust outbreak in Horn of Africa and the projects funded have had some initial success. As illustrated in figure 6, the immediate provision of resources helped protect some of the agriculture output of farmers in the subregion and provided governments with space to mount a more robust recovery strategy.

Figure 6

Bilateral, multilateral and philanthropic aid to combat the recent desert locust outbreak



In Central and West Africa, of the 5,135,000 forcibly displaced persons identified by the International Organization for Migration (IOM) across six countries in Central and West Africa, 4 per cent, or approximately 180,700 individuals, have been displaced by natural disasters. In 2020, the Internal Displacement Monitoring Centre reported 649,448 new disaster-induced displacements in West and Central Africa, mainly due to floods.³³

Building resilience

Reducing the impact of weather variability and climate change entails building the resilience of economies, ecosystems and communities. Clean energy and sustainable agriculture are priorities for driving climate action. These are economically inclusive sectors that help achieve both mitigation and adaptation goals and hence offer the continent the shortest route to accelerated socioeconomic growth and intrinsic resilience.

Resilience building is premised on reducing poverty by promoting socioeconomic growth, in particular in the agricultural sector. It has been reported that, in this sector, value-addition techniques using efficient and clean energy sources can reduce poverty two to four times faster than growth in any other sector. Solar-powered, efficient micro-irrigation, for example, is increasing farm-level incomes by five to ten times, improving yields by up to 300

³³ Internal Displacement Monitoring Centre, *Global Report on Internal Displacement 2020*. Available at: www.internal-displacement.org/global-report/grid2020/

per cent and reducing water usage by up to 90 per cent while at the same time offsetting carbon emissions by generating up to 250 kW of clean energy.³⁴

Africa has made great efforts in driving the global climate agenda. Through negotiators, the African Ministerial Conference on the Environment and the Committee of African Heads of State and Government on Climate Change have advocated strongly on behalf of Africa at the Conference of the Parties to the United Nations Framework Convention on Climate Change. African negotiators have sought to ensure that global climate governance reflects the need to support efforts by the continent to address the impact of climate change through adequate and additional financing, technology transfer and capacity-building. They have also pushed for the rapid decarbonization of industrialized economies, and the provision of adequate financing for low-emission development in Africa.

With the notable exception of South Africa and some countries in North Africa, African countries are ranked very low at the global level in terms of GDP and carbon emissions per capita. Their low levels of economic development also account for the greater vulnerability of Africa to climate variability and change. In order to reduce that vulnerability and adapt to climate change, the continent must continue to pursue transformational development policies. Economic growth needs to be promoted as part of the green growth trajectory, ensuring an increase in GDP per capita so that the continent achieves the Sustainable Development Goals while avoiding unsustainable increases in emissions.

Many African countries are committed to transitioning to green energy within a relatively short time frame. Clean energy and agriculture are, for example, prioritized in over 70 per cent of African nationally determined contributions. That ambitious goal must underpin the economic development priorities of the continent. The Africa Union is drawing up a climate change strategy to guide low-emission development policies in member States. That strategy will position climate action and economic transition as investment and enterprise opportunities and accelerators of socioeconomic growth, and will recognize that Africa is disproportionately vulnerable to climate change due to its low levels of socioeconomic development.

The oceans and the blue economy

African action on climate change also includes action on its oceans. Covering some 70 per cent of the earth's surface, oceans are a major driver of the world's weather and climate, and also play a central role in climate change. Oceans are also a major driver of the global economy, through their role in world trade, and their impact on coastal economies. In 2021, the United Nations will host a key conference on the oceans, where countries will meet to protect and advance the health of the world's marine environments. The blue economy offers remarkable potential to Africa. Indeed, prior to the COVID-19 pandemic, goods and services from the ocean were generating \$2.5 trillion each year and contributing over 31 million direct full-time jobs.³⁵ We need urgent action on a global scale to continue to reap these benefits but protect the world's seas and oceans from the many pressures they face.

The twenty-sixth session of the Conference of the Parties to the United Nations Framework Convention on Climate Change will be held at a watershed moment in the history

³⁴ WMO, *State of the Climate in Africa 2019*.

³⁵ United Nations Department of Economic and Social Affairs, "Taking stock of ongoing ocean-related initiatives in light of the COVID-19 pandemic: toward enhanced inter-agency coordination and cooperation on ocean and coastal issues beyond 2020", 10 December 2020. Available at: www.un.org/en/desa/%E2%80%9Ctaking-stock-ongoing-ocean-related-initiatives-light-covid-19-pandemic-toward-enhanced-inter

of humanity. The session was postponed from 2020 because of the impact of the COVID-19 pandemic, including restrictions on travel. The session will be the most significant climate summit since the twenty-first session, held in 2015, at which States adopted the landmark Paris Agreement on climate change. The postponement means that the twenty-sixth session will now take place after the 2020 deadline for numerous components of the Paris Agreement and will therefore seek to accelerate climate action in order to ensure that the world gets on track to achieving the goals of the Paris Agreement, including keeping global warming to below 2°C, mobilizing adequate climate finance, and transitioning to net zero emissions. The major issues for negotiation at the session will include the need to increase ambition in nationally determined contributions in order to comply with the 1.5°C warming target. For Africa, this will entail massive commitments by industrialized countries to reach net zero in the shortest possible time. African negotiators will also continue to insist on a clear separation between adaptation and mitigation actions. African countries' main concern is to ensure that assistance is provided to help their economies adapt to climate change and build resilience. This will entail further progress on UNFCCC provisions on loss and damage, especially in terms of assigning responsibilities for the costs stemming from climate change-related events.³⁶ Nature-based solutions, and especially payments for ecosystem services such as carbon sequestration, will also be under negotiation at the session.

Policy must be driven by science

Compared to the COVID-19 response, the climate response has been lukewarm. Since the coming into force of UNFCCC in 1992, greenhouse gas emissions have been on a continuous upward trajectory, save for a brief lull in the wake of the 2008 financial crisis. Efforts to give effect to the Convention have seen the enactment of a plethora of climate change laws and regulations, mechanisms and provisions, but these have been characterised by general agreement at the global negotiation level, and little effect on emissions themselves. In fact, between 2011 and 2015, emissions grew by more than 2 parts per million (and spiked to an unprecedented 3.05 parts per million in 2015).³⁷ There are multiple reasons for this, but chief among these is the lack of political will and the withdrawal of some large emitters from the Convention at key moments.

A key lesson from the COVID-19 response is that it has been underpinned by science. WHO, researchers and scientists have continuously engaged in the evolution of policy. Measures to control the spread of the virus have been determined by health scientists and accepted by politicians who have translated them into unprecedented drastic policies. In general, the public has readily accepted these measures because they are understood to be scientifically grounded rather than politically driven. For example, a key study conducted by Imperial College London helped to change the course of government policy on COVID-19 in the United Kingdom and the United States of America, possibly saving thousands of lives.³⁸ Similarly, on 23 April 2020, while reviewing measures to control the spread of coronavirus in South Africa, President Ramaphosa made it clear that his Government could not allow the

³⁶ See UNFCCC “Warsaw International Mechanism for Loss and Damage associated with Climate Change Impacts”. Available at: unfccc.int/topics/adaptation-and-resilience/workstreams/loss-and-damage-ld/warsaw-international-mechanism-for-loss-and-damage-associated-with-climate-change-impacts-wim

³⁷ WMO, “Greenhouse gas concentrations surge to new record”, 30 October 2017. Available at: public.wmo.int/en/media/press-release/greenhouse-gas-concentrations-surge-new-record

³⁸ Seth Flaxman and others, “Estimating the effects of non-pharmaceutical interventions on COVID-19 in Europe”, *Nature* 584, pp. 257–261 (2020). Available at: www.nature.com/articles/s41586-020-2405-7

spread of the virus to outrun the country's ability to address it effectively. The South African Government therefore introduced a tiered system of response to the virus in consultation with scientists and other experts.³⁹

In climate change, the climate science produced by IPCC, WMO and numerous national and regional organizations is frequently ignored by decision makers. For example, according to a report published by IPCC in October 2018,⁴⁰ ahead of the twenty-fourth session of the Conference of the Parties to the United Nations Framework Convention on Climate Change, the global community is not on track to achieve the temperature goal of the Paris Agreement. The report recommended that “rapid, far-reaching and unprecedented changes in all aspects of society” were needed in order to limit global warming to 1.5°C. While the report received widespread acclaim in social, political and scientific circles as a roadmap towards stabilizing the climate system, the twenty-fourth session failed to adopt the findings and key recommendations of the report.

The health crisis

Introduction

Even before the COVID-19 crisis, Africa as a whole was not going to meet Sustainable Development Goal 3 on health. COVID-19 has slowed most of the progress made in the area of health as most resources have been diverted from other health challenges in response to the COVID-19 pandemic. While Africa had significant success in the early stages of COVID-19, recurrent waves of the pandemic have been more damaging.

Health challenges pre-COVID-19

COVID-19 is compounding other health challenges in Africa. Since August 2018 for example, the Democratic Republic of the Congo has been grappling with the second largest Ebola epidemic on record, with 2,200 lives lost and 3,400 confirmed infections as of May 2020. Neighbouring countries, including Burundi, Rwanda and Uganda cite measures implemented to prevent the spread of the Ebola virus to their territories as highly instrumental in the fight against COVID-19. However, the current crisis has, at the same time, highlighted critical gaps in both global and continental health systems.

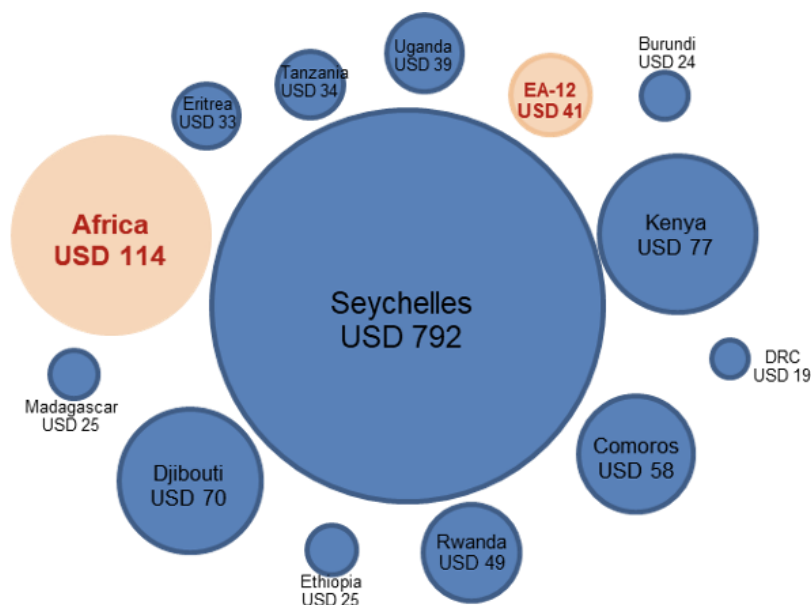
Like most other parts of the world, Africa was ill-prepared for the pandemic. In East Africa for example, most countries spend less than \$50 per capita on health, which is less than half the African average. Figure 7 provides an overview of health expenditure in Africa.

³⁹ For further information, see: www.tralac.org/news/article/14546-president-cyril-ramaphosa-south-africa-s-response-to-coronavirus-covid-19-pandemic.html

⁴⁰ Intergovernmental Panel on Climate Change, *Global Warming of 1.5 °C: an IPCC special report on the impacts of global warming of 1.5 °C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty* (2018). Available at: archive.ipcc.ch/report/sr15/index_background.shtml

Figure 7

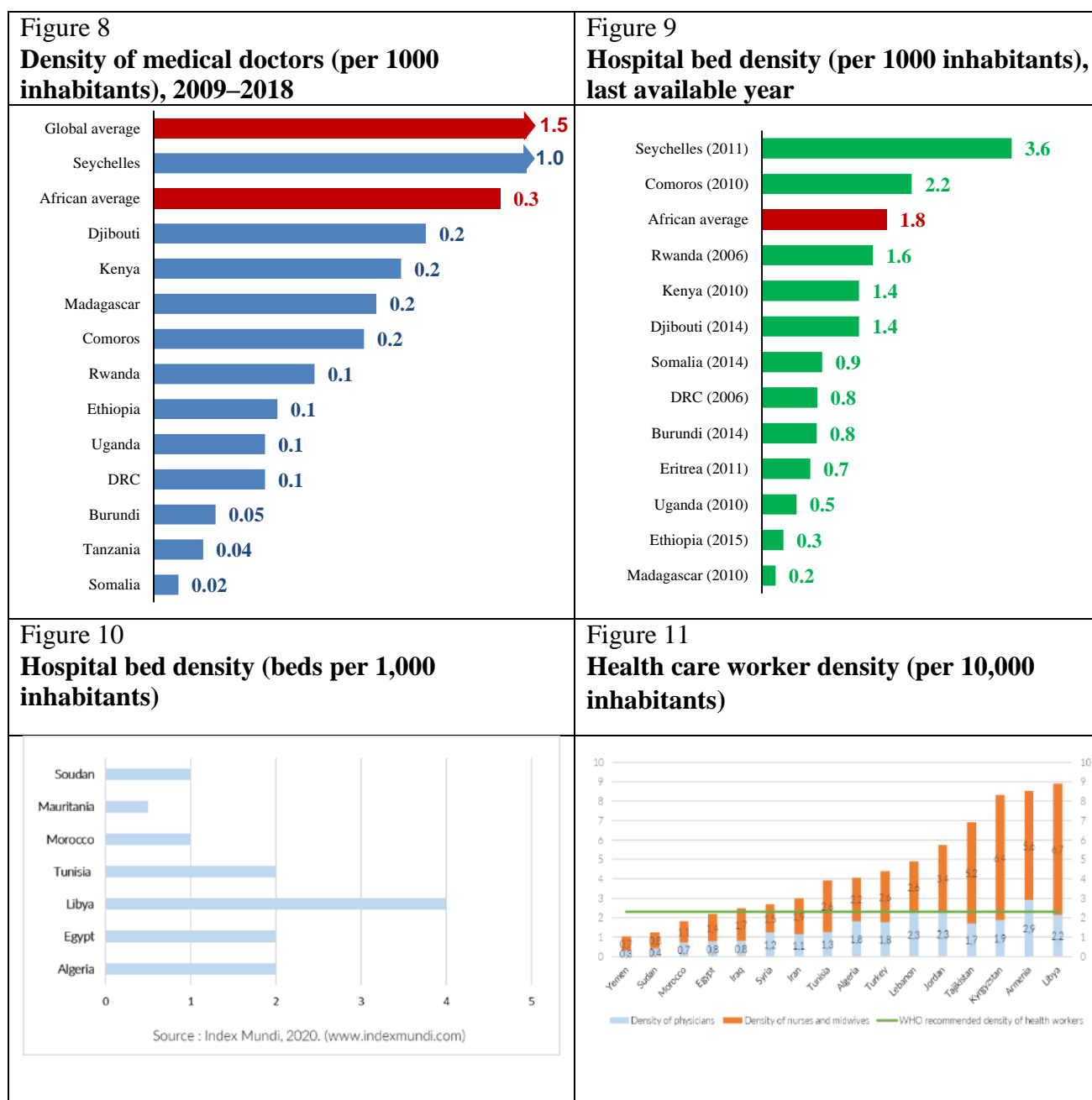
Health expenditure per capita in Africa (\$), 2017.



(Africa average as of 2015)

Source: WHO, Global Health Expenditure database (2020)

Overall, there are insufficient numbers of African health-care personnel to meet the needs of the population, even in normal times. With the pandemic, health-care personnel have come under increasing pressure. Further reflecting the relatively low health-care spending, and as illustrated in figures 8 to 11, are the low density of medical doctors and the poor hospital bed density. Seven countries in the region are well below the African average of 1.8 beds per 1000 inhabitants, which itself is far from the European Union average of 5.1 beds per 1000 inhabitants. Moreover, the shortage of health-care workers in most countries (with fewer than three medical doctors per 10,000 inhabitants) is a serious constraint and increases the risk of fatalities if there is an upsurge in infections.



Sources: World Health Statistics 2019 and WHO, Global Health Expenditure database

The COVID-19 pandemic in Africa

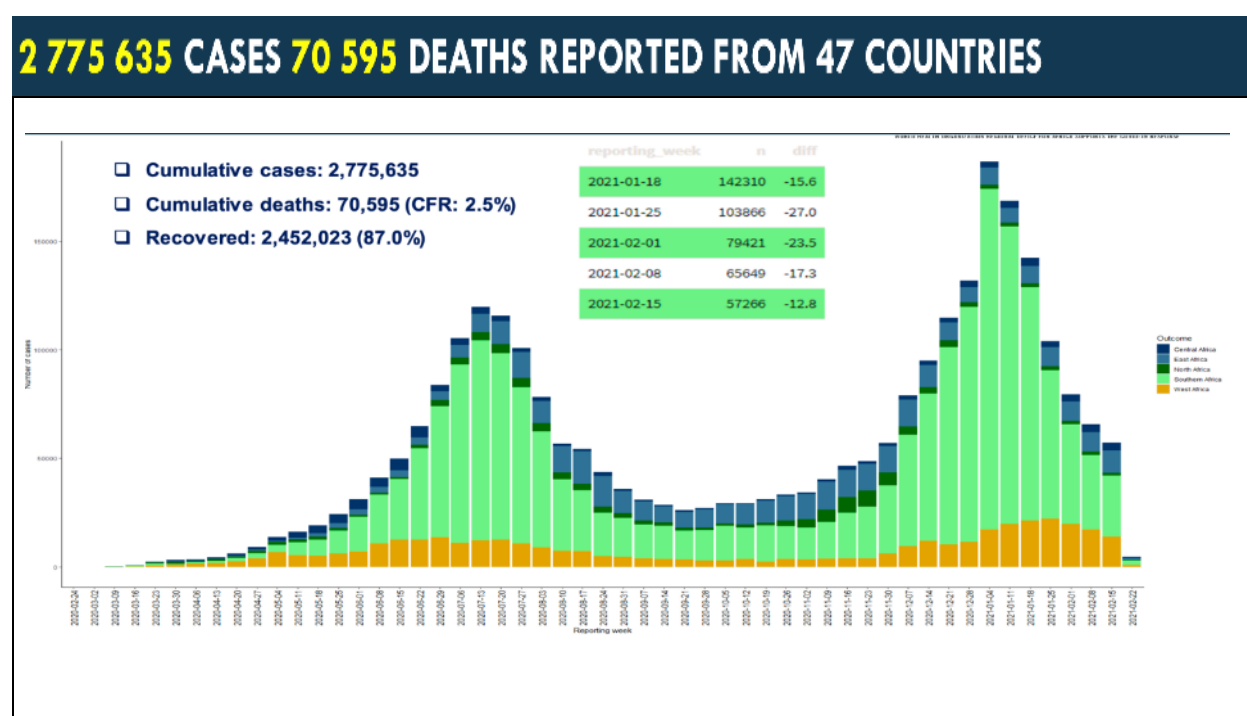
Africa had significant early health policy success in containing the first wave of the COVID-19 pandemic. Despite the limitations noted above, most countries in the region have, to date, been effective at slowing down the spread of the virus. Besides lockdown restrictions, other measures commonly adopted across the region to flatten the virus transmission curve have included: systematic quarantine of recent travellers and suspected cases; isolation of contacts of confirmed patients identified through rigorous tracing; expansion of testing and laboratory facilities; establishment of hotlines and call centres; and the mandatory use of facemasks. Individual countries have implemented a range of measures and taken different approaches to reducing the impact of the pandemic. For example, in Rwanda, where at the beginning of June only two COVID-19-related deaths had been recorded, a COVID-19 command post in the

capital Kigali, gathering 400 professionals from different sectors, was set up to coordinate activities aimed at containing the pandemic. In addition, innovative technologies such as drones have been used for communication in remote rural areas.

However, the African continent now faces a second surge, which began in late 2020. Infections and deaths have been rising sharply across Africa, driven by the emergence of new, more contagious variants. As of 23 February 2021, the total number of infections, as reported by the WHO, had reached 2,775,635 and the number of deaths stood at 70,595. This pushes the African death toll towards 100,000 since the first reported case on the continent on 14 February 2020. These figures are illustrated in figure 12. During the peak of the second wave, in the early days of 2021, the continent's COVID-19 fatality rate rose to 3.7 per cent, which is well above the global average.

As Africa battles new, more contagious variants of COVID-19, the strain on health systems has been severe. Health facilities have become overwhelmed. Preliminary reports received by WHO from 21 countries show that 66 per cent of countries report inadequate critical care capacity, 24 per cent report burnout among health workers, and 15 countries report that oxygen production, crucial for severely ill COVID-19 patients, remains insufficient.⁴¹

Figure 12
COVID-19 cases and deaths in Africa as of 23 February 2021



Source: WHO, 23 February 2021.

The most effective response to the COVID 19 pandemic is to ensure the availability of vaccines. A vaccine roll-out, at a scale that can cover 60 per cent of the population, is one of the continent's biggest hopes. However, access to and distribution of vaccines have trailed that

⁴¹ WHO, Regional Office for Africa, "Rising mortality as Africa marks one year of COVID-19", 11 February 2021. Available at: whotogo-whoafroccmaster.newsweaver.com/JournalEnglishNewsletter/cgvqefh8w8fy48iuijd/am4?lang=en&a=6&p=58732838&t=31103673

of the developed world. Africa is in danger of being left behind as countries in other regions strike bilateral deals, driving up prices for countries on the African continent. Vaccine roll-out has only recently started in 10 African countries, within the context of the COVID-19 Vaccines Global Access (COVAX) initiative, but there is a dire need to secure timely access to safe and effective COVID-19 vaccines. The COVAX initiative, which is co-led by the Coalition for Epidemic Preparedness Innovations, Gavi, the Vaccine Alliance, and WHO, has secured 2 billion doses of vaccine from 5 producers, with options for over 1 billion more doses. In Africa, a commitment has been made to vaccinate at least 20 per cent of the population by the end of 2021 by providing a maximum of 600 million doses, based on two doses per individual disbursed in phases.⁴²

With the aim of vaccinating 60 per cent of individuals, the African Vaccine Acquisition Task Team, led by the African Union and the Africa Centres for Disease Control and Prevention, has been established to complement the COVAX and other country initiatives. The African Export-Import Bank and other continental financial institutions are working with the World Bank, the African Development Bank and other stakeholders to help countries accelerate the purchase of vaccines and the vaccination of their citizens.

Such large-scale vaccine reach is potentially problematic in places where cold supply chains are not in place. In Africa only 22 countries meet the global vaccine action plan target of 90 per cent or greater coverage of routine vaccines, with several populous countries, including Angola, the Democratic Republic of the Congo, Nigeria and South Africa, failing to meet that target.⁴³ Delays in the delivery of vaccines could have wider ramifications for the continent and the world, as highlighted by the interconnected nature of the ongoing health and economic crises.

Economic weakness

Introduction

Non-financial shocks have real world impacts; this truism has been forcefully underlined as COVID-19 has affected all sectors of the global economy. Uncertainty is deepening, the risk of stagnation increasing and missed opportunities multiplying as time passes. Africa is facing its first recession in 25 years with output losses due to COVID-19 amounting to some \$99 billion. This crisis has set the continent back years.

The potential for long-term scarring from COVID-19 comes on top of other long-term structural challenges, ranging from climate change, imbalances within African economies, underdeveloped manufacturing industries and a lack of high-quality jobs. Africa will continue to suffer negative impacts in 2021, and 2020 will not be the last year of recession for the continent.

For a continent whose youthful workforce is often a source of hope for the future of Africa and the world, the potential for economic scarring is severe. Education was immediately

⁴² WHO, Regional Office for Africa, “Africa needs timely access to safe and effective COVID-19 vaccines”, 21 January 2021. Available at: www.afro.who.int/news/africa-needs-timely-access-safe-and-effective-covid-19-vaccines

⁴³ Edward-Ekpu Uwagbale, “Navigating the complexities around a COVID vaccine in Africa” (25 January 2021, Brookings). Available at: www.brookings.edu/blog/africa-in-focus/2021/01/25/navigating-the-complexities-around-a-covid-vaccine-in-africa/

affected by the crisis, as schools closed across almost all of Africa. The impact of the crisis has yet to be fully felt, and the pandemic could further deepen the existing learning crisis, with some 87 per cent of children across 46 African countries in learning poverty, namely that they are unable to read a simple text at age 10.⁴⁴ The concern remains that some children will be unable to return to education after the crisis has subsided, with girls particularly at risk.⁴⁵

COVID-19 has imperiled the continent's long-term development and thrust burgeoning issues, such as how to provide for its whole young workforce, into the limelight. Unaddressed, the impact of the pandemic will be long-lasting.

The economic impact

Economic activity has been brought to a halt by measures to contain the health crisis, as African countries, seasoned by previous epidemics, acted swiftly, slowing their economies to protect their citizens' health. Businesses in Africa have, on average, been operating at only 43 per cent of their capacity.⁴⁶ Accommodation and food services activities (-63 per cent), construction (-45 per cent), manufacturing (-45 per cent) and wholesale and retail activities (-42 per cent) have borne the brunt of the crisis across Africa. Figure 13, moreover, illustrates the impact of the pandemic on the tourism industry in a number of African countries.

This has affected employment. The African aviation sector alone, for example, is expected to shed 4.5 million jobs due to travel restrictions.⁴⁷ World Bank estimates show that in the most extreme cases, job losses may be as high as 62 per cent, with major economies particularly affected.⁴⁸ In line with the health repercussions noted above, the second wave of the pandemic has been more severe and costly for African economies.

The countries that have, in economic terms, suffered the most fall into three broad groups: those worst hit by COVID-19 infections; those reliant on commodity exports; and those dependent on tourism. Dramatic falls in commodity prices have reduced earnings for key African exports as demand has declined in markets outside Africa, including in China and Europe. Among the most affected economies in Africa are the oil-rich and mineral-rich countries, where a narrow range of exports account for a significant share of exports and budget revenues; falling commodity prices are likely to lead to a decrease in foreign reserves and exacerbate external vulnerabilities that could amplify domestic currency volatility and lead to currency depreciations.

Other sources of revenue have also been badly hit. Tourism, one of the most promising growth sectors before the pandemic, has now ground to a halt. A survey of safari operators found that almost all of them have seen more than a 70 per cent decrease in bookings because of the pandemic. This could lead to a \$53 to \$120 billion hit to the continent's GDP.⁴⁹ African small island developing States and middle-income countries have been hit particularly hard due

⁴⁴ Save our Future, *Averting an Education Catastrophe for the World's Children*.

⁴⁵ David Evans and others, "How Much Will COVID Cut Education Budgets?", Center for Global Development, 8 May 2020. Available at: www.cgdev.org/blog/how-much-will-covid-cut-education-budgets

⁴⁶ ECA COVID-19 in Africa: *protecting lives and economies* (15 April 2020). Available at: www.uneca.org/covid-19-africa-protecting-lives-and-economies

⁴⁷ Anadolu Agency, "COVID-19: Some 4.5M African jobs to be lost in 2020", 1 October 2020. Available at: www.aa.com.tr/en/africa/covid-19-some-45m-african-jobs-to-be-lost-in-2020/1992666

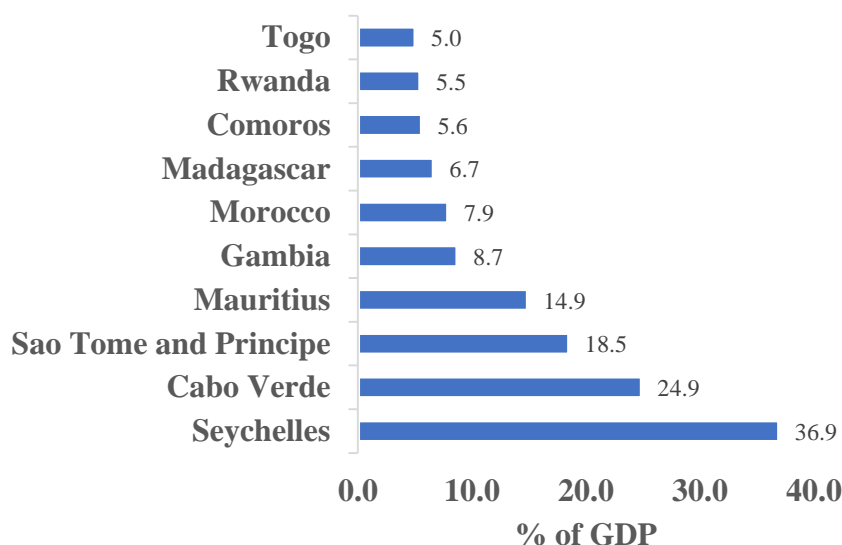
⁴⁸ World Bank, "How livelihoods deteriorated in Sub-Saharan Africa due to COVID-19", 7 January 2021, Available at: blogs.worldbank.org/africacan/how-livelihoods-deteriorated-sub-saharan-africa-due-covid-19

⁴⁹ Safari Bookings, "The Impact of the Coronavirus Pandemic on the Safari Industry", 8 March 2021. Available at: www.safaribookings.com/blog/coronavirus-outbreak

to their high reliance on tourism for growth. The challenges they face have, moreover, been further exacerbated by ongoing uncertainty around the crisis and access to vaccines.

Figure 13

International tourism receipts as a percentage of GDP (average 2015–2018)



Source: ECA

Furthermore, remittances (the largest source of external flows to Africa, accounting for 3.7 per cent of GDP) are estimated to have declined by 23.1 per cent in Africa, excluding North Africa, in 2020. Many of those remittances come from Europe.⁵⁰ At the same time, official development assistance to Africa (accounting for 2.5 per cent of the continent's GDP) is expected to increase only marginally in 2020.⁵¹

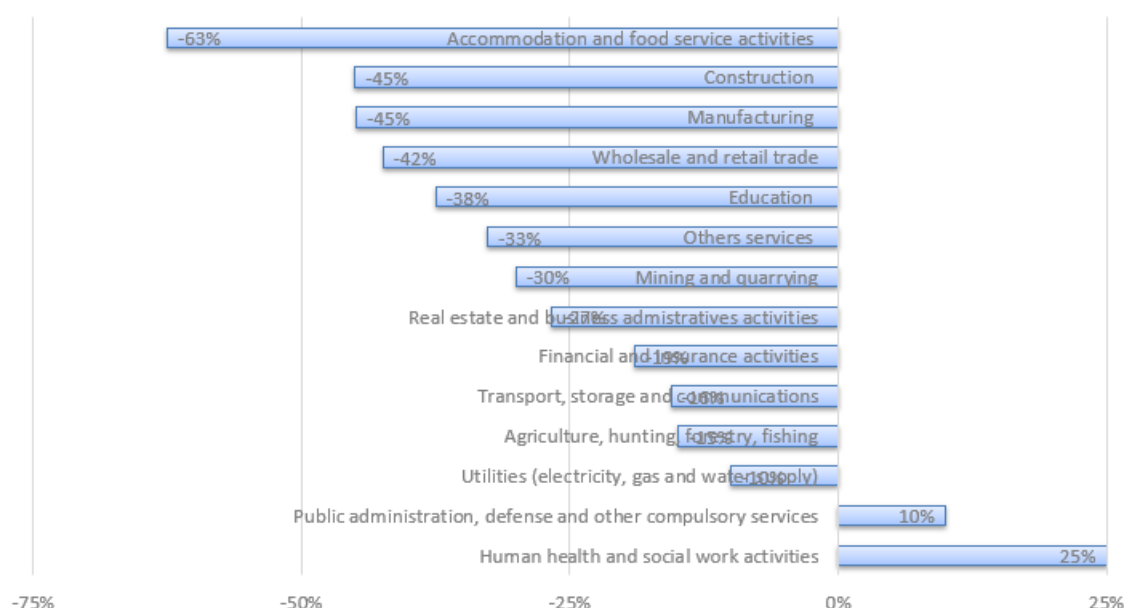
⁵⁰ S&P Global, "COVID-19 exacerbates Africa's social and macroeconomic vulnerabilities". Available at: www.spglobal.com/ratings/en/research/articles/200318-covid-19-exacerbates-africa-s-social-and-macroeconomic-vulnerabilities-11393008

⁵¹ OECD Development Assistance Committee members have made a commitment to "strive to protect" official development assistance budgets so as to assist developing countries respond to the double shock of health and economic crises.

Figure 14

Decline in business activity by economic subsector due to lockdown measures in 2020

Estimated Loss in Activity by economic sub-sector in 2020 due to lockdowns measures



Source: ECA

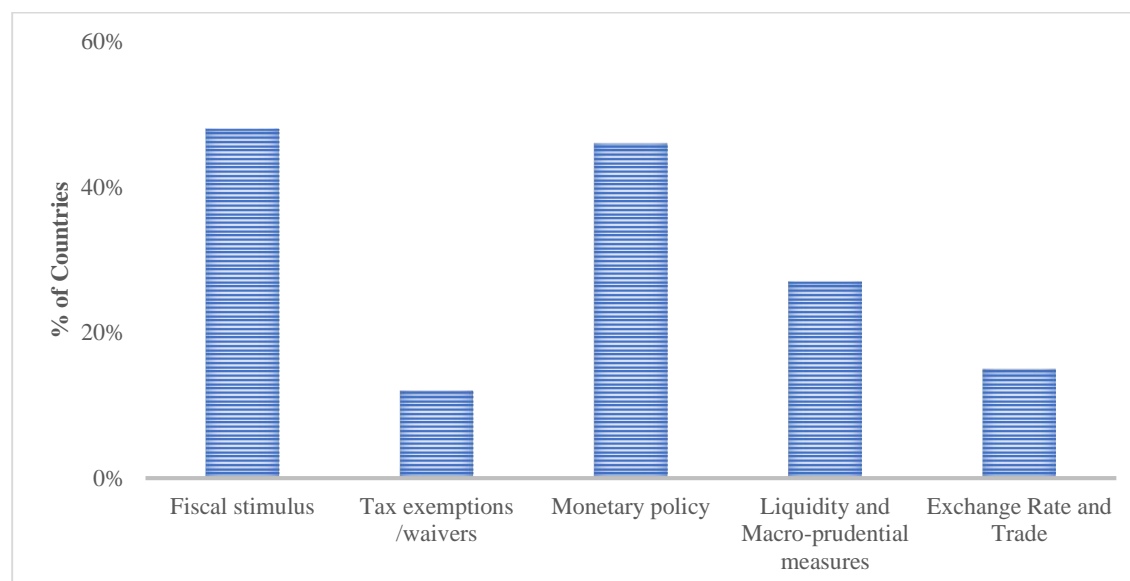
For those countries worst hit by the pandemic, the impact has been stark. Total GDP in South Africa dropped by 51 per cent in Q2 2020 as the country was forced to implement drastic lockdowns to curb the spread of the virus. The Sudan lost 50 per cent of its public revenue while expenses increased substantially. Kenya, which is home to the country's sixth largest tourism industry, has already lost \$750 million in tourism revenue,⁵² while Egypt's tourism sector has been crippled with losses amounting to \$15 billion.⁵³

African countries have implemented a range of fiscal and monetary measures to address the impact of the pandemic. Monetary policy measures have been largely accommodative and aimed at easing liquidity constraints to revitalize economic activity. Such measures have ranged from injecting liquidity into the banking system for on-lending to businesses and households, reducing reserve requirements for commercial banks, lowering the policy rate to reduce borrowing costs, postponing and/or restructuring debt repayments and developing credit lines for specific activities that increase production and exports. Fiscal measures have included tax relief to small and medium-sized enterprises and larger corporations; increased spending on health and social protection programmes and fiscal stimuli implemented through direct transfers to vulnerable households and businesses. Figure 15 provides an overview of the most significant fiscal and monetary measures taken by African countries.

⁵² Borgen Magazine, "African Tourism Industry Threatened by COVID-19", 7 December 2020. Available at: www.borgenmagazine.com/african-tourism-industry/

⁵³ Egypt, Ministry of Finance.

Figure 15
Policy actions adopted by African countries to address the repercussions of the COVID-19 pandemic



Source: ECA

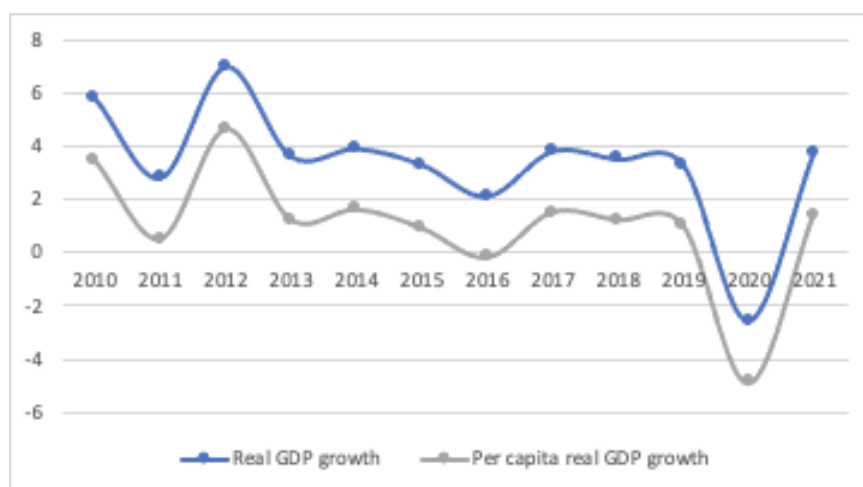
The policy responses adopted by African Governments are laudable but could have adverse macroeconomic consequences in the near term. In the absence of grants and concessional financing, the increased expenditures and tax concessions associated with many policy responses could increase fiscal deficits, heighten debt vulnerabilities and fuel inflation and currency depreciations, particularly in countries with limited fiscal buffers. Furthermore, in recent years, several African countries have contracted dollar-denominated commercial debt at high premiums. African countries had taken on high levels of debt before the crisis and their situation is worsening. For example, as of 15 September 2020, the yield on Egypt's 10-year government bond (15.14 per cent) was twice the yield on Indonesia's bonds (7.02 per cent) and almost 6 times the corresponding yield on Vietnam's bonds (2.78 per cent).⁵⁴ The already crippling debt service payments on such instruments will rise even higher if their currencies continue to depreciate.

The pandemic has exacerbated the continent's growth crisis

The COVID-19 crisis has underlined the fragility of the African continent's recent gains. Even prior to the pandemic, the economic situation in Africa was challenging. As illustrated in figure 16, real GDP growth was already trending downward, and had fallen from 6.8 per cent in 2012 to 3.2 per cent in 2019. At that level, growth was barely keeping pace with the continent's population growth rate of 2.3 per cent. As a result, per capita growth averaged a mere 0.92 per cent between 2015 and 2019, a little over half the global average of 1.67 per cent.

⁵⁴ Current bond yields are available at www.worldgovernmentbonds.com

Figure 16
GDP growth trends in Africa (annual percentage growth)



Source: IMF DataMapper. Updated figures available at www.imf.org/external/datamapper/datasets

Meanwhile, and as illustrated in table 2, foreign direct investment flows to Africa declined by some 5.7 per cent between 2015 and 2019. By contrast, flows had increased by some 4.0 per cent over the preceding five-year period (2010–2014).

Table 2
Growth in net foreign direct investment flows by region and country category (per cent)

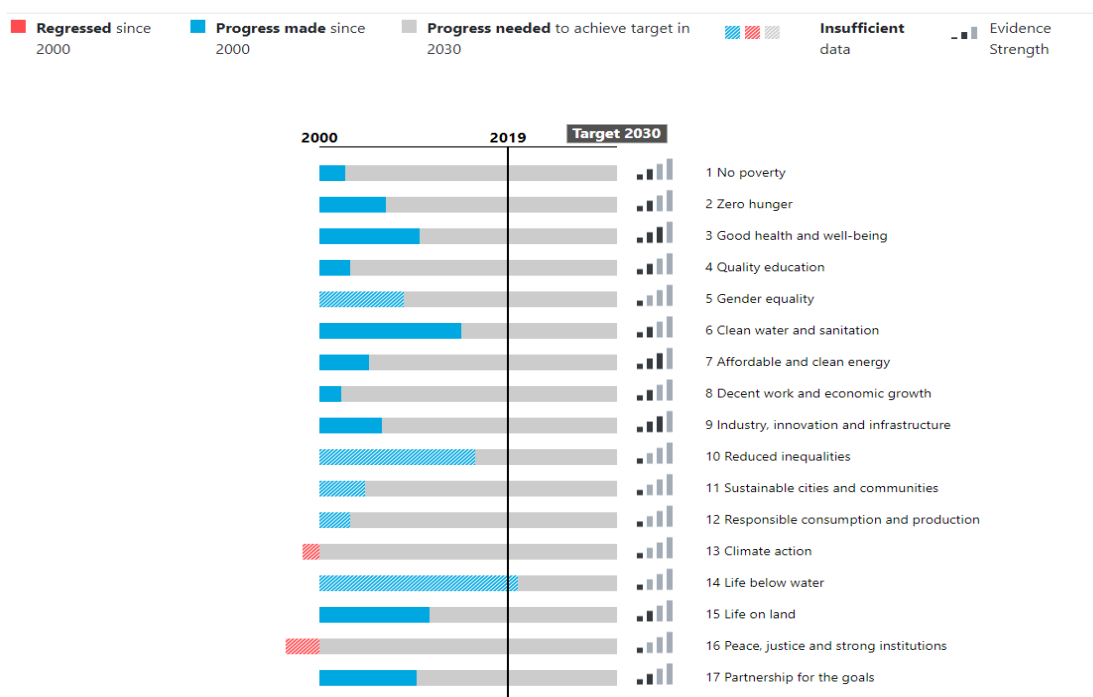
Region	2010–2014 (average)	2015–2019 (average)	Change
Africa	4.0	-5.7	-9.7
East Asia	4.8	-4.7	-9.5
Lower-middle-income countries	8.7	1.4	-7.3
Middle-income countries	0.7	-2.4	-3.1
Africa excluding North Africa	6.9	-8.8	-15.6
World	8.5	-6.8	-15.3

Source: World Bank, *World Development Indicators* (January 2021).

Apart from economic headwinds, social indicators in several African countries were also exhibiting signs of stagnation and in some cases retrogression prior to the COVID-19 crisis. The rate of decline in extreme poverty slowed considerably, from three times the global average in the period 2010–2013, to equal to the global average in the 2010–2013. The prevalence of undernourishment was also on the rise and was 20 per cent higher in 2019 than it had been in 2013. A little over half (53 per cent) of Africans were food insecure in 2019; double the global average of 24.5 per cent. And, only 13 per cent of the African population was covered by at

least one form of social protection as of 2019.⁵⁵ In terms of education, the average spending per student in Africa was the lowest in the world, with the continent spending only one fifth of the resources Asia spends per student in both primary and secondary education.⁵⁶ Figure 17 provides an overview of the continent's progress towards the achievement of the Sustainable Development Goals.

Figure 17
Snapshot of progress towards the achievement of the Sustainable Development Goals in Africa



Source: ECA

Insufficient diversification, market fragmentation and limited infrastructure all contribute towards the continent's limited progress in terms of economic transformation. The pace and drivers of growth have not been commensurate with the scale of job creation required to absorb the approximately 29 million job seekers entering the workforce every year.⁵⁷ African economies have, in particular, struggled to create decent jobs for women and young workers. The informal sector, a key source of employment for the bulk of the population, is characterized by vulnerable jobs and low productivity.

Furthermore, the extractives sector, a key source of growth, operates as an enclave with limited or no links to domestic or regional value chains. Hence, the sector's contribution to job

⁵⁵ ECA, African Union Commission, UNDP and African Development Bank, *African Sustainable Development Report* (forthcoming)

⁵⁶ African Development Bank, *African Economic Outlook 2020*. Available at: www.afdb.org/en/documents/african-economic-outlook-2020

⁵⁷ African Union Commission and OECD, *Africa's Development Dynamics 2018: Growth, Jobs and Inequalities*, 11 July 2018. Available at: www.oecd.org/development/africa-s-development-dynamics-2018-9789264302501-en.htm

creation is limited. For example, the mining and utilities sector accounts for 11 per cent of African output whilst only employing 1.4 per cent of the workforce. Given the high volatility in commodity prices, excessive reliance on extractive industries has heightened the exposure of mineral-dependent African countries to price shocks, contributing to unstable growth and an unfavourable investment climate.

The continent's infrastructure investment potential was expected to bring results by building the necessary enablers, including energy, communications, and transport, to ensure development. There is a high level of interest from both public and private investors. China has been one of the key investors in African infrastructure, although, as noted by many stakeholders, including the African Center for Economic Transformation and the Organisation for Economic Co-operation and Development, there are some shortcomings in the governance, transparency and ownership of infrastructure projects. However, in practice, the number of infrastructure projects remains very small. All investors face the same challenge, namely a slow project development process.⁵⁸ Only 10 per cent of projects are able to reach financial closure. Therefore, investment in infrastructure has been only 3.5 per cent of GDP, significantly lower than the 4.5 per cent of GDP required.⁵⁹ By contrast, Indian and Chinese infrastructure investment stands at 5.2 per cent and 7.7 per cent of GDP respectively.⁶⁰

Time is of the essence – Africa needs liquidity now

Resources are needed immediately to fund the acquisition of vaccines, strengthen health systems, and restore lives and livelihoods. This means liquidity for governments and businesses, including for small and medium-sized enterprises. As of June 2020, development partners had committed some \$56 billion in financing to support African countries, of which \$35 billion had been disbursed. The IMF has so far committed \$25.6 billion to Africa through its Rapid Credit Facility, Rapid Financing Instrument and Extended Credit Facility. An additional \$408 million has been approved through the Catastrophe Containment and Relief Trust, bringing total commitments to approximately \$26.1 billion. On 19 February 2021, the European Commission committed €100 million in humanitarian assistance to support the roll-out of vaccination campaigns in Africa, spearheaded by the Africa Centres for Disease Control and Prevention.

Debt relief support through the Group of 20 Debt Service Suspension Initiative (DSSI) will postpone \$5.1 billion in debt service payments for 25 eligible African countries, equivalent to 17.9 per cent of those countries' total GDP, for a period of 5 years. This is welcome but not nearly enough. The benefits of the initiative are skewed to a small number of countries and four countries, namely Angola, Cameroon, Kenya, and Ethiopia account for 63 per cent of the continent's total savings from the initiative. Participation in the DSSI was initially stalled by cross-default clauses, fears over credit rating downgrades, transparency issues, and by disagreements regarding the classification of debt as either public or private.

Furthermore, even with the extension to June 2021, the DSSI is extremely limited in duration. Moreover, it excludes vulnerable middle-income countries and does not address the

⁵⁸ OECD and African Center for Economic Transformation, *Quality Infrastructure in 21st Century Africa: Prioritising, Accelerating and Scaling up in the Context of PIDA (2021-30)*, (2020). Available at: www.oecd.org/dev/Africa-Quality-infrastructure-21st-century.pdf

⁵⁹ Ibid.

⁶⁰ McKinsey & Company, "Solving Africa's infrastructure paradox", 6 March 2020. Available at: www.mckinsey.com/business-functions/operations/our-insights/solving-africas-infrastructure-paradox#

commercial debt, which accounts for a third of the continent's total debt exposure. In effect, the initiative only scratches the surface of Africa's liquidity challenges: the continent's debt service obligations for 2020 alone have been estimated at some \$48 billion. Expanding the African continent's fiscal space is critical in the immediate response to the crisis.

The Group of 20 Common Debt Framework builds on the DSSI by focusing on restructuring the debt of countries in need of such assistance. However, as is the case with the DSSI, participation has been associated with credit downgrades of participating countries. For example, following the request of Ethiopia for debt relief, its credit rating was downgraded by two ratings agencies, namely Fitch Ratings and Standard & Poor's. Fitch Ratings downgraded Ethiopia's Long-Term Foreign-Currency Issuer Default Rating to "CCC" from "B".⁶¹ Meanwhile, yields on the country's dollar-denominated bonds have increased from below 6 per cent in January 2020, to more than 9 per cent. The downgrades were prompted by concerns that the country's private debt would be implicated in debt restructuring initiatives. Nonetheless, private debt is equivalent to only 13.2 per cent of Ethiopian Government debt and the external debt it has guaranteed, which stood at some \$25 billion in the fiscal year 2020. Other innovative initiatives, such as the liquidity and sustainability facility proposed by ECA and PIMCO, an investment management company, that explicitly address commercial debt exposure without threatening to undermine market access, are therefore imperative.

Accessing additional liquidity on concessional terms is vital for the recovery of Africa. Positive pronouncements by the Biden administration in the United States of America have reignited hopes for a new allocation of IMF Special Drawing Rights, complemented by a reallocation mechanism that favours vulnerable countries. Special Drawing Rights will constitute an important source of concessional financing for Africa. At current quota shares, however, the continent would receive only XDR25 billion given a new issuance of XDR500 billion. This is a tenth of what the Group of Seven would receive based on its quota of 40 per cent (equivalent to XDR217 billion). As a result, a reallocation mechanism is required to increase Africa's share. That said, disbursements are unlikely to materialize till the end of 2021 and there is therefore an urgent need to prioritize extension of the DSSI at least to the end of that year. As illustrated in figure 18, fiscal deficits in Africa were expected to peak at 8.13 per cent of GDP in 2020.

⁶¹ Fitch Ratings, "Fitch Downgrades Ethiopia to 'CCC'", 9 February 2021. Available at: www.fitchratings.com/research/sovereigns/fitch-downgrades-ethiopia-to-ccc-09-02-2021

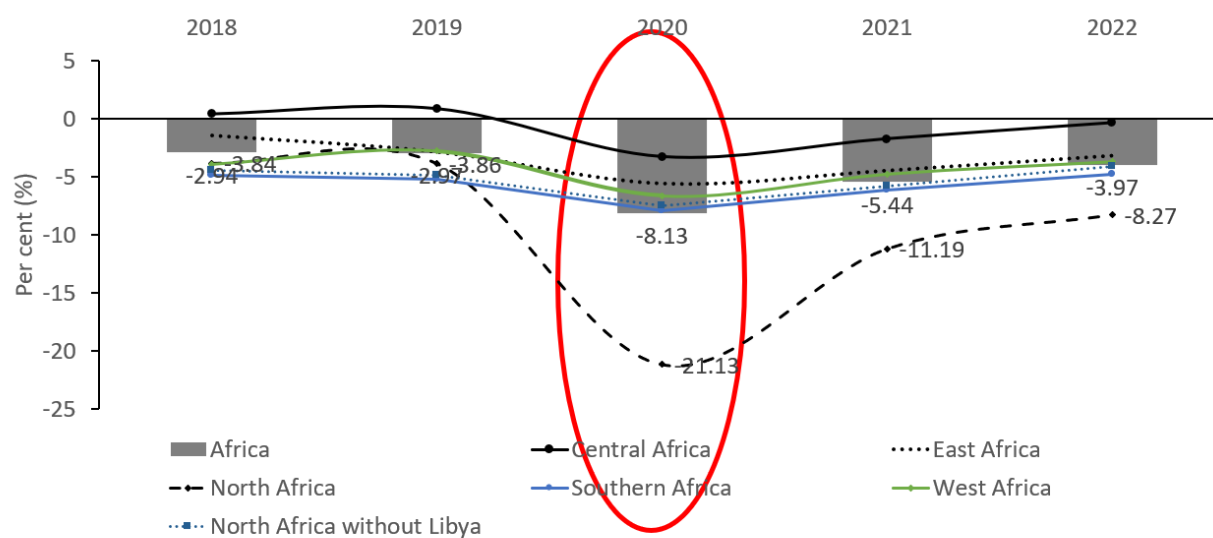
Table 3

African countries implementing the Group of 20 Debt Service Suspension Initiative and their potential savings (as of December 2020)

No.	DSSI participating countries	Potential DSSI savings (% of 2019 GDP)	Potential DSSI savings (\$ million)	No .	DSSI participating countries	Potential DSSI savings (% of 2019 GDP)	Potential DSSI savings (\$ million)
1	Angola	2	1782.9	13	Lesotho	0.4	9.8
2	Burkina Faso	0.2	25.9	14	Madagascar	0.3	35.5
3	Cabo Verde	0.9	18	15	Mali	0.5	82.5
4	Cameroon	0.9	337.3	16	Mauritania	1.2	90.8
5	Chad	0.6	65.4	17	Mozambique	1.9	294
6	Comoros	0.2	2.3	18	Niger	0.2	26
7	Democratic Republic of the Congo	0.3	156.3	19	Sao Tome and Principe	0.4	1.7
8	Congo	1.4	181.8	20	Senegal	0.6	139.2
9	Côte d'Ivoire	0.4	225.3	21	Sierra Leone	0.2	8.1
10	Djibouti	1.7	56.8	22	United Republic of Tanzania	0.2	138.9
11	Ethiopia	0.5	472.9	23	Togo	0.4	24.4
12	Guinea	1.1	147.9	24	Zambia	0.7	165.4
				25	Kenya	0.7	630.8
	Total						\$5 119.9

Sources: Paris Club, “The Paris Club is close to fully achieve the implementation of the DSSI”, press release, 7 December 2020. Available at: clubdeparis.org/en/communications/press-release/the-paris-club-is-close-to-fully-achieve-the-implementation-of-the-dssi; World Bank, “COVID 19: Debt Service Suspension Initiative”, 16 March 2021. Available at: www.worldbank.org/en/topic/debt/brief/covid-19-debt-service-suspension-initiative

Figure 18
Fiscal deficits in Africa were expected to peak at 8.13 per cent of GDP in 2020



Source: IMF World Economic Outlook, October 2020 Database

As of December 2020, African countries comprised 6 of the 7 countries in severe debt distress and 15 of the 28 countries at high risk of debt distress.

Table 4

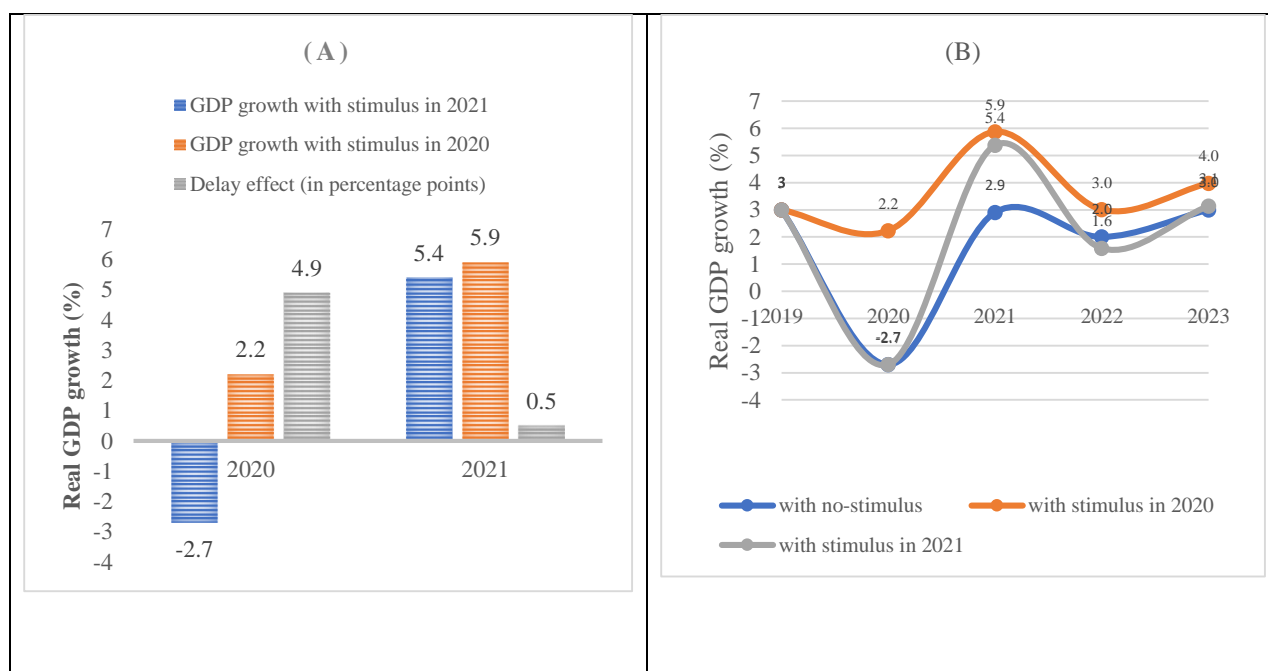
African countries by debt distress status, January 2021 (DSSI countries in green)

Low debt distress	Moderate debt distress	High debt distress	Severe debt distress
<i>Madagascar</i>	Benin	Burundi	<i>Congo</i>
Rwanda	<i>Burkina Faso</i>	<i>Cameroon</i>	<i>Mozambique</i>
<i>United Republic of Tanzania</i>	<i>Comoros</i>	<i>Cabo Verde</i>	<i>Sao Tome and Principe</i>
Uganda	<i>Democratic Republic of the Congo</i>	Central Africa Republic	Somalia
Botswana	<i>Côte d'Ivoire</i>	<i>Chad</i>	Sudan
Eswatini	<i>Guinea</i>	<i>Djibouti</i>	Zimbabwe
Guinea	Guinea-Bissau	<i>Ethiopia</i>	
Namibia	<i>Lesotho</i>	Gambia	
Seychelles	Liberia	Ghana	
	Malawi	<i>Mauritania</i>	
	<i>Mali</i>	<i>Sierra Leone</i>	
	<i>Niger</i>	<i>Zambia</i>	
	<i>Senegal</i>	<i>Angola</i>	
	<i>Togo</i>	South Sudan	
	Algeria	Kenya	
	Egypt		
	Equatorial Guinea		
	Gabon		
	Mauritius		
	Nigeria		
	South Africa		
	Tunisia		

Source: World Bank

ECA estimates that Africa would have achieved a positive growth rate of 2.2 per cent in 2020 if it had implemented a fiscal stimulus of approximately \$100 billion that same year. Postponing the fiscal stimulus by one year (i.e. until 2021) has cost the continent at least 4.9 and 0.5 percentage-points in lost GDP growth in 2020 and 2021, respectively. This is equivalent to \$116 billion (assuming GDP of \$2.5 trillion) in lost growth. Figure 19, below, illustrates the expected impact of delaying a fiscal stimulus of \$100 billion to 2021 on real GDP growth in Africa.

Figure 19
Effect of delaying a fiscal stimulus of \$100 billion on real GDP growth in Africa



Source: ECA estimates

In the immediate term, priority should be given to supporting social support, health care, and access to education, while also protecting the livelihoods of workers and small and medium-sized enterprises. This would allow governments to position themselves for recovery. An appropriately healthy and skilled workforce is a prerequisite for the success of recovery investments.

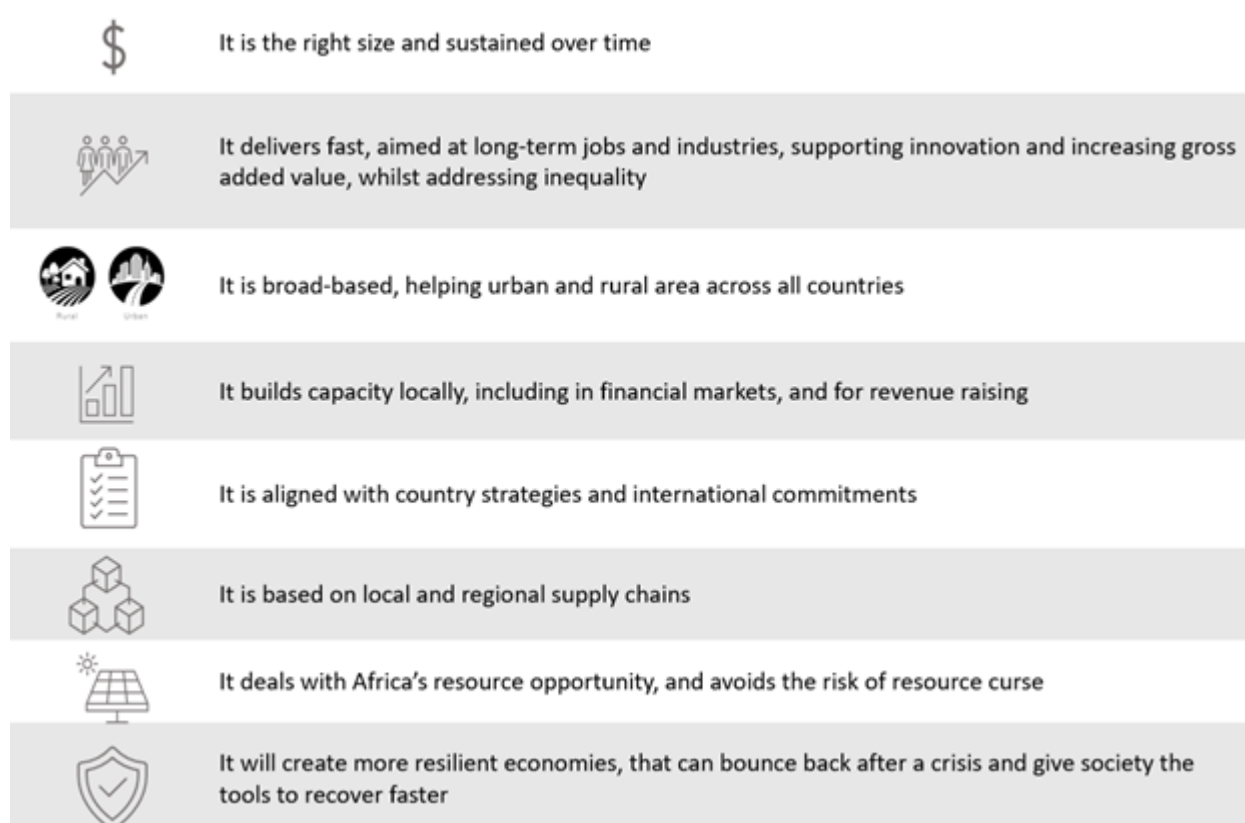
Efforts to manage the health crisis should be accompanied by initiatives to kick-start the recovery. This is a strategic opportunity for African countries to adopt different growth models that prioritize value addition in order to leapfrog technologically to a sustainable, inclusive, job-rich future. Energy will be a key driver of recovery in Africa, where some 590 million people live without access to electricity, by securing food supplies and enabling growth in other sectors of the economy, including transport and industry. By delivering energy through renewables, African countries will not only limit their impact on the environment and the climate, but will be able to create jobs, increase the fiscal stimulus per dollar spent and ensure that they do not find themselves locked into using obsolete fuel sources.

However, simply stimulating African economies and addressing debt vulnerabilities without undertaking a fundamental transformation of the structure of those economies risks further expansion of the informal sector, more unstable and precarious employment, growing inequality and the undermining of efforts to upskill workers. Countries need to ensure that their own roadmaps are not a plan to return to where economies were before, but a route to get to where their potential can be fulfilled.

A green recovery offers an opportunity to build forward together

The economies and societies developing across the continent will be a major part of the future of global economic growth. The potential of Africa's growing and young population, the investment and productivity opportunities in recently-established free trade areas, the continent's communications and digitization drive, its biodiversity, global carbon sinks and its renewable energy potential are all at the leading edge of a sustainable world economy. The world needs Africa to recover and play a key role as a functioning economic market, which will have the largest workforce in the world, accounting for 40 per cent of the global youth workforce by 2040. Africa consumer spending has been growing at a rapid clip, with the African middle class expanding at an even faster rate than the African population as a whole. With renewed economic growth, the continent can be the consumer market of the future, creating export opportunities for the rest of the world. Figure 20 illustrates the characteristics of successful new economic growth strategies.

Figure 20
Characteristics of a successful new growth strategy



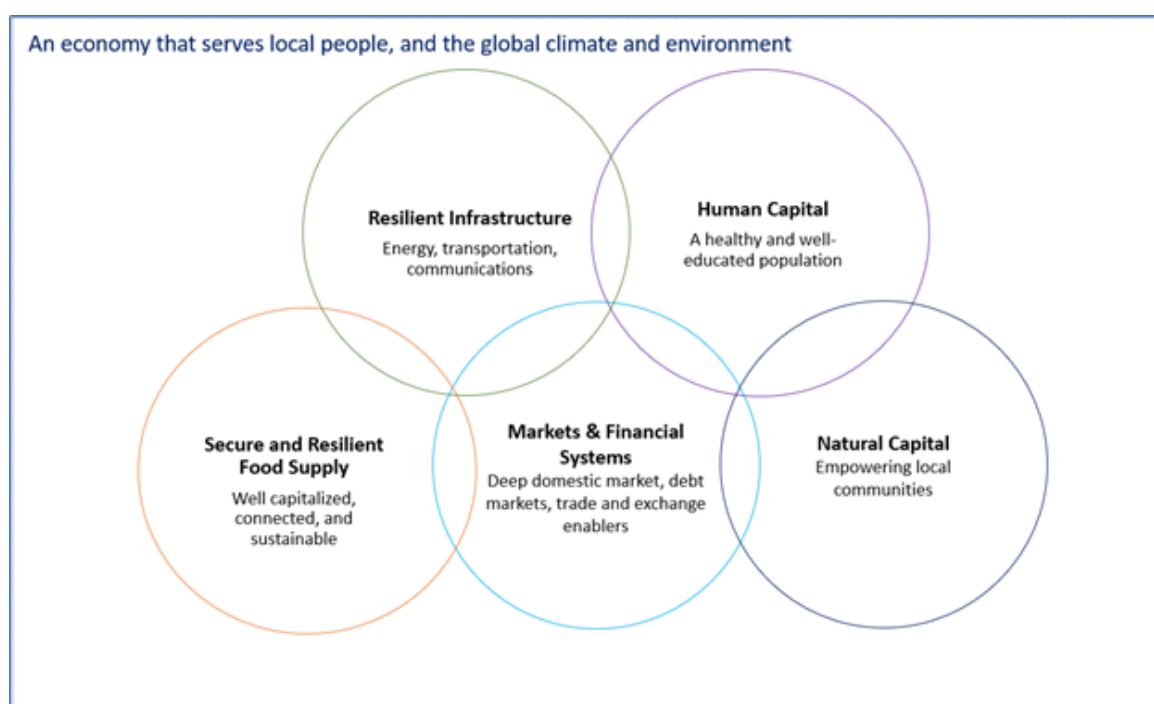
A new growth strategy could fulfil the continent's potential. To achieve that objective, the recovery needs to be aligned with the future Africa wants, namely a future with a more diversified and resilient economy that can deliver higher quality and more stable jobs. Africa has the opportunity, if also the challenge, to build the right foundations for its future economy. Africa, like the rest of the world, will continue to face crises in the future, but mainstreaming resilience now will allow it to bounce back better.

Returning to the pre-COVID growth path would carry significant risks. Certain technologies are obsolete, and investors are already diversifying their portfolios away from fossil fuels.⁶² At the same time, Africa has huge potential to play a key role in driving the economy of the future. The continent is endowed with 42 of the 63 elements that play a key role in the delivery of a sustainable and electrified global economy as well as the so-called fourth industrial revolution. African countries should strive to avoid the pitfalls of the past and encourage resource processing rather than simply resource extraction while delivering the materials the world requires for low-carbon transition. Capitalizing on this to deliver green industrialization will allow Africa to bypass traditional carbon-intensive industries while future-proofing their economies.

Greening the COVID-19 recovery will also allow Africa and the international community to address some of the challenges that the continent faced even prior to the COVID-19 pandemic, including slow growth, youth unemployment, poor infrastructure and weak governance. Multiple studies have shown that building clean-energy infrastructure, which is a particularly labour-intensive activity, especially in its early stages, could create twice as many jobs per dollar compared to traditional fossil-fuel investments.⁶³ This would both advance sustainable development and combat climate change. Figure 21 illustrates the key characteristics of an economy that meets the needs of people while safeguarding the environment.

Figure 21

Characteristics of an economy that meets the needs of people while safeguarding the environment



⁶² Carlos Lopes and Dirk Willem te Velde, "Structural Transformation, Economic Development and Industrialization in PostCovid-19 Africa", Institute for New Economic Thinking (January 2021). Available at: www.ineteconomics.org/uploads/papers/Lopes-te-Velde-African-industrialisation.pdf

⁶³ Cameron Hepburn and others, "Will COVID-19 fiscal recovery packages accelerate or retard progress on climate change?"

- **Investment in human capital:** facilitating the emergence of an upskilled workforce and healthy resilient citizenry in an economy that can create decent jobs;
- **Investment in resilient infrastructure:** investing in enablers, such as modern resilient energy systems, sustainable transport and digitalization;
- **Investment in food security:** investing in agriculture and rural communities to ensure more secure and affordable food for consumers and better returns for farmers;
- **Investment in the African continent's natural capital:** investing in nature-based solutions to generate employment while also protecting natural resources. For the continent's extractive industries, it is time for a reset and a transition towards sustainable systems;
- **Investment in markets and financial systems:** developing domestic markets to enhance African resilience, investing in value chains within the context of the African Continental Free Trade Area, particularly for industries that have relatively short and sustainable national and regional supply chains.

Investment in human capital: facilitating the emergence of an upskilled workforce and healthy resilient citizenry in an economy that can create decent jobs

Education and upskilling to boost human capital will increase the long-term, resilient growth rate of African economies. Africa has the youngest population of all global regions, with increasing access to basic and advanced education as well as appropriate skills, including digital knowledge, critical to the continent's future. Better skills and learning are crucial to making the most of the continent's demographic dividend. This means that education and upskilling for the labour force will be a determinant of the continent's success.

As has been dramatically demonstrated by the COVID-19 pandemic, investing in health improves resilience to health shocks and encourages citizens to obtain an education. Improved education and training will give the African workforce the tools it needs to compete in the global economy. At the same time, improved education will increase labour productivity, deliver more and better jobs, and improve gender equality. Indeed, globally it is estimated that some 32 per cent of new jobs created in renewables are taken up by women, as opposed to 22 per cent in traditional fossil fuel industries.⁶⁴ The establishment of centres of knowledge and excellence, and investments in tertiary education and research and development will also drive economic innovation. Such investments can begin to address the region's data gaps, which continue to hinder the assessment of progress towards the achievement of the Sustainable Development Goals.

In addition, upskilling would contribute to the development of innovative, context-specific solutions in renewable energy, sustainable industrial hubs, sustainable manufacturing, climate-smart agriculture, waste infrastructure and other relevant fields that will improve opportunities across the continent. Investing in upskilling in countries in sub-Saharan Africa

⁶⁴ International Renewable Energy Agency, *Renewable Energy and Jobs – Annual Review 2019* (June 2019). Available at: www.irena.org/publications/2019/Jun/Renewable-Energy-and-Jobs-Annual-Review-2019

could see an increase of over 7 per cent in GDP by 2030.⁶⁵ Upskilling could be enhanced by encouraging the sharing of research and development outcomes and intellectual property among African countries and their partners. This would maximize the potential of the largest workforce in the world.

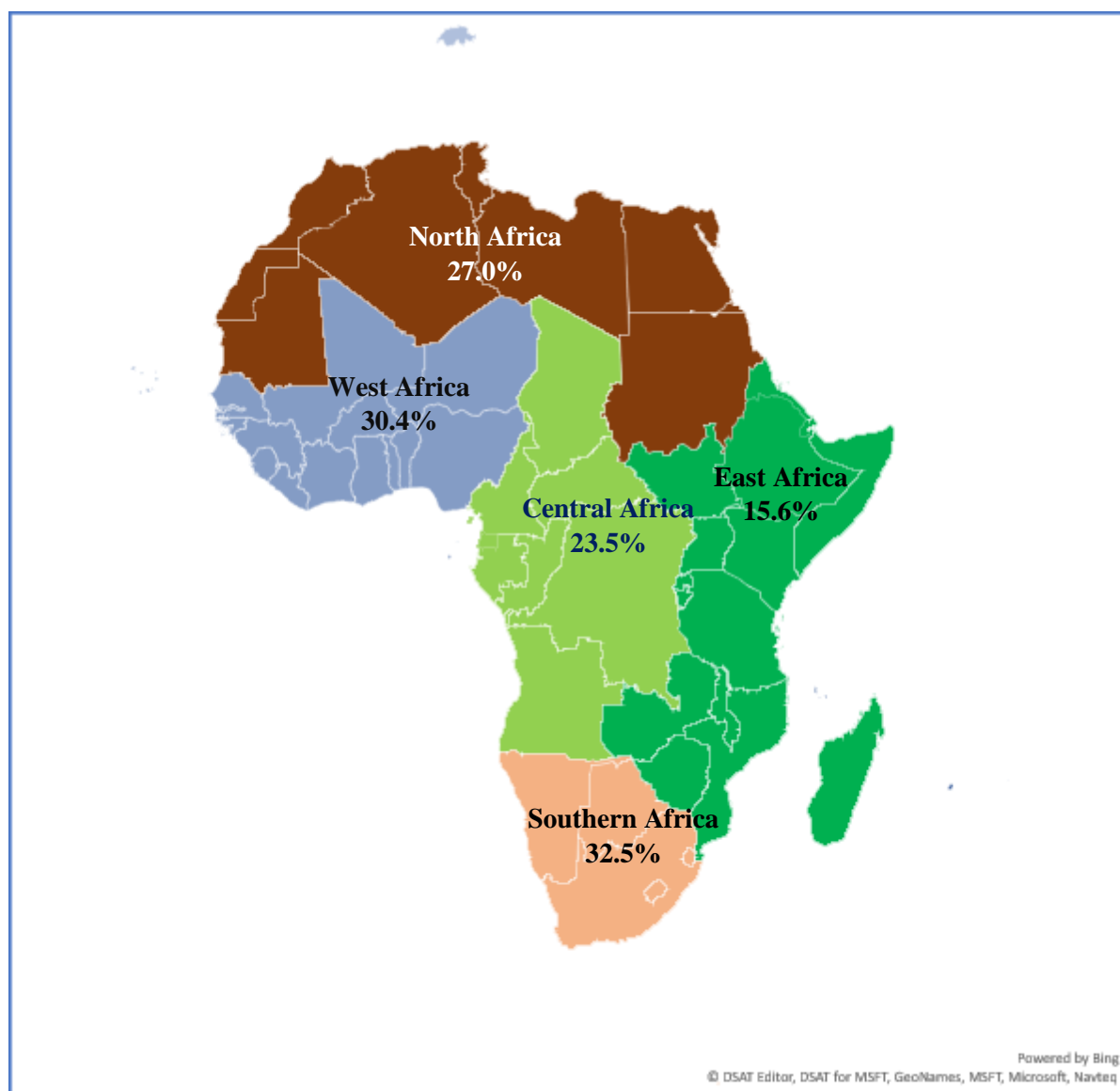
Significant challenges remain, however. The youth unemployment rate in sub-Saharan Africa is already two to three times higher than in the rest of the workforce. According to the International Labour Organization, an estimated 21.8 per cent of young people aged between 15 and 24 in Africa are not in education, employment or training. The breakdown by subregion ranged from 15.6 per cent for East Africa to 32.5 per cent for Southern Africa (see figure 22). It is vital to safeguard educational budgets while also investing in digitization and education in order to reduce inequality.⁶⁶

⁶⁵ World Economic Forum, *Upskilling for Shared Prosperity* (January 2021). Available at: www3.weforum.org/docs/WEF_Upskilling_for_Shared_Prosperty_2021.pdf

⁶⁶ Save our Future, *Averting an Education Catastrophe for the World's Children*.

Figure 22

Proportion of youth (aged 15-24 years) not in education, employment or training, by subregion, average 2011-2018



Investment in resilient infrastructure

Modern and resilient energy systems could support growth in Africa

Energy will be central to future growth in Africa because it is an enabler for other sectors of the economy. Africa remains the most energy-insecure continent in the world. This affects the productivity and efficiency of the continent's economies. To power its development agenda, the installed electricity capacity in Africa must at least double to 500 GW by 2030 and increase at least five-fold by 2050, with more than 80 per cent of that capacity coming from clean energy sources. To achieve that goal, investments in the order of \$500 billion will be required by 2030 and an additional \$1.4 trillion will be needed between 2030 and 2050.

Renewable energy technologies have become the most cost-effective options for Africa. They have a particularly effective role in fragile States, where rural areas risk losing power in the event of a disruption. The required infrastructure means that a greater portion of the jobs associated with those technologies can be sourced locally and projects are less vulnerable to the mismanagement of funds than traditional energy initiatives.⁶⁷ However, rapid upscaling is hampered by limited access to affordable finance and the lack of enabling infrastructure, including base generation, transmission, and distribution capacity.

The launch of the African Continental Free Trade Area in January 2021 marks a new beginning in the continent's energy landscape. With the expected increase in intra-regional trade, new opportunities will open up for cross-border power trade to meet the continent's increasing energy demand. That demand is being driven by various factors, including population growth, a growing middle class, industrialization, increasing urbanization, climate change, and increased intra-regional trade. Although Africa remains the least energized global region,⁶⁸ the aforementioned factors, coupled with the abundance of renewable energy resources across Africa and the fact that the continent is the only region in the world for transformative clean energy deployment, make a compelling investment case for private sector investment, provided that Africa puts in place an enabling policy and regulatory environment. The investment case is further strengthened by low global interest rates, the availability of capital, a history of good returns on investment for projects in Africa and very low project finance defaults,⁶⁹ and considerable potential for energy trade through existing power pools and through interconnections currently under development.

To ramp up renewable energy generation significantly will require support from Africa's international partners, both to ensure that sufficient base generation is delivered and to address concerns regarding energy storage and intermittency. As well as creating quality jobs both in the construction and maintenance of a renewable energy system, renewable energy generation could also facilitate the development of domestic industries by ensuring access to reliable power. Reliable energy could also support both food supply and the health-care sector by providing access to electricity and cooling solutions. Renewables also provide positive pathways to accelerate inclusion. Indeed, globally it is estimated that some 32 per cent of new jobs created in renewables are taken up by women, as opposed to 22 per cent in traditional fossil fuel industries.⁷⁰

It is important to bear in mind that a transition to a low-carbon economy will affect all economic sectors, and all communities. A just transition needs to consider the potential effects stemming both from climate action and climate inaction on vulnerable communities. Countries need to consider embarking on a well-managed transition to mitigate climate risks while acknowledging the impact that such action is likely to have on high-carbon communities. Formulating a roadmap for decarbonization, and consulting with local communities is

⁶⁷ Camilla Sacchetto, Nicholas Stern, and Charlotte Taylor, "Priorities for renewable energy investment in fragile states" (November 2020, International Growth Centre). Available at: www.theigc.org/wp-content/uploads/2020/11/Sacchetto-Stern-Taylor-2020-Policy-Brief.pdf

⁶⁸ According to the Tracking SDG7 Progress Report 2020, 548 million of the 789 million people globally who lack access to electricity are in Africa. The report is available at esmap.org/report_sdg7_the-energy-progress-report-2020

⁶⁹ According to an investor services report by Moody's Corporation, a business and financial services company, on default and recovery rates for project finance bank loans made between 1983 and 2018, Africa consistently had a lower rate of project finance default compared with the rates for other global regions over that period.

⁷⁰ International Renewable Energy Agency, *Renewable Energy and Jobs – Annual Review 2019*.

necessary in order to identify the best course of action and where potential partnerships will be needed.⁷¹

Priority investments identified under an infrastructure framework formulated by the Programme for Infrastructure Development in Africa (PIDA), a joint project of the African Development Bank, African Union and NEPAD, feature 19 energy projects, of which only one is fossil-fuel based.⁷² The majority of projects are hydropower projects, reflecting the abundant natural resources of Africa and the multinational nature of those projects, while 7 of the 19 feature investments in transmission lines, reflecting the priority that must be given to grid infrastructure. Grid infrastructure is, in fact, particularly important in that it provides opportunities for renewables to be upscaled across the continent.⁷³

Significant challenges must be addressed if Africa is to exploit its untapped solar and wind resources.⁷⁴ The main challenges include the lack of enabling environment for private sector investment. Less than 12 per cent of infrastructure investment in Africa currently comes from the private sector, and mainly through foreign investment. Over the last 10 years or so, only about 2 per cent of global investments in renewables have been in Africa. In 2018, \$282 billion was invested globally in clean energy but less than 1.5 per cent of that amount was in Africa, and was primarily directed to projects in only five countries, namely Egypt, Kenya, Morocco, South Africa and Zimbabwe.⁷⁵

The limited participation of the private sector in investment in the energy sector in Africa is not because of insufficient finance. Instead, it is a consequence of a wide range of factors, including poor governance, a lack of enabling policies and regulatory frameworks, weak institutions, the poor management of utilities, the challenging business environment, a lack of transparency in energy procurement, limited capacity, the doubtful bankability of many projects, poor enforcement of contracts, weak enforcement of quality standards and certification, and the divergent interests of relevant stakeholders.

There is an urgent need for African countries to address those issues in order to attract the private sector investments needed to build forward better as part of the continent's recovery agenda. However, private investment cannot flow into a vacuum and there are already promising initiatives underway which could be scaled-up to deliver impact in specific areas of the economy. In that connection, figure 23 provides an overview of the ECA SDG7 Initiative for Africa.

The ECA SDG7 Initiative for Africa,⁷⁶ which is based on the three pillars of sustainability, governance and finance, aims to address the challenges hindering private sector investments in clean energy in Africa. The initiative combines scale and speed to accelerate private sector investments in clean energy in support of access and climate ambition. At the

⁷¹ E3G, "A just transition for all – or just a transition?", 27 November 2018. Available at: www.e3g.org/publications/a-just-transition-for-all-or-just-a-transition/

⁷² African Union-NEPAD, PIDA projects dashboard. Available at: www.au-pida.org/pida-projects/

⁷⁴ Res4Africa Foundation, *Connecting the dots: Why is only 2% of global RE in Africa?* (July 2020) Available at: www.res4africa.org/wp-content/uploads/2020/07/RES4Africa-Foundation-Connecting-the-Dots.pdf

⁷⁵ Frankfurt School, FS-UNEP Collaborating Centre for Climate & Sustainable Energy Finance, *Global Trends in Renewable Energy Investment 2020*. Available at: www.fs-unesp-centre.org/wp-content/uploads/2020/06/GTR_2020.pdf

⁷⁶ For further information about the Initiative, see www.uneca.org/%E2%80%9Csdg7-initiative-africa%E2%80%9C9D-accelerating-clean-energy-investments-access-and-climate-ambition-africa-0

national level, the initiative has identified a healthy pipeline of projects totaling 39,000 MW of clean energy projects for investment in the near term.

Figure 23

The Economic Commission for Africa SDG7 Initiative for Africa



Source: ECA

Improved transportation will allow diversified growth and rural development

As economies grow and populations urbanize, improved transportation systems will be an important economic enabler. Transportation will also improve food security, agricultural productivity and rural development, while underpinning a wider base for economic growth.

As the population grows, creating a means of transport to support development and industrialization, while distributing economic growth and employment opportunities over a wider geographical area, will prove increasingly important. Given that the African continent's largest cities already experience congestion costs of around 4 per cent of output,⁷⁷ supporting urbanization and development without overwhelming Africa cities with congestion will fast-

⁷⁷ World Bank, "Cairo traffic is much more than a nuisance", 21 August 2012. Available at: www.worldbank.org/en/news/feature/2012/08/21/cairo-traffic-much-more-than-nuisance

track growth while also improving Africans' quality of life. The growing potential of urbanization and industrialization in Africa will require the development of a range of transport modes, and will thus require planning and the implementation of best practices, including Avoid/Reduce-Shift/Maintain-Improve⁷⁸ so as to take into consideration the efficiency of systems and vehicles and reduce journey lengths. As such, creating a reliable and efficient public transport network should be a priority consideration in urban planning.

The global drive for decarbonization poses particular risks for Africa, which is currently the largest importer of secondhand cars.⁷⁹ As the transition to electric vehicles gathers pace, the continent is likely to witness increased efforts to dump uneconomical petrol-driven cars onto African markets. This is something African Governments must resist, both to support domestic electric vehicle markets and to safeguard environmental standards. There is evidence that regulating the import of used vehicles can enable countries to strengthen their access to quality used cars at affordable prices.⁸⁰

In contrast, modelling done by Oxford University in the United Kingdom and Vivid Economics on the transition to electric vehicles in South Africa has demonstrated the value created by low-emissions technology in building internal value chains in the manufacture of vehicles and the infrastructure to support them.⁸¹ Investments in electric vehicles in South Africa generates gross value added of some 300 per cent, while a return of some 200 per cent return is achieved on electric cars and some 250 per cent return on electric buses.⁸²

Meanwhile transport infrastructure projects make up one third of PIDA infrastructure priorities, accounting for 24 out of 73 projects.⁸³ These include significant investments in regional roads, railways, inland waterways and ports. Opportunities also exist to maximize the efficiency of transport for trade systems through the digital technologies deployed in the context of the African Continental Free Trade Area, in particular through linkages with rail systems. The digitalization of the rail sector provides unique identifiers of rolling stock that, in turn, enables tracking and the effective management of assets, and more efficient and environmentally-sensitive trade, reducing emissions as compared to trade by road.

Digitalization and adoption of technological solutions will help integrate and advance African economies

African economies are already striving to leapfrog established technologies, becoming leaders in innovative sectors such as mobile payments. COVID-19 has already increased the use of e-commerce platforms across the continent, most notably through the effective launch of the African Medical Supplies Platform. Improving communications throughout the continent will support those advances and facilitate the integration of markets. Indeed, the digital economy is already one of the drivers of growth for the continent, accounting for some 5 per

⁷⁸ GIZ Sustainable Urban Transport Project, *Sustainable Urban Transport: Avoid-Shift-Improve (A-S-I)*. Available at: www.sutp.org/publications/sustainable-urban-transport-avoid-shift-improve-a-s-i/

⁷⁹ UNEP, *Used Vehicles and the Environment: A Global Overview of Used Light Duty Vehicles: Flow, Scale and Regulation* (2020). Available at: www.unep.org/resources/report/global-trade-used-vehicles-report

⁸⁰ Ibid.

⁸¹ Brian O'Callaghan and Julia Bird, "A Prosperous Green Recovery for South Africa: Could green investment bring short-term economic recovery while unlocking long-term sustainable growth?"

⁸² Ibid.

⁸³ African Union-NEPAD, PIDA projects dashboard

cent of GDP.⁸⁴ This is projected to increase to 8.5 per cent of the continent's GDP (approximately \$712 billion) by 2050.⁸⁵

The development of data centres is also at the heart of the digital revolution in Africa. According to a report compiled by Reportlinker.com entitled “Africa Data Center Market – Industry Outlook and Forecasts 2020–2025”, the continent's data centre market is expected to be worth more than \$3 billion by 2025, growing at a compound annual growth rate of more than 12 per cent between 2019 and 2025. As is the case in other global regions, African is benefiting from rapidly increasing demand for cloud-based services. Some 70 per cent of organizations operating in the region are expected to move to the cloud by 2025, with small and medium-sized enterprises and government agencies at the forefront of that transition.

Rapid digitization could unlock productivity gains, allowing greater participation in the formal economy and global value chains while also reducing frictions associated with domestic commerce, finance and international trade. Digitization has already allowed Africa to leapfrog more traditional forms of finance and banking, and the opportunities for such disruption in other sectors are there to be seized. The COVID-19 global health pandemic has also demonstrated that affordable access for all to the digital economy can help build resilience to the multiple crises the world is experiencing today. The digital economy in Africa is projected to grow to \$180 billion by 2025 and contribute 5.2 per cent to continental GDP.⁸⁶ Furthermore, according to Boston Consulting Group, a management consulting firm, online marketplaces could create 3 million jobs in Africa by 2025.⁸⁷ However, Africa faces a huge digital skills gap. Indeed, according to the International Finance Corporation, some 230 million jobs across the continent will require some level of digital skills by 2030.⁸⁸

There is a risk in Africa of a growing digital divide. Africa is one of the least connected global regions, with only 28 per cent of its citizens enjoying access to the Internet and only 34 per cent to mobile broadband.⁸⁹ Africans also continue to face among the highest costs in the world for using the Internet. According to the 2019 Affordability Report, the average cost per gigabyte of data across the African continent is 7.12 per cent of an average African's monthly income, and in some cases costs more than a fifth of average earnings. Achieving universal, affordable and high quality Internet access across Africa by 2030 will require an investment of \$100 billion. Inadequate information and communications technology systems have reduced the benefits of digitization in many countries, but targeted interventions could help Africa unlock a digital dividend which could, in turn, improve governance and, as discussed below, even increase tax revenues. The development of improved information and communications technology systems should go hand in hand with and facilitate efforts to upskill young people and the labour force. Digitization also represents a key tool for increasing transparency across governments and increasing citizens' oversight of government spending. Coupled with ring-

⁸⁴ Vera Songwe, “The Role of Digitalization in the Decade of Action for Africa”, 7 September 2020, UNCTAD. Available at: unctad.org/news/role-digitalization-decade-action-africa

⁸⁵ International Finance Corporation, *e-Conomy Africa 2020: Africa's \$180 billion Internet economy future* (2020). Available at: www.ifc.org/wps/wcm/connect/e358c23f-afe3-49c5-a509-034257688580/e-Conomy-Africa-2020.pdf?MOD=AJPERES&CVID=nmuGYF2

⁸⁶ Ibid.

⁸⁷ Patrick Depoux and others, “How online marketplaces can power employment in Africa”, BGG, 26 March 2016. Available at www.bcg.com/publications/2019/how-online-marketplaces-can-power-employment-africa

⁸⁸ World Economic Forum, “Africa needs digital skills across the economy - not just the tech sector”, 22 October 2020. Available at: www.weforum.org/agenda/2020/10/africa-needs-digital-skills-across-the-economy-not-just-tech-sector/#:~:text=Some%20230%20million%20jobs%20across,private%20sector%20in%20emerging%20markets

⁸⁹ Vera Songwe, “The Role of Digitalization in the Decade of Action for Africa”.

fencing, digitization could also facilitate the efficient disbursement of post-COVID stimulus packages. Deploying digital technologies can also ensure that future investments in infrastructure are appropriately targeted, including, for example, by helping ensure that trade routes are appropriately matched with infrastructure needs.

Digitization both supports and is required for a green recovery. Broadband Internet and digital services fuel productivity across critical sectors, including agriculture, education, government and health. Digital technology and services can power innovation and create jobs. Digitization of the economy also provides a basis for the generation of green or clean jobs, from technology development to digital services. In the energy sector, digitalization plays a key role in monitoring and managing so-called smart grids, where end-users both produce their own energy and supply the network with any excess power they generate.

This means that, as is the case in other global regions, digitalization itself must proceed on a green path in Africa. According to a report entitled “Clicking Clean”, published by Greenpeace International, a global campaigning organization, the information technology sector accounts for some 7 per cent of global electricity consumption. This is due to the explosion in the number of data centres, smartphones and connected devices. Furthermore, the telecommunications industry and the Internet could use 20 per cent of all electricity generated globally⁹⁰ and emit up to 5.5 per cent of global greenhouse gas emissions by 2025.⁹¹ Data centres are thought to consume some 33 per cent of all the energy consumed by information and communications technology. Large public cloud data centres are one of the largest per capita consumers of electric power. The largest data centres consume more than 100 megawatts of power.⁹² Given that one megawatt is enough to provide electricity to 900 households, a single data centre can use power equivalent to that used by a small city, and requires a significant amount of water for cooling. As illustrated in Box 1, if that power comes from non-renewable resources, the impact on the climate can be particularly severe.

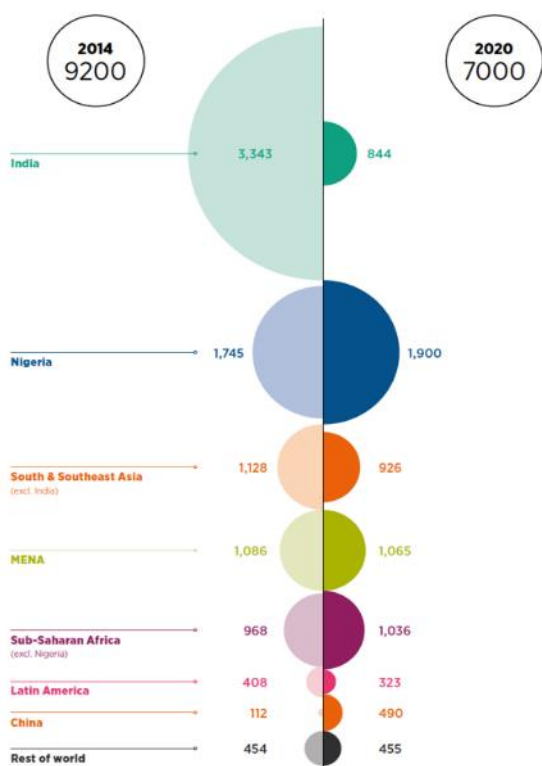
⁹⁰ Nicola Jones, “How to stop data centres from gobbling up the world’s electricity”, *Nature*, 12 September 2018. Available at: www.nature.com/articles/d41586-018-06610-v#ref-CR1

⁹¹ Wayne Adams, “Power consumption in data centers is a global problem”, *Data Center Dynamics*, 21 November 2018. Available at: www.datacenterdynamics.com/en/opinions/power-consumption-data-centers-global-problem/

⁹² Energy Innovation, “How Much Energy Do Data Centers Really Use?”, 17 March 2020. Available at: energyinnovation.org/2020/03/17/how-much-energy-do-data-centers-really-use/

Box 1: Emissions from diesel generators at mobile towers

Estimated annual CO₂e emissions (in kilotonnes) from diesel generators at mobile towers



The way a telecommunications company approaches its operations and deploys its network has a significant impact on its energy and carbon emission performance. In many low- and middle-income countries, access to mobile networks depends on on-site diesel-powered generators for mobile towers. This practice inflicts a measurable cost on the environment. Overall, Africa generates more than 42 per cent of annual mobile CO₂ emissions. Currently, only 7 per cent of telco energy needs are being met using renewable sources, and 5G requires additional energy. Nigerian mobile towers generate an estimated 1,900 kilotons of CO₂ emissions every year: the highest in the world and a rate that is about 9 per cent higher than in 2014.⁹³

The information and communications technology sector can reduce its

greenhouse gas emissions by improving the energy performance of networks, data centres and infrastructure, while using greener electricity to reduce carbon emissions and contribute to achieving sustainable development objectives. For instance, modeling indicates that in the Democratic Republic of the Congo, a tower equipped with solar equipment requires a payback period of five years, compared to the four years it would take for a non-solar site. As Africa digitizes, it has the opportunity to leapfrog other regions and use energy-efficient equipment and practices that are both cost-efficient and environmentally friendly. Digital technologies and services, including, the so-called Internet of Things, artificial intelligence, cloud and edge computing, and 5G technology provide multiple pathways for improving productivity, fostering innovation and maximizing the impact of green recovery policies.

5G networks are the first networks to be designed for greater energy efficiency, and it is predicted that, by 2025, commercial 5G services will be deployed in at least seven markets, including Kenya, Nigeria and South Africa, with 28 million connections (or 3 per cent of total mobile connections). According to research, 5G networks will be up to 90 per cent more energy efficient than 4G, given that they allow more data bits per kilowatt of energy than any previous wireless technology generation.⁹⁴

Leveraging emerging technologies: artificial intelligence and nanotechnology

Emerging technologies are transforming high-technology industries and sectors as well as traditional industries of significant importance to Africa, such as agriculture, mining, health,

⁹³ GSMA, “Renewable Energy for Mobile Towers: Opportunities for low- and middle-income countries”, September 2020.

⁹⁴ Nokia, “Nokia confirms 5G as 90 per cent more energy efficient”, 2 December 2020. Available at: www.nokia.com/about-us/news/releases/2020/12/02/nokia-confirms-5g-as-90-per-cent-more-energy-efficient/

education and tourism. Technologies such as artificial intelligence and nanotechnology could be game changers in Africa's transition to a green economy.

For example, artificial intelligence offers significant opportunities for Africa to transition to green growth. The global market of artificial intelligence is estimated to be growing at between 32 and 42 per cent per year and is expected to worth between \$267 billion and \$312 billion by 2027.⁹⁵ ⁹⁶ By 2030, it is predicted that artificial intelligence will “contribute up to \$15.7 trillion to the global economy.”⁹⁷ Africa needs to realize its fair share of this rapidly growing technology market. In addition, artificial intelligence is expected to grow by 33 per cent over the next five years, with most applications of artificial intelligence aiming to improve customer experience, particularly in government, utility companies, and the retail and transport sectors.

More importantly, artificial intelligence applications can help institutions and countries meet up to 45 per cent of the emissions targets established in the Paris Agreement.⁹⁸ Indeed, artificial intelligence is supporting the optimization of renewable energy development, including by facilitating efforts to predict future wind trends, select hydropower sites that will result in low greenhouse gas emissions, reduce waste in utilities and retail and improve the efficiency and productivity of industries.

Africa cannot afford to be left behind in this rapidly growing market. Artificial intelligence could help Africa optimize its rapidly expanding transport, energy and water infrastructure, improve the efficiency and productivity of public services, including education and health, monitor habitats and those that protect it, such as game rangers, and reduce inequalities, including between rural and urban areas.⁹⁹ Artificial intelligence also offers organizations the potential to increase their profitability while reducing their carbon footprints.

Similarly, nanotechnology is seen as an enabler and key driver of the so-called fourth industrial revolution with significant impacts on Sustainable Development Goals 2 (Food), 3 (Health), 7 (Energy), 8 (Employment), 9 (Infrastructure/innovation), 11 (cities) and 12 (Responsible consumption). The market for nanomaterials and nanoproducts is growing at some 15 per cent a year and was worth approximately \$126 billion in 2020, while that of nanotechnology-enabled products is estimated to be worth some \$1.2 trillion.¹⁰⁰

There are at least three major ways in which nanotechnology is key to a green recovery. First, nanotechnology is revolutionizing many technologies and industries in sectors that have

⁹⁵ For further information see: www.fortunebusinessinsights.com/industry-reports/artificial-intelligence-market-100114

⁹⁶ For further information see: www.grandviewresearch.com/industry-analysis/artificial-intelligence-ai-market#:~:text=The%20global%20artificial%20intelligence%20market,42.2%25%20from%202020%20to%202027.

⁹⁷ For further information see: www.pwc.com/gx/en/issues/analytics/assets/pwc-ai-analysis-sizing-the-prize-report.pdf

⁹⁸ Capgemini Research Institute, *AI in climate action survey, July–August 2020. How artificial intelligence can power your climate action strategy*, 2 November 2020. Available at: www.capgemini.com/wp-content/uploads/2020/11/2_CRI_AI-for-Climate-Action_Infographic.pdf

⁹⁹ University of Pretoria Access Partnership, *Artificial Intelligence for Africa: An Opportunity for Growth, Development, and Democratisation*. Available at: www.up.ac.za/media/shared/7/ZP_Files/ai-for-africa.zp165664.pdf

¹⁰⁰ ECA, *Towards an African Nanotechnology Future*, 15 April 2020. Available at: www.uneca.org/towards-african-nanotechnology-future

a negative impact on the environment, including energy,¹⁰¹ electronics, health, agriculture, transport, infrastructure, water and waste management. For example, the use of nanoparticles in agriculture has been shown to increase crop yields¹⁰² and farmers' earnings,¹⁰³ while reducing the use of pesticides and chemical fertilizers.¹⁰⁴

Second, nanotechnology is powering many of the technologies and industries driving the renewable energy sector. Nanotechnologies are playing a central role in the solar energy industry, with nanomaterials now used in the manufacture of solar cells, the manufacture of batteries, the capacity of which continues to expand with falling prices,¹⁰⁵ and the manufacture of medical devices and personal protection equipment, including reusable nanowire masks with antibacterial and antiviral properties.¹⁰⁶

Third, green nanotechnology, which focuses on use of green chemistry and engineering in a safe and ecofriendly manner, is being used in the biological synthesis of nanoparticles or nanomaterials with a view to reducing the impact of nanomaterials on the environment.¹⁰⁷ Green nanotechnology has a wide range of applications, including in biomedical diagnostics, ensuring food quality and safety, and improving nutrient absorption from the soil by plants. Many African researchers are using nanotechnology to add value to natural resources. These include the use of biomass and minerals to produce nanomaterials. Taken together, nanotechnology is a powerful tool for a green recovery.

Africa could become a major player if it accesses the necessary technology to build its research, innovation and industrial base and strength its resilience. Appropriate access to financing is needed, while technology access, capacity-building and appropriate policies at the national level are all enablers that can help leverage those opportunities.

Food Security – a resilient and secure food supply chain

Agriculture remains the mainstay of the economy of most African countries and supports both internal consumption and exports. However, 85 per cent of Africa's food was imported at a value of \$35 billion between 2016 and 2018, and that figure is expected to rise to \$110 billion by 2025. This heavy reliance on imports is detrimental to achieving resilience and to capturing a greater proportion of the value chain within Africa. This needs to be considered in the context of the global challenges associated with food production due to climate change. Building back better in a post-COVID-19 world, and the launch of the African Continental Free

¹⁰¹ Mousumi Sen, *Nanotechnology and the Environment*, IntechOpen, 2 December 2020. Available at www.intechopen.com/books/nanotechnology-and-the-environment

¹⁰² Dong Van Nguyen and others, *Copper nanoparticle application enhances plant growth and grain yield in maize under drought stress conditions*, 24 February 2020. Available at: www.biorxiv.org/content/10.1101/2020.02.24.963132v1.full.pdf

¹⁰³ Melanie Kah, Nathalie Tufenkji and Jason White, "Nano-enabled strategies to enhance crop nutrition and protection", *Nature. Nanotechnology* vol. 14, pp. 532–540 (2019). Available at: www.nature.com/articles/s41565-019-0439-5/

¹⁰⁴ Russel Gold and Ben Foldy, "The battery is ready to power the world", *Wall Street Journal*, 5 February 2021. Available at: www.wsj.com/articles/the-battery-is-ready-to-power-the-world-11612551578

¹⁰⁵ Ibid.

¹⁰⁶ Endre Horváth and others, "Photocatalytic Nanowires-Based Air Filter: Towards Reusable Protective Masks", *Advanced Functional Materials*, 7 August 2020. Available at: pubmed.ncbi.nlm.nih.gov/32837497/

¹⁰⁷ Mahmoud Nasrollahzadeh and others, "An Introduction to Green Nanotechnology", *Interface Science and Technology*, vol. 28, pp.145-198, 2019. Available at: www.elsevier.com/books/an-introduction-to-green-nanotechnology/nasrollahzadeh/978-0-12-813586-0

Trade Area, provide an opportunity to build resilience by strengthening a more robust internal market and national and regional value chains.

The greatest challenge faced by Africa and the world is how to feed the world's growing population (the continent's population is expected to reach 2.4 billion in 2050) while reducing emissions from agriculture and building resilience for the future. By 2050, climate change will negatively impact agricultural crops by up to 22 per cent, with yields of cassava, sorghum, millet, maize, and groundnut expected to decrease by 8 per cent, 17 per cent, 17 per cent, 22 per cent and 18 per cent respectively.¹⁰⁸

The agricultural sector requires further capitalization, access to energy, improved transportation and digital communications. Financial innovation, including parametric insurance and microcredits, may help spread the benefits of those advances more widely while also increasing the overall resilience of the agricultural sector.

Future-proofing agriculture production to address unavoidable climate change through the use of climate-resilient crop varieties and agronomic adaptation responses such as agroforestry and conservation agriculture, in addition to investments in early warning systems and educational programmes, will also prove critical.

The COVID-19 pandemic has highlighted the need for resilience and adaptive capacity of nature-based integrated food systems, organized around strong governance and well-connected farm and market infrastructure. Chronic malnutrition is an enormous drain on the continent's financial and human resources. It causes irreversible physical and cognitive damage in young children, translating into cycles of illness and poverty across generations at the household level, budget deficits and high health-care costs. Nature-based nutritional interventions are therefore critical, in that they can create employment opportunities and meet populations' nutrition needs without leading to further environmental degradation.

Despite the continent's ongoing and future challenges, Africa's long history of conservation agriculture offers some best practices that other parts of the world could learn from. As international consumers become more discriminating on product sourcing and organic production, African agricultural products could gain in importance. African countries must implement policies that discourage the dumping in African markets of cheap, highly-processed food imports that are associated with the rise in obesity and other chronic diseases, which, moreover, have the potential to undermine local value chains. Agriculture-led growth and agrifood policies adopted within the context of the African Continental Free Trade Area could revolutionize African markets by fostering the emergence of a nature-based food system that is nutrition sensitive, while also promoting climate mitigation and adaptation strategies that can safeguard livelihoods and create jobs.

The African Continental Free Trade Area also provides African countries with opportunities to stimulate the local production, marketing and consumption of indigenous, nutritious and safe foods by shortening supply chains. This is of particular relevance at the present time when the COVID-19 pandemic has severely undermined labour-intensive fruit, vegetable, and animal-sourced protein supply chains. Strengthening rural-urban linkages could lower post-harvest losses, boost farmers' incomes, and preserve the nutritional quality of food, while also leveraging technologies to create job opportunities, particularly for young people.

¹⁰⁸ ECA and African Climate Policy Centre.

Improvements in agriculture are also linked directly to the successful implementation of the rules-based aspects of the African Continental Free Trade Area, where appropriate standardization can ensure that a “race to the bottom” is avoided, that production for consumption within the continent as well as for export is increased, and that the appropriate inputs and labour for green industrialization are made easily available.

The adoption of climate-smart agriculture solutions can improve yields, while also increasing the value of jobs created in the agricultural sector. It can help reduce the negative impact of boom-and-bust cycles linked to extreme weather events and hence reinforce resilience. These solutions are likely to lead to the increasing industrialization of the food production and distribution process but will strengthen sustainable principles aimed at reducing the long-term emissions of the sector.

Agriculture must also be integrated into the continent’s digitalization initiatives. It is estimated that, in South Africa alone, the adoption of digital technologies could create 671 billion South African rand (\$44 billion) in value for consumers, the agriculture sector, and society over a nine-year period.¹⁰⁹ Such sustainable gains are highlighted in the African Union Digital Transformation Strategy for Africa,¹¹⁰ and can be achieved across the continent by applying digital technology in four critical ways: implementing precision agriculture through the use of geo-mapping and drones; establishing end-to-end connection of the supply chain using Internet of Things sensors and radio frequency identification tagging; automating equipment used in operations; and creating a digital platform through which farmers can obtain accurate weather, crop, planting, cultivating, harvesting and pricing data, and can share critical agricultural assets.

Natural capital – an asset for development and for empowering local communities

Africa has some of the world’s richest biodiversity, and some of the most important natural carbon sinks. The peatlands of the Central Congo basin, for example, cover some 145,000 square kilometres and can lock in up to 30 billion tons of carbon – equivalent to three years’ of global carbon emissions.¹¹¹ Reversing declines in African forest cover and promoting reforestation could prove a key component of global efforts to combat climate change. Forest regeneration and the re-greening of urban centres offer multiple benefits, from combatting the heat island effect to enhancing water security, while also offering ecosystem services with local and global significance. By contrast, the degradation of natural resources remains one of the continent’s primary means by which it contributes to global greenhouse gas emissions.¹¹²

¹⁰⁹ Accenture and World Economic Forum, *Unlocking Digital Value in South Africa’s Agricultural Sector*, 2018. Available at: www.accenture.com/_acnmedia/pdf-102/accenture-unlocking-digital-value-south-africas-agriculture.pdf

¹¹⁰ The Strategy is available at: au.int/en/documents/20200518/digital-transformation-strategy-africa-2020-2030

¹¹¹ Ramsar, “World’s largest tropical peatland found in Congo basin”, 20 January 2017. Available at: www.ramsar.org/es/node/46353

¹¹² For further information, see: blogs.afdb.org/climate-change-africa/drivers-greenhouse-gas-emissions-africa-focus-agriculture-forestry-and-other

Box 2. Nature-based solutions can build ecosystem resilience, reduce women and girls' exposure to indoor smoke pollution and enhance community livelihoods: supporting Ethiopia's Green Legacy Initiative

Hydropower dams in Ethiopia have enormous economic, social and ecological benefits but their sustainability is threatened, inter alia, by unprecedented siltation. A key driver of ecosystem degradation of most catchment areas is deforestation, which in turn is caused by the unsustainable harvesting of trees for firewood and the expansion of agriculture into forested areas. Thus, restoring and reclaiming degraded areas around water reservoirs through afforestation and reforestation programmes is particularly important as part of efforts to build ecosystem, social and infrastructure resilience while contributing to the reduction of greenhouse gas emissions. In 2019, the Prime Minister of Ethiopia, Abiy Ahmed launched his country's Green Legacy Initiative, which will facilitate the planting of 20 billion tree seedlings over a period of four years. Four billion trees were planted in the first phase of the Initiative in 2019, including a record 354 million trees planted on 29 July 2019 alone, which the Ethiopian Government named Green Legacy Day. A second phase of the initiative in 2020 facilitated the planting of a further 5 billion trees.

Recognizing the significance of the Green Legacy Initiative, ECA, in collaboration with the Ethiopian Ministry of Water, Irrigation and Energy and in partnership with UNEP, zonal/wereda natural resource departments, local communities, development partners, and other relevant international organizations, launched a four-year nature-based solutions project to contribute to the management of Green Legacy Initiative seedlings, and expand the scope of the Initiative.

Costing about \$2.8 million, the project provides for several interventions including: (i) enhancing the resilience of hydropower facilities by managing trees on degraded catchment areas; (ii) increasing carbon sequestration by managing up to 20 per cent of trees planted as part of the Green Legacy Initiative; (iii) rehabilitating about 1000 hectares of degraded lands through the construction of various soil and water conservation structures; (iv) enhancing local livelihoods and building community resilience to improve the management of ecosystems; (v) promoting the sustainable use of firewood through the provision of energy-efficient clean cooking stoves, thereby improving women and girls' health by reducing indoor smoke pollution; and (vi) enhancing the incomes of young people by providing training and materials so that they can manufacture and sell energy-efficient clean cook-stoves. Those interventions will also counteract the effects of deforestation and climate change.

A total of 5000 households will benefit from the project. In addition, up to 300 young boys and girls from participating communities will receive training in technical and entrepreneurial skills so that they can manufacture and market clean cooking stoves in Ethiopia. Over four years, the project will be expanded to cover all important ecosystems in the country. Lessons learned from the Ethiopian project will be used to design and scale up similar projects in other African countries.

Furthermore, seagrass and mangroves can absorb between 3 and 5 times more carbon than tropical forests.¹¹³ An initial assessment by UNEP of the linkages among mangroves and seagrass and coastal protection showed that Africa has important zones for mangrove coverage and sea grass habitats that could prove critical in preventing erosion and promoting carbon

¹¹³ For further information, see: www.pewtrusts.org/en/research-and-analysis/articles/2019/05/31/four-types-of-coastal-habitats-and-why-they-matter

sequestration.¹¹⁴ Mangroves cover 3.2 million hectares on the continent¹¹⁵ and, while seagrass mapping is still in its initial stages, important areas for seagrass cultivation have been identified in tropical Atlantic areas of Africa and in the western part of the Indian Ocean.

The global rise in temperatures is having a dramatic impact on the oceans, with repercussions for the implementation of the African Union Blue Economy Strategy. The oceans' sensitivity to climate change is increasing, acidity levels are rising and there has been a dramatic impact on the health of marine life and natural marine coastal defenses, including mangroves. This has diminished the oceans' role as an ecological and climate regulator.¹¹⁶

Fisheries play an important role as key providers of protein for African countries and, as the continent's population grows, they are likely to play an even more prominent role. In a report entitled "The State of World Fisheries and Aquaculture 2020", FAO projects that Africa will witness the second largest growth in fish consumption after Latin America between 2018 and 2030, with a projected increase in consumption of 27 per cent. However, the per capita consumption in the same period is expected to fall from 10kg in 2018 to 9.8kg in 2030 due to the projected mismatch between population growth and projected catches.¹¹⁷ This is likely to increase dependence on imports and further undermine food security and progress on Sustainable Development Goal 2, on eliminating hunger and malnutrition.

The health of the continent's oceanic ecosystems is critical for the future economic and food security of Africa. Reinforcing the management of oceanic spaces by providing appropriate protection for sensitive areas on the basis of well-executed marine spatial plans can improve fisheries' long-term yields. A recent study of networks of marine protected areas found that a 5 per cent increase in areas under marine protection can boost future yields by more than 20 per cent.¹¹⁸ The forthcoming Convention on Biological Diversity, to be held in the second quarter of 2021, aims to coordinate global efforts in this area and ensure that at least 30 per cent of the world's oceans are protected by 2030. If African countries commit to that goal, they could reap significant benefits in terms of the size of future catches and positive spillover effects on economic growth and nutrition. The case study on South Africa highlighted in this report also examined the significant opportunities that could stem from pursuing mangrove and wetland rehabilitation, in addition to emerging techniques for vertical ocean farming, with these actions bringing a return on investment of close to 150 per cent in gross value added.

With Africa benefiting from significantly large exclusive economic zones (EEZs), the adoption of appropriate protection measures that support the achievement of Convention on Biological Diversity targets, targeted nature-based interventions and innovative technologies will help strengthen the contribution of the so-called Blue Economy to the continent's development. Figure 24 provides an overview of the largest maritime exclusive economic zones in Africa.

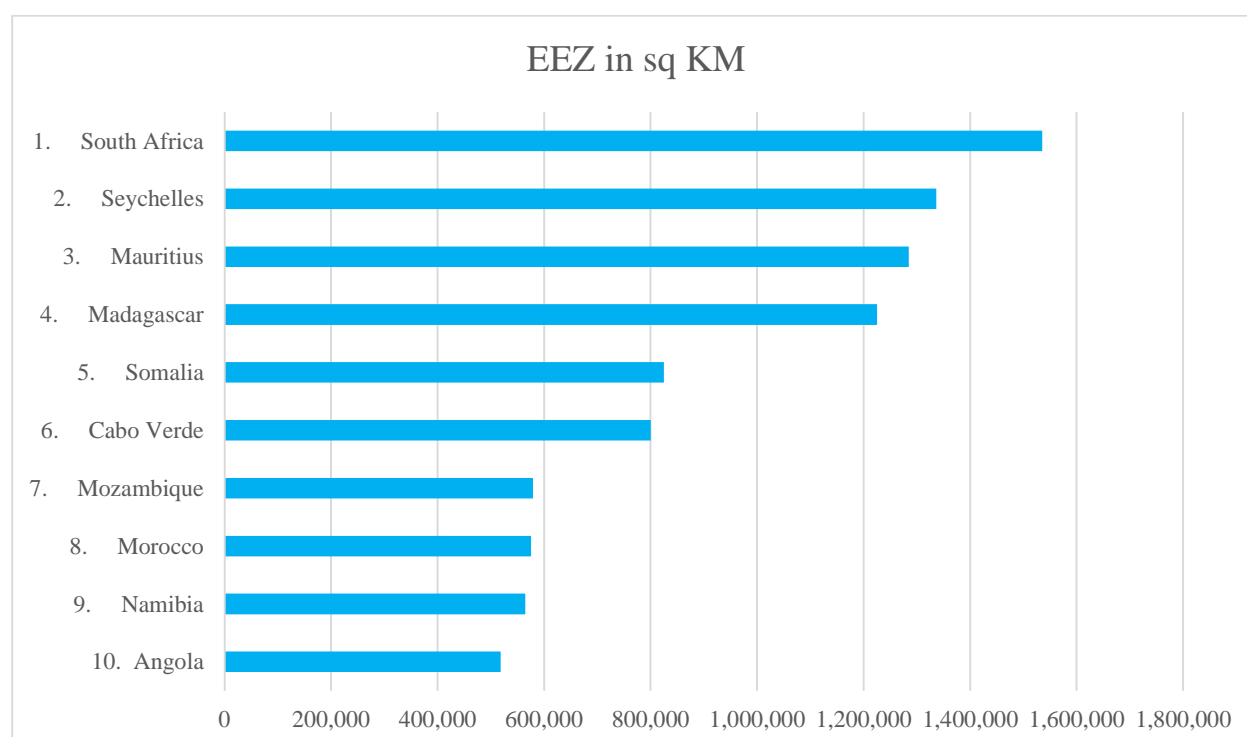
¹¹⁴For further information, see: wedocs.unep.org/bitstream/handle/20.500.11822/8545/272.pdf?sequence=3&isAllowed=y

¹¹⁵ For further information see: www.fao.org/3/a-ak995e.pdf

¹¹⁶ For further information, see: ocean-climate.org/en/awareness/the-decline-of-marine-biodiversity/

¹¹⁸ For further information, see: www.pnas.org/content/117/45/28134

Figure 24
Largest maritime exclusive economic zones in Africa



Source: ECA

In addition to the direct benefits that nature-based solutions provide, they also open the door for carbon offsets and carbon trading. Carbon offsets provide an opportunity for Africa to tap into the value of its natural assets by factoring in carbon sequestration in line with the principles enshrined in article 6 of the Paris Agreement. Carbon trading deals are already being conducted in Africa, notably in Kenya, with some success. However the lack of global monitoring, the relatively low price of carbon and limited capacity in African financial markets continue to undermine efforts to make carbon offsets and carbon trading a meaningful financial opportunity for Africa. Recent studies, however, underscore the potential positive role that carbon offsets and trading could play in the continent's development.^{119 120}

ECA is undertaking the following six capacity-building steps to foster the successful development of carbon offset programmes in Africa:

- 1) Strengthening institutional capacities to deliver on REDD-plus with a view to promoting the sustainable management of forests and sustainable land use;
- 2) Strengthening institutional capacities to integrate blue carbon considerations, particularly from small island developing States and coastal regions, into existing forest carbon pricing initiatives;


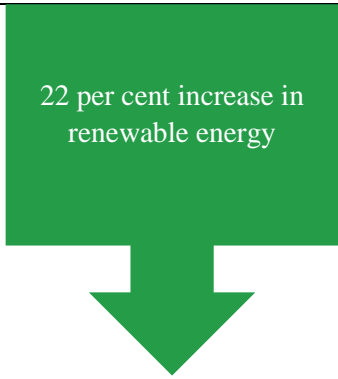

¹¹⁹ Dahlberg. *Enabling Post COVID Economic Recovery by Enabling Livelihoods in the Green Economy*, 2020.

¹²⁰ The High-Level Commission on Carbon Pricing concluded that the carbon price consistent with achieving the Paris Agreement temperature target must be at least \$40–80/tCO₂ by 2020 and \$50–100/tCO₂ by 2030, provided that a supportive policy environment is in place. The IMF has recommended a price of at least \$75/tCO₂ to achieve the goals of the Paris Agreement.

- 3) Strengthening the capacities of States to develop a common position on ambitious carbon price(s) and stimulate private sector actions across green and blue economies in the context of the Africa Continental Free Trade Area;
- 4) Strengthening the capacities of local communities of entrepreneurs and business enterprises in the area of carbon offset management across value chains;
- 5) Strengthening institutional capacities to recycle in an equitable manner the revenues deriving from carbon taxes and credits, and buffer the potential distributional effects on households, firms and economic sectors;
- 6) Strengthening the capacities of local banks to improve the functioning of carbon pricing mechanisms and markets, oversee the buying and selling of carbon credits, and accelerate the transition of States to climate-resilient blue and green economies.

Figure 25 below illustrates potential carbon offset opportunities and benefits in Africa, as estimated by ECA.

Figure 25
Potential carbon offset opportunities in Africa

 <p>4.5 million people with new access to clean cooking technologies</p>	 <p>22 per cent increase in renewable energy</p>	 <p>Forestry and agriculture adaptation and mitigation</p>
<p>\$225–\$241 million @ \$2.90–\$3.10 per tCO₂</p>	<p>\$434–\$527 million @ \$1.40–\$1.70 per tCO₂</p>	<p>\$656 million – \$1 billion @ \$3.20–\$5.10 per tCO₂</p>

Source: ECA

If a higher price for CO₂ can be set globally, then more significant resources can potentially be mobilized. It is important to bear in mind the recommendations of the High-Level Commission on Carbon Prices,¹²¹ which, in a report published in 2017, estimated that global prices needed to be between \$40 and \$80 per ton of CO₂ by 2020, and between \$50 and \$100 per ton by 2030, in order to meet the objectives of the Paris Agreement. The IMF has estimated

¹²¹ Report of the High-Level Commission is available at: static1.squarespace.com/static/54ff9c5ce4b0a53decccfb4c/t/59b7f2409f8dce5316811916/1505227332748/CarbonPricing_FullReport.pdf

that a global average price of \$75 per ton of CO₂¹²² would be needed to limit warming to 2°C above pre-industrial levels.

Carbon pricing is one of many tools that can support economic transition, as it can be used to adjust the cost of capital for projects to reflect the risk of investment in fossil-fuel intensive projects, and to price in the true cost of burning carbon, which can be politically challenging.¹²³ African countries should also consider the discussions taking place on the establishment by the European Union of a carbon border adjustment mechanism and the possibility that similar mechanisms will be established in other parts of the world. The proposed mechanism would provide for charges to be imposed on goods exported to the European Union by manufacturers operating outside the Union in parts of the world that are not subject to carbon pricing regimes.¹²⁴ This presents both a challenge and opportunity for Africa. Positioning itself as an early mover and building an industrial base on low-carbon foundations could give African exports a competitive advantage in a global market in which carbon is priced, especially if consideration is given to the principle of common but differentiated responsibilities in view of the fact that Africa is responsible for less than 4 per cent of global carbon emissions, even though it is home to 17 per cent of the world's population.¹²⁵

Proactively seizing the potential opportunities offered by carbon taxation regimes could provide new financial resources that could be leveraged to stimulate growth and accelerate the continent's energy transition. Stakeholders must, moreover, recognize that accelerated inclusive growth can be achieved through green investments, as illustrated in the results of case studies conducted in the Democratic Republic of the Congo and South Africa. Nonetheless it is imperative that carbon taxation does not become a barrier to African access to European or other markets, as this will impede the continent's development and further weaken domestic resource mobilization. The impact of carbon pricing on trade within Africa should be considered within the context of the African Continental Free Trade Area and efforts should be made to ensure that the trade within the Area complies with appropriate environmental standards and trading principles.

The outcome document of the Eighth Special Session of the African Ministerial Conference on the Environment, held in December 2020, provides, *inter alia*: “We urge the consideration of the market mechanism of the Paris Agreement in terms of raising ambition in mitigation and adaptation actions and to help to meet the cost of adaptation for developing countries, and we emphasize the need for both market-based and non-market-based approaches to ensure environmental integrity, avoid duplication and double-counting, and support fair regional distribution and inclusiveness, and we stress the importance of ensuring that there is no discrimination between the various new market mechanisms and that all the market mechanisms, in particular under articles 6.2 and 6.4 of the Paris Agreement, should channel at least 2 per cent of their proceeds to adaptation, primarily through the Adaptation Fund.”

¹²² Ian Parry, “The case for carbon taxation: putting a price on pollution”, IMF, December 2019. Available at: www.imf.org/external/pubs/ft/fandd/2019/12/the-case-for-carbon-taxation-and-putting-a-price-on-pollution-parry.htm

¹²³ Encompass, “French carbon tax and the Gilets Jaunes”, February 2019. Available at: encompass-europe.com/comment/french-carbon-tax-and-the-gilets-jaunes

¹²⁴ Johanna Lehne and Oliver Sartor, “Navigating the politics of border carbon adjustments”, E3G, September 2020. Available at: 9tj40250153byww26jdkao0x-wpengine.netdna-ssl.com/wp-content/uploads/E3G-Briefing-Politics_Border_Carbon_Adjustment.pdf

¹²⁵ African Climate Policy Centre on the basis of World Resources Institute data, 2020.

A consistent African position, supported by its partners, on climate change, carbon taxation and offsets at the twenty-sixth session of the Conference of the Parties to the United Nations Framework Convention on Climate Change will be key to unlocking those financing perspectives. By prioritizing nature-based solutions and advocating for a fair developmental price for carbon at the Conference of the Parties, further resources for the continent's green recovery can be mobilized.

Extractive industries: Time for a reset and a transition towards sustainable systems in Africa

African natural resources also include extensive reserves of fossil fuels and minerals. Those sectors, in particular, need a reset if they are to address the needs of the people of Africa.

Extractive industries remain the main source of energy in Africa, with coal, oil and natural gas accounting for 81 per cent of the continent's total primary energy supply. Exports of oil, natural gas and minerals account for 70 per cent of the continent's exports and 50 per cent of its revenue.¹²⁶ Despite the enormous potential of extractive industries, most African countries have historically been unable to benefit from their natural resources. Much of the revenue generated from the extractive industrial sector is diverted as a result of illicit financial flows, with an estimated \$50 billion leaving the continent illicitly each year.¹²⁷ Those losses are equivalent to 3 per cent of the continent's annual GDP, 60 per cent of the \$84.4 billion Africa received in remittances in 2018, and slightly higher than the continent's total official development assistance, which stood at \$46.3 billion in 2018. In the context of COVID-19, which has resulted in plunging financial flows, reduced revenues and surging and unsustainable debt burdens, extractive industries provide an opportunity for vulnerable countries to inject much-needed liquidity into their economies to cover health and social expenditures and avoid insolvency.

Africa's disproportionate dependence on extractive industry exports is a major vulnerability. It exposes the region to the vagaries of commodity prices, such as the 2020 plunge in oil prices.¹²⁸

Building forward better from the unprecedented COVID-19 pandemic provides a historical opportunity for Africa to reassess how it uses its natural resources so as to promote more sustainable, equitable and inclusive development. African major fossil fuel producers must counter their vulnerabilities by adding value to the commodities they extract and by diversifying their energy sources and export base. This will help them promote resource-based industrialization as a strategy for creating jobs, inclusive growth and the sustainable use of natural resources. Countries should promote green industrialization and divest away from fossil fuels and move towards an economy that thrives on value addition.

¹²⁶ International Energy Agency, *Global Energy Review 2020*, April 2020. Available at: www.iea.org/reports/global-energy-review-2020

¹²⁷ Dev Kar and Joseph Spanjers, *Illicit Financial Flows from Developing Countries: 2004-2013*, Global Financial Integrity, December 2015. Available at: http://www.gfintegrity.org/wp-content/uploads/2015/12/IFF-Update_2015-Final-1.pdf

¹²⁸ For further information see: www.statista.com/statistics/262861/uk-brent-crude-oil-monthly-price-development/

Transition dynamics towards a low-carbon economy are complicated by the fact that Africa is both a heavily endowed region with respect to resources, but severely deprived in terms of access to clean, affordable and sustainable energy. With the continent's population of 1.2 billion projected to double by 2050, economic growth and the demand for energy are likely to surge. While energy demand across the region is expected to double by 2040, there is a risk that, by 2050, \$1.3 trillion could be “stranded” across the world.¹²⁹ As several African countries remain heavily reliant on exports of their natural resources in order to foster development and lift millions out of poverty, the issue of “stranded assets” could pose a colossal challenge if those countries do not prepare for that eventuality, particularly as the world is moving towards a net-zero pathway.

Global fossil fuel consumption subsidies, which were estimated at more than \$300 billion in 2017,¹³⁰ are a major barrier that continues to impede the transition to low-carbon and sustainable economic development. Subsidies reduce the amount of resources that can be allocated to other, more efficient sectors, including renewable energy; and they decrease the competitiveness of low-carbon projects. African countries should therefore emulate Morocco and eliminate their fossil fuel subsidies.

At the same time, the transition to low-carbon technologies is a major opportunity for some African countries, as those technologies depend on the extraction of “green economy minerals”. These include cobalt, nickel copper, iron, lithium, graphite and other rare minerals that are used to produce inputs for wind turbines, solar panels and batteries. These minerals are found in a number of African countries, including Congo, the Democratic Republic of the Congo and Zambia. The Democratic Republic of the Congo, for example, produces 70 per cent of global cobalt.¹³¹ Those countries can exploit growing demand to further sustainable development. Indeed, the World Bank has concluded that, as demand for clean energy technologies rises, the production of certain minerals, including graphite, lithium and cobalt, could increase by close to 500 per cent by 2050, and could reach over 3 billion tons of minerals and metals for wind, solar and geothermal power, as well as energy storage, all of which will be required in order to keep global warming below the 2°C threshold.¹³² African countries need to make vital policy decisions to leverage those dynamics. They also must seek to promote “climate-smart” mining technologies that use renewable energy, minimize waste generation and restore degraded land.

As African countries need significant financial support to recover from COVID-19, they should focus on their extractive industries through the lens of good governance and greater sustainability and should seize the opportunity to recover better by aligning their extractive industries with the Sustainable Development Goals, the Paris Agreement and Agenda 2063 of the African Union. COVID-19 stimulus packages and international finance can provide much-

¹²⁹ United Nations University-Institute for Natural Resources in Africa (UNU-INRA), *Africa's Development in the Age of Stranded Assets*, 2019. Available at: i.unu.edu/media/inra.unu.edu/publication/5247/Discussion-paper-Africas-Development-in-the-age-of-stranded-Assets_INRAReport2019.pdf>

¹³⁰ International Energy Agency, *Global Energy Review 2020*

¹³¹ World Economic Forum, “Making Mining Safe and Fair: Artisanal cobalt extraction in the Democratic Republic of the Congo”, September 2020. White Paper. Available at: www.weforum.org/whitepapers/making-mining-safe-and-fair-artisanal-cobalt-extraction-in-the-democratic-republic-of-the-congo

¹³² World Bank, “Minerals for Climate Action: The Mineral Intensity of the Clean Energy Transition”, 5 July 2020. Available at: pubdocs.worldbank.org/en/961711588875536384/Minerals-for-Climate-Action-The-Mineral-Intensity-of-the-Clean-Energy-Transition.pdf

needed support to producing countries, including those that are still heavily reliant on coal and other fossil fuels, with a view to promoting a just global energy transition and a net-zero future.

Markets and financial systems – developing domestic markets will enhance African resilience

The impact of the COVID-19 outbreak on financial markets around the world has been devastating, with uncertainty and increased volatility across equity and debt markets.¹³³ Global financial panic and stock market slumps have affected major African financial markets, which have witnessed fluctuating commodity prices, falling bond prices, declines in market capitalization; downgrades by rating agencies, currency devaluation pressures and massive capital flight. For example, the main index of the Egyptian Stock Exchange, EGX30, declined by more than 30 per cent when the pandemic hit the continent in February and March 2020.¹³⁴ Strengthening the resilience of the African financial sector to mitigate and recover from the negative impact of the current pandemic or other external shocks has become critical. In fact, strong and sound financial markets provide a degree of economic support and improve financial resilience.

The current state of African financial markets – small, underdeveloped, with few investment banks, and underdeveloped capital markets – restricts access to credit and curbs investment. There are, however, significant opportunities for African countries to deepen their capital markets, attract private capital and leverage climate financing. These include: creating an enabling business and investment environment that will crowd in private sector and other financial market participants, including asset managers, insurance companies, investment banks and sovereign wealth and pension funds; reducing interest rates and equity, currency and commodity risks; and diversifying the investor base and increasing investors' participation in monitoring, price regulation and transfer functions. Here again the launch of the African Continental Free Trade Area provides opportunities for African capital markets to expand by creating enlarged and more competitive markets, and by attracting further investment that can help boost productivity.

Another necessary step for the development of sound financial markets in Africa is a well-functioning debt market, including the market in government and corporate bonds.¹³⁵ ECA estimates that Africa issued some \$200 billion in sovereign bonds in 2019, and that sovereign bonds account for more than 80 per cent of all outstanding debt in Africa.¹³⁶ The African corporate bond market remains underdeveloped, with very low capitalization, and corporate bonds tend to be issued by companies in a limited number of countries, namely Mauritius (49 per cent corporate-debt-to GDP in 2019), South Africa (38 per cent) and Morocco (39 per cent). In contrast, corporate debt in China and Malaysia in 2019 stood at 133 per cent and 71 per cent of GDP, respectively.¹³⁷ Although bond markets are generally perceived as less risky than equity markets and provide more predictable and stable financing instruments for climate

¹³³ ECA, *Economic Report on Africa 2020: Innovative Finance for Private Sector Development in Africa*. Addis Ababa,

¹³⁴ ECA, *Economic Report on Africa 2020: Innovative Finance for Private Sector Development in Africa*, December 2020. Available at: www.uneca.org/sites/default/files/fullpublicationfiles/ERA_2020_mobile_2020_1213.pdf

¹³⁵ International Finance Corporation, "Spotlight: Capital markets in Africa", 2020. Available at: www.ifc.org/wps/wcm/connect/news_ext_content/ifc_external_corporate_site/news+and+events/news/insights/africa-capital-markets

¹³⁶ ECA, *Economic Report on Africa 2020: Innovative Finance for Private Sector Development in Africa*

¹³⁷ IMF, 2019 Global Debt Database. Available at www.imf.org/external/datamapper/datasets/GDD

change and adaptation, there are limits to their resilience in many African countries, especially given the limited size and maturity of African debt markets. As with other financial sectors, the COVID-19 pandemic has negatively affected African debt markets, with many governments finding it difficult to service their debts and requiring DSSI support.

The impact of the pandemic resulted in 11 African countries, namely Angola, Botswana, Cameroon, Cabo Verde, Ethiopia, Gabon, Nigeria, Seychelles, Tunisia, South Africa and Zambia, being downgraded by credit rating agencies during the first half of 2020. South Africa was the first African country to be downgraded in the midst of the pandemic in March 2020, increasing government borrowing costs. Sovereign downgrades reduced investors' appetite for risk and depressed bond prices. According to a recent report from the African Peer Review Mechanism, 12 Eurobond issuances were directly affected by sovereign downgrades and Angola, Benin, Côte d'Ivoire, Nigeria, and South Africa all had to abandon plans to issue Eurobonds as yields almost doubled.¹³⁸ To address the financial challenges they face, African countries must make every effort to enhance liquidity and increase investors' appetite for African sovereign and commercial debt by adopting well-targeted policies to promote debt consolidation and strengthen the resilience of their domestic financial systems.

Properly structured capital markets can allow sovereign, corporate, and sustainability bonds to be issued in local currency, hence reducing foreign exchange risks. African countries can also facilitate investment approaches such as long-term and environmental, social and governance investing. Supporting their capital markets will create opportunities to attract investors, and mobilize private capital for financing infrastructure development, climate change adaptation and large-scale economic recovery activities. At the same time, the huge sums needed for infrastructure development in Africa mean that countries have an opportunity to attract large institutional investors seeking the stable returns that infrastructure and green investments can offer. To address their rising debt obligations or their difficulties in servicing existing debts, and to meet their financing needs for a green post-COVID-19 recovery, African Governments can use innovative forms of debt swaps, namely cancelling an existing debt contract with a creditor or reducing a debt's original value and, in exchange, invest part of the cancelled or reduced debt in development projects agreed upon with the creditor. One such innovation was the Seychelles climate adaptation debt swap, undertaken in 2015, which allowed the Seychelles Government to convert its \$21.6 million debt into investments in coastal protection and adaptation. This debt-for-nature swap arrangement enabled the Seychelles Government to mobilize \$15 million in private investment and save over \$8 million in interest charges over 10 years.¹³⁹ The financial resources raised have been used to implement the country's Marine Spatial Plan for the Seychelles Exclusive Economic Zone, an area 3,000 times its landmass, and the conservation of 400,000 km² of its marine area. Box 3 provides details on other sustainability bond initiatives in Kenya, Morocco, Seychelles and South Africa.

In order to crowd in such investments, improved governance is key, both in creating an environment in which investors trust market mechanisms and their ability to deliver positive long-term returns. Efforts in that regard must, however, go hand in hand with efforts to improve governments' ability to raise revenues and increase savings opportunities through job creation, which in turn can bolster domestic financial resilience. Efforts must be made to help

¹³⁸ African Peer Review Mechanism, "African Sovereign Credit Rating Review: Mid-Year Outlook", 2020.

¹³⁹ Global Center on Adaptation, "Adaptation Finance in the Context of Covid-19: The Role of Development Finance in Promoting a Resilient Recovery", 2021. Available at gca.org/reports/adaptation-finance-in-the-context-of-covid-19/

governments broaden the tax base in order to foster sustainable development and bolster investor confidence. In that regard, it should be noted that, at present, only four out of five African countries raise sufficient funds to cover their basic development needs,¹⁴⁰ while the continent's tax base to GDP ratio has been declining since 2013.¹⁴¹

In developed economies, capital markets finance the economy by allowing domestic firms to raise funds, and they mobilize domestic savings by offering a variety of instruments through which investors can diversify their portfolios. Africa's green recovery offers the promise of job creation, higher savings rates and the channelling of savings into investments and more innovative ways to save, including in stocks and bonds. Enhanced local markets, supported by improvements to local enablers such as last-mile infrastructure, domestic banking and simplified permitting, can leverage those benefits, enhance resilience, and broaden the formal economy and tax base for African countries.

Developing innovative financial markets must be accompanied by efforts to ensuring inclusive growth through trade under the African Continental Free Trade Area. Investments should be geared towards encouraging local entrepreneurs to participate in the recovery, as well as the sourcing from local and regional markets to ensure that the positive spillovers from the recovery deliver maximum impact within the African region. Less than 20 per cent of exports stay within Africa, compared to over 60 per cent in the European Union. Diversifying away from resource extraction, with raw materials exported for processing overseas, to local and regional processing will help create more resilient economies. Combining the sustainable sourcing of new resources such as those required for the twenty-first century economy, including lithium, cobalt and manganese, coupled with local processing and industrialization will boost economic resilience and create quality jobs.

¹⁴⁰ International Finance Corporation, "Spotlight: Capital markets in Africa",

¹⁴¹ ECA, *Financing Africa's Recovery in the Context of Elevated Debt*, 2020.

Box 3: Innovation in African bonds

Morocco: \$118 million green bond for solar power (2016). This bond, was Green Bond Principles certified and issued to finance three solar energy projects in Morocco. The bond was issued in local currency and guaranteed by the Moroccan Government. It was completed through private placement to local banks with the authorization of the Moroccan Authority of Capital Markets.

Seychelles: \$15 million “blue bond”, financed by private institutional investors (2018). In 2018, Seychelles issued a sovereign “blue bond” for \$15 million to support marine conservation and fishery projects. The bond was the first green bond earmarked for marine conservation. Although the total amount raised was small, the bond illustrates the ability of policymakers to partner with development agencies and private institutional investors to deliver innovative green bonds. The World Bank provided technical assistance, and the project was co-managed by the Development Bank of Seychelles and a leading conservation trust. The sovereign credit risk was also partially guaranteed by the International Bank for Reconstruction and Development, with concessional loans made to cover interest payments. Private investors included the socially-responsible investor Calvert Impact Management. Mainstream institutional investors, including the Teachers Insurance and Annuity Association and Prudential Financial, also participated.

Kenya and South Africa: \$50 million Rhino Bond (2019). The proceeds of a \$50 million five-year impact bond will be used for a black rhino conservation project in Kenya and South Africa. The proceeds are used for conservation with targets set for increases in the rhino population. If the targets are not met the investors take losses, and if they are met the investors are paid back their capital and a coupon. The bond was arranged by Conservation Capital and the Zoological Society of London. Investors included donors and clients with philanthropic investment goals. The bond was not Green Bond Principles certified.

Source: Economic Report on Africa, 2020.

To deliver transformation, an economy-wide effort is required to reset the continent’s growth model

Africa needs a green recovery plan that supports the whole economy in order to position itself for growth in the future. The green recovery plan needs to be tailored to the needs of individual countries. A first step must be to consider how fiscal risks associated with climate change will affect African economies. As the world moves towards mandatory climate risk disclosures, and as the cost of carbon begins to be reflected in asset pricing, Africa has the opportunity to take first-mover advantage by avoiding expensive investments that run the risk of becoming uneconomic in the medium term, even if today they might look attractive based on historical trends and growth models.¹⁴² At the same time, this offers an opportunity for the continent and its partners to proactively value African natural assets and carbon sinks.

¹⁴² Fitch Ratings, *Climate Change 'Stranded Assets' Are a Long-Term Risk for Some Sovereigns*, 15 February 2021. Available at: www.fitchratings.com/research/sovereigns/climate-change-stranded-assets-are-long-term-risk-for-some-sovereigns-15-02-2021

The lasting impact of the stimulus will be determined by the quality of governance

The strength of the recovery depends in part on the quality of governance of earmarked funds. ECA estimates that a difference between above average and below average governance can translate into a differential of 1 percentage point of GDP in the impact of any stimulus.

Promoting public participation and citizen ownership of recovery programmes could help improve transparency and increase confidence in how resources are being spent. These approaches could be allied with technical innovation such as ring-fencing stimulus funds to facilitate tracking and reporting. Well-planned support for a recovery and a reset, developed and fully owned by African countries, can have a multiplier effect and provide more than just financial support for initial projects. The quality of governance is not only about transparency in reporting the use of funds, but also about ensuring that funds are invested in ways which maximize multiplier effects. Hence, by ensuring that such a recovery prioritizes short supply chains and that domestic entrepreneurs can access initiatives, support packages can unlock Africans' entrepreneurial spirit and allow African businesses to thrive.

Recognizing the increasing desire by institutional investors to align their own investment strategies with the goals of the Paris Agreement, attracting new investment through innovative financing vehicles will also require that compliance with the Agreement is taken into consideration in the priority projects being identified for Africa's green recovery. Significant work has been undertaken to this end by ECA through its SDG7 initiative, which places particular emphasis on the governance pillar of structuring projects, both from the perspective of financial goals and in terms of reducing the carbon footprint of energy generation.

The enhanced traceability of trade architecture under the African Continental Free Trade Area can also play a key role in improving the governance of stimulus finance for a green recovery.

In an analytical study conducted by Oxford University and Vivid Economics, in partnership with ECA, researchers demonstrated how green investments can create jobs and foster economic gains in the short term, unlock greater development opportunities in the medium to long term, and ensure better environmental and social outcomes. Using South Africa and the Democratic Republic of the Congo as examples, the case studies show clear immediate and long-term benefits to pursuing green investments in terms of jobs created, reduced emissions and better health outcomes. The study found that prioritizing three policy areas, namely investment in renewable energy, low carbon emission transport, and nature-based solutions, could create jobs in both the immediate and the long term while adding higher gross added value than did investments in fossil fuel-based sectors.

Sustainable development in an industrial economy – the case of South Africa

Investment in green initiatives could bring up to 250 per cent more jobs in the short term and as much as 420 per cent greater economic value in the long term compared to traditional fossil fuel-based alternatives. Green spending could help South Africa simultaneously address the COVID-19 economic downturn, reduce carbon emissions, and transition to a strong and resilient long-term growth pathway. Building on the green aspirations set out in the South African Economic Reconstruction and Recovery Plan, there is robust evidence to suggest that South Africa could use bold new green investments to swiftly create jobs, increase GDP, and improve social and environmental prosperity.

COVID-19 has intensified existing weaknesses and fragilities. The South African economy has been hit hard by the COVID-19 pandemic, with GDP contracting by 51 per cent in the second quarter of 2020.¹⁴³ Despite signs of a rebound, a new COVID-19 variant and the start of a second wave of infections in December 2020 caused further economic woe, and economists predict that the country may not fully recover until 2025.¹⁴⁴ Pre-existing inequalities along income, racial, and gender lines continue to worsen. As the world reacts to the climate crisis, South Africa's heavy reliance on a dying fossil fuel industry may jeopardize its recovery prospects. As the most emission-intense top 50 economy (on a GDP basis), for South Africa the realities of climate change demand a rapid shift from a fossil fuel-driven economy to an economy that relies on clean energy for growth and resilience.¹⁴⁵

Countries with a wide range of economic profiles have carried out unprecedented fiscal spending to address the immediate health and economic consequences of the COVID-19 crisis and provide a stimulus to enable economic recovery. The Global Recovery Observatory, established by the Oxford University Economic Recovery Project in collaboration with the Green Fiscal Policy Network, has tracked all announced fiscal expenditure by the world's 50 largest economies and assessed policies for their economic, environmental, and social impacts. The Observatory has tracked the more than 600 billion South African rand announced by the South African Government in 2020.

The bulk of announced spending in South Africa was contained in a single 500 billion rand package released in April 2020, which consisted, primarily, of short term rescue-type measures to meet the immediate needs stemming from the crisis. The package included spending to bolster the health-care system and to prevent virus transmission, as well as several support measures for individuals and businesses, such as tax deferrals, loan guarantees, direct payments to individuals and unemployment insurance. Among those measures was also a deferral of carbon tax payments. In October 2020, President Ramaphosa announced the Economic Reconstruction and Recovery Plan, which aims to achieve economic recovery largely through infrastructure investment. Projects are expected to cover a variety of sectors, including transportation, energy, sanitation, and agricultural development. The Plan provides for a green focus, although details on its implementation methodology are not yet available.

Green stimulus to catalyse future prosperity. Although South Africa has made more significant rescue-type investments to address the health and economic crises than other African

¹⁴³ For further information see: www.sanews.gov.za/south-africa/gdp-contracts-51-under-lockdown

¹⁴⁴ For further information see: www.za.undp.org/content/south_africa/en/home/library/socio-economic-impact-of-covid-19-onsouth-africa/

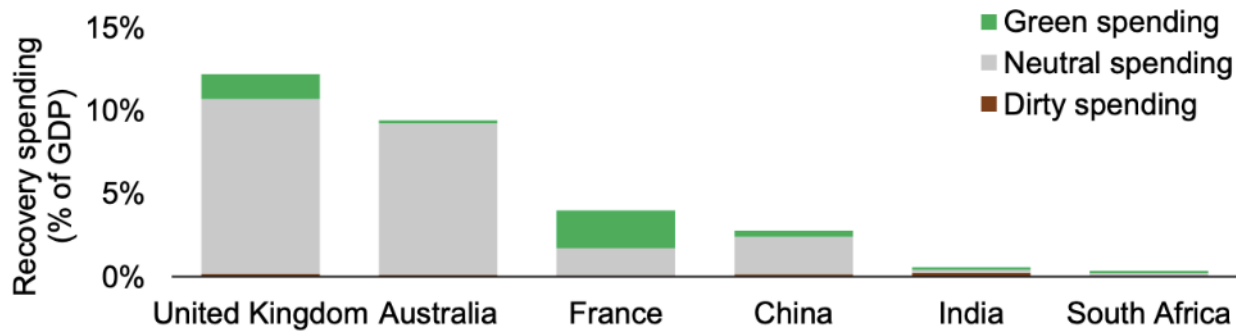
¹⁴⁵ Ibid.

countries, its recovery spending is still far less than that of certain high-income countries. Figure 26 illustrates the difference in the size of South Africa’s recovery spending compared to other major economies. In part, those differences are explained by significantly lower fiscal space and higher costs of finance in South Africa compared to the costs in other States. Figure 27 illustrates the breakdown of green spending in advanced, emerging and developing countries.

Other economies have also devoted many more financial resources to a green recovery than South Africa. There is, however, an opportunity for the South African Government to refocus on sustainability and prosperity in its future stimulus spending. Policies that consider environmental outcomes and promote a shift away from a fossil-fuel driven economy are likely to be most effective.

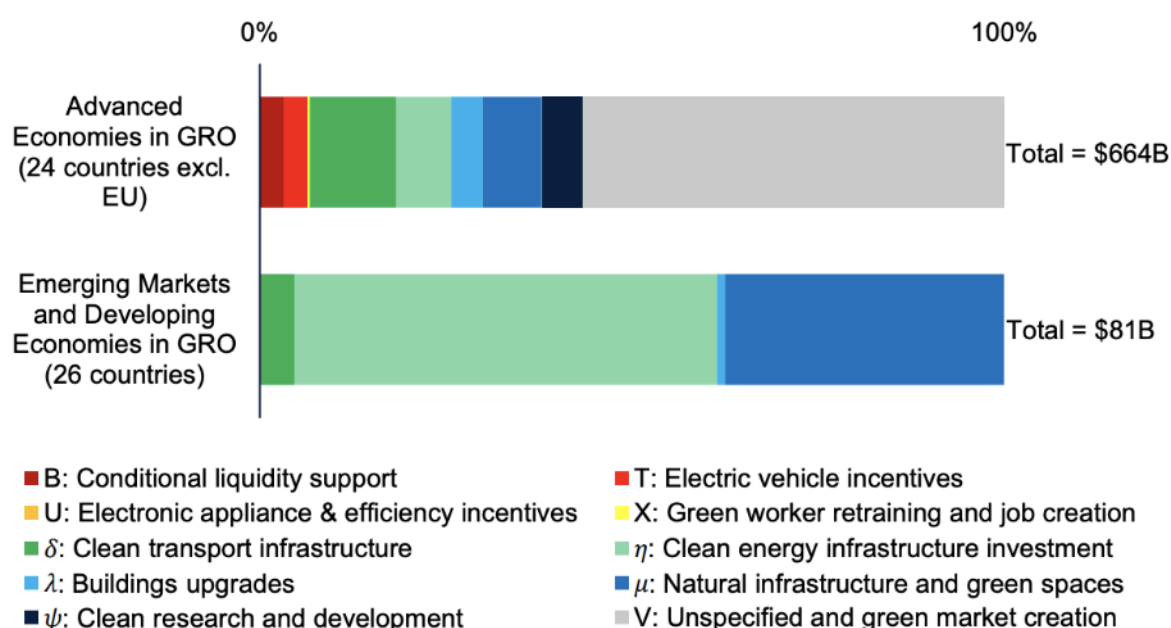
Of course, an inability to access affordable finance can significantly limit the ability to fund any level of recovery spending. A failure to mobilize recovery investments not only threatens to exacerbate domestic poverty for decades, but also threatens to curb global growth and social prosperity. Domestic resources alone may be insufficient to enable those investments and financial support from international partners and development agencies will help ensure that significant opportunities are not missed.

Figure 26
Composition of global recovery spending, selected countries



Source: Global Recovery Observatory

Figure 27
Breakdown of green spending, 2020



Source: Global Recovery Observatory

Priority policy recommendations. Economic modelling suggests that, by directing spending towards green investment initiatives, South Africa could secure a more jobs-intensive recovery while reinvigorating economic growth and making substantial progress on its climate commitments. Figure 28 illustrates the relative job creation potential of different green investment opportunities in the short and long term, as well as their impact on gross value added. Using input-output analysis, the research team found that all modelled policies support economic recovery through the generation of jobs. Green policies delivered greater numbers of jobs within the next five years than traditional alternatives in all sectors, however. Additionally, green investments will provide for a greener future by reducing emissions.

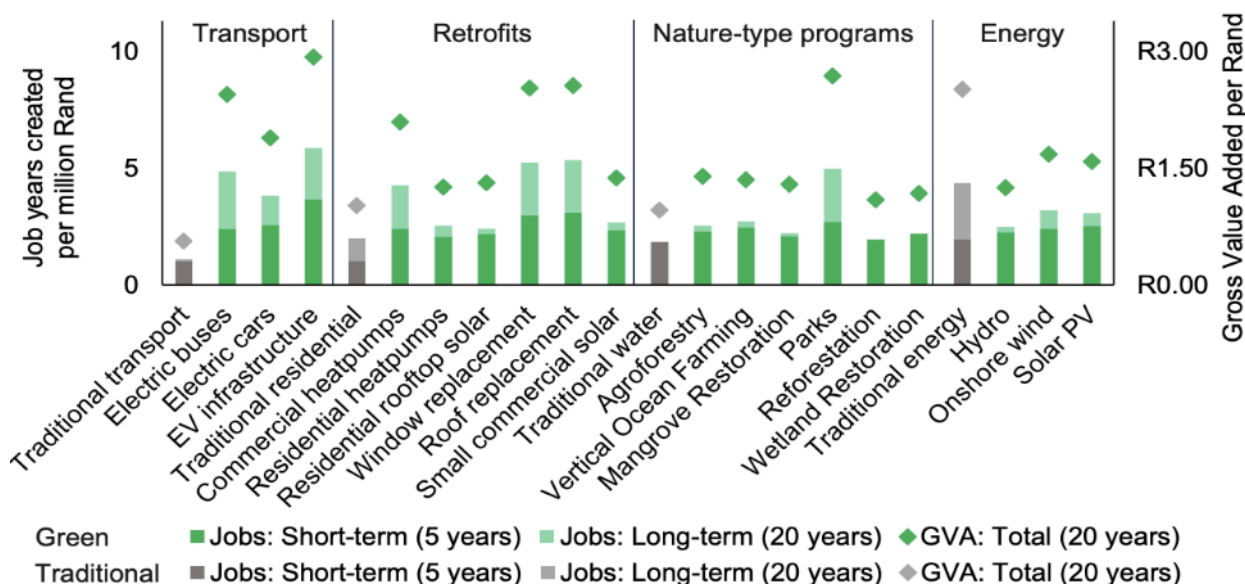
With many competing priorities for government spending in South Africa, including health care and poverty alleviation, the social co-benefits of green spending are another significant attraction. Transitioning from burning fossil fuels to using renewables for energy needs can dramatically improve air quality, significantly lighten the burden on health-care providers and save lives. This is true in electricity, transport and materials production. Additionally, strategic and well-designed green investments can be targeted to low-income households and vulnerable groups, potentially reducing poverty and cutting inequality. Global action against climate change can limit environmental system change and disaster risks, both of which disproportionately impact the poor. Finally, green investments can and should be paired with health and education infrastructure programmes and agriculture support initiatives. For example, a roll-out of new school infrastructure should include rooftop solar solutions for the provision of electricity and agricultural uplift activities should promote efficient and sustainable farming practices.

Green stimulus measures have been shown to provide short term economic gains and build national wealth over the long term compared to business-as-usual stimulus measures. Green stimulus measures could bring governments a hat-trick of wins: capturing economic stimulus effects in the short term, securing new growth pathways in the medium term, and

mitigating environmental degradation in the long term. Economic modelling highlights the short-term strengths of green spending over traditional alternatives in recovery.

Figure 28

The impact on job growth and gross value added of green spending policies (average) compared to traditional spending measures in South Africa¹⁴⁶



Using these findings as a starting point, wider analysis suggests that three priority investment actions should be carefully considered in 2021. Those three actions are discussed below. Compared to traditional stimulus investments, those actions are expected to generate large long-term economic multipliers, create sustainable jobs, promote the decarbonization of the economy, and bring about many supplementary social and environmental benefits.

The three priority green investment actions are:

- Renewable energy investment.** The South African energy system is heavily reliant on coal, which generates 90 per cent of the country's electricity. A shift toward renewable power generation is already underway, but at an insufficient pace. The Renewable Energy Independent Power Producer Programme, launched in 2011, has led to the procurement of 3,625 MW of large-scale renewable

¹⁴⁶ Modelling is based on current sector dynamics and is therefore likely to significantly overstate the long-term gross value added of traditional (fossil) investment and understate the gross value added of green energy. For fossil investment, stranded asset risk could significantly reduce the asset lifespan, and for clean investment, new cheap clean energy is likely to unlock new investment in adjacent areas, such as electric transport, artificial proteins and sustainable material production. Finally, even if fossil assets were to serve a full working life, continued reliance on coal would support carbon emissions unacceptably. Traditional investments are defined as follows: transport includes improvements to the road network, including laying new road and constructing accompanying road infrastructure, such as interchanges and bridges; residential includes housing development, including the building and maintenance of traditional housing stock; nature includes water treatment facilities, including the construction and operation of waste-water treatment facilities; and energy includes ultra-supercritical coal energy generation without any carbon capture technology.

capacity,¹⁴⁷ yet this only begins to address the country's energy needs. The National Development Plan 2030 requires the decommissioning of 35 GW of ageing coal-fired plants (out of 42 GW currently operating), while also ensuring that growing energy needs are met by increased renewable energy provision, with at least 20 GW of new renewables needed by 2030.

Managed well, energy transition could generate new jobs and promote sustainable, inclusive growth. Modelling suggests that investments in renewable energy could create more jobs in the short term than investment in traditional energy projects. This short-term advantage is particularly relevant in the context of economic recovery. The modelling suggests the same trend for renewable investment in terms of gross value added in the short term. Renewable energy investments that displace coal assets are also likely to bring significant health benefits through reduced air pollution, enhance social wellbeing through fewer blackouts and load shedding, and reduce electricity costs in the long-term if a least-cost roadmap is followed.

However, these benefits will not come automatically. Policy makers must target their efforts to secure a just transition that addresses questions of fairness in labour markets and regional changes. For example, policymakers in Mpumalanga must consider how to transition the more than 80,000 workers who are directly supported by the coal industry,¹⁴⁸ and must therefore address significant potential adjustment issues as workers are required to move across sectors and locations. These challenges were acknowledged by the 2017–19 National Planning Commission on Just Transition and the country's 2015 nationally determined contribution, in which the South African Government emphasized that “an inclusive and just transition requires time and well-planned low-carbon and climate resilient development”.¹⁴⁹ Changes could be supported with investments in human capital. In that regard, targeted training programmes could ensure that recovery spending supports a just energy transition and a long-term shift towards a sustainable growth path.

Renewable energy industries would benefit from significant public support in forthcoming stimulus packages. An expanded renewable energy asset base could bring significant additional benefits beyond its contributions as economic stimulus. Shifting away from coal towards renewable electricity production could significantly reduce air pollution, bring energy market security, and ensure long-term price stability. Investments in nuclear energy are not advised in a recovery context as they are hamstrung by long planning cycles, meaning that real economic benefits would be minimal in a COVID-19 recovery time frame. Investments in wind and solar have a comparatively fast implementation time line. Investments in hydrogen technologies could supplement renewable generation investments and perhaps support the development of a domestic industry that uses South Africa's significant platinum reserves to manufacture hydrogen fuel cells for export.

Stronger public incentives for renewable energy investment could mobilize both international and domestic finance. Private capital managers both inside and outside the country are demonstrating an increasing appetite for renewable energy investments. In South Africa,

¹⁴⁷ For further information, see: www.iea.org/policies/5393-renewable-energy-independent-power-producer-programme-reipp

¹⁴⁸ For further information, see: www.climateworks.org/report/achieving-a-just-and-sustainable-economic-recovery/

¹⁴⁹ For further information, see: oneworldgroup.co.za/oneworld-projects/pathways-to-a-just-transition-in-south-africa-2017-2019/

this has precipitated four rounds of oversubscribed Renewable Energy Independent Power Producer Programme bid windows since 2011. To date, 80 per cent of Renewable Energy Independent Power Producer Programme investments have been made by domestic players and interest in a fifth bid window is strong.¹⁵⁰ International finance could come through similarly interested private institutions and/or development finance institutions. This may be particularly relevant for funding newer or unproven technologies with higher perceived risks due to weak domestic credit and/or capital markets.

- **Electric vehicle investments.** Investments in electric vehicles and related infrastructure, such as charging stations, could deliver strong returns for South Africa, providing swift economic stimulus and environmental and social co-benefits. The Automotive Masterplan 2020 seeks to expand the country's automotive sector so that South Africa becomes a regional hub, doubling employment from 120,000 to 240,000 and increasing domestic vehicle production to 1 per cent of global output, of which 20 per cent will be electric vehicles, by 2030. Increased global ambition in the electric vehicle transition suggests that the 20 per cent target should be increased significantly. Although the COVID-19 pandemic has introduced pressures to slow the introduction of the Automotive Masterplan, recovery spending provides the ideal opportunity to renew focus.

Several key policy adjustments may help accelerate the transformation of the South African automotive industry. First, current investment incentives for firms to help direct capital to electric vehicle production are based on pre-pandemic production numbers. The economic impact of the pandemic has threatened balance sheets and the size of incentives should be reassessed to ensure that firms are able to invest in new technologies and deliver on growth targets. Second, electric vehicles are currently costly for consumers, limiting the size of the market for producers. Taxes on internal combustion engine vehicles, or the purchase of electric buses to replace old stock, would help increase the relative size of the local electric vehicle market and support manufacturers through greater demand. Finally, electric vehicles rely on local charging infrastructure, including sufficient numbers of reliable charging stations. Dense urban areas can support the early roll-out of such infrastructure, particularly for buses. These programmes may require private partnerships and potentially co-financing with local and/or regional governments.

- **Natural capital investment.** Investment in natural capital and green spaces could bring significant benefits for South Africa across economic, environmental, and social dimensions. The tourism sector, which provides 3 per cent of GDP, has been one of the worst affected industries during the COVID-19 pandemic. Investment in green spaces and environmental restoration has the potential to bolster this industry significantly in the long term. Compared to traditional stimulus opportunities, natural capital investments also tend to create a high number of jobs per dollar invested and can usually be implemented relatively quickly, providing an immediate stimulus for the economy. These policies tend to be characterized by low leakage of funds outside the domestic economy, as imports are minimal and labour spending is high. Investment in green spaces, afforestation efforts and environmental restoration have also been shown to improve air quality appreciably and significantly improve health outcomes.

¹⁵⁰ For further information, see: www.greencape.co.za/assets/RENEWABLE_ENERGY_MIR_20200330_WEB.pdf

Options for investment in South Africa in that regard include:

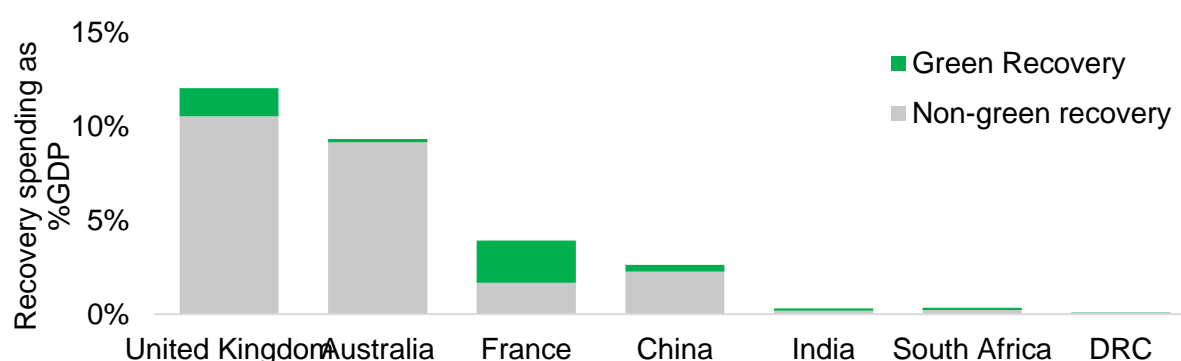
- **Agroforestry:** introduction of trees into current or potential pastureland to raise livestock or the creation of areas for foraging in a manipulated forest environment. Agroforestry and habitat restoration can decrease the likelihood and severity of droughts by improving soil water retention, slowing water loss, and regulating water flow. Agroforestry efforts can also improve shading, decreasing livestock loss due to heat stress.
- **Wetland restoration and mangrove restoration:** rehabilitation of mangroves and wetlands includes planting, hydrologic restoration, and dredging/filling of existing mangrove forests or expanding the extent of mangrove inlands, creating water control structures, and reversing drained wetlands. This stabilizes coastlines, buffers against extreme weather events, and reduces the risk of soil erosion while also sequestering carbon.
- **Reforestation:** re-establishing natural forests, planting more native species, or increasing the density or extent of an existing forest. Well-managed, consultative, and participatory reforestation can enhance wildlife habitats, support biodiversity, protect water supplies, develop recreational opportunities, and help address numerous issues associated with climate change, including through carbon sequestration.
- **Vertical ocean farming:** a subcategory of aquaculture, combining plants (seaweed and sea vegetables), fish, and molluscs into the same system of production in saltwater through either floating or bottom-attached farms. Supply chain interventions such as agroforestry and vertical ocean farming can improve food security and resilience to food shortages and disruptions and diversify production, and can shorten the length of supply chains.

From extraction to sustainability – the case of the Democratic Republic of the Congo

The Democratic Republic of the Congo now has an opportunity to establish itself as a true global leader on climate and the environment. Spending green now could bring significant short-term recovery advantages, as well as long-term development opportunities, all while making progress against climate change and other environmental challenges. For the Democratic Republic of the Congo, green investments could secure the economic, environmental and social benefits necessary for a strong recovery and a new sustainable development pathway. Green investments could create 130 per cent more jobs and 280 per cent greater economic output when compared to traditional investments in the same sectors. The country has abundant natural resources that, with careful management and strong governance, could contribute to the prosperity of the country's people. By investing in areas such as utility-scale solar and hydropower, mini-grids and nature-based solutions, the country has a chance to simultaneously address its immediate economic concerns while safeguarding its natural environment and securing several social co-benefits. Expanding electricity access to the entire population by 2030 is a lofty goal that the pandemic has made even more challenging, but reaching that goal is imperative to ensure that poverty rates drop across the country and that people's quality of life improves. Reaching that goal will not be possible without strong investments in the areas suggested in this report.

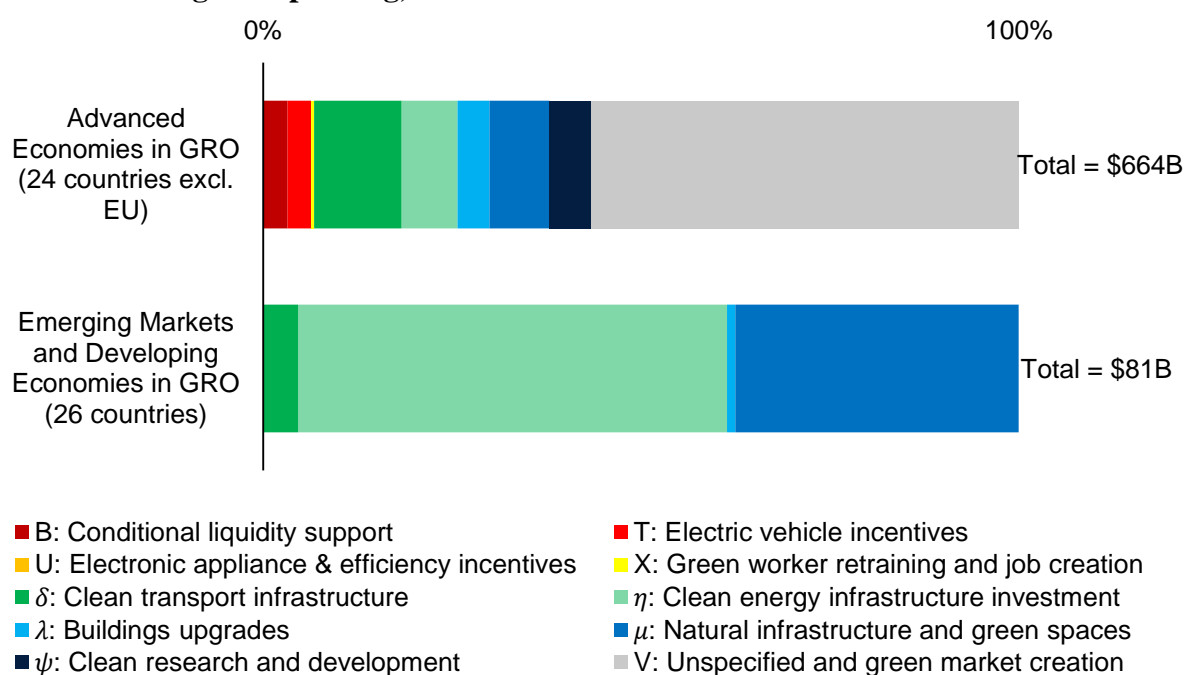
However, to date, and like most low-income nations, total recovery spending has been low and green recovery spending has been almost zero. This is illustrated clearly in figure 29. Furthermore, and as shown in figure 30, there has been significantly greater spending by advanced economies than by emerging market and developing economies on green initiatives across a broad range of sectors. The difference is largely driven by higher financial and borrowing constraints in emerging market and developing economies.

Figure 29
Composition of global recovery spending, selected countries



Source: Global Recovery Observatory

Figure 30
Distribution of green spending, 2020



Source: Global Recovery Observatory

COVID-19 has compounded existing weaknesses and fragilities. Despite its abundant natural resources, 72 per cent of people in the Democratic Republic of the Congo live on less than \$1.90 per day, although poverty had been falling slightly before the pandemic.¹⁵¹ With a human capital index score of just 0.37 per cent, and a dependency ratio of around 95 per cent,¹⁵² the country urgently needs more robust health care, education and nutrition. In terms of natural capital, the country is endowed with some of the largest and most biodiverse landscapes on the planet, although those resources have resulted in exploitative relationships with foreign actors and are now under increasing threat due to illegal logging, slash and burn agriculture, and climate change.¹⁵³

The Democratic Republic of the Congo has spent \$11 per person on COVID-19 recovery, compared to an average in advanced economies of \$20,800 per person and \$680 in emerging market and developing economies.¹⁵⁴ International support provided to the people of the Democratic Republic of the Congo has not come close to addressing the economic and health challenges stemming from the COVID-19 pandemic.

International partners can help the Democratic Republic of the Congo make a full recovery from the pandemic, avoid significant loss of life, and align the country's growth trajectory with an accelerated sustainable development pathway. This may take the form of generous long-term partnerships paired with immediate grant and concessional finance

¹⁵¹ For further information, see: www.worldbank.org/en/country/drc/overview

¹⁵² For further information, see: www.cia.gov/the-world-factbook/countries/congo-democratic-republic-of-the/#economy

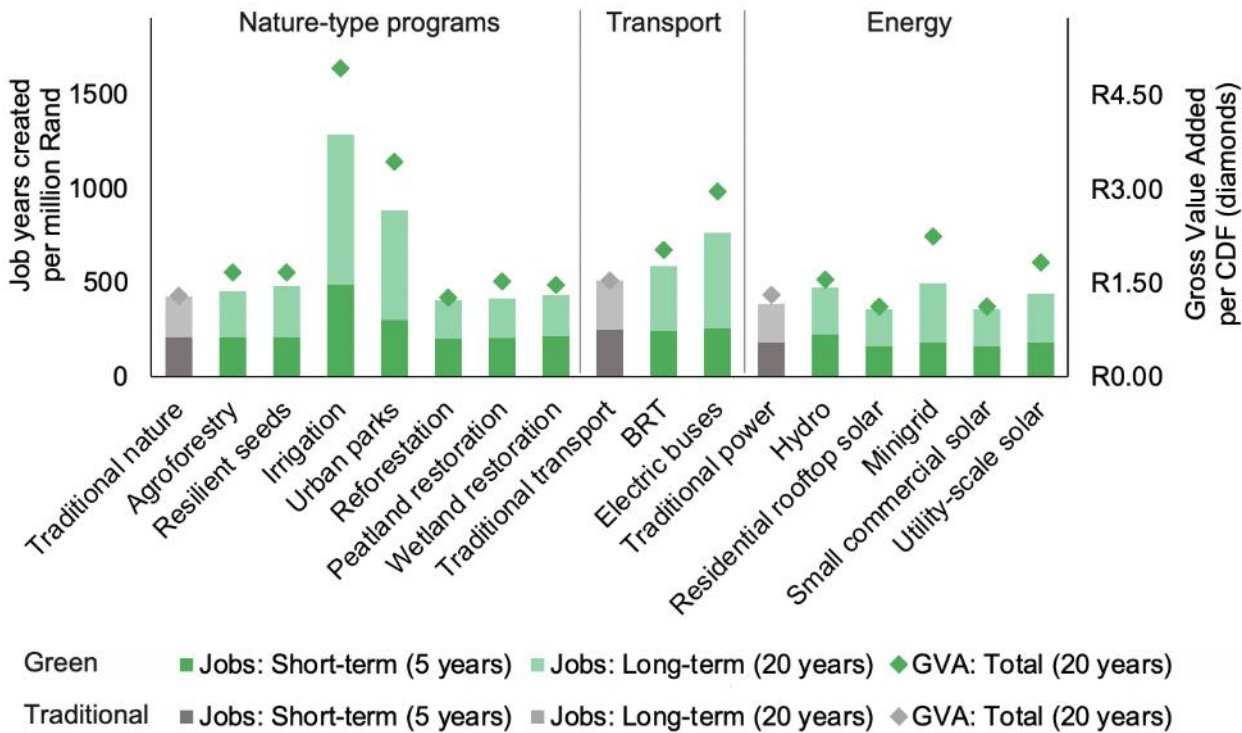
¹⁵³ For further information, see: www.wri.org/blog/2018/08/tracking-deforestation-drcs-forest-concessions-complicated%20%20https://en.wikipedia.org/wiki/Deforestation_in_the_Democratic_Republic_of_the_Congo

¹⁵⁴ This analysis includes data from the largest fifty economies in the world only.

support. Inaction could make reaching the Sustainable Development Goals an impossibility for the country and would have a detrimental impact on vulnerable communities. Transparency, open forums of collaboration with local leaders, and strong governance programmes will all be necessary to avoid the potential negative repercussions of the pandemic.

Priority policy recommendations. Green investments could provide a strong economic recovery pathway for the country, leading to job creation, economic growth, and better environmental outcomes. Different green investment opportunities, along with their potential job creation and gross value added impacts, both short- and long-term, are illustrated in figure 31, which shows that job creation opportunities will plentiful in the Democratic Republic of the Congo if funding can be secured. Indeed, over the next five years, green policies are likely to deliver more jobs per dollar compared to traditional alternatives. For example, with regard to investments in nature-type programmes, investments in irrigation and urban parks would significantly increase the gross value added and would create many more jobs than traditional nature-type investments, especially in the long term, namely over the next 20 years. For transport, investments in electric buses would catalyse the most significant increase in gross value added and in long-term job creation, followed by investments in Bus Rapid Transit (BRT). With regard to energy, investments in mini-grids would bring about the highest increase in gross value added, followed by investment in utility-scale solar. On job creation, investments in hydropower would create more jobs in both the short and long term, while investments in mini-grids would generate more jobs in the long term than in the short term compared to investment in traditional power generation. Green investments would also generate several social and environmental co-benefits that could deliver positive health outcomes, reduce the country’s impact on the climate, and, in some cases, reduce its vulnerability to the impact of climate change.

Figure 31
Impact of green spending on job creation and gross value added compared to traditional spending in the Democratic Republic of the Congo, all modelled policies



An examination of green recovery opportunities in the Democratic Republic of the Congo reveal three priority areas for investment:

- **Utility-scale renewable energy and power line investment.** Access to electricity is a core driver of poverty reduction. With one of the lowest rates of electrification in the world, at just 9 per cent, expansion of affordable utility-scale renewable energy production in the Democratic Republic of the Congo could lift millions of people out of the poverty trap, while unlocking significant new opportunities for growth.

Renewable energy is the cheapest form of new generation on a capacity basis in many geographies.¹⁵⁵ The country's high solar irradiation¹⁵⁶ and significant hydropower resources¹⁵⁷ provide strong opportunities for investment. This has been recognized in recent large-scale privately-supported investments in Kinshasa Solar City¹⁵⁸ and elsewhere. The Grand Inga dam project, despite a somewhat turbulent financial history, has seen enthusiasm from countries in the region and from international investors. If carried out to completion, the project could provide 44,000MW of new green electricity, mostly earmarked for international transmission, generating sizeable tax revenue. Complexities in the early stages of the project suggest that transparency in renewable energy investment is crucial for retaining investor confidence in the country.¹⁵⁹

Alongside electricity generation using solar and hydropower, the Democratic Republic of the Congo must also bolster its electricity transmission and distribution infrastructure to meet the needs of its population. The country's existing high voltage transmission infrastructure is ageing and covers only a tiny portion of the country. Instability in parts of the country has been a barrier to expanding transmission infrastructure, but through strategic partnerships with international actors, there is significant potential for upgrades and expansion, particularly in larger cities and mining areas. Additionally, involvement in transnational energy transmission projects could provide an opportunity for renewable power generated in the country to be sold to other countries across sub-Saharan Africa and could make the Democratic Republic of the Congo one of the continent's major energy exporters. Expansions in transmission infrastructure would also lay a strong foundation for clean economic opportunities, including electric vehicle networks and the electrification of processes in other sectors.

In the context of the COVID-19 pandemic, renewable energy investments offer great potential for an economic boost and job creation.¹⁶⁰ Similarly, significant investment in enabling transmission and distribution infrastructure is labour-intensive, involves the use of local materials and could provide a step change in economic productivity in local communities.

For international partners, generous support for renewable power generation projects could offer a way to simultaneously boost short- and long-term development while securing positive climate outcomes in the country. This is an essential step along a sustainable

¹⁵⁵ For further information, see: www.irena.org/newsroom/pressreleases/2020/Jun/Renewables-Increasingly-Beat-Even-Cheapest-Coal-Competitors-on-Cost

¹⁵⁶ For further information, see: datacatalog.worldbank.org/dataset/dr-congo-solar-irradiation-and-pv-power-potential-map

¹⁵⁷ For further information, see: www.hydropower.org/country-profiles/democratic-republic-of-the-congo

¹⁵⁸ For further information, see: ieefa.org/work-begins-on-1000mw-solar-project-in-democratic-republic-of-congo/

¹⁵⁹ For further information, see: www.sciencedirect.com/science/article/pii/S2211467X19300938

¹⁶⁰ For further information, see: academic.oup.com/oxrep/article/36/Supplement_1/S359/5832003

development pathway and could help the Democratic Republic of the Congo establish a leading role in Africa while encouraging its peers to take similar action, particularly when the Democratic Republic of the Congo assumes the presidency of the African Union.

- **Mini- and microgrid investments.** While the entire population of the Democratic Republic of the Congo faces significant challenges when it comes to energy access, the difficulties in rural areas are particularly severe, as just 0.4 per cent of the rural population has access to electricity. Eventually, large scale increases in transmission infrastructure should service such communities, but that is likely to be several decades away. Mini- and microgrids may provide an opportunity to connect rural and smaller urban centres cheaply, allowing them to reap the wide-ranging benefits that electricity access can bring. Investing in mini- and microgrids in the immediate term could simultaneously provide an economic boost as the country recovers from COVID-19.

Mini-grids are small-scale (10kW to 10MW) self-contained electricity networks that include a renewable energy generation source, storage facility (batteries), inverter and charge controller, and local distribution network.¹⁶¹ Microgrids are even smaller in size, with generation capacity between 1 and 10kW. In areas with smaller populations, large transmission solutions are often not economically viable and mini-grids are a strong alternative.¹⁶² Given the abundant natural resources of the Democratic Republic of the Congo, it is likely that solar and hydropower would provide the most appropriate energy source for these grids. One 2017 study found that, using the country's existing transmission and distribution network, a mini-grid roll-out would be the most appropriate way to bring electricity to some 10 million people.

The country has already seen some investment in mini-grid solutions, as have its neighbours. Those projects have been funded by multilateral development banks,¹⁶³ global climate funds¹⁶⁴ and through public investments.¹⁶⁵ Some projects have been built with the long-term intention of connecting them to the country's main electricity grids.

Mini-grid investment provides a chance to secure a wide variety of social and environmental co-benefits alongside significant economic benefits. Renewable energy-enabled electrification in rural areas could reduce reliance on solid fuels for cooking and heating. Ordinarily, the use of these fuels has a significant negative impact on respiratory health as a result of indoor air pollution.¹⁶⁶ As previously discussed, access to electricity plays a key role in poverty reduction, providing more and better opportunities for work and education.¹⁶⁷ This is particularly true in rural settings where electricity access can improve agricultural efficiency,

¹⁶¹ For further information, see: www.ren21.net/Portals/0/documents/Resources/MGT/MinigridPolicyToolkit_Sep2014_EN.pdf

¹⁶² For further information, see: greenminigrid.afdb.org/sites/default/files/Mini-grid%20DRoC.pdf

¹⁶³ For further information, see: www.pv-magazine.com/2019/03/28/african-development-bank-approves-20m-to-back-congo-minigrids/

¹⁶⁴ For further information, see: www.greenclimate.fund/project/fp096

¹⁶⁵ For further information, see: www.africaoilandpower.com/2021/02/08/drc-awards-contract-for-solar-mini-grid-development/

¹⁶⁶ For further information, see: www.povertyactionlab.org/evaluation/cooking-stoves-indoor-air-pollution-and-respiratory-health-india

¹⁶⁷ For further information, see: www.worldbank.org/en/news/feature/2018/04/18/access-energy-sustainable-development-goal-7

reduce vulnerability to climatic variation (with better access to water pumps as well as to lighting and heating), and generate new business opportunities.

To enhance the prospects of their long-term success, national mini- and microgrid programmes should adopt decentralized approaches to planning and implementation that prioritize community-driven leadership.¹⁶⁸ It is also vital that governmental and any other funders consider (i) security concerns, particularly in connection with militia groups in regional parts of the country, (ii) the lack and inaccuracy of data needed to design appropriate systems in many parts of the country, and (iii) depending on the size of the total package investment, a possible undersupply of skilled workers and experienced contractors to manage the implementation, operation, and maintenance of mini- or microgrid systems. Training and skills development for workers may prove essential.

- **Natural capital investment.** The Democratic Republic of the Congo is the location of some of the most impressive and abundant natural resources on the African continent, with its forests and river systems being some of the most biodiverse in the world.¹⁶⁹ The history of natural resource exploitation in the country is a complex one, driven by colonial powers, unchecked foreign investment and continued domestic conflict. Agriculture is a key driver of the economy, with almost two thirds of the total working population employed in the sector, though this fraction has slowly declined in the last two decades.¹⁷⁰ Slash-and-burn agriculture has been a fixture in the Democratic Republic of the Congo for decades, with communities often unaware of the long-term environmental and economic damage of the practice. This, in addition to illegal logging and other harmful practices, may have very short-term benefits for those who partake in them, but in the long term will reduce biodiversity, substantially limit crop yields, and increase the vulnerability of communities to the impact of climate change.¹⁷¹

Natural capital investment, supported by international partners, is likely to generate significant economic, environmental and social benefits for the Democratic Republic of the Congo. Programmes such as reforestation can create many jobs very quickly, and do not require a highly skilled labour force. Leakage of funds outside the domestic economy is usually minimal in such programmes, as there is a focus on labour spending and little need for imports. Those programmes can lead to air quality improvements, improve agricultural yields, and safeguard communities against the changing climate. Care must be taken to ensure that biodiversity is prioritized (monocultures should be avoided) and that local community participation is integrated at every stage of the policy design and investment cycle.¹⁷² Given the low skill requirements of many natural capital programmes, however, there is a risk that, unchecked, this work could lead to the exploitation of minors. Complete transparency and strong legal and other enforcement mechanisms are therefore essential to ensure the responsible implementation of those programmes.

¹⁶⁸ For further information, see: www.worldbank.org/en/topic/communitydrivendevelopment

¹⁶⁹ For further information, see: cod.forest-atlas.org/?l=fr

¹⁷⁰ For further information, see: www.theglobaleconomy.com/Democratic-Republic-of-the-Congo/Employment_in_agriculture/

¹⁷¹ For further information, see: globalpressjournal.com/africa/democratic-republic-of-congo/slash-burn-agriculture-helps-displaced-people-drc-get-back-feet-whats-long-term-effect/

¹⁷² For further information, see: onlinelibrary.wiley.com/doi/10.1111/gcb.15513

Options for natural capital investment in the Democratic Republic of the Congo include:

- **Agroforestry:** introduction of trees into current or potential pastureland to raise livestock or the creation of areas for foraging in a manipulated forest environment. Agroforestry and habitat restoration can decrease the likelihood and severity of droughts by improving soil water retention, slowing water loss, and regulating water flow. Agroforestry efforts can also improve shading, decreasing livestock loss due to heat stress.
- **Reforestation:** re-establishing natural forests, planting more native species, or increasing the density or extent of an existing forest. Well-managed, consultative, and participatory reforestation can enhance wildlife habitats, support biodiversity, protect water supplies, develop recreational opportunities, and help address numerous issues associated with climate change, including through carbon sequestration.

A reset of the multilateral system: delivery of the green recovery in partnership with the international community

Cooperation and coordination for a better future

Solutions for building forward must focus on formulating and implementing a more robust and global response to the health, economic and climate crises. For Africa this will mean the mobilization of additional resources to respond adequately to the crisis, the delivery of vaccines in a timely manner and investments in projects to green the recovery while creating jobs. To achieve those broad objectives, concerted global efforts will be needed.

There are strong reasons for action, and the benefits of decisive action are greatest when that action is coordinated, with positive spillovers creating a self-reinforcing cycle. A collaborative response, ensuring that countries exercise ownership over their recovery programmes while fostering economic revival across the continent would maximize that virtuous circle. A reset should focus on both global and regional actions that strengthen African resilience in the medium to long term.

A roadmap for collaboration

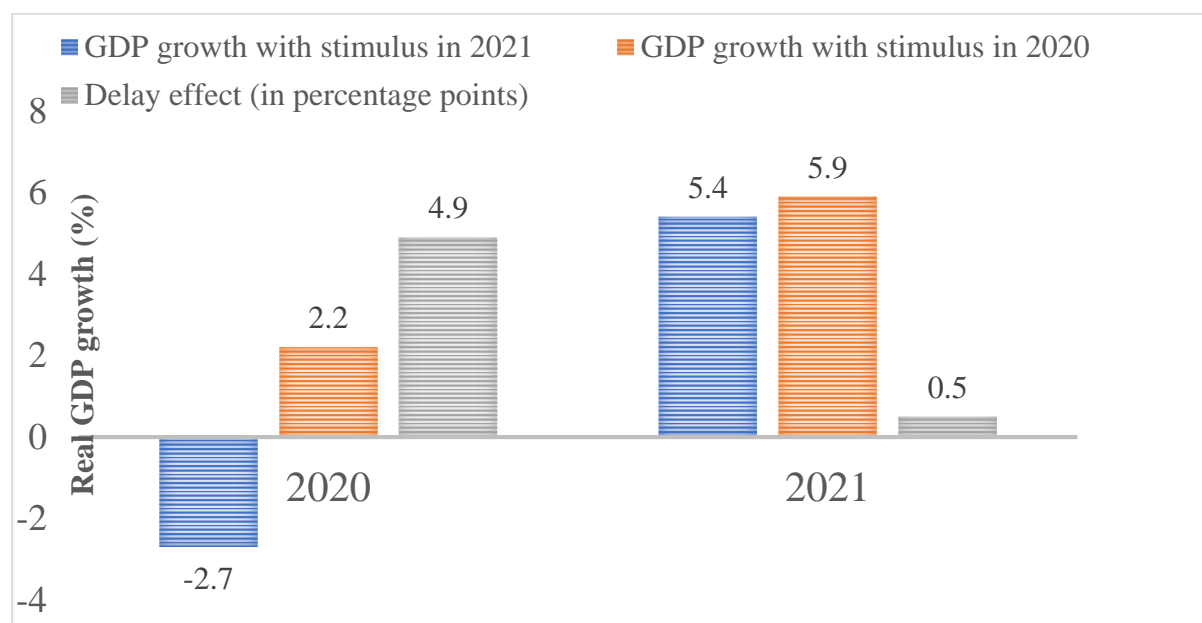
A clear roadmap for action has already been formulated. In a previous paper, ECA laid out a clear menu of options which, if implemented together, would help finance an African recovery and set the continent on a more stable and prosperous footing than that on which it entered the COVID crisis.¹⁷³

First and foremost, on the health front, an important part of the reset will be to ensure that Africa builds the human and productive capacity to respond to its health commodity needs, including vaccines. Looking at ways to upgrade health services on the continent would be an important part of the reset. Achieving the Sustainable Development Goals in 2030 will require improved health system financing across the continent and global agreements on licensing and availability of critical health therapies.

The global financial system has been slow to take action in the current crisis and frontier and emerging economies are paying the price. Lessons must be drawn from the crisis with a view to developing systems that can respond in a more timely and efficient manner to future emergencies. While the DSSI and the now expected issuance of IMF Special Drawing Rights are welcome, they are coming at a late stage in the crisis. The impact of further delay will be to put back the achievement of the Sustainable Development Goals in Africa. As illustrated in figure 32, the financial cost of delay could be as high as 5.4 per cent of GDP for the continent. Figure 33 outlines financial steps that must be taken within the context of the recovery and reset.

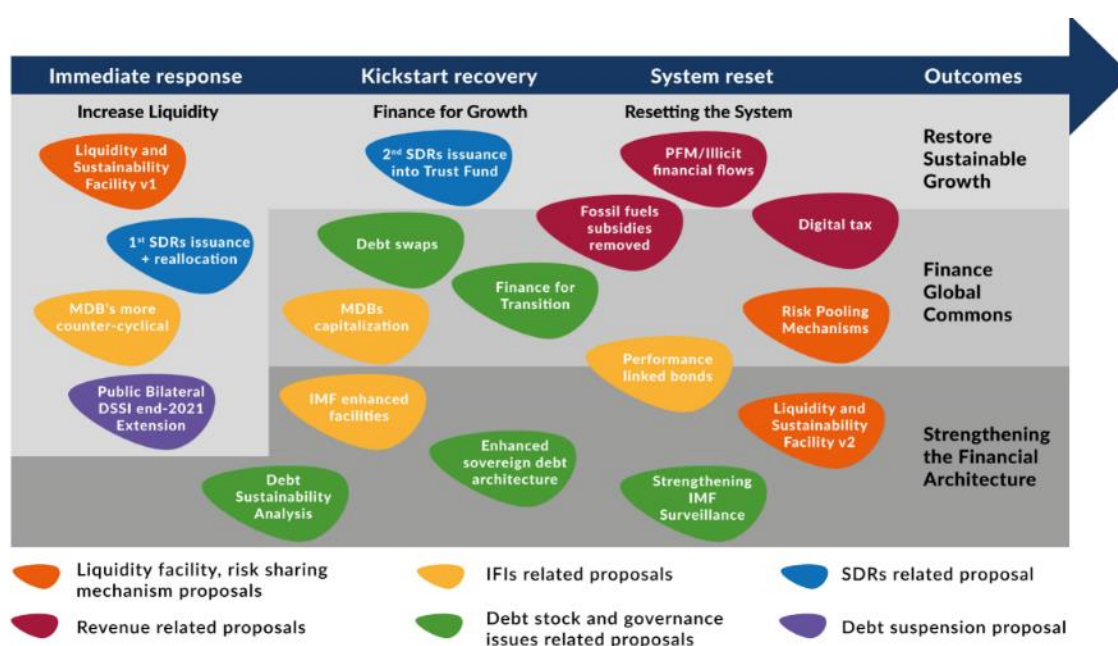
¹⁷³ ECA, *Building forward together: financing a sustainable recovery for the future of all*, 2020. Available at: repository.uneca.org/handle/10855/43829

Figure 32
Stimulus delays could cost 5.4 per cent of gross domestic product in Africa in 2021



Source: ECA, 2021.

Figure 33
From response to recovery and reset



The IMF has concluded that African countries will need approximately \$1.2 trillion over the next three years, and that Africa faces a financing gap of more than \$100 billion per year.¹⁷⁴ The timing of stimulus payments will have implications for economic growth in Africa and the

¹⁷⁴ Andrea Shalal, "IMF chief sees \$345 billion financing gap for African states", Reuters, 9 October 2020. Available at: www.reuters.com/article/imf-world-bank-africa/imf-chief-sees-345-billion-financing-gap-for-african-states-idUSKBN26U263?edition=redirection

ability of African countries to achieve their development objectives. It is crucial to improve domestic resource mobilization, ensure that expenditure is efficient and adopt policies to attract private sector finance and improve governance.

The recovery in Africa should be seen as a huge investment opportunity. At a time when European and North American bonds are being traded at extremely low prices and there is increasing concern that the world may be witnessing a global bubble in stocks, investment in Africa offers welcome diversification. The African Continental Free Trade Area, the largest free trade area in the world, is now up and running, connecting 1.3 billion people across 54 countries. First movers in the region could gain significant advantages. However, sustainability must remain a primary concern as markets develop to enable profitable future investment, and not just profits today. Inclusion, through educating and empowering communities will, moreover, ensure that renewed growth delivers a people-centered recovery.

International financial support could provide significant liquidity through five **immediate response** measures, namely:¹⁷⁵

- An immediate extension of the Debt Suspension Service Initiative (DSSI) until at least the end of 2021, and possibly the end of 2022. Official bilateral debt suspension support to International Development Association countries stood at \$15.9 billion in 2021 alone;
- The issuance of a further tranche of Special Drawing Rights and the reallocation of some Special Drawing Rights already in circulation. This will deliver \$150 billion for all frontier economies to ensure access to foreign exchange markets and support national development banks and the private sector;
- The establishment of a liquidity and sustainability facility, which will reduce borrowing costs by ensuring that short-term debt obligations can be met. The facility could be launched with an allocation of as little as \$50 billion, which could then be leveraged to facilitate access to some \$250 billion in funding;
- Facilitating lending by multilateral development banks by relaxing their risk management policy guidelines: this could mobilize an additional \$100 billion in lending capacity for Africa;
- Mobilizing catalysed, leveraged funds from the private sector, climate investors and capital market sources, which could generate green, bankable investment opportunities and help raise the \$18 billion to \$30 billion needed per year for climate action and climate change adaptation in Africa.

Establishing a fit-for-purpose financial system

The pandemic has provided the global community with a unique opportunity to reset the entire financial system through the adoption of more progressive investment standards, including impact investment, climate-resilient investment and Sustainable Development Goal-linked investment mechanisms. A myriad of financial products, including green, social, sustainability and Sustainable Development Goal bonds and funds that can reward private-

¹⁷⁵ ECA, *Building forward together: financing a sustainable recovery for the future of all*.

sector climate investors and issuers striving for sustainability outcomes or sustainable stakeholder value will be needed to support the transition to a more sustainable future in Africa.

Scaling up green and sustainable investments will help to increase capital flows from individuals, firms and institutional investors, promote a green recovery and help the continent build back better. Scaling up the market for green assets will require standardization and synthetic securitization so that investors can make informed decisions, more effectively mitigate risk parameters, and ensure the stronger alignment of securitized portfolios with sustainability considerations. Technology and digitization will be critical in efforts to increase transparency and the visibility of sustainable financing products and collateral pools and to enhance market credibility, which will bolster investors' confidence and commitments towards green and sustainable financing.

Promoting the issuance of sustainability and transition bonds and restructuring existing debt by scaling up debt swaps for inclusive green recovery programmes will provide an important signal of commitment to the shared goals of transparency, harmonization and greater sustainable investing. This will promote the establishment of well-functioning local capital markets and encourage a larger pool of investors to enter the debt and green project finance markets. Governments (including public sector investors and State-owned enterprises), commercial investors, institutional investors and other development partners should all make a commitment to achieve those shared goals and drive the deployment of capital to support the financing of green recovery in Africa.

Steps should be taken to promote investments in sustainable financing products, including: green bonds tailored and structured to the needs of the post-COVID-19 period, supported by governments and multilateral development banks¹⁷⁶; sustainable impact bonds, in which bond proceeds are reinvested in innovative green, social or sustainability-impact projects, particularly those relevant to COVID-19 recovery; green securitization, namely the conversion of assets into securities, which are then financed through the capital markets via the issuance of an asset-backed security bond or note; and debt-for-nature swaps. Those products will be instrumental in mobilizing both public and private finance for green recovery programmes.

Promoting the creation of blended or sustainable financing vehicles such as green development funds or climate finance facilities that aim to mobilize capital from both public and private sources while mitigating upfront risks by means of guarantee schemes, and improving the bankability of climate-friendly infrastructure projects, will also be instrumental in supporting the financing of green recovery on the continent. For example, the Development Bank of Southern Africa Climate Finance Facility, a pioneering private-sector climate finance facility in Africa with a \$110 million fund aimed at de-risking climate-friendly infrastructure projects and improving their bankability to attract private sector investment, is a successful green bank model that other African countries and African/global financial institutions could replicate to support green recovery on the continent.

¹⁷⁶ Asian Development Bank, *Green Finance Strategies For Post-Covid-19 Economic Recovery In Southeast Asia: Greening Recoveries For People And Planet*, October 2020. Available at: www.adb.org/sites/default/files/publication/639141/green-finance-post-covid-19-southeast-asia.pdf

A multilateral approach to promote smarter trade and strengthen supply chains

Trade is a cornerstone of development, and multilateralism is the cornerstone of trade. Trade must be used to promote green investment in Africa within a global trading system aligned with the principles of the Paris Agreement. The adoption of green standards for trade within the African Continental Free Trade Area would improve inclusion in African supply chains, inter alia, by supporting smallholder farmers and combating the dumping of cheap low-quality produce in African markets.

Green standards will facilitate the integration of the continent's natural capital in sustainable supply chains, and thus reduce the risk of long-term environmental degradation. The judicious application of environmental and social standards coupled with appropriate capacity-building could also increase opportunities for value addition.¹⁷⁷

Africa must participate fully in multilateral smart trade regimes. At present, the lack of global policies and standards on data and digital trade leads to significant differences in how countries manage their data. This fragmented environment disproportionately affects countries with smaller economies and less mature information and communication technology industries.

African countries must actively engage in negotiations on new e-commerce protocols. Data must be used in ways that provide for a sustainable reset of economies, and new ideas such as “public data pools”, which focus on data as a public good, are required. A “community data” approach recognizes anonymized data as a commonly-owned public good for two-way sharing, both to and from both consumers and businesses. The African Union Digital Transformation Strategy for Africa, adopted in February 2020, recognizes that States must exercise their sovereign rights over certain types of data. Moreover, the African Continental Free Trade Area e-commerce protocol, announced in 2020, underscores the need to ensure that African data is used for the benefit of Africa in the new green and digital economy.¹⁷⁸

A multilateral approach to financing the green recovery

A multilateral approach to financing the recovery from the COVID-19 pandemic is critical to ensure an orderly resolution of the liquidity challenges facing vulnerable countries, which lack adequate financing and macroeconomic tools to respond effectively to the pandemic. A coordinated, multilateral approach will help address the current liquidity challenge and prevent it from degenerating into a solvency crisis. Gaps in multilateralism have been highlighted, however, by the limited participation of eligible countries in the DSSI. A more robust multilateral system would have ensured coherent messaging by all creditors about their debt management mechanisms. A more robust system would also have been more effective in bringing all public and private sector creditors to the table with a view to providing debt relief and much needed liquidity to African countries.

The absence of a strong multilateral system has given rise to numerous bilateral negotiations between debtors and creditors and a lack of transparency in delineating official debt from commercial debt.

¹⁷⁷ For further information, see: www.intracen.org/uploadedFiles/intracenorg/Content/Publications/IITC-EUI_Social_environmental_standards_Low-res.pdf

¹⁷⁸ UNCTAD, *What is at stake for developing countries in trade negotiations on e-commerce?*, 19 February 2021. Available at: unctad.org/webflyer/what-stake-developing-countries-trade-negotiations-e-commerce

A durable debt restructuring framework requires the collective action and cooperation of all creditors. Without collective action, some creditors will have an incentive to opt out of agreements with the hope of securing better terms with their debtors on a bilateral basis. Multilateral coordination is needed to prevent “holdout” creditors from undermining the restructuring process. Multilateralism is key to addressing this collective action challenge. Recent developments, including litigation in the United States of America over Argentinian debt, underscore the importance of multilateralism.

There is a need to also focus on vulnerable countries that are classified as middle-income or high-income. The use of GDP per capita as the main metric determining access to concessional resources has severely limited access by African countries to affordable finance that can be used to inject liquidity into their economies in response to the crisis. The high cost of finance for vulnerable countries can further delay investment in green sectors, which can be the catalyst for their recovery.

The current triple crisis has underscored the importance of liquidity. Domestic resource mobilization is an important part of efforts to increase liquidity and strong and resilient buffers must be established prior to any future crises. The trend in diminishing tax to GDP returns in Africa must be halted. To achieve that objective, stakeholders must adopt the diversification strategies required to promote a green recovery, adopt principles that will tackle base erosion and profit shifting challenges, and improve their reporting and exchange of financial information.

Illicit financial flows remain a significant impediment to resource mobilization in Africa and a significant drain on the continent’s revenues. Africa loses some \$50 billion a year in illicit financial flows, equivalent to 3 per cent of the continent’s GDP, 10 per cent of its imports and 60 per cent of its annual remittance inflows. Harmonization of efforts across source (African countries) and destination countries (countries benefitting from these flows) is essential if Africa is to tackle illicit financial flows effectively. Pursuant to frameworks such as the United Nations Convention against Corruption, the United Nations Convention against Transnational Organized Crime, and the Stolen Asset Recovery (StAR) Initiative, countries are taking important steps to advance the recovery and return of stolen assets, including the proceeds of corruption that have been transferred abroad. Meanwhile, under the Dodd-Frank Wall Street Reform and Consumer Protection Act, adopted by the United States of America, whistleblowers who provide accurate and original information are awarded between 10 and 30 per cent of monetary sanctions imposed and collected. At the same time, support is required in the area of big data analytics, machine learning and neural network programming, which can provide an array of tools and methodologies to predict illicit behaviour and measure illicit financial flows with greater precision.¹⁷⁹

African countries also have an opportunity to work with credit rating agencies to develop more robust financial market indicators that accurately reflect the realities of their economies, taking into account their vulnerabilities and areas where they enjoy a comparative advantage, and properly reflecting the opportunities stemming from the continent’s demographic dividend. Engagement with credit rating agencies, which should be facilitated and encouraged by development finance institutions, will provide for more predictable and affordable market access for African countries.

¹⁷⁹ United Nations, High-level meeting on international cooperation to combat illicit financial flows and strengthen good practices on asset returns, New York, 16 May 2019.

Climate, natural resources and development

This year, 2021 has been called the super year for both climate and development, and promising opportunities for partnerships in those critical areas are likely to emerge. Indeed, the timetable of major conferences during 2021 offers opportunities for building momentum and increasing ambition in preparation for the twenty-sixth session of the Conference of the Parties to the United Nations Framework Convention on Climate Change.

Only **concerted global action on climate change**, underpinned by a trusted strong multilateral process can keep climate change at bay. African countries have shown the political leadership and will to tackle climate change and attain the goals of the Paris Agreement through their submission of ambitious nationally determined contributions, which could be further enhanced by strengthening implementation mechanisms and providing adequate financial support. At the twenty-sixth session of the Conference of the Parties to the United Nations Framework Convention on Climate Change, the African continent's special circumstances should be reaffirmed and article 6 of the Paris Agreement resolved in meaningful ways that support developing countries and real emission reductions. Developed countries should demonstrate real ambition by honouring their \$100 billion a year financing commitment and other outstanding obligations under the Kyoto Protocol to the United Nations Framework Convention on Climate Change.

Africa's **energy transformation** is central to power access, green industrialization and trade. Because Africa has significant energy investment needs, in addition to significant fossil fuel resources that are at risk of being stranded, resetting energy provision rules and ensuring a transition to net zero will require agreement on a reasonable transition and adjustment phase.

The issue of energy transformation must be addressed with pragmatism. Support is needed to tap the continent's abundant renewable energy resources. In this regard, development finance institutions should emphasize the development aspect of their mandates: they can do this by focusing on powering development in vulnerable, emerging economies in Africa through innovative de-risking instruments in support of private-sector investments in clean energy. They should, inter alia, support the development of bankable business models for energy generation, transmission and distribution. African Governments should make a strong commitment to addressing governance challenges and enabling regulatory stability with a view to bolstering investor confidence. Development finance institutions and other development partners should, moreover, support incremental financing in order to accelerate the integration of climate resilience in climate-sensitive sectors such as energy, agriculture, water and transport.

In parallel, the recovery should catalyse the transition of extractive industries towards more sustainable operating modalities. The Financing for Development in the Era of COVID-19 and Beyond initiative should serve as a basis for transforming the extractive industry, including in relation to finance, illicit financial flows, debt, taxation, transparency, and public-private partnerships. Governments should be supported in developing national visions and policies with regard to their extractive resources and in undertaking risk assessments, including on issues related to climate "stranding", revenue volatility, and automation. Recovery efforts could play a vital role in boosting the contribution of extractive industries to the achievement of the Sustainable Development Goals, including through initiatives to combat poverty, promote gender equality and support a just transition to a net zero future, particularly if they lead to the formulation of relevant norms, standards and disclosure frameworks.

Prioritizing financing for nature-based solutions will provide livelihoods for vulnerable and marginalized populations and help to rehabilitate the natural environment, which is intrinsically important for the creation of future wealth. Nature-based solutions provide ideal starting points for green recovery investments at the community level.

The continent's **food security** needs to remain of utmost importance, and a sustainable reset of food production and distribution across the continent, leveraging the African Continental Free Trade Area is paramount. Adopting climate-smart principles can increase efficiency in terms of land use and reduce environmental degradation. Green industrialization is needed in order to upscale food production in Africa, while smallholder farmers and small and medium-sized enterprises must be better connected to markets. Large-scale industrial food producers, smallholder farmers and small and medium-sized enterprises all have a critical role in revamping food production on the continent. The relationship among climate adaptation, agricultural production and a green recovery is a key issue that African countries must speak to at the United Nations Food Systems Summit, to be held in late 2021, and they must emphasize the need for bankable targeted interventions both in terms of large-scale investment and in terms of targeted community-based interventions.

Implementation of the **African Union Blue Economy Strategy**, which focuses on the protection of sensitive maritime zones, in line with the ambition of the Convention on Biological Diversity to achieve the protection of at least 30 per cent of the world's oceans by 2030, can also yield dividends in terms of future food security and ocean-based economic opportunities.

A reset for climate finance: a carbon bank

The promise of \$100 billion per year under the Paris Agreement has yet to be fulfilled while African countries' need for financial support leading up to the twenty-sixth session of the Conference of the Parties to the United Nations Framework Convention on Climate Change has become, if anything, even more acute.

New economic and financial instruments are needed to help steer climate finance to where it is needed most. Improved standards for green financing options can help avoid "green washing", whereby only nominally sustainable projects can offer high returns. Linking the issuance of new Special Drawing Rights to investment in green sectors that contribute to the achievement of the Sustainable Development Goals and the objectives of the Paris Agreement could strengthen linkages between new and affordable liquidity and sustainable environmental outcomes.

A reset of global climate architecture will not only deliver more investments and jobs in Africa, but will also generate further opportunities to raise financial resources through carbon taxation and offsets. Recognizing that Africa is home to some of the planet's most important carbon sinks, and also recognizing that viable economic activity needs to be linked to those sinks to ensure the protection and enhancement of the continent's natural capital, a global price for carbon that helps Africa finance its green recovery is needed. This must be a priority for the twenty-sixth session of the Conference of the Parties, to be held in Glasgow in the United Kingdom in November 2021. Establishing institutions to facilitate the management of carbon taxes could be a key enabler of new financial flows. The establishment of a carbon bank for Africa could be a key step towards ensuring appropriate financing for Africa's low-carbon development. If a global carbon price is agreed, potential proceeds could be channelled through that body, which could also play a role in financing future African sustainable energy and development projects.

Building momentum to respond to the crisis, recover from it, and reset for the future

It is imperative that the health crisis is resolved, and that the distribution of vaccines is fair and equitable for Africa and other global regions. This is about ensuring that people, and the markets that serve them, have a future. This must be a priority for both African countries and their partners. The health crisis has shown that cooperation and collaboration are needed to combat global threats.

The global community, working with African countries, can provide sustained support for the development of economies that are more resilient to future shocks, including climate change. The support called for in this paper must be made available between 2021 and 2023. Concerted action to develop and finance a resilient recovery will crowd in private-sector and other resources by providing certainty and demonstrating political commitment.

Through the adoption of a green stimulus plan at the level of the African Union, African countries have demonstrated their commitment to building forward better by investing in green sectors. This also avoids locking in fossil fuel-intensive recoveries, which will prove unsustainable, even in the medium term, and which could have significant repercussions for fiscal sustainability. Analysis at both the global and country levels has shown unequivocally that there is both an economic and a moral imperative for efforts to promote a green recovery. The investments required in that regard will be significant, but they pale in significance compared to the resources already mobilized to support the global status quo. The actions we take, and the investments we make, can help Africa turn a corner, but that action must be decisive and taken as a matter of urgency. Moreover, actions and investments must be made in the context of a new financial landscape that is more closely aligned with shared global goals and takes into consideration environmental, social and governance metrics. Adopting innovative business and investment mechanisms that can adapt to changes in legal and regulatory structures and foster a shift toward greater flexibility and specialization and larger capital pools will contribute to greener, smarter and more inclusive growth.

Only with such clearly signaled and sustained support can Africa realize the full potential of a green recovery, address the triple challenge of climate change, COVID-19 and economic stagnation, and deliver growth and prosperity for its people. Many more lessons have been learned from the ongoing crisis, including that concerted multilateral efforts are needed in order to identify appropriate solutions to the challenges that African countries face.

The response, recovery and reset is about life across Africa and around the world

A successful green recovery must be built on simple actions that help people build a better life. Step for a moment into the shoes of a mother trying to feed her family in the Democratic Republic of the Congo. Of crucial importance are her immediate needs and the needs of her family. Connect her to the electricity grid using renewables. Provide her with access to clean cooking stoves. Offer her employment that is linked to the rich natural environment of her country. Let her eat food that is sustainably produced in the environment around her. Now extend that assistance to other mothers and families across the continent. That is how we can build a chain that will create value for Africa and for the wider world far into the future. Ultimately, we are also investing not just in a green recovery, but in a reset which may well be our last chance to change the course of development and to change the course of history for our planet.

Annex

Table A.1
Financial support received by African countries through the IMF Catastrophe Containment and Relief Trust (\$ million)

Country	Tranche 1	Tranche 2	Total
Benin	10.17	8.98	19.15
Burkina Faso	11.96	14.52	26.48
Burundi	7.63	6.8	14.43
Central African Republic	4.05	4.12	8.17
Chad	2.82	0	2.82
Comoros	1.33	1.14	2.47
Democratic Republic of the Congo	20.32	13.96	34.28
Djibouti	2.3	2.38	4.68
Ethiopia	12	6.33	18.33
Gambia	2.87	2.96	5.83
Guinea	22.4	23.08	45.48
Guinea Bissau	1.48	1.92	3.4
Liberia	15.92	15.78	31.7
Madagascar	4.19	4.31	8.5
Malawi	9.85	10.15	20
Mali	9.99	10.58	20.57
Mozambique	14.9	13.35	28.25
Niger	7.72	7.95	15.67
Rwanda	10.96	16.95	27.91
Sao Tome and Principe	0.15	0.24	0.39
Sierra Leone	18.28	17.23	35.51
United Republic of Tanzania	14.3	11.69	25.99
Togo	5.12	3.26	8.38
Total	210.71	197.68	408.39
Grand Total	\$408.39m		

Table A.2

Financial support received by African countries from the IMF to help them address the impact of the COVID-19 pandemic (\$ million)

Country/Instrument	Sum of Amount Approved in SDR million	Sum of Amount Approved in US\$ million	Country/Instrument	Sum of Amount Approved in SDR million	Sum of Amount Approved in US\$ million
Angola	540.4	765.66	Kenya	542.8	739
Augmentation of EFF	540.4	765.66	Rapid Credit Facility (RCF)	542.8	739
Benin	199.85	281.26	Lesotho	34.9	49.1
Augmentation of ECF	76.01	103.3	Rapid Credit Facility (RCF)	11.66	16.5
Rapid Credit Facility (RCF)	41.3	59.35	Rapid Financing Instrument (RFI)	23.24	32.6
Rapid Financing Instrument (RFI)	82.54	118.61	Liberia	36.17	49.98
Burkina Faso	84.28	115.3	Rapid Credit Facility (RCF)	36.17	49.98
Rapid Credit Facility (RCF)	84.28	115.3	Madagascar	244.4	337.89
Cabo Verde	23.7	32	Rapid Credit Facility (RCF)	244.4	337.89
Rapid Credit Facility (RCF)	23.7	32	Malawi	138.75	192.96
Cameroon	276	382	Rapid Credit Facility (RCF)	138.75	192.96
Rapid Credit Facility (RCF)	276	382	Mali	146.67	200.41
Central African Republic	27.85	38	Rapid Credit Facility (RCF)	146.67	200.41
Rapid Credit Facility (RCF)	27.85	38	Mauritania, Islamic Republic of	115.92	158.7
Chad	133.19	183.59	Augmentation of ECF	20.24	28.7
Rapid Credit Facility (RCF)	133.19	183.59	Rapid Credit Facility (RCF)	95.68	130
Comoros,	8.9	12.13	Mozambique, Republic of	227.2	309
Rapid Credit Facility (RCF)	2.97	4.05	Rapid Credit Facility (RCF)	227.2	309
Rapid Financing Instrument (RFI)	5.93	8.08	Niger	83.66	114.49
Congo, Democratic Republic of the	266.5	363.27	Rapid Credit Facility (RCF)	83.66	114.49
Rapid Credit Facility (RCF)	266.5	363.27	Nigeria	2454.5	3400
Côte d'Ivoire	650.4	886.2	Rapid Financing Instrument (RFI)	2454.5	3400
Rapid Credit Facility (RCF)	216.8	295.4	Rwanda	160.2	220.46
Rapid Financing Instrument (RFI)	433.6	590.8	Rapid Credit Facility (RCF)	160.2	220.46
Djibouti	31.8	43.4	São Tomé and Príncipe	10.51	14.37
Rapid Credit Facility (RCF)	31.8	43.4	Augmentation of ECF	1.48	2.08
Egypt, Arab Republic of	5800.74	7972	Rapid Credit Facility (RCF)	9.03	12.29
Rapid Financing Instrument (RFI)	2037.1	2772	Senegal	323.6	442.1
Stand-By Arrangement (SBA)	3763.64	5200	Rapid Financing Instrument (RFI)	323.6	442.1
Eswatini, Kingdom of	78.5	110.4	Seychelles	22.9	31.23
Rapid Financing Instrument (RFI)	78.5	110.4	Rapid Financing Instrument (RFI)	22.9	31.23
Ethiopia	300.7	411	Sierra Leone	103.7	143
Rapid Financing Instrument (RFI)	300.7	411	Rapid Credit Facility (RCF)	103.7	143
Gabon	216	299	Somalia	292.4	395.55
Rapid Financing Instrument (RFI)	216	299	Extended Credit Facility (ECF) and the Ex	292.4	395.55
Gambia	70.55	97.2	South Africa	3051.2	4300
Augmentation of ECF	20	28.8	Rapid Financing Instrument (RFI)	3051.2	4300
Extended Credit Facility (ECF)	35	47.1	South Sudan	36.9	52.3
Rapid Credit Facility (RCF)	15.55	21.3	Rapid Credit Facility (RCF)	36.9	52.3
Ghana	738	1000	Togo	71.49	97.1
Rapid Credit Facility (RCF)	738	1000	Augmentation of ECF	71.49	97.1
Guinea	107.1	148	Uganda	361	491.5
Rapid Credit Facility (RCF)	107.1	148	Rapid Credit Facility (RCF)	361	491.5
Guinea-Bissau	14.2	20.47	Grand Total	18,027.53	24,900.02
Rapid Credit Facility (RCF)	14.2	20.47			



United Nations
Economic Commission for Africa