African Economic Outlook 2022

Supporting Climate Resilience and a Just Energy Transition in Africa

GROUPE DE LA BANQUE AFRICAINE DE DÉVELOPPEMENT
AFRICAN DEVELOPMENT BANK GROUP

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FOREWORD

The release of the *2022 African Economic Outlook* comes against a backdrop of two major global crises: the lingering COVID-19 pandemic and the Russia–Ukraine conflict. The latter erupted as Africa's economy was on a path of recovery from the ravaging impact of the pandemic, and it threatens to set back the continent's promising economic prospects.

The continent risks sliding into stagflation—a combination of slow growth and high inflation. Real GDP is projected to grow by 4.1 percent in 2022, markedly lower than the near 7 percent in 2021. The deceleration in growth highlights the severity of the impact of the Russia–Ukraine conflict on Africa's economy. This growth will be driven largely by private consumption and investment on the demand side and by continued expansion in the services sector on the supply side. The services sector, especially tourism, has shown strong postpandemic recovery and is likely to remain buoyant in the medium term, supported by industry, especially in mining, underpinned by soaring metal prices. Africa's low COVID-19 vaccination rollout, persistent sovereign debt vulnerabilities, high debt levels, and climate and environmental concerns remain the main threats to medium- and long-term growth trajectories.

Disruptions to global trade and supply chains—primarily in agricultural, fertilizer, and energy sectors—following the Russia–Ukraine conflict and the corresponding sanctions on trade with Russia have tilted the balance of risks to Africa's economic outlook to the downside. The impact is, however, likely to be asymmetrical. On the one hand, net oil- and other commodity-exporting African countries could benefit from higher prices of their exported commodities. On the other, the impacts on net energy-, food-, and other commodity-importing countries, are concerning as higher food and energy prices will exacerbate inflationary pressures and constrain economic activity. Vulnerable populations, especially in urban areas, will bear the greatest burden of rising food and energy prices, and in the absence of measures to cushion the impact, this could stoke social tension across the continent.

An urgent countercyclical policy response such as subsidies to mitigate the impact of higher food and energy costs is therefore needed. But in many African countries, fiscal space remains constrained by the effects of the pandemic. Revenues have not recovered to prepandemic levels, and spending pressure remains elevated. The Bank has thus swiftly responded with a $1.5 billion African Food Crisis Response and Emergency Facility to rapidly ramp up food production and fertilizer supply and alleviate social sector financing constraints in Regional Member Countries. This measure will help address food security–related challenges caused by the Russia–Ukraine conflict and ensure food and nutrition security in the short to medium term.

If the conflict persists, Africa's growth is likely to stagnate at around 4 percent in 2023. Strikingly, oil-importing countries will gain the most in 2023, with growth increasing from 3.7 percent in 2022 to 4.1 percent, underscoring the resilience and diversified sources of growth in these economies. But their expansion will be mitigated by the projected

slight growth deceleration in net oil-exporting countries, from 4.4 percent in 2022 to 4.1 percent in 2023. In these economies, the supply response to the positive price shock will remain subdued due to persistently weak production capacity in some countries.

By focusing on climate resilience and a just energy transition, the *2022 African Economic Outlook* rekindles the Bank's strong commitment to addressing the continent's climate vulnerabilities and transitioning toward net-zero by 2050. The transition is inevitable but should not compromise the need for universal access to energy services and the achievement of the Sustainable Development Goals. As outlined in the report, Africa is the least climate-resilient region in the world, with high vulnerability to climate change and low readiness for adaptation to climatic shocks. Yet it has some of the lowest per capita climate finance inflows in the world. This is at odds with the tenets of true climate justice, which suggests that Africa is owed almost 10 times the global climate finance it received from 2016 to 2019.

The report thus lays out arguments for sustainable development and fairness for a just global energy system and examines low-carbon transition pathways and new opportunities for Africa's sustainable growth anchored on its resource endowment. It calls for candid discussions on the current lopsided global climate finance architecture, outlines ways for reforms, and maps existing sources of climate finance targeting the continent's needs and gaps. It further examines innovative climate finance instruments to build resilience and a just energy transition at the international, regional, and national levels for the benefit of the continent.

The good news, though, is that things are moving in the right direction. During the 26th United Nations Climate Change Conference of the Parties (COP26) in Glasgow in November 2021, representatives from nearly 200 countries agreed on further actions to curb carbon emissions and additional funding—especially for adaptation—for low- and middle-income countries. But given the scale of resources needed to meet Africa's Nationally Determined Contribution targets—estimated at $118.2–$145.5 billion a year until 2030, more concrete policy actions will be required to close Africa's annual climate finance gap. The upcoming COP27 in Sharm El-Sheik, Egypt, offers an opportunity for African leaders and stakeholders to reinforce the call for a renewed global commitment by advocating for greater and firm support to build climate resilience and ensure a just energy transition on the continent, leaving no one behind.

In view of the low climate finance resource flows to the continent, this year's *African Economic Outlook* also offers innovative perspectives on how African countries can successfully navigate the ongoing socioeconomic challenges and rising geopolitical conflicts to avoid a triple crisis of sluggish economic recovery, increased energy deficits and inequality, and high climate vulnerabilities. Although global partnerships will be crucial to addressing these challenges, African countries need to do more advocacy work and combat COVID-19 vaccine hesitancy. The report also highlights the importance of supporting domestic pharmaceutical industries and promoting industrialization, which will drive long-term economic growth and sustainable development. Countries also need to take bold steps to strengthen public financial management, including of climate finance resources; reform fossil fuel subsidies; promote transparency and accountability in debt contraction; improve public service delivery; develop well-tailored domestic resource mobilization instruments; improve tax administration; and create an environment to mitigate private investment risks for sustained long-term growth and employment creation.

With bilateral and multilateral development partners, the private sector, and African governments working together, the continent will emerge stronger from the socioeconomic disruptions brought about by the triple effects of the COVID-19 pandemic, the Russia–Ukraine conflict, and climate change.

Dr. Akinwumi A. Adesina
President, African Development Bank Group

CONTENTS

Boxes

Figures

Tables

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2018	Infrastructure and Its Financing
2019	Integration for Africa's Economic Prosperity
2020	Developing Africa's Workforce for the Future
2021	From Debt Resolution to Growth: The Road Ahead for Africa

HIGHLIGHTS

CHAPTER 1
AFRICA'S ECONOMIC PERFORMANCE AND OUTLOOK

Real gross domestic product (GDP) in Africa rebounded strongly in 2021, growing by 6.9 percent. This rebound was supported by recovery in global demand, higher oil prices benefiting oil-exporting economies, easing of COVID-19 restrictions in most countries, and associated growth in domestic consumption and investment. Africa's real GDP growth is, however, projected to decelerate to 4.1 percent in 2022, reflecting ebbing of base effects and uncertainties related to the persistence of the COVID-19 pandemic and the impact of the Russia–Ukraine conflict.

Growth varies widely across countries and regions. Economic growth in 2021 was highest in North Africa (11.7 percent) and East Africa (4.8 percent). In 2022, growth is expected to decelerate to 4.5 percent in North Africa and to stabilize at 4.7 percent in East Africa. Average growth in 2021 in West Africa was 4.3 percent and is projected to remain strong at 4.1 percent in 2022. Growth in Central Africa is projected to rise to 4.6 percent in 2022, from 3.4 percent in 2021. Southern Africa's estimated growth of 4.2 percent represented the largest recovery, from a contraction of 6.0 percent, underpinned by strong recovery in Botswana (12.5 percent), Mauritius (4.0 percent), and South Africa (4.9 percent). Growth in the region is projected to decelerate to 2.5 percent in 2022 as the effects of large fiscal stimuli peter out.

Africa's growth outlook is highly uncertain, with risks tilting to the downside. The spillover effects from the Russia–Ukraine conflict and related sanctions on Russia may cause a larger decline in global output than currently projected. A combination of low COVID-19 vaccination rollout and emergence of new COVID-19 variants may force countries to retain some restrictions. Other downside factors include heightened debt vulnerabilities, tight global financial conditions as inflationary pressures rise, the effect of the Russia–Ukraine conflict and related sanctions on Russia, climate and environmental risks, and other sociopolitical and security issues. Upside factors include faster vaccination rollout, a comprehensive resolution of debt problems, and policies to accelerate structural transformation and build economic resilience.

Macroeconomic fundamentals have generally improved, but considerable challenges remain in the medium term, due largely to persistence of the pandemic effects and volatility induced by the impact of the Russia–Ukraine conflict. The average fiscal deficit in Africa is projected to narrow to 4.0 percent of GDP in 2022, from 5.1 percent in 2021, reflecting scaling-down of COVID-19-related interventions and relative strengthening of domestic

revenues. However, rising commodity prices triggered by the Russia–Ukraine conflict represent a major headwind for the fiscal situation in the short to medium term, especially for economies dependent on imports of energy and food commodities. The average current account deficit is projected to be 2.0 percent of GDP in 2022, down from 2.4 percent in 2021, underpinned by expected narrowing of the trade deficit and current transfers. Exchange rate fluctuations fell in most countries in 2021, supported by improved foreign exchange inflows. The outlook for exchange rates in 2022 and beyond depends on developments in international financial markets, especially on the back of the Russia–Ukraine conflict and normalization of monetary policy in advanced economies. Average inflation is projected to accelerate to 13.5 percent in 2022 from 13.0 percent in 2021, fueled by a sharp rise in commodity prices, especially energy and food, due to escalation of the Russia–Ukraine conflict.

Improving vaccination rates by tackling vaccine hesitancy and improving vaccine supply is key to reducing infections and mortality and to quickening the economic recovery

Sovereign debt remains a threat to economic recovery despite recent debt relief initiatives. Although Africa's debt-to-GDP ratio is estimated to stabilize around 70 percent in 2021 and 2022, from 71.4 percent in 2020, thanks to growth recovery and debt relief measures, it will remain above pre-pandemic levels. The international financial community's initiatives, such as the Debt Service Suspension Initiative (DSSI), the Common Framework, and the International Monetary Fund's August 23rd, 2021, general allocation of $650 billion-equivalent Special Drawing Rights (SDRs) have also helped alleviate liquidity pressures in many countries by boosting external buffers. However, these initiatives have not erased debt vulnerabilities, with 23 African countries either in or at risk of debt distress as of February 2022. Additional structural reforms such as debt restructuring and reprioritizing public spending are required to ensure long-term debt sustainability. Reconfiguring the global debt relief architecture, including reinstating the DSSI, will be crucial in supporting debt-ridden African countries' transition toward a path of sustainable debt in the medium to long term.

Despite a rebound in growth, the impacts of the COVID-19 pandemic on lives and livelihoods in Africa continued in 2021. The Bank estimates that about 30 million Africans were pushed into extreme poverty in 2021 and that about 22 million jobs were lost in African countries the same year due to the pandemic. These outcomes are likely to continue in 2022 and 2023. When the prolonged effect of economic disruptions stemming from the Russia–Ukraine conflict is accounted for, the number of additional Africans who could be pushed into extreme poverty is estimated to be 1.8 million in 2022 and 2.1 million in 2023. Workers in the informal sector, mainly women and youth, are the hardest hit. In addition, several African countries, such as eSwatini, South Sudan, and Uganda, closed schools for more than 36.7 weeks (the global average from the onset of the pandemic to October 2021)—equivalent to more than a half-year of schooling—eroding the positive trends in education over the past decade. Additional financing needs are estimated at about $432 billion over 2020–22 (a revision from the previously estimated $484 billion due in part to better-than-anticipated fiscal positions) and translated into an average of $144 billion a year over this period to support the recovery.

Africa's low vaccination rates are constraining faster economic recovery and increasing the health impact of COVID-19. These rates—15.3 percent of people were fully vaccinated by end-March 2022 against a target of at least 60 percent in most other global regions—are attributed to a combination of supply- and demand-side impediments. Improving vaccination rates by tackling vaccine hesitancy and improving vaccine supply is key to reducing infections and mortality and to quickening the economic recovery. African countries will thus need to speed up their current vaccination rollout if they are to close the vaccination gap with other regions.

Africa is the region most affected by climate shocks: 5 of the 10 most affected countries in 2019 are on the continent. In just 2020 and 2021, 131 extreme-weather, climate change–related disasters were recorded on the continent—99 floods, 16 storms, 14 droughts, and 2 wildfires. Climate change, therefore, poses substantial risks to African economies, threatens the lives and livelihoods of millions of people,

and could undo hard-won progress in achieving some of the key targets of the Sustainable Development Goals (SDGs), the African Union Agenda 2063, and the Bank's High-5s. Policies to support post-pandemic economic recovery for Africa must include initiatives to enhance the resilience of the continent by mitigating climate-related shocks that contribute to output fluctuations and poverty.

Policy recommendations to build back better and engender resilient economies in Africa

- *Speed up COVID-19 vaccination rollout through better vaccine delivery policies and strong support to domestic pharmaceutical industries.* Keeping the pandemic under control should remain a top policy priority for African countries. Increasing vaccination rates would reduce infections and protect against the emergence of more transmissible and deadly variants of the virus. In addition, better vaccination coverage will ensure that scarce public financial resources are channeled directly to post-COVID-19 recovery efforts and help build economic resilience against future shocks.
- *Increase investments in critical healthcare systems.* Governments should invest more in their healthcare systems and increase the number of critical healthcare workers to deal with recurrent health shocks by considerably increasing the budgetary allocation to the sector. Prioritizing the sector will entail investing in new healthcare facilities—or rehabilitating and upgrading existing ones—with state-of-the-art infrastructure and equipment; training health professionals in medical advances in managing and responding to pandemics and epidemics; and establishing clear preparedness plans against future resurgence of health shocks.
- *Promote inclusive growth to address increased poverty and inequality through social programs and job opportunities targeting vulnerable people.* Countries should undertake tailored social programs that reach the most vulnerable, such as women, young people, disabled people, informal workers, and female-headed households. These efforts will also require countries to implement reforms that support industrialization, diversification, and digitization; improve labor market regulations and make labor markets more adaptable and responsive to shocks; improve the management and efficiency of public tax systems; encourage private sector productivity-enhancing innovations; and match the curricula of education systems to the needs of labor markets.
- *Coordinate monetary and fiscal policy actions to bolster recovery.* In countries where inflation is contained, accommodative monetary policies need to be maintained and strengthened to help preserve favorable financing conditions and accelerate the post-COVID-19 recovery. However, in countries where inflationary pressures are elevated—due mainly to supply–demand mismatches exacerbated by the Russia–Ukraine conflict—timely monetary policy tightening will be needed even if that delays recovery. A tighter monetary policy that targets inflation should be complemented with a carefully calibrated fiscal policy response to support the recovery and protect the most vulnerable people. Supporting the most vulnerable will require reprioritizing spending and better targeting social safety nets. Net oil exporters could use the fiscal windfall created by higher oil prices to build fiscal buffers and support recovery and the most vulnerable. Where recovery is weak, countries could use their extra fiscal space wisely by prioritizing targeted social spending and productive investment to build the foundation for faster future growth. However, for many countries, navigating this complex path will require decisive support from the international community and global cooperation to prevent humanitarian and debt crises.
- *Reduce dependence on any single supplier of food.* One lesson from the Russia–Ukraine conflict is that countries should diversify sources of imports of crucial goods and commodities such as energy and food to build resilience against idiosyncratic shocks. The long-run policy response to economic diversification should include enhancing intra-Africa trade to build food self-sufficiency. This will be crucial to building economic resilience to future shocks. The African Continental Free Trade Area offers substantial opportunities for trade diversification

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and development of trade networks in key agricultural commodity markets and in less volatile manufacturing value added products.

- *Reinstate and reconfigure the DSSI and Common Framework and scale up efforts to accelerate governance reforms and strengthen public financial management to deal with the structural challenges of Africa's rising public debt.* High public debt threatens recovery efforts on the continent and is holding back prospects to engender high and sustainable economic growth. Domestic policy response remains constrained by limited fiscal space amid growing social sector spending pressures. It is therefore imperative that the global community rethink terminating the DSSI framework, which was designed to provide temporary relief to countries facing growing debt overhang. A reconfigured DSSI and Common Framework will limit the impact on Africa's public debt from currency depreciation due to the global uncertainty stoked by the Russia–Ukraine conflict and spillover effects of the tight monetary policy stance being implemented in advanced economies. African countries need to accelerate governance reforms and improve public financial management if they are to decisively address their recurrent debt vulnerabilities. These actions require them to build strong budget institutions so as to efficiently mobilize domestic resources, conduct sound public expenditure, and implement rigorous debt management and budgeting.
- *Boost local cereal production in Africa to mitigate global supply risks.* Supporting Africa's small-scale farmers can trigger an agriculture revolution to feed Africa, especially in urban areas. It is imperative that African countries provide farmers ample access to affordable finance, improved food production technologies (especially certified seeds adapted to extreme climatic conditions), large-scale systematic extension, and mechanization services, to boost food production. Moreover, food prices can be stabilized in the short term through targeted release and replenishment of strategic food reserves. Such interventions often work best if they bring together the private sector, international community, national and international research centers, and governments.

Africa's share of cumulative carbon emissions between 1850 and 2020 was below 3 percent, much of which is locked in forestry and land use

CHAPTER 2 CLIMATE RESILIENCE AND A JUST ENERGY TRANSITION IN AFRICA

The Paris Agreement, which came into force in November 2016, highlighted the need to hold the increase in the global average temperature to well below 2°C above preindustrial levels and to pursue efforts to limit the temperature increase to 1.5°C above those levels. The agreement called for "common but differentiated responsibilities" to support mitigation of greenhouse gas emissions alongside climate adaptation.

Climate justice is not only about how the world should transition from carbon-intensive development to climate-resilient pathways, but also how the burden of historical and current carbon emissions should be shouldered by countries in a responsible manner. If the world is to achieve the net-zero transitions by 2050, as stipulated in the Paris Agreement, then it means that about 85 percent of the "global carbon budget" has already been used, with only 400 gigatonnes of carbon dioxide equivalent ($GtCO_2eq$) left. A large proportion of historical and current emissions are from developed and emerging economies: the United States, the 27 countries of the European Union, the United Kingdom, and China accounted for about 70 percent of cumulative carbon emissions between 1850 and 2020. Africa's share was below 3 percent, much of which is attributed to forestry and land use.

In 2020, the average American had a carbon footprint of 14 tonnes CO_2eq (tCO_2eq), the average African 0.95 tCO_2eq, much below the required global per capita average of 2.0 tCO_2eq needed to achieve the Paris Agreement. Securing socioeconomic development within the remaining global carbon budget and supporting climate adaptation are the key components of "climate-resilient development," which is "a development trajectory that strengthens sustainable development at multiple scales, while reducing the threat of climate change through ambitious mitigation, adaptation and climate resilience."

The burden of climate change on African economies and livelihoods is disproportionately

high, despite the continent's low share of global carbon emissions. The Intergovernmental Panel on Climate Change Working Group 1 projected that the rate of temperature increase across Africa will exceed the global average and will be accompanied by increases in frequency and intensity of heavy rainfall events almost everywhere in Africa. The projected dry and hot conditions will have a severe impact on the continent where most people's livelihoods are directly linked to the health of natural systems, and in many cases dependent on rainfed agriculture. African countries are already spending substantial resources annually to cope with the effects of the climate crisis, diverting scarce resources from investment in socioeconomic development programs, and threatening to drive countries into ever deeper poverty.

The principle of a just energy transition must consider past emissions and how they shape future emissions trajectories. Africa contributed little to the historical emissions buildup and should not be denied the carbon space to develop its economy.

Africa is the least climate-resilient global region, with high vulnerability and low readiness to climate change. Its vulnerabilities are largely caused by its desert and semidesert climatic zones, low levels of socioeconomic development, and lack of technological capacity and finance for adaptation. Many countries on the continent have a huge deficit in climate finance and investment to adopt preparedness and response measures for climate change. Developing climate adaptation measures, identifying and assessing disaster risks, and strengthening collaboration and coordination across African subregions and countries are all urgently needed.

Climate shocks threaten to derail development gains and cause further economic costs and social disruption. Adapting to climate change could cost the continent at least $50 billion annually by 2050. Across East and West Africa, climate change in the high-warming scenario is estimated to reduce GDP per capita growth by up to 15 percent by 2050, below the baseline GDP per capita growth scenario. North and Southern Africa would also be severely affected, with around a 10 percent decrease in GDP per capita growth by 2050, and Central Africa would face a potential decrease in GDP per capita growth of around 5 percent. These regional differences are partly explained by variations in economic structures and by the degree of climate resilience.

Inclusive and resilient development requires countries to triangulate the economic, social, and environmental dimensions of sustainable development in an integrated way. A "silo" approach that focuses on one dimension at the expense of the others has a less optimal impact. One of the main ways to address the integration of these three sustainable development dimensions lies in the concept of "climate-resilient development pathways," which calls for an integrated assessment of adaptation and mitigation. The concept implies that such development pathways mitigate climate risks, protect countries and communities against losses and damages from climate events, boost economic growth, create quality jobs for citizens, and improve livelihoods and social well-being of all citizens concurrently. Economic development pathways that allow for equal consideration of the three dimensions will be able to deliver sustainable and inclusive progress for current and future generations.

Africa needs to accelerate its structural transformation to achieve social and economic progress within the global carbon budget constraint and against a backdrop of a rapidly changing climate. The continent has experienced strong economic growth since 2000 relative to the 1990s, which has led to the optimistic narrative that "Africa is rising." However, growth was largely driven by commodity prices, albeit supported by improved macroeconomic management and debt relief, but with little structural transformation and persistent poverty and inequalities. Population growth and urbanization rates in Africa place huge needs for scaling up investments in infrastructure in key sectors (including agriculture, energy, roads, rail, airports, seaports, and industry), public services, job creation, and environmental sustainability. The type of infrastructure development to meet the social and economic needs of citizens

Many countries on the continent have a huge deficit in climate finance and investment to adopt preparedness and response measures

determines the trajectories of countries' sustainable development pathways. Hence, infrastructure investments must decouple the delivery of social and economic welfare gains from environmental externalities such as carbon emissions.

Universal access to energy services is crucial for achieving the SDGs, including poverty eradication (SDG1) and climate resilience (SDG13). Economic development, climate change, and energy policy are inextricably linked. As countries grow through industrialization, their demand for energy increases. SDG7 on universal access to energy calls for "access to affordable, reliable, sustainable and modern energy for all." It recognizes that none of the other SDGs can be achieved without adequate access to energy services. Further, access to sustainable energy services is a key enabler of economic growth, poverty eradication, gender inclusion, and climate resilience.

African economies should have headroom on greenhouse gas emissions, low levels of economic growth, and significant untapped resource potential

Power consumption per capita in Sub-Saharan Africa is the lowest in the world, estimated at 370 kilowatt-hours (kWh) a year, far lower than the 6,500 kWh in Europe and 11,000 kWh in the United States. Over 600 million Africans have no access to electricity, despite progress in recent years. Access to, and reliability and affordability of, energy services remain major constraints to economic growth, competitiveness, and job creation in many African countries. With the current trends in Africa's demography, urbanization, and economic development, Africa needs to boost its modern electricity production and consumption hugely to achieve the SDGs, including poverty eradication and climate resilience.

Industrialization is key to long-term economic growth and sustainable development. During the early stages of industrialization, increasing economic productivity is often the priority objective. The multiplier effects of increased economic activity lead to social progress through, for example, job creation, higher manufacturing value added, greater tax revenue from produced capital, and stronger GDP growth. However, overreliance on cheap fossil fuels to drive industrialization and export-led growth comes with social, economic, and environmental externalities. These include widening income gaps and social fragilities, systematic liquidation of natural capital (forests, freshwater, and other natural resources), and degradation of ecosystem services.

Balancing the key components of sustainable development is imperative. Efforts must lead to a gradual decoupling of economic activities and outcomes from environmental harm through the technical efficiency that comes with cleaner technologies and higher marginal value products in firms. While fossil-driven pathways have facilitated growth and prosperity in the past, this pathway to industrialization is closing. The fast pace of renewable energy (RE) technologies and market transition, with global policy commitments to net-zero development pathways, present significant risks for fossil-based energy investments in the medium and long term. As global investments in RE technologies increase, technical breakthroughs and innovative solutions are inevitable. Market responses in the form of lower prices and increased demand for RE will crowd out demand for fossil-based energy sources, as already seen in key sectors such as lighting, transport, and some other energy services. Continued investment in fossil-based energy sources will face stiff market competition today and could lead to stranded assets tomorrow. The development finance architecture is also rapidly changing, with a significant bias toward RE technologies.

There are trade-offs in choosing energy system transition pathways to support economic development objectives while remaining within the global carbon budget. Given their historical and current contributions to global carbon emissions, African economies should have headroom on greenhouse gas emissions, low levels of economic growth, and significant untapped resource potential. Distributive justice—a just energy transition in Africa—requires that more of the remaining global carbon budget is allocated to the African continent to allow it to meet the basic needs of its citizens as well as achieve other SDGs. However, policymakers should also recognize that a "grow first, clean up later" approach comes with major environmental and social costs for current

and future generations. The social, economic, and environmental costs in the medium and long term often outweigh current benefits. Equally, deep and widespread poverty contradicts the very essence of sustainable development: poverty engenders environmental degradation and vice versa. Energy policies should therefore factor in the medium- and long-term social, economic, and environmental costs and benefits in developing sustainable energy systems.

Although fossil-based energy sources, including coal, remain a significant part of the energy mix in most countries, the share in Africa's energy mix is relatively modest. Given the lifespan of these fossil-based energy systems, they will remain major sources in the mix up to 2050 and beyond. Thus, weaning economies off the lock-in to fossil-based energy systems would transition the world faster to a net-zero economy. However, as seen in historical evidence, the transition involves high investment costs and a long time. It took North America, Europe, and China 35 years to reduce coal in their energy mix by 60 percent, 54 percent, and 2 percent, respectively (between 1985 and 2020). In contrast, India increased the share of coal in its energy mix by 16 percent in this period. Africa reduced the share of coal in its energy mix to 29 percent from 54 percent in the period.

Natural gas has served as the transition fuel in countries that have access to it, allowing them to gradually reduce coal in their energy mix. For instance, the share of natural gas in the energy mix in North America, Europe, China, and Africa grew by 217 percent, 150 percent, 300 percent, and 255 percent, respectively, between 1985 and 2020. Other complements in the energy mix include nuclear, hydropower, and other RE technologies, such as wind, geothermal, and solar. While the proportion of RE in the mix has rapidly increased in the past 35 years, it remains a small share of the energy mix in all regions. The fastest increase was in the European Union, rising from 14 percent to 34 percent between 1990 and 2020. Africa recorded a 500 percent increase in other RE technologies during this period, but a 21 percent decline in hydropower due to the recurrence of climate change–induced droughts. Much work still needs to be done to accelerate RE technological capacity. Such capacity—to provide a sustainable and reliable baseload for industrial activities—is still being developed. Large investments are required to upgrade existing grids to accommodate a high penetration of variable RE systems in countries.

Low carbon transitions in Africa will vary from country to country. The energy issues across Africa are inherently complex, largely due to the dual nature of the energy system itself where traditional and modern energy systems and practices coexist. Further, the continent has a variety of ecological zones, climates, settlement patterns, economic structures, resource bases, and governance systems. Some countries are heavily endowed with fossil fuels and others in renewable resources or both. African countries present a wide diversity in energy potential and needs, despite considerable commonalities, and policies for a just energy transition in Africa must consider this fact. Some commonalities include the need to rapidly scale up investment in RE technology development and deployment as well as in energy-efficiency technologies, and to strengthen country capacity for participating in RE markets and innovative climate finance. These approaches will support a just energy transition in Africa to low carbon energy development. A just energy transition will also mainstream youth and gender empowerment and social equity to ensure that "no one is left behind."

Africa's low carbon transition provides transformational socioeconomic growth opportunities. Given their competitive advantage due to rich endowments in RE and in the green development of mineral resources, many African countries have a unique opportunity to benefit from low carbon development and a just energy transition pathway appropriate to their national context. The continent is richly endowed in lithium, graphite, cobalt, nickel, copper, and rare earth minerals—all of which are essential to building the global green economy of the future and which represent new market opportunities for net-zero transitions. The current development context makes the transition to low carbon development imperative. The "grow first, clean up later" principle is no longer tenable.

Many African countries have a unique opportunity to benefit from low carbon development and a just energy transition pathway appropriate to their national contex

In addition to the SDGs, Africa's Agenda 2063 among other goals aspires to build "a prosperous Africa, based on inclusive growth and sustainable development." Global development goals, development finance, and market trends also point to global demand for more inclusive, low-carbon development pathways within the global carbon budget constraint. With their limited lock-in to fossil-based energy technologies, many African countries have unique opportunities to build a needs-based climate-resilient and integrated sustainable energy sector.

Policies on climate resilience and a just energy transition in Africa should be designed as inclusive. African countries can all participate in the just energy transition by strengthening local capacity in green technology development and by moving up the global green value chain. Some of them are already major suppliers of critical minerals for renewables and electronics goods to producers, mainly outside Africa, such as China, the United States, and the European Union. The global green transition must mean more than just installing technologies that help drive global decarbonization under the current global knowledge systems that created climate change. There is a need to encourage new models of development that foster the location of clean technology industries close to the sources of raw materials to boost socioeconomic development in resource-rich countries, reduce the carbon footprint of products, and deliver global environmental co-benefits.

Countries must have the latitude to define development programs for net-zero transitions within their social, economic, and environmental contexts

Aligning the Nationally Determined Contributions (NDCs) to national strategies is critical. NDCs represent the commitments of each country to reduce greenhouse gas emissions and adapt to climate change. They embed the financing requirements (internal and external) to achieve the desired transitions. African governments need to connect their NDCs to country sectoral and social development visions, policies, regulations, and markets, enabling the NDCs to create the conditions that foster endogenous innovation and investment in green technology solutions to build local capacity for a just transition. Conditional financing is more prevalent in the African NDCs than in other global regions mainly because they were designed on the assumption that the $100 billion agreed in Cancun would support country-led strategies and be flexible to country needs. It was also assumed that financing would come in the form of grants that are flexible, but that did not happen. There is a disconnect between country strategies and the type of financing available to implement them.

African governments should mobilize their efforts to build institutions and develop human resources to create the conditions for investment and implementation of a just transition in countries. Countries that have the institutional capacity can build a healthy and viable regulatory environment to spur greater investment. They would also be able to develop local content policies and sector-specific strategies that are in line with their capabilities and aspirations tailored to their development goals. Internal capacity is important if innovation and investment promotion are to drive climate-resilient development programs. And to be sustainable, countries must have the latitude to define development programs for net-zero transitions within their social, economic, and environmental contexts.

Effective partnerships are required, based on the mutual interest of taking climate action everywhere. Climate change is a global issue—for example, greenhouse gases mix freely in the atmosphere irrespective of their origin, although the impacts could be disproportionate and localized in the short term due to differences in vulnerability and in adaptation capacity. In the medium to long term, climate impacts can have unintended consequences beyond national boundaries through increased economic, social, and environmental fragilities. Global action is therefore required in developing climate policy and mobilizing climate finance to support mitigation of further greenhouse gas emissions and adaptation to climate impacts everywhere. The cost of uncoordinated global action or inaction could lead to global catastrophe sooner than expected.

CHAPTER 3 FINANCING CLIMATE RESILIENCE AND A JUST ENERGY TRANSITION IN AFRICA: STRATEGIES AND INSTRUMENTS

Climate finance inflows to Africa have fallen short of the commitments made by developed countries and of the continent's adaptation and mitigation needs. Between about $1.3 trillion and $1.6 trillion will be needed over 2020–2030 to implement the continent's climate action commitments and NDCs, or between $118.2 billion and $145.5 billion annually. Africa's share in total global climate finance increased by only 3 percentage points on average in 2010–19, from 23 percent (or $48 billion in total) in 2010–15 to 26 percent (or $73 billion) in 2016–19. If this trend continues, a climate financing gap of $99.9 billion to $127.2 billion a year will remain through 2030, likely undermining Africa's efforts to support climate resilience and a just energy transition.

Despite energy being the most funded sector in Africa, resources mobilized so far for the sector are dwarfed by the continent's enormous energy investment needs. About $15.5 billion (26 percent of the total) of climate finance inflows to Africa was channeled annually in 2010–19 to the energy sector. However, under the Bank's New Deal on Energy for Africa, $32–$40 billion in annual investment along the energy value chain is required to achieve universal access to electricity on the continent by 2030, leaving a total annual climate financing gap for energy under the New Deal of $16.5 billion to $24.5 billion. The continent's large economies—Egypt, Nigeria, and South Africa—account for about 33 percent of the gap.

Climate finance has often been mobilized for more resilient countries and those less vulnerable to climate shocks. Climate finance did not flow significantly to countries more likely to experience climate shocks and other extreme weather events, nor to those less resilient to climate change. Though some idiosyncratic factors might explain the relative attractiveness of climate finance to some countries, such as capacity to develop bankable projects, this perverse association between climate finance and countries' resilience and vulnerability suggests a potential misallocation of resources to countries.

Debt instruments have been increasingly used to finance climate-related projects in Africa, often on nonconcessional terms. Financing instruments for climate change in Africa have so far disproportionately leaned toward debt: in 2011–19, debt instruments accounted for about two-thirds of all climate finance to African countries. Debt relief instruments represented less than 0.1 percent of climate finance over the same period. The 33 percent of debt-financed climate projects in Africa on nonconcessional terms could have increased Africa's debt burden and exacerbated debt sustainability challenges, further undermining the continent's climate resilience capacity.

The global climate finance landscape is highly fragmented, leaving accountability for climate finance flows opaque and hard to measure objectively. Climate finance is loosely defined as local, national, or transnational, drawn from public, private, or other sources of financing that seeks to support mitigation and adaptation. The climate finance landscape has so far mirrored the existing political economy of the global development finance architecture, which is largely donor dominated. Weak coordination and lack of an agreed methodology for measuring climate finance flows from different sources have led to a lack of transparency and accountability in tracking new and additional climate finance flows from different sources. This has led to increased tradeoffs among climate finance and other sources of financing for development, including Official Development Assistance (ODA) and financing from multilateral development banks (MDBs), which includes resources from African member countries.

Rebranding ODA as climate finance has significant implications for achieving the development goals for which it was designed, especially poverty eradication programs. Yet, counting MDB resources as part of the $100 billion commitment of climate finance flows from the developed to developing countries would lead

$32–$40 billion in annual investment along the energy value chain is required to achieve universal access to electricity on the continent by 2030

to double counting, as that would include capital contributions from developing-country shareholders in the regional MDBs. Greater clarity is required on the methodology of measuring climate finance flows to cover new and additional commitments so as to avoid double counting.

Several innovative climate finance instruments can be deployed to mobilize domestic climate finance in Africa. These instruments include green bonds and loans, sustainability or sustainability-linked bonds and loans, and debt-for-climate swaps. The SDRs allocated to willing developed countries could also be reallocated to African countries through the African Development Bank or the African Development Fund, or both, as prescribed holders for further leveraging and financing for climate resilience and a just energy transition in Africa. Countries can also mobilize domestic capital through carbon markets, especially when emissions are traded at the true price of carbon. Other innovative climate finance instruments could include realignment of fossil-fuel subsidies and other progressive tax instruments, deployable in key sectors such as energy and transport.

Institutional capacity development, along with regulatory and other policy reforms, are urgently needed to support and accelerate climate finance from domestic and external sources

Policy recommendations

- Based on this report's work on carbon debt and carbon credits, the total climate finance due to Africa to compensate for historical and future emissions is estimated at between $4.76 trillion (lower bound) and $4.84 trillion (upper bound) through 2050, which translates into an annual figure of between $163.4 billion and $173 billion for 2022–50. These estimates reflect Africa's carbon credit accounting for its historical and future carbon emissions share value at the current average international social cost of carbon. These amounts are very high, reflecting the opportunity costs to Africa of historical emissions by other world regions between 1850 and 2021. The scale of fiscal measures mobilized by the world in response to COVID-19 ($17 trillion) within two years indicates that the tools and resources to meet the climate finance commitments exist—if political will is mobilized.
- Developed countries should demonstrate political will to address climate change adaptation and mitigation challenges in developing countries by honoring their commitment to provide $100 billion annually to developing countries to support climate action. This should be new and additional resources, distinct from ODA commitments and financing from MDBs.
- The SDR amounts allocated to willing developed countries should be channeled to African countries through the African Development Bank or the African Development Fund, or both, for greater leveraging to support climate resilience and a just energy transition in Africa.
- Innovative financing instruments, such as green bonds and loans, sustainability or sustainability-linked bonds and loans, debt-for-climate swaps, and more efficient and better-priced carbon markets, could provide much-needed domestic resources to support Africa's ambition to achieve a net-zero transition by 2050.
- Institutional capacity development, along with regulatory and other policy reforms, are urgently needed to support and accelerate climate finance from domestic and external sources—public and private—for climate resilience and a just energy transition in Africa. Countries should take steps to strengthen public financial management; promote transparency and accountability in public service delivery; improve government effectiveness in management of climate finance; build internal capacities in climate-related program/project origination and life cycle management; develop well-tailored domestic resource mobilization instruments, including tax and subsidy reforms; and improve the business environment to mitigate investment risks in the medium to long term.
- MDBs, development finance institutions, and bilateral development agencies should make available a greater volume of concessional finance instruments and grants to support climate adaptation and a just energy transition in Africa. Climate change is a global commons problem, demanding global cooperation for sustainable resolution. Accelerating climate finance for climate resilience and a just energy transition in Africa is in the interest of the whole of humanity's future.

1

AFRICA'S ECONOMIC PERFORMANCE AND OUTLOOK

KEY MESSAGES

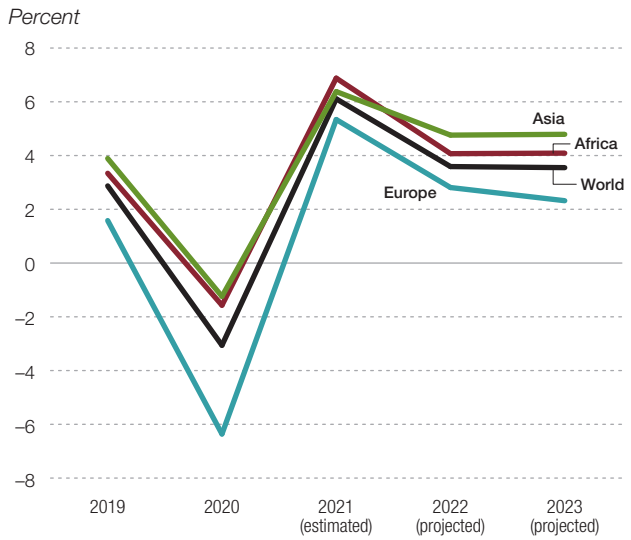
- **Africa's GDP grew by an estimated 6.9 percent in 2021—a strong recovery from the pandemic-induced contraction of 1.6 percent in 2020.** The rebound was attributed to recovery in oil prices and global demand, combined with the resurgence in household consumption and investment in most countries after restrictions were eased.
- **Growth was highest in North Africa (11.7 percent) and East Africa (4.8 percent).** In North Africa, growth was buoyed by the easing of political tensions in Libya and the attendant lifting of oil exports blockade in late 2020, which, coupled with a positive oil price shock, was reflected in unexpected large base effect expansion in the country's GDP (177.3 percent). Southern Africa's estimated growth of 4.2 percent represented the largest recovery, from a contraction of 6.0 percent, underpinned by strong recovery in Botswana (12.5 percent), Zimbabwe (6.3 percent), and South Africa (4.9 percent).
- **Macroeconomic fundamentals have generally improved, but considerable challenges remain in the medium term, due largely to the persistence of the pandemic effect and volatility induced by the impact of the Russia–Ukraine conflict.** Africa's fiscal deficit is projected to narrow to 4.0 percent of GDP in 2022, from 5.1 percent in 2021, reflecting scaling-down of COVID-19-related interventions and strengthening of domestic revenues. The current account deficit is projected to be 2.0 percent of GDP in 2022, down from 2.4 percent in 2021, underpinned by the expected narrowing of the trade deficit and current transfers. Exchange rate fluctuations fell in most countries in 2021, supported by higher foreign exchange inflows. The path on exchange rate dynamics in 2022 and beyond depends on developments in international financial markets, especially on the back of the Russia–Ukraine conflict. Average inflation is projected to accelerate to 13.5 percent in 2022, from 13.0 percent in 2021, as Russia's invasion of Ukraine stokes a sharp rise in commodity prices, especially for energy and food.
- **Africa's low vaccination rates are constraining faster economic recovery and increasing the health impact of COVID-19.** The low vaccination rate in Africa—15.3 percent of the population were fully vaccinated by end-March 2022—is attributed to a combination of supply- and demand-side impediments. Improving vaccination rates is key to reducing infections and mortality and quickening the pace of economic recovery.
- **A policy mix to speed up vaccine access and rollout, address debt vulnerabilities (through reconfigured and enhanced global mechanisms) and climate change effects, and support vulnerable households and firms remains critical to boosting the post-COVID-19 economic recovery.** This mix includes helping domestic pharmaceutical industries produce vaccines locally and addressing bottlenecks to vaccine delivery; accelerating governance reforms and improving public financial management while enhancing the efficiency of debt-financed public investment; and coordinating fiscal and monetary policy actions, combined with securing innovative ways to mobilize domestic resources to enhance fiscal space for investment in poverty-reducing sectors.

MACROECONOMIC PERFORMANCE AND PROSPECTS

Growth performance and outlook

Africa's real GDP grew by an estimated 6.9 percent in 2021, a strong recovery from the contraction of 1.6 percent in 2020. However, this strong recovery faces two major global crises, namely the persistence of the COVID-19 pandemic and the Russia–Ukraine conflict, that bring additional uncertainties and threaten to set back Africa's promising medium-term growth outlook. Growth is thus projected to decelerate to 4.1 percent in 2022 (figure 1.1), reflecting these uncertainties and ebbing of base effects, especially in countries that emerged strongly from sharp pandemic-induced contractions. The growth outlook is also affected by the persistence of COVID-19, low vaccination rates, and spillover effects on the global economy from the Russia–Ukraine conflict and related sanctions on Russia. The 2021 growth outturn is up 3.5 percentage points from the 3.4 percent projected in AEO 2021, reflecting broad-based recovery. The recovery was supported by revived global demand, higher oil prices benefiting oil-exporting economies, easing of COVID-19 restrictions in most countries, and associated growth in domestic consumption and investment. Oil prices have been revised upward to reflect supply disruptions and rising uncertainty in the global oil market.

FIGURE 1.1 Real GDP growth, 2019–23



Source: African Development Bank statistics and *World Economic Outlook*, April 2022.

FIGURE 1.2 Purchasing Managers' Index values for four of the big six economies in Africa, 2017–March 2022

Source: Haver Analytics and IHS Markit.

Africa's estimated real GDP growth in 2021 surpassed the world average and that of other regions. According to the International Monetary Fund's (IMF) World Economic Outlook (April 2022), the global economy grew by 6.1 percent in 2021, led by Asia (see figure 1.1). The strong recovery in Africa was due to near full re-opening of economies following easing of COVID-19 infections and deaths. The expansion was also underpinned by strong unexpected recovery in Libya as improvements in political conditions led to a rebound in oil production and exports. Improvement in economic activity was reflected in higher Purchasing Managers' Index (PMI) values in four of Africa's top six economies (figure 1.2). In 2021, the PMI value in Egypt, Kenya, Nigeria, and South Africa (which together accounted for 52 percent of Africa's GDP in 2021) was mostly above the 50 benchmark and closer to prepandemic levels. The upturn on the PMI was supported by the easing of restrictions as economies continue to adapt to the pandemic and by policy measures to spur economic resurgence. Improved global financial conditions buoyed by the discovery of COVID-19 vaccines since the third quarter of 2020 have also supported Africa's

recovery. Russia's invasion of Ukraine has stoked rising uncertainty and amplified volatility in financial and capital markets, the latter of which are also responding to expectations of monetary policy normalization in the United States and the Euro area. Thus, following the outbreak of the Russia–Ukraine conflict in February 2022, the PMI value for four of Africa's six largest economies fell in March 2022. The impact of the conflict is also reflected in weakening global financial markets (figures 1.2 and 1.3). Box 1.1 discusses the impact of the Russia–Ukraine conflict on Africa.

Africa's recovery has also been supported by improved global trade and rising commodity prices. The 10 percent rebound in global trade in 2021 aided external demand of Africa's primary commodities, especially from its major trading partners (China, the Euro area, and the United States). The rise in global trade lifted commodity prices from 2020 levels, especially prices of energy and metals (figure 1.4). Consequently, growth in net commodity exporters is estimated at 8.1 percent in 2021, reversing the losses of 2020, when real output fell by 1.0 percent. The sustained recovery has also reversed losses in real per capita GDP in 2020: per capita income grew by 4.4 percent in 2021 after contracting by 4.1 percent in 2020 (figure 1.5). At this pace of growth, the continent will exceed prepandemic per capita income in 2022 and 2023.

Favorable domestic policies—critical to improving livelihoods—also supported the recovery. For instance, fiscal stimulus packages and cuts in policy rates by central banks to spur credit growth helped mitigate the pandemic's impact. Central banks also deployed unconventional policy interventions, such as direct liquidity injections into the banking system, extensions of moratoriums on loan payments by severely affected firms and households, and buybacks of government securities. However, the recent increase in consumer prices—driven mainly by food and other commodities—may limit room for further monetary policy easing.

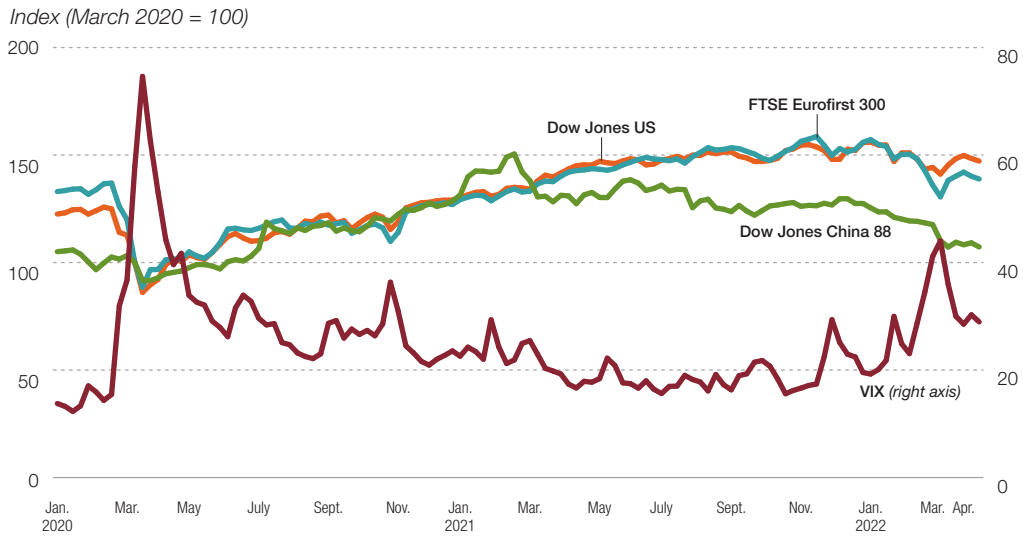
Demand-side and sectoral decomposition of growth

The main drivers of growth in 2021 were private consumption and investment on the demand side and services and industry on the supply side

After collapsing during the pandemic, the pulse of domestic demand—private consumption and investment—rebounded strongly in 2021. Stronger domestic demand reflected an overall surge in economic activity, with services and industry leading growth on the supply side. The estimated

At the current pace of growth, the continent will exceed prepandemic per capita income in 2022 and 2023

FIGURE 1.3 Global capital market indicators, January 2020–March 2022



VIX is the Chicago Board Options Exchange's CBOE Volatility Index.

Source: African Development Bank statistics and Haver Analytics.

BOX 1.1 Russia–Ukraine conflict and impacts on Africa

The Russia–Ukraine conflict began as the global economy was gradually recovering from the negative effects of the COVID-19 pandemic and as pent-up demand amid persistent gridlock in global value chains stoked a surge in commodity prices, fueling strong inflationary pressures. Russia's invasion of Ukraine and the associated sanctions on Russia have imposed costs and volatility on the global economy, transmitted through three main channels—energy and nonenergy commodity prices, supply-chain disruptions, and financial markets. These have direct and indirect implications for African economies.

Both Russia and Ukraine are key players in the global agri-food market and account for more than 25 percent of the world's trade in wheat, more than half the global trade in sunflower oil, and 30 percent of global barley exports.[1] This dominance poses a major challenge for Africa. In 2020, wheat and maize accounted for 41.6 percent (or $3.5 billion) of Russia's $8.5 billion merchandise exports to Africa. In the case of Ukraine, wheat, maize, and vegetable fats and oils accounted for 58 percent ($3.8 billion) of exports to Africa.

Following disruptions in the production and transportation of agricultural supplies from both countries, food prices have soared to record levels. By April 2022, global wheat prices were up 72.5 percent from the corresponding period in 2021, and corn prices were up 21.9 percent. On a continent where 50–70 percent of household spending is on food, disruptions to agriculture production and supply chain have implications for food security and inflation, as well as poverty, especially in the low-income countries that depend on Russia and Ukraine for imports of food and other agricultural products.[2] The rise in food prices has fueled inflationary pressures, which could exacerbate malnutrition and poverty among Africa's poor people, who allocate a greater share of their household income to food.

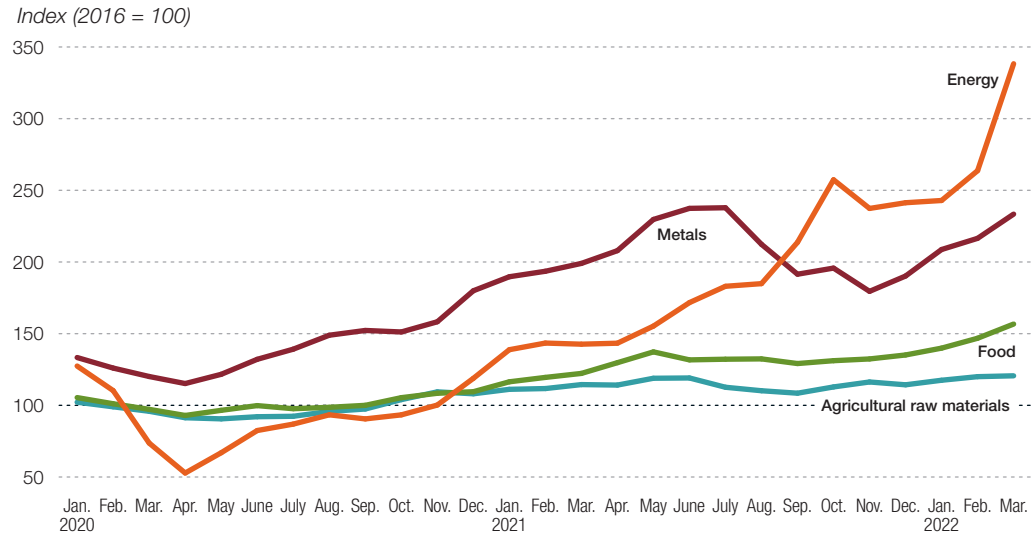
The surge in prices of food, energy, and other commodities will, however, create winners and losers across Africa. Energy-exporting countries stand to gain from higher than predicted prices, provided these countries have excess production capacity to respond to the positive price shock and shore up export earnings. For energy- and net food-importing countries, higher energy and other commodity prices coupled with prolonged gridlock in global supply chains could exacerbate inflationary pressures. Given that most African countries are net energy importers—as they export crude oil and import refined petroleum products due to lack of domestic refining capacity—the overall economic impacts are on the downside. Indeed, while net oil- and other commodity–exporting countries could benefit from higher prices, the impact on net energy- and commodity-importing peers is likely to offset these gains, resulting in higher inflation and constrained economic activity. This could slow economic recovery from the impacts of the COVID-19 pandemic. Net crude oil-exporting countries with fuel subsidy regimes could experience fiscal shocks due to the higher price of imported refined petroleum products.

Beyond energy and commodity prices, both Russia and Ukraine are significant sources of raw materials such as platinum group elements, nickel, and neon gas, which are critical components for manufacturing parts used in the automotive industry, consumer electronics, and renewable energy devices. For Morocco and South Africa, vehicle production and exports are likely to be constrained by the ongoing global shortages in vital car parts such as semiconductor chips and catalytic converters, while the supply of chip-reliant consumer electronic goods might experience some delays and elevated prices.

Notes

1. For wheat, Russia (18 percent) and Ukraine (8 percent) accounted for over a quarter of global exports in 2020. Both countries are major maize producers (contributing over 15 percent of global production) and exporters (contributing over 17 percent of global exports): Ukraine (15 percent of exports, ranking 4th) and Russia (2.3 percent, ranking 6th). For sunflower oil, the two countries account for nearly 60 percent of global production and over 75 percent of global exports.
2. United Nations Conference on Trade and Development estimates suggest that as many as 25 African countries, including many least developed countries, import more than a third of their wheat from Russia and Ukraine and that 15 of them import over half. Egypt, the world's largest importer of wheat ($4 billion a year's worth), accounted for nearly half of Africa's wheat imports from Russia in 2020, followed by Sudan, Nigeria, Tanzania, Algeria, Kenya, and South Africa.

FIGURE 1.4 Global commodity price indices, January 2020–March 2022



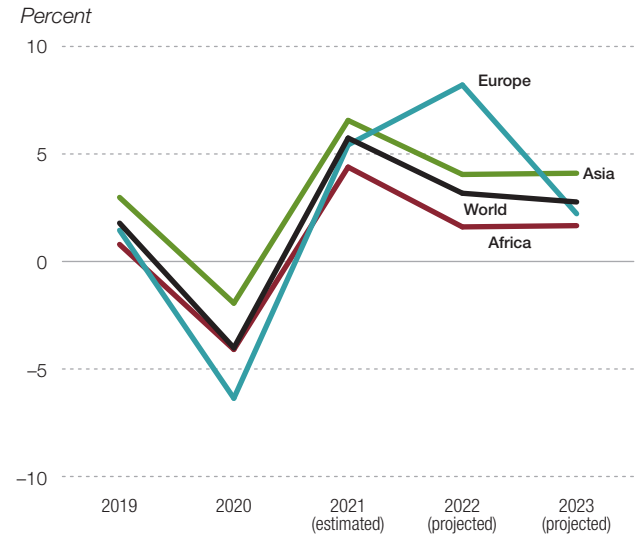
Source: Staff calculations based on the World Economic Outlook database and the World Bank Commodity database.

4.3 percent expansion in household consumption accounted for 62.1 percent of overall GDP growth while the 2.0 percent growth in gross capital formation accounted for 28.5 percent (figure 1.6). On the supply side, services grew by 4.4 percent, accounting for 63.6 percent of overall GDP growth, and industry grew by 1.5 percent, accounting for 22.4 percent of overall GDP growth (figure 1.7). In the short to medium term, the heightened inflationary environment could impact household consumption, and the disruptions in supply due to delays in reopening key manufacturing and trade hubs in China could impact industrial output.

Growth varies widely across countries, regions, and country groupings

The economic turnaround was highest in North Africa, with estimated growth of 11.7 percent in 2021 (figure 1.8, left panel). The region's strong recovery was attributed largely to Libya, on the back of a strong rebound in oil sector activities, following easing of the decade-long political impasse, which led to the lifting of the oil exports blockade in late 2020. Growth in North Africa is projected to decelerate to 4.5 percent in 2022, largely reflecting ebbing of base effects in countries such as Libya (3.5 percent) and Morocco (1.8 percent), albeit with strong growth in Egypt (5.7 percent)—supported by improved trade with

FIGURE 1.5 Real GDP per capita growth, by region, 2019–23

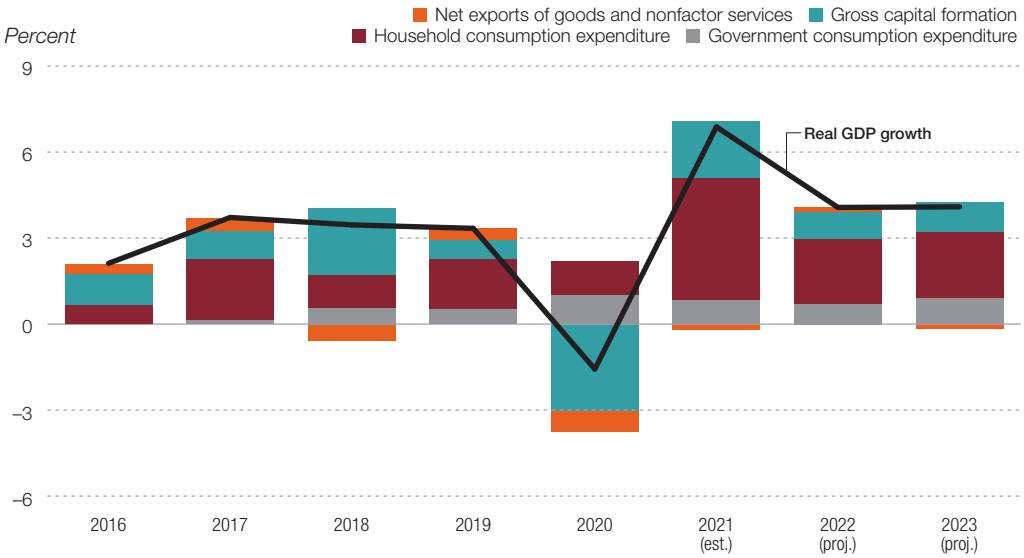


Source: African Development Bank statistics, *World Economic Outlook*, April 2022, and United Nations Population Division estimates.

the European Union, its largest trading partner—and Mauritania (4.8 percent)—due to increased tourism (figure 1.8, right panel). However, higher oil prices will bolster the region's growth and benefit Algeria and Libya. Libya will also gain from the peace dividend with easing political uncertainty.

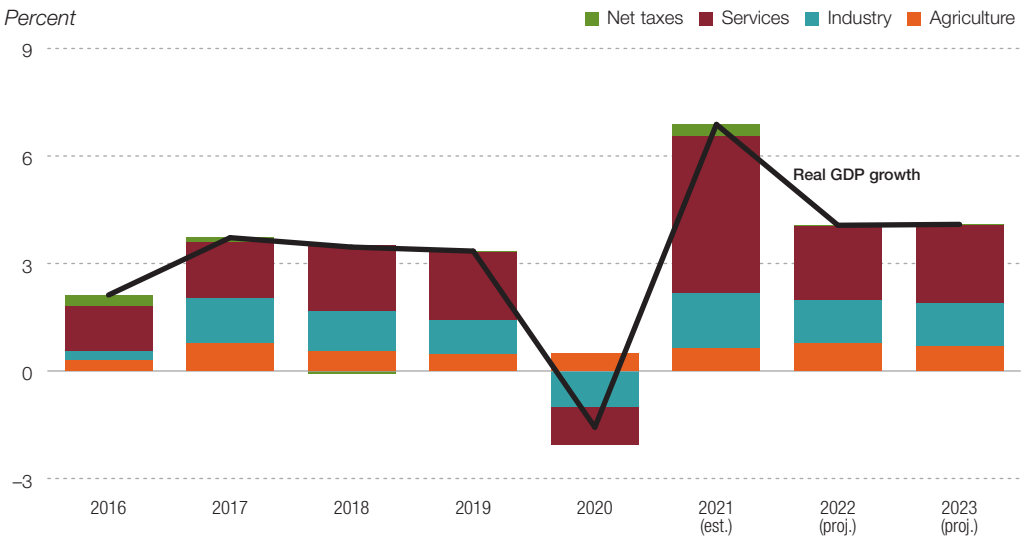
Economic diversification in East Africa cushioned the region against the pandemic shock

FIGURE 1.6 Demand-side decomposition of GDP growth, 2016–23



Source: African Development Bank statistics.

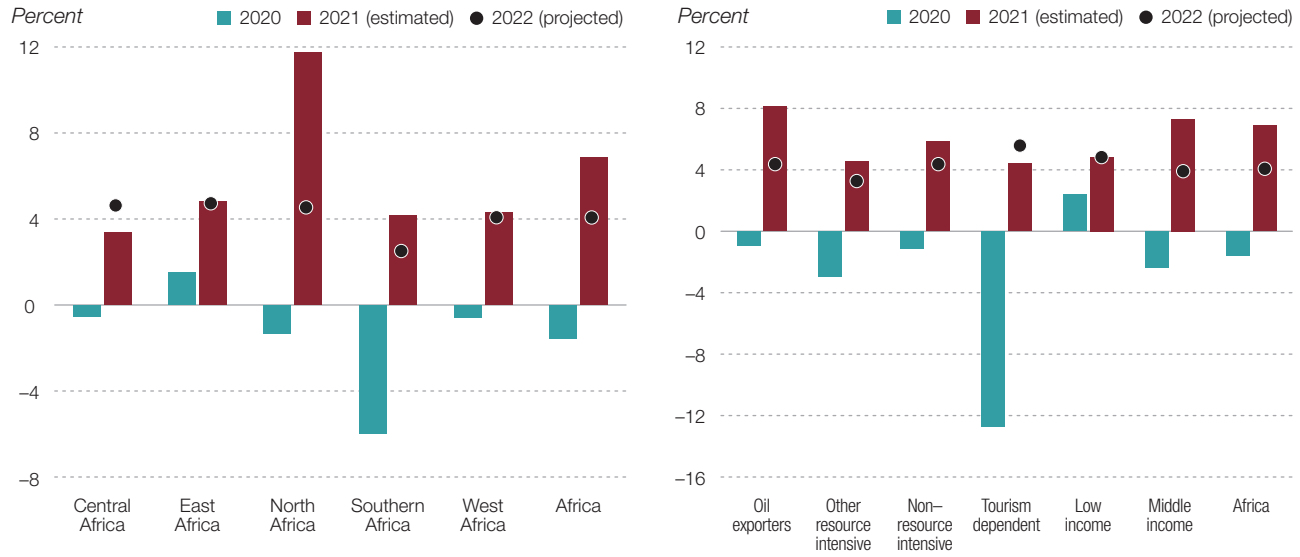
FIGURE 1.7 Sectoral decomposition of GDP growth, 2016–23



Source: African Development Bank statistics.

in 2020, aided by sustained public spending on flagship infrastructure projects. Closer trade ties within the region and strong agricultural performance have been key to the region's sustained growth. Real GDP grew at an estimated 4.8 percent in 2021 and is projected to stabilize at 4.7 percent in 2022. Rwanda maintained its position as one of the top-performing economies, growing by 10.0 percent in 2021; its economy is projected to expand by 6.9 percent in 2022, driven by strong performance in services. The economy of Seychelles grew by 7.9 percent in 2021 and is expected to expand by 5.0 percent in 2022, underpinned by tourism sector activities and supported by a comprehensive vaccination rollout. Other top-performing economies include Kenya (6.7 percent in 2021 and 5.9 percent in 2022), buoyed by public infrastructure investment

FIGURE 1.8 GDP growth in Africa, by region and country grouping, 2020–22



Source: African Development Bank statistics.

and private consumption, and Uganda (6.0 percent in 2021 and 4.6 percent in 2022), benefiting from increased public expenditure, household consumption, and investment in the oil sector following signing of the final investment decision on oil in February 2022.

In Central Africa, growth reached an estimated 3.4 percent in 2021 and is projected to rise to 4.6 percent in 2022. All countries in the region except Congo rebounded in 2021 on the back of increased trade in both oil and nonoil primary commodities. The economy of Democratic Republic of Congo grew by an estimated 5.7 percent in 2021 and is projected to accelerate to 6.2 percent growth in 2022, driven by sustained investments in the mining sector and rising copper and cobalt prices. The agriculture and services sectors in Democratic Republic of Congo have also recovered strongly. In Cameroon, real GDP is estimated to have grown by 3.5 percent in 2021 and is projected to pick up further, to 3.8 percent, in 2022, lifted by recovery in exports of oil and nonoil commodities.

Growth in West Africa was driven largely by Nigeria, the region's largest economy. Average growth in the region stood at 4.3 percent in 2021 and is projected to remain strong at 4.1 percent in 2022. Nigeria's economy grew by an estimated 3.6 percent in 2021 and is projected to expand by 3.4 percent in 2022, benefiting from high oil prices, recovery in services and manufacturing, and policy support in agriculture. However, the effect of higher oil prices may be offset by production constraints due to technical challenges and insecurity in oil-producing regions. Ghana and Côte d'Ivoire returned to a higher growth path, expanding by 5.0 percent and 7.4 percent, respectively, in 2021. Growth in both countries is projected to remain strong in 2022, supported by favorable cocoa prices and recovery in construction and manufacturing.

Southern Africa, the region hardest hit by the pandemic, saw estimated GDP growth of 4.2 percent in 2021, as South Africa's economy posted strong growth of nearly 5 percent, the highest since 2007, reflecting large fiscal stimuli. Growth in the region is projected to decelerate to 2.5 percent in 2022 as the effects of these stimuli peter out, especially in South Africa, which is projected to post 1.9 percent growth. Botswana, with 12.5 percent growth, and Mauritius, with 4.0 percent growth, were among the top-performing economies in 2021. Both countries are projected to grow strongly, by 4.2 percent and 6.2 percent, in 2022. The recovery of growth in the region was driven largely by rising prices and global demand

The economic turnaround was highest in North Africa, with estimated growth of 11.7 percent in 2021

for metals and nonmetals and by vaccination rollouts, which aided growth in tourism.

Across country groupings, tourism-dependent economies grew by 4.4 percent in 2021, led by Seychelles and Cabo Verde. Key to growth in this grouping was the easing of restrictions on tourists compared with competing destinations for both traditional and new tourism markets, especially the Middle East. These countries have some of the highest rates of fully vaccinated people on the continent, which has reduced fears of transmission and enhanced the safety of international travel. These factors, combined with high vaccination rates in source markets, will remain supportive of growth in 2022, projected at 5.6 percent.

Key to growth in tourism-dependent economies was the easing of restrictions on tourists compared with competing destinations for both traditional and new tourism markets, especially the Middle East

Non-resource-intensive economies comprise some of the most diversified economies in Africa. Average growth for this grouping was estimated at 5.8 percent in 2021, underpinned by a resumption of productive activities as well as sustained fiscal stimuli to support domestic demand. Benin, Cabo Verde, Côte d'Ivoire, Morocco, and Rwanda posted growth rates above 7 percent. Growth in this grouping is projected to decelerate to 4.4 percent in 2022, supported by expanded industrial and agricultural production, sustained government spending on infrastructure projects, and continued growth in tourism and interregional trade.

Growth in oil-exporting countries was estimated at 8.1 percent in 2021, reflecting strong postpandemic recovery in Algeria and Nigeria and the base effects of Libya's extreme 177.3 percent expansion. Nigeria's growth was led largely by services, partly offsetting the contraction in oil output, while Algeria, Cameroon, Egypt, and Libya all gained from soaring oil prices and strong domestic oil production. Growth for this grouping is projected at 4.4 percent in 2022, but it could be higher if these countries increase oil production to take advantage of the global shortfall created by the Russia–Ukraine conflict and related sanctions on Russia.

Other resource-intensive economies, dependent mostly on metals and minerals, grew by an estimated 4.5 percent in 2021, as prices for these commodities approached record levels. The economies of Botswana, Burkina Faso, and Zimbabwe each expanded by more than 6.0 percent, but this strong performance was weighed down by slower growth in Sudan (0.5 percent) and other countries. The outlook for 2022 points to a slight deceleration, with average GDP growth projected at 3.3 percent for this grouping. But the growth outturn could be higher if the rise in commodity prices persists.

Risks and upside factors to the growth outlook

Africa's growth projections are highly uncertain, largely reflecting the evolution of the COVID-19 pandemic (emergence of new, more transmissible variants, and low vaccine access and rollout); sovereign debt vulnerabilities and high debt levels in many African countries, limiting the capacity of countries to boost spending and financing after the COVID-19 recovery; potential spillovers from the tightening of global financial conditions due to elevated inflation risks in advanced economies; the Russia–Ukraine conflict and related sanctions on Russia; climate and environmental concerns and other exogenous disruptions, which would cause severe damage to domestic output given the high reliance of African economies on agriculture (chapters 2 and 3); and domestic and external sociopolitical and security issues, including a continuation of certain political upheavals in Africa.

Africa's economic growth prospects could, however, be strengthened by a rollout of mass vaccination on the continent and the parts of the world that have yet to achieve it, allowing further normalization of socioeconomic activity; additional monetary and fiscal support; a comprehensive resolution of the debt problem; greater efforts to accelerate structural transformation; and a stronger-than-expected global economic recovery.

Exchange rates, inflation, monetary policy, and fiscal positions

Almost two-thirds of Africa's economies saw exchange rate depreciation in 2021

Despite the economic rebound, currency depreciation continued in almost two-thirds of African countries[1] in 2021, notably in commodity-exporting countries (oil exporters and other non–oil exporters), despite the increase in foreign

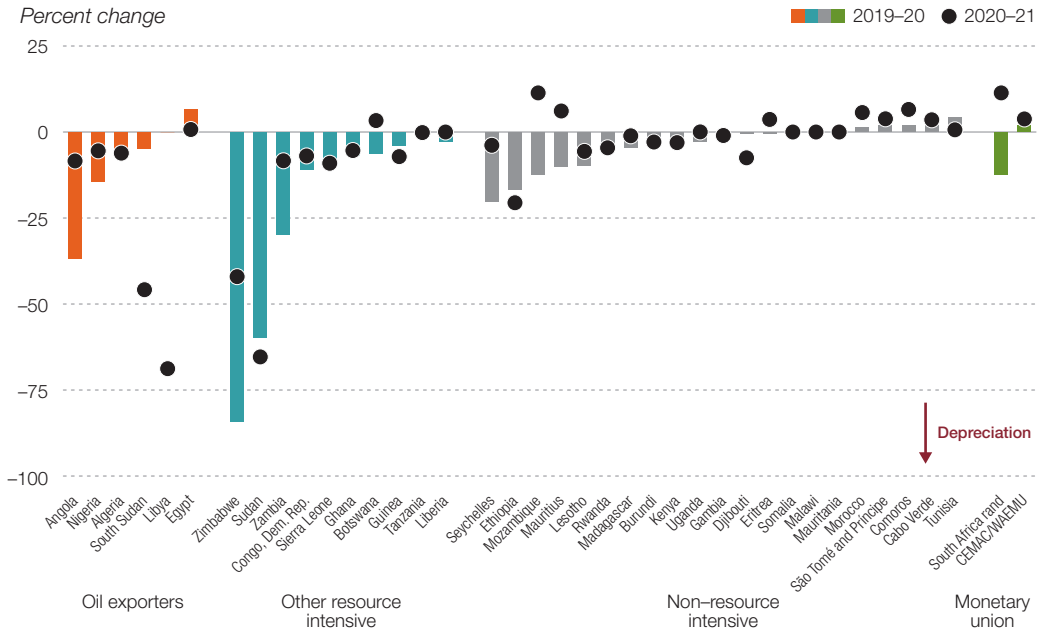
exchange inflows stemming from the recovery in commodity prices and exports (figure 1.9). The currency depreciation reflects the ongoing weakness in current account positions and increased global uncertainty. Countries with higher depreciation also experienced higher inflationary pressures, suggesting a strong pass-through. Exchange rate depreciation in non-resource-intensive economies was much lower, and some even registered slight appreciation, as they slowly recovered from the pandemic-induced economic crisis. Global uncertainty heightened in the aftermath of Russia's invasion of Ukraine, causing instability in international financial markets and exerting downward pressure on the currencies of many African countries. In the short to medium term, the currencies of many African countries could come under additional strain with monetary policy normalization in advanced economies to rein in inflationary pressures. This could exacerbate inflationary pressures in countries where exchange rate pass-through to domestic inflation is large. Depreciated currencies would have implications related to debt servicing costs for African countries, creating additional fiscal risks.

Inflation is projected to further rise in the medium term due to supply-chain disruptions and rising energy and food prices

Average consumer price inflation in Africa increased by an estimated 2.2 percentage points to 13.0 percent in 2021, from 10.8 percent in 2020 (figure 1.10). The increase reflects a combination of higher local food prices attributed to drought-induced local supply shortages and a rise in global food and energy prices. Other contributors include the accommodative monetary policy to lessen the negative impacts of the pandemic and the pass-through effect of exchange rate depreciation on import prices in some countries. Inflation is projected to rise further to 13.5 percent in 2022, reflecting soaring global commodity prices due to supply-demand mismatches and supply chain disruptions, exacerbated by Russia's invasion of Ukraine. China's renewed COVID-19 lockdowns have led to the closure of key manufacturing and trade hubs, putting further pressure on supply chains. Africa's inflation will, however, continue to evolve, depending on the duration of the Russia–Ukraine conflict, the easing of gridlock in global supply chains and the associated impact

Average consumer price inflation in Africa increased by an estimated 2.2 percentage points to 13.0 percent in 2021, from 10.8 percent in 2020

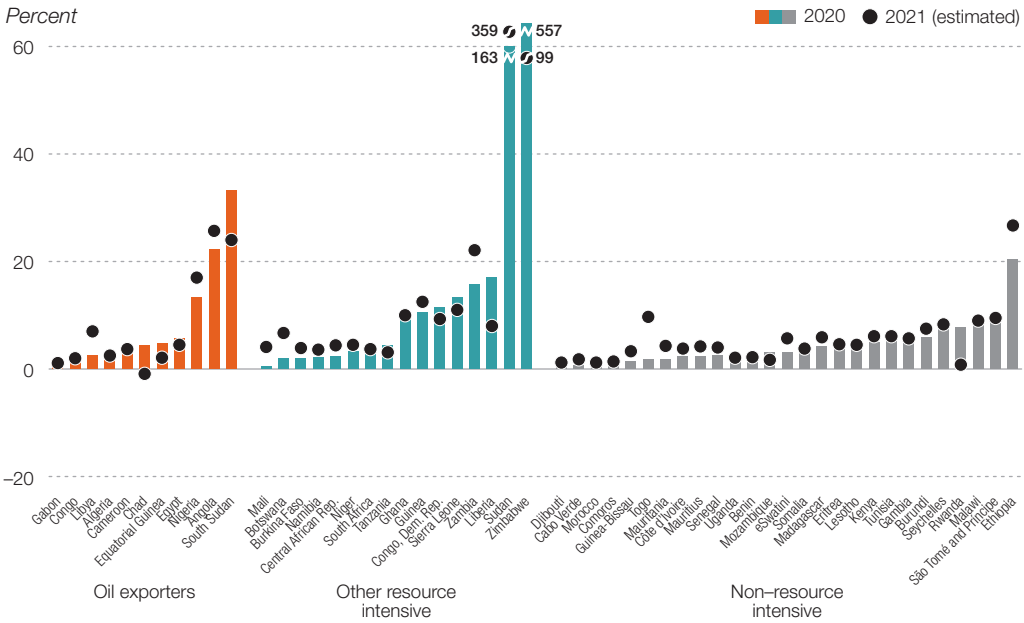
FIGURE 1.9 Exchange rate changes, 2019–20 vs. 2020–21



CEMAC is the Central African Economic and Monetary Community. WAEMU is the West African Economic and Monetary Union.

Source: African Development Bank statistics.

FIGURE 1.10 Consumer price inflation, 2020 vs. 2021



Source: African Development Bank statistics.

With the recent increases in consumer prices, monetary authorities have limited room for more accommodative policy and need to navigate cautiously as the recovery strengthens

on commodity prices, as well as different countries' policy stances to mitigate these impacts.

Monetary policy in most African countries has been supportive of recovery

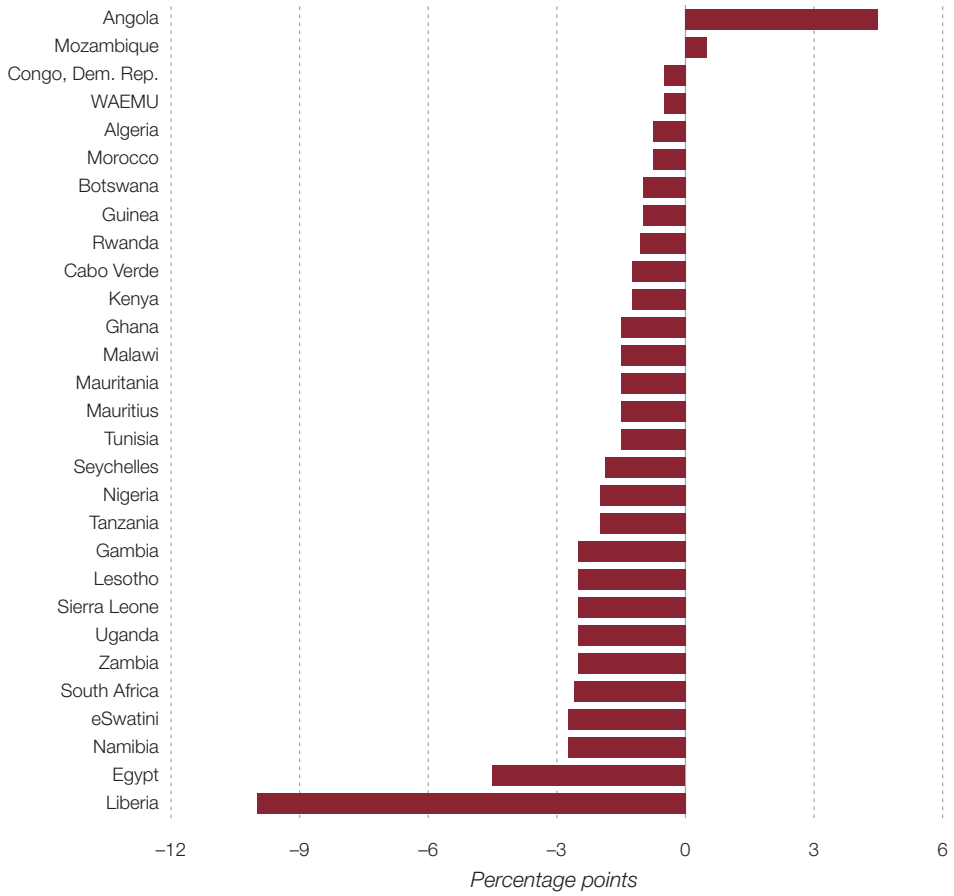
Most central banks in African countries with declining or relatively stable inflation have maintained or lowered monetary policy rates since January 2020, with the deepest cuts in Liberia (10 percentage points) and Egypt (4.5 percentage points; figure 1.11). Exceptions include Angola and Mozambique, which raised policy rates by 4.5 percentage points and 0.5 percentage point, respectively, between January 2020 and December 2021, owing to strengthening inflationary pressures. Some central banks, such as those in Ghana, Mauritius, Rwanda, and South Africa, also resorted to unconventional policy interventions, including direct liquidity injections into the banking system, moratoriums on loan payments by severely affected firms and households, and buybacks of government securities. However, with the recent increases in consumer prices—fueled mainly by high food and other commodity prices—monetary authorities have limited room for more accommodative policy and need to navigate cautiously as the recovery strengthens. A tighter monetary policy stance in countries where inflation expectations exceed medium- to long-term inflation targets, but this could have an unintended negative effect on economic recovery. In general, the convolution of factors buffeting the global economy and their implications for Africa test the potency of traditional policy tools designed to address challenges in normal times. The challenges brought about by the multiplicity of risks call for an unconventional policy response that combines domestic insights and a global forward-looking coalition and approach to reverse the tide.

Fiscal positions are expected to gradually improve

Fiscal deficits widened sharply in 2020, owing to COVID-19-related interventions (figure 1.12). Since the onset of the pandemic, African governments have undertaken fiscal stimuli, but amid constrained revenues, fiscal deficits widened to 7.2 percent of GDP in 2020, up from 4.3 percent in 2019.

Many of the stimuli included "above-the-line" measures,[2] estimated at 6.2 percent of GDP by September 2021. Additional spending or forgone revenues are estimated at 0.8 percent of GDP

FIGURE 1.11 Policy rate changes, January 2020 to December 2021



WAEMU is the West African Economic and Monetary Union.

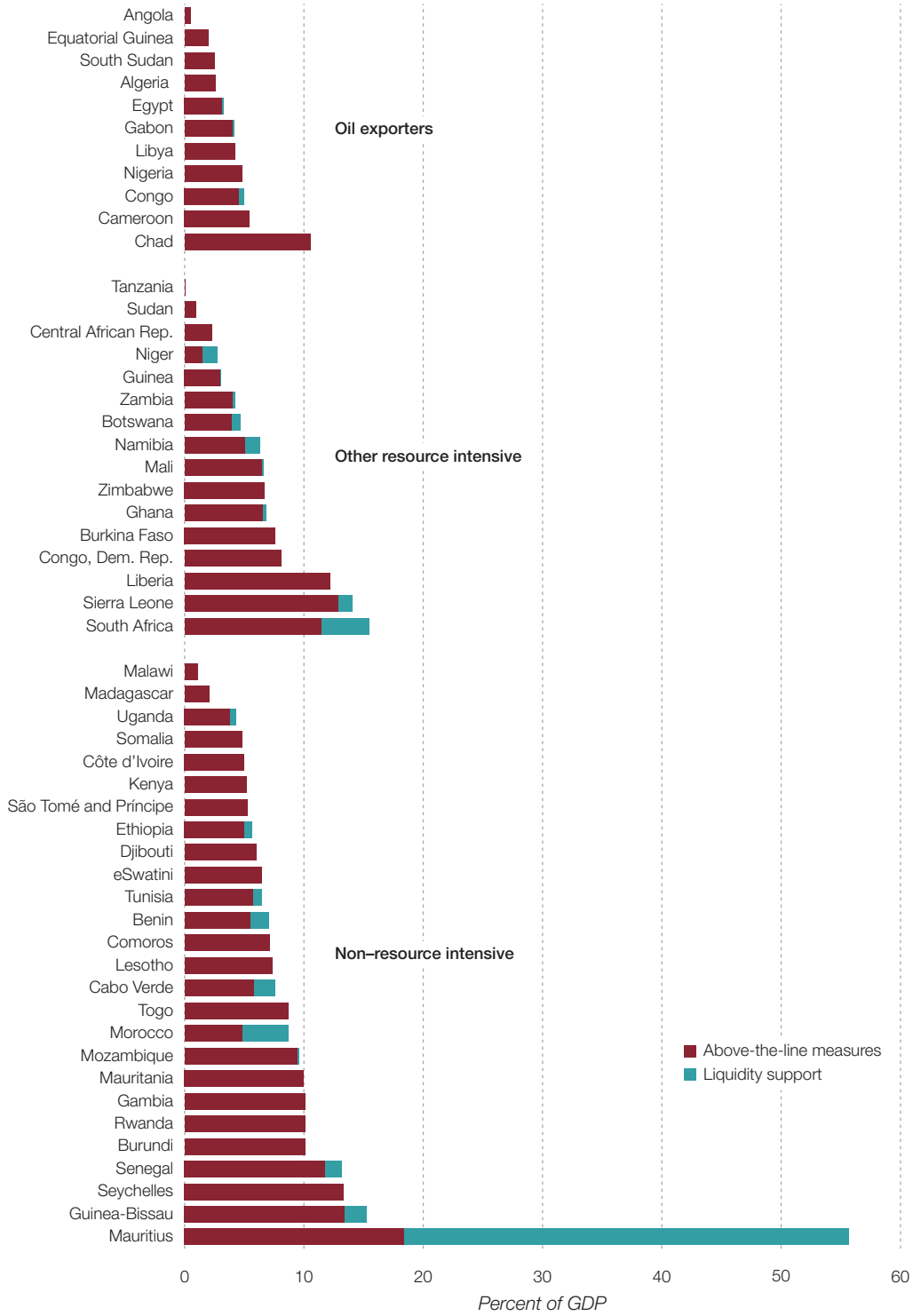
Source: International Monetary Fund International Financial Statistics database, Haver statistics, September 2021.

in the health sector and 2.4 percent of GDP in nonhealth sectors. Fiscal measures were highest in tourism-dependent economies on average, with Mauritius devoting more than half its GDP to COVID-19-related fiscal support. Oil-exporting countries provided smaller packages, ranging from 0.5 percent of GDP to 12.2 percent

In 2021, fiscal deficits narrowed marginally in some countries, supported by economic recovery and attendant improvement in revenues. However, the estimated average deficit for the continent remained above prepandemic levels, at 5.1 percent of GDP in 2021, against 4.3 percent in 2019. Fiscal deficits are estimated to have declined from 6.7 percent of GDP in 2020 to 4.2 percent in 2021 in oil-exporting countries and from 8.0 percent of GDP to 5.8 percent in other resource-intensive countries (figure 1.13). These gains came on the back of recovery in the share of revenue from commodities. Tourism-dependent countries also gained from improved revenue, with their average fiscal deficit estimated at 8 percent of GDP in 2021, against 13.8 percent in 2020. The average fiscal deficit in Africa is projected to narrow to 4 percent of GDP in 2022 and 2023. The ongoing economic recovery will help shore up revenues. However, rising commodity prices and inflationary pressures triggered by the Russia–Ukraine conflict present a major headwind for the fiscal situation in the short to medium term, especially for net commodity-importing economies. In the long term, continued efforts to expand the revenue base, coupled with fiscal consolidation and better targeting of subsidies (where they form part of the fiscal policy toolkit), offer more promise for further reducing fiscal stress in Africa.

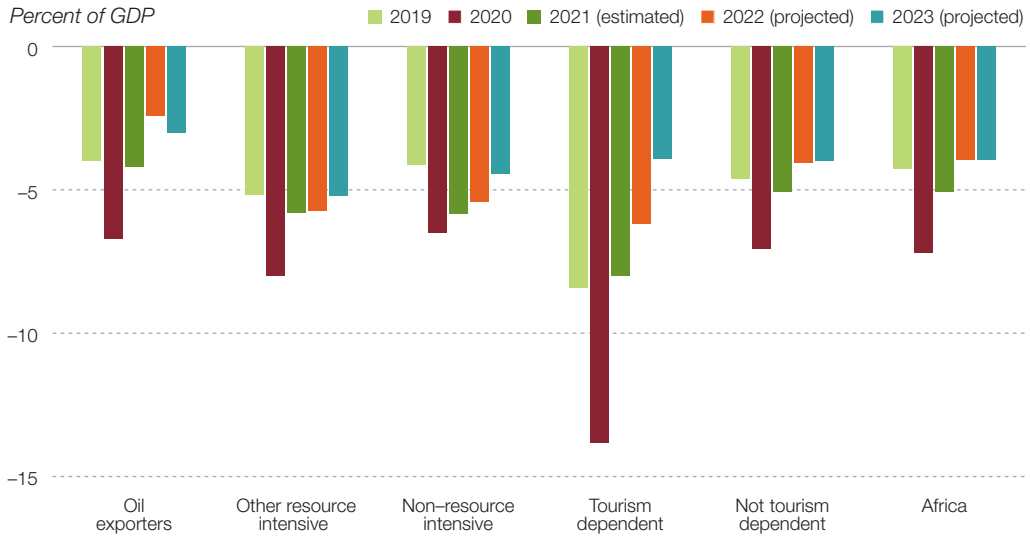
Rising commodity prices and inflationary pressures triggered by the Russia–Ukraine conflict present a major headwind for the fiscal situation in the short to medium term, especially for net commodity-importing economies

FIGURE 1.12 Fiscal measures undertaken in response to COVID-19, September 2021



Source: Staff calculations based on the International Monetary Fund *Fiscal Monitor.*

FIGURE 1.13 Fiscal balance as a share of GDP by country grouping, 2019–23



Source: African Development Bank statistics.

Globally, fiscal measures in response to the COVID-19 pandemic have varied hugely

The fiscal measures implemented globally to tackle the effects of the pandemic are estimated at around $17 trillion, equivalent to about 19 percent of global GDP. Two-thirds of these measures have been in the form of additional spending or forgone revenue, and the remainder largely direct liquidity support. The size and composition of fiscal support have varied vastly by country grouping, in part reflecting countries' fiscal space and economic development. Advanced economies and emerging markets in the G20 group of countries account for the bulk of the global fiscal response. Developing countries, including those in Africa, have struggled to provide such support, exposing the asymmetry in resource availability. Fiscal space could further decline in the face of expected interventions to cushion the adverse impact of the Russia–Ukraine conflict in African economies. Thus, addressing current weaknesses of the current global cooperation system will be essential in sharing the burden of the pandemic risk (figure 1.14, left panel) and evolving economic fallout from Russia's invasion of Ukraine.

Of the injected $17 trillion, almost $13.5 trillion was by G20 advanced economies and about $1.8 trillion was by G20 emerging markets. Most countries, including low-income developing countries and other emerging markets, accounted for around $1.7 trillion. The total value of fiscal support in African countries was $89.5 billion (3.5 percent of Africa's GDP and about 0.5 percent of global fiscal interventions), of which $30 billion was in South Africa. The disproportionately lower fiscal support by African governments relative to other regions further demonstrates huge world disparities in responding to global crises. This inequality is even more evident in per capita terms, with fiscal support estimated at about $15,000 in G20 advanced economies against a global average of $2,202 and only $66 in Africa (figure 1.14, right panel).

On top of the fiscal measures, advanced economies provided more than 10 percent of GDP in unconventional monetary policy measures through their central banks. In contrast, most African countries, already faced with tight financial constraints, deployed less than 2 percent of GDP in monetary policy support to supplement fiscal measures.

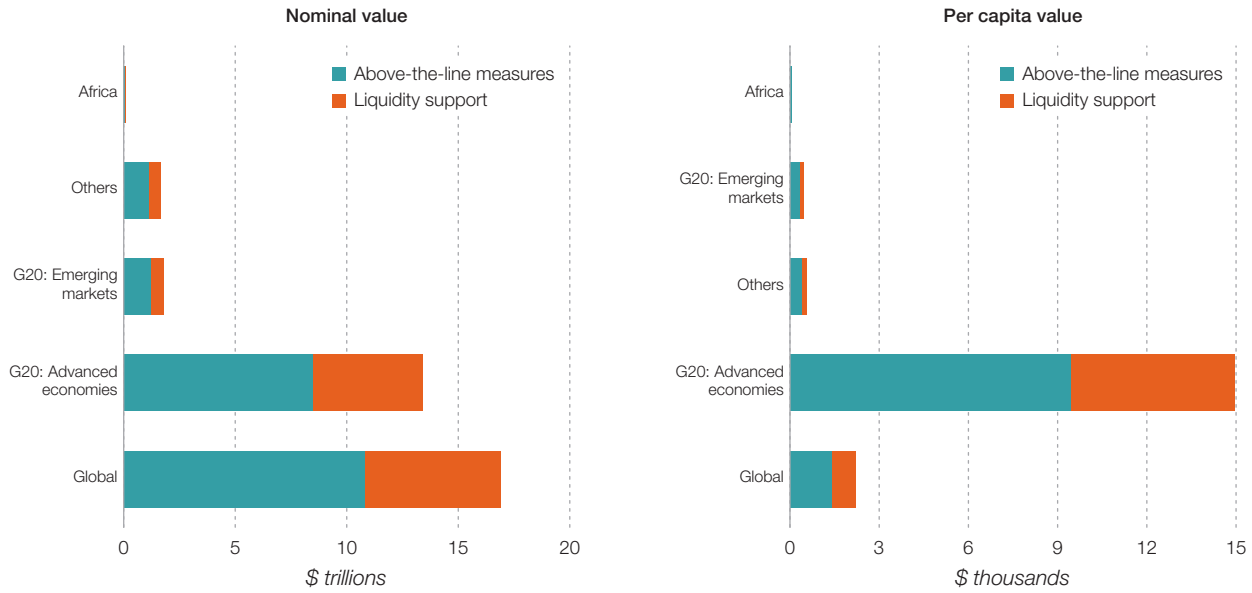
Developing countries, including those in Africa, have struggled to provide fiscal support in response to the COVID-19 pandemic, exposing the asymmetry in resource availability and weaknesses of the current global cooperation system in sharing the burden of pandemic risk

External financial flows to Africa

At the height of the pandemic, external financial inflows declined, while rising global uncertainties cloud the recovery

In 2020, total external financial inflows to African countries—foreign direct investment (FDI),

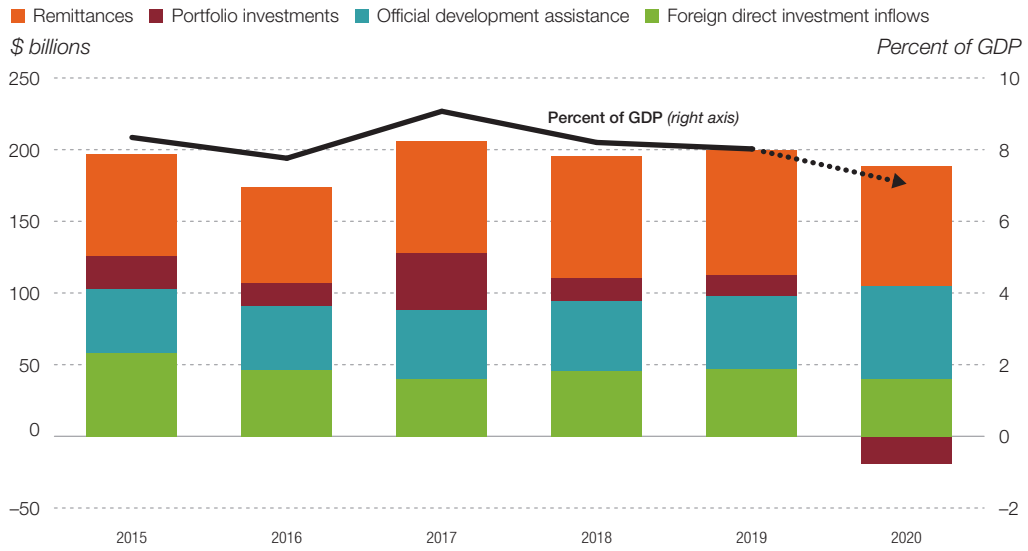
FIGURE 1.14 Global fiscal measures in response to the COVID-19 pandemic, January 2020–September 2021



Source: Staff calculations based on data from the International Monetary Fund *Fiscal Monitor*, 27 September 2021.

portfolio investments, official development assistance (ODA), and remittances—declined to 7.1 percent of GDP, from 8 percent of GDP in 2019 (figure 1.15). This decrease was due mainly to a sharp drop in FDI and in portfolio investments. FDI fell by 15.6 percent in 2020 to $39.8 billion, from $47.1 billion in 2019, as the COVID-19 pandemic hit cross-border investments at the global and regional levels. Although the decline in FDI was broad based, differences are notable between regions and country groupings. Steep drops were recorded by tourism-dependent economies (33.7 percent) and other resource-intensive economies (30.9 percent). Across regions, FDI inflows contracted by 26.1 percent to $10.5 billion in 2020 in North Africa, from $14.3 billion in 2019, and by

FIGURE 1.15 External financial flows to Africa, 2015–20



Source: African Development Bank statistics and staff calculations.

23.9 percent to $8.8 billion in West Africa over the same period.

FDI inflows fell to $6.5 billion in 2020 in East Africa, a 3.9 percent decline from 2019, and to $4.9 billion in Southern Africa, an 18.5 percent drop. Central Africa was the only region to register an increase, with inflows of $9 billion, up from $8.5 billion in 2019. Higher inflows in Congo (19.3 percent), Gabon (10.5 percent), and Democratic Republic of Congo (10.7 percent), reflecting a surge of investment in extractive sectors, supported FDI growth in the region. Per estimates for 2021, growth in FDI to countries on the continent ranged from 0 percent to 10 percent,[3] much lower than the average of 15 percent for developing countries. The Russia–Ukraine conflict may not greatly affect FDI flows to Africa in the short term, as neither Russia nor Ukraine is a leading global investor on the continent. Before the conflict, FDI inflows from Russia to Africa accounted for less than 1 percent of the continent's total FDI—mostly in the natural resources sector. However, the fallout could attract FDI flows to Africa, especially in countries endowed with exceptional minerals or oil and gas, as Western countries divest energy sources away from Russia. This bodes well for developing Africa's future energy resources.

African countries recorded an outflow of $19 billion in portfolio investments in 2020, against a net inflow of $14.5 billion in 2019, as investors retreated to safer markets. Africa's large economies, which all saw wide swings from inflows to outflows between 2019 and 2020—Egypt (from $4.13 billion to $8.13 billion), South Africa ($9 billion to $6.8 billion), and Nigeria ($3.1 billion to $3.6 billion)—experienced the largest net outflows due to pandemic-induced risk aversion. Net portfolio investment outflows persisted in 2021, peaking at an estimated $26.7 billion, up 40.2 percent from 2020. As with FDI, Russia is not among the main global portfolio investors in Africa. Hence, the Russia–Ukraine conflict is unlikely to have a material effect on portfolio investment flows. ODA has been an important source of financing for most African countries. Although most donor countries experienced growing fiscal strains and domestic financing needs in 2020, ODA to Africa remained resilient, increasing by 28 percent to $64.8 billion in 2020, from $50.7 billion in 2019. ODA to Africa is estimated to have picked up in 2021. However, advanced economies could channel their resources toward rebuilding efforts and humanitarian assistance in Ukraine at the expense of meeting their ODA commitments to Africa. A prolonged conflict could therefore have substantial long-term effect on ODA flows to Africa.

Despite the pandemic, remittance flows to Africa remained resilient in 2020 (due to counter-cyclical behavior in receiving countries and relative stability against capital flows), registering a smaller decline than projected in AEO 2021. Such flows reached $83.6 billion in 2020, just 3.9 percent below the $87 billion in 2019. Although flows fell to Central Africa (by 40.4 percent), West Africa (by 18.2 percent), and East Africa (by 1.3 percent), driven mainly by the sharp drop in Democratic Republic of Congo (down 46.6 percent), Nigeria (down 27.7 percent), and Uganda (down 25.5 percent), other regions recorded an increase. In North Africa, remittance inflows increased by 9.6 percent, pulled ahead by Mauritania (161.7 percent), Tunisia (15.5 percent), Egypt (10.5 percent), and Morocco (6.5 percent). Remittance inflows to Southern Africa also demonstrated resilience to the COVID-19 crisis, with an increase of 7.1 percent, mainly on gains in Angola (133.7 percent), Zambia (37.3 percent), Zimbabwe (29.3 percent), and Mozambique (16.4 percent) and despite an 8.9 percent decline in South Africa. Remittances are expected to remain stable in 2021 and 2022.

Sovereign debt

Sovereign debt remains a threat to recovery despite recent debt relief initiatives

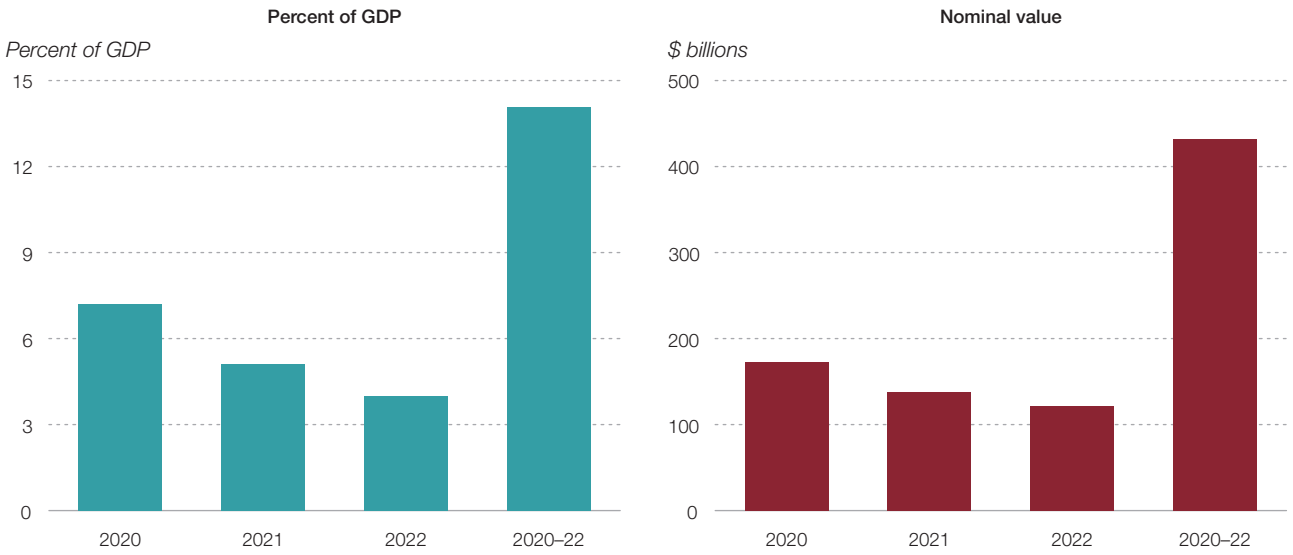
The average debt-to-GDP ratio in Africa was estimated at 71.4 percent in 2020, stemming from weak public finance management systems, security spending, high inflation, weaknesses in revenue mobilization, and increased government spending due to the pandemic. In the short to medium term, Africa's sovereign debt is expected to remain higher than prepandemic levels, as countries need additional resources—estimated at around $432 billion in 2020–22 (less than the AEO 2021 estimate of $484 billion, due in part to better-than-anticipated fiscal positions)—to address the socioeconomic impacts of the pandemic and

support economic recovery (figure 1.16). Indeed, amid reduced fiscal space, the much-needed policy support will continue to put pressure on African countries' sovereign debt levels, which are projected to stabilize at around 70 percent of GDP in 2021 and 2022 (figure 1.17).

Although the increase in debt is nearly universal, country groupings show notable differences. The overall sharp increase in 2020—of nearly 10 percentage points—was driven by nonoil resource-intensive economies. These countries have contributed the most to the overall increase in debt, reaching more than 85.4 percent of GDP that year. They were followed by oil exporters (66.7 percent of GDP) and non-resource-intensive countries (65.3 percent of GDP). Debt levels in non-resource-intensive countries increased significantly, from 57.4 percent in 2019 to around 66.1 percent in 2021 and are expected to remain high in the near term. The average debt-to-GDP ratio in other resource-intensive countries is estimated to have declined to 75 percent in 2021. This mainly reflects declines in São Tomé and Príncipe (20 percentage points), Sudan (86 percentage points), Zambia (17 percentage points), and Zimbabwe (35.1 percentage points) due to large increases in nominal GDP relative to nominal dollar-denominated public debt and due to lower debt service obligations in 2021 resulting from the Debt Service Suspension Initiative (DSSI). However, heightened exchange rate depreciation pressures, particularly in net importers of commodities, on the back of the Russia–Ukraine conflict could increase the cost of debt servicing in many African countries.

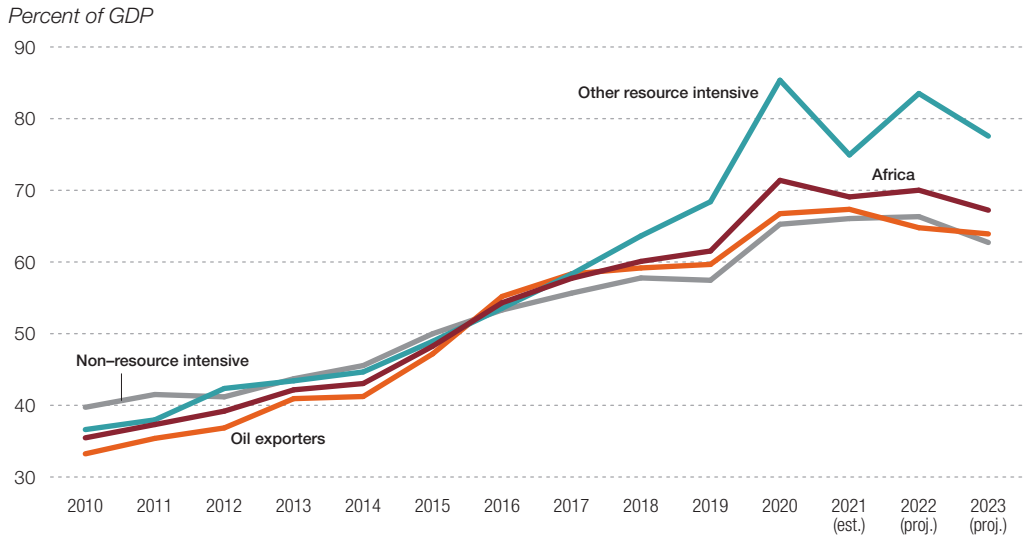
The international community provided much-needed liquidity and temporary debt service relief during the pandemic, but this might not be enough to prevent countries from sliding into debt distress. Examples of liquidity support include the DSSI, launched in April 2020 and extended to December 2021. The potential savings from the DSSI in all 38 eligible African countries are estimated at more than $13 billion (figure 1.18), ranging from $4.5 million in Liberia to $2.9 billion in Angola. However, although the DSSI has alleviated significant immediate liquidity pressures on African economies, it remains shallow, with the potential savings from the moratorium representing only 24.5 percent of total debt service payments of African countries for 2020 and 40.1 percent for 2021 (see figure 1.18). In addition, this debt service standstill represents only

FIGURE 1.16 Additional resources needed to finance fiscal deficits in Africa, 2020–22



Note: The financing needs are computed as the monetary value necessary to cover the projected fiscal deficits in a country. Due to data constraints for 2021 and 2022, the computation did not factor in all the short-term debt, interest, and amortizations. In addition, it was assumed that African countries were unable to close the financing gap for 2020 and 2021, which therefore adds up to the overall financing needs for 2020–22.
Source: Staff calculations.

FIGURE 1.17 Gross government debt as a share of GDP, 2010–23

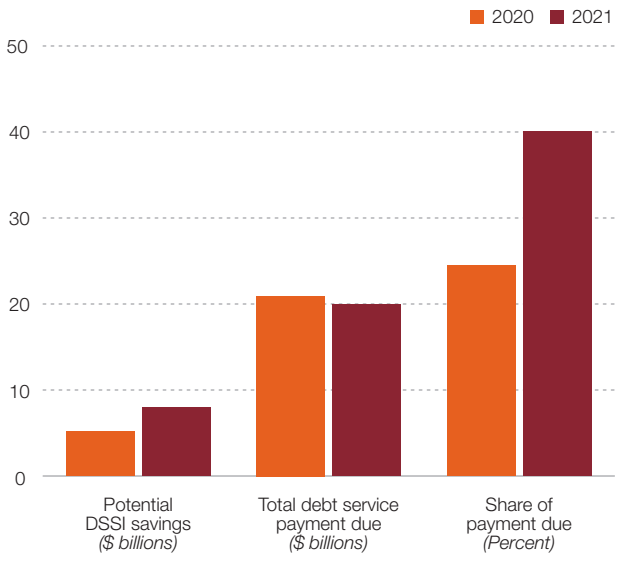


Source: Staff calculations based on the World Economic Outlook database.

a temporary solution because, with the expiry of the DSSI in December 2021, participating African countries must prepare to pay back in the following years their 2020 and 2021 debt service due.

Besides the limited potential savings from the DSSI, the facility was not designed to address the structural debt issues confronting the majority of African countries. Thus, in November 2020, the G20 and the Paris Club creditors reached an agreement on a common debt treatment framework (the Common Framework) to address protracted insolvency and liquidity issues in DSSI-eligible countries. The value added by the Common Framework was to bring in newer official creditors, notably China, one of the emerging large official bilateral creditors for many African countries.[4] However, nearly two years after being established, the Common Framework has not credibly achieved its intended objective. Agreement on general principles have proved difficult to translate into operational results due in part to the combined effect of lack of creditor coordination, information sharing and procedural transparency, as well as private sector participation. Of the three African countries—Chad, Ethiopia, and Zambia—that have so far requested debt treatment under the Common Framework, none has completed the process to benefit from the facility. This suggests that more structural reforms are needed to help the continent grow out of debt.

FIGURE 1.18 Potential DSSI savings in the 38 eligible African countries, 2020 and 2021



DSSI is the debt service suspension initiative.

Source: Staff calculations based on African Development Bank statistics and the World Bank Debtor Reporting System.

The IMF's 23 August 2021 general allocation of $650 billion equivalent in Special Drawing Rights (SDRs) has also helped alleviate the liquidity pressures of many countries by boosting their external buffers. Based on their IMF quotas, African countries have collectively received about $33.2 billion.

Yet this amount represents only 5 percent of their total SDR allocation and only a small fraction of their financing needs. To reconcile the distribution with these needs, the IMF has called for voluntary channeling of SDRs from members with strong external positions into the Poverty Reduction and Growth Trust, which is currently interest free.

High compliance with resource pooling into the trust is essential for African countries to benefit more from SDR liquidity and start the trajectory toward debt sustainability. In addition, the African Union Commission has called for reallocating SDRs from "willing" advanced economies to Africa and recommended that a portion of these be channeled through the African Development Bank as a prescribed holder for leveraging the resources to provide greater financing to African economies.

These debt relief initiatives have not, however, stopped debt vulnerabilities from continuing their climb, with 23 African countries either in or at risk of debt distress in February 2022 (16 are at high risk of debt distress and 7 are in debt distress) out of the 38 African countries for which debt sustainability analyses are available (figure 1.19).

Debt relief initiatives have not stopped debt vulnerabilities from continuing their climb, with around three-fifths of African countries either in or at risk of debt distress in February 2022

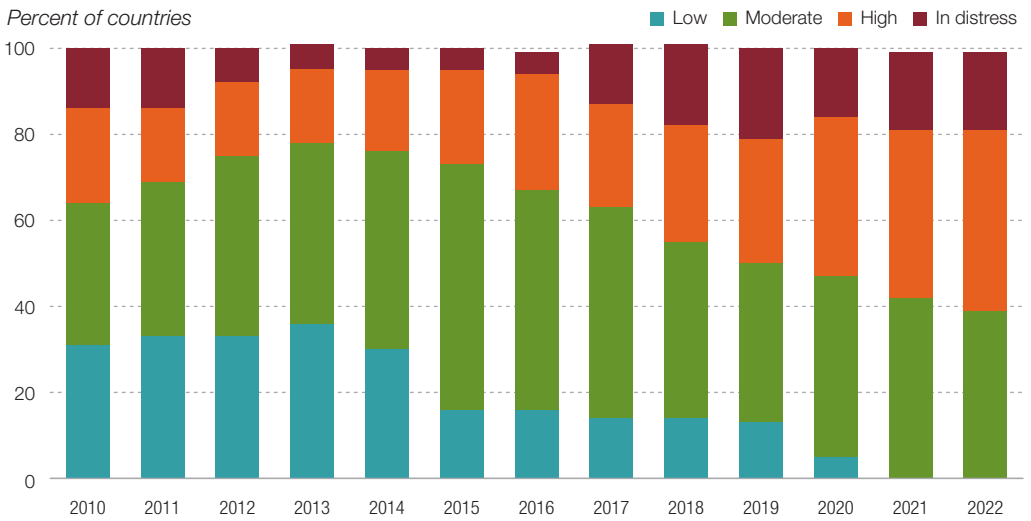
Notwithstanding the rise in debt vulnerabilities in Africa, accommodative monetary policy stance undertaken globally at the height of the pandemic helped keep interest payments on debt in many African countries manageable. Monetary policy normalization in advanced countries to rein in inflation is stoking a rise in global interest rates. Coupled with increased pressure on the currencies of many African countries, tightening monetary policy in advanced economies is likely to exacerbate debt vulnerabilities. The prevailing economic environment characterized by limited scope for domestic procyclical fiscal policy in Africa may require reconfiguring the global policy response, including reinstating the DSSI framework, to help debt-ridden countries cope with emerging debt challenges. The new DSSI should provide incentives to attract the participation of commercial creditors, which hitherto had no appetite to engage with their borrowers.

External position and current account balance

Africa's overall external position is projected to improve further, reflecting the stronger positive terms of trade shock on net energy, metal, and mineral exporters due to the Russia–Ukraine conflict and related sanctions on Russia

The overall current account deficit is estimated to have narrowed to 2.4 percent in 2021 from 3.7 percent in 2020 (figure 1.20). This reflects the resumption of dividend payments that were put on hold in 2020 and improvements in the trade balance and current transfers (figure 1.21).

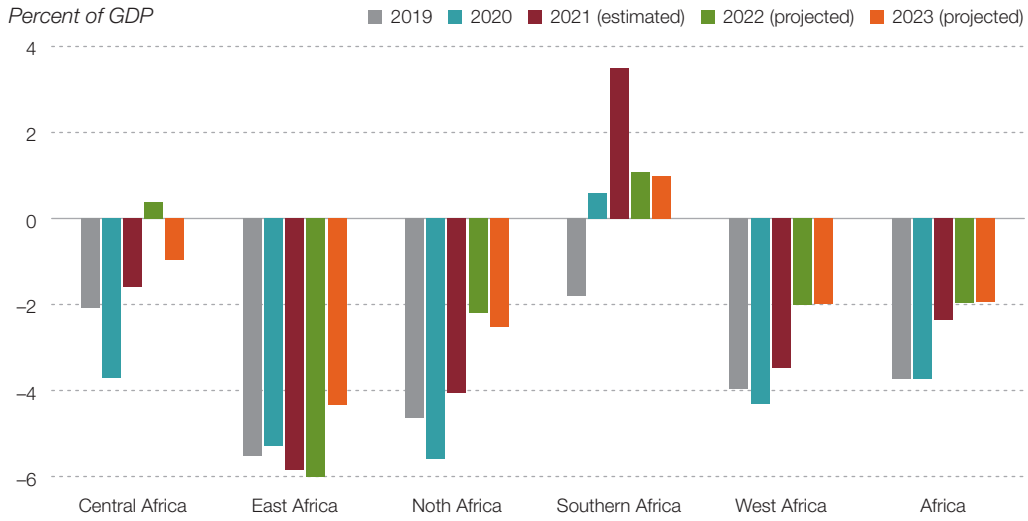
FIGURE 1.19 COVID-19 has triggered an increased risk of external debt distress in Africa, 2010–22



Note: As of February 2022.

Source: Staff calculations based on the Debt Sustainability Assessments for Low-Income Countries database.

FIGURE 1.20 Current account balances by region, 2019–23



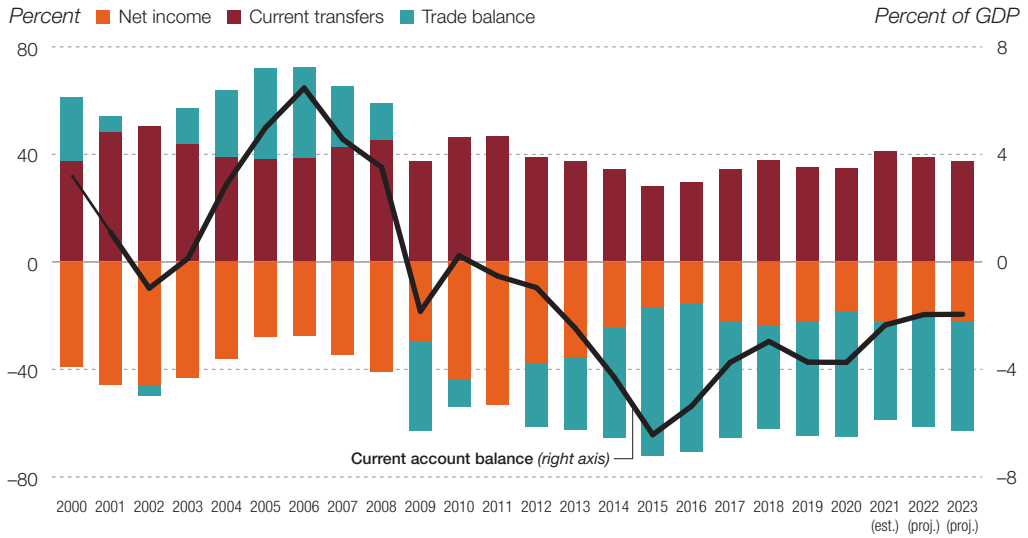
Source: African Development Bank statistics.

The overall current account deficit is projected to narrow to 2.0 percent of GDP in 2022, from 2.4 percent in 2021

As countries began to open and as oil and other commodity prices and global demand rose, trade picked up, reducing Africa's trade deficit. Similarly, as global sentiment improved, transfers to Africa began to recover. The recent SDR allocation has helped shore up the external position of some African countries.

The overall current account deficit is projected to narrow to 2.0 percent of GDP in 2022, from 2.4 percent in 2021, varying by region (see figure 1.20). The narrowing deficit in 2022 reflects the strong gains from favorable terms of trade for net energy, mineral, and metal exporters relative to losses from a potential increase in the trade deficit in net energy- and other commodity–importing peers. All oil-rich countries are expected to gain from higher oil prices and to reverse their deficit or strengthen their surplus in 2021. Central Africa, the region with the most oil- and mineral-rich countries, stands to gain the most, moving from a deficit of 1.6 percent of GDP in 2021 to a surplus of 0.4 percent in 2022. This reflects surpluses

FIGURE 1.21 Current account balance decomposition, 2000–23



Source: African Development Bank statistics.

in Chad, Congo, and Democratic Republic of Congo. In Southern Africa, the current account surplus is expected to decline to 1.1 percent of GDP in 2022, from 3.5 percent in 2021, attributed largely to South Africa (deficit of 1.4 percent of GDP in 2022, from a surplus of 3.8 percent in 2021). North Africa and West Africa are projected to record lower current account deficits in 2022 (2.2 percent and 2.0 percent, respectively). In East Africa, the deficit is projected to remain stable at about 6.0 percent of GDP in 2022. Oil and natural gas exporters in North Africa, such as Algeria and Libya, are projected to benefit from the rise in prices, posting current account surpluses in 2022.

However, Africa's current account outlook is subject to several uncertainties, including vaccination rollouts, the pandemic's evolution, and the evolution of the Russia–Ukraine conflict. A prolonged conflict will lead to persistently weak global trade and potentially depressed tourism capital flows to African countries, which combined will further weaken the continent's external position. Net commodity importers are the most exposed to the impact of the conflict and attendant sharp increase in commodity prices. These countries will therefore likely experience worsening trade and current account deficits. The main drivers of the current account deficit have been the trade deficit and net factor payments abroad, with current transfers on the other side (see figure 1.21). This breakdown is likely to change in the short to medium term depending on the evolution of the Russia–Ukraine conflict and its impacts on trade and financial flows.

Based on revised growth projections for Africa, 28.7 million more Africans slid into extreme poverty in 2021 relative to pre-COVID-19 projections

UPDATED ESTIMATES OF THE SOCIOECONOMIC EFFECTS OF COVID-19 AND THE RUSSIA–UKRAINE CONFLICT IN AFRICA

Poverty and welfare effects

Despite an expected growth rebound in Africa, the combined effect of the COVID-19 pandemic and the Russia–Ukraine conflict is projected to exacerbate extreme poverty in Africa

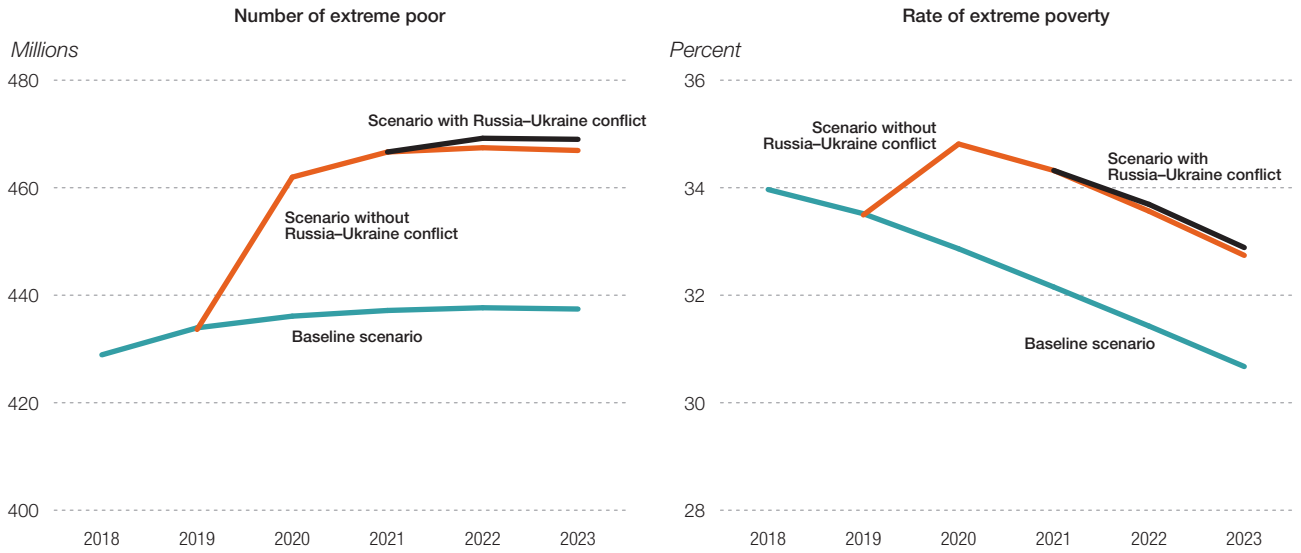
An estimated 28.7 million more Africans slid into extreme poverty in 2021 relative to pre-COVID-19 projections (figure 1.22, left panel), up from about 26 million in 2020, and about 29.6 million are projected to do so on average in 2022 and 2023. The downward revision of the poverty effect of the pandemic in Africa from *AEO 2021* (a drop of 4.6 million in 2020 and 10 million in 2021) reflected mainly better-than-expected growth performance in 2020 (a contraction of 1.6 percent, against 2.1 percent estimated in AEO 2021) and 2021 (a growth estimate of 6.9 percent, against 3.4 percent in AEO 2021).

The outbreak of the Russia–Ukraine conflict, which led to sudden increases in energy and other commodity prices and provoked global supply disruptions, has spilled over to African economies (see box 1.1). The projected slower growth coupled with higher projected inflation for 2022 will have repercussions for Africa's poverty rate. In particular, shrinking real incomes amid rising prices of food and fuel will be disastrous to vulnerable households already living on the edge of poverty. If the Russia–Ukraine conflict persists, the number of additional Africans who could be pushed into extreme poverty as a direct consequence of the economic fallout from the conflict is about 1.8 million in 2022 and 2.1 million in 2023. Nevertheless, the poverty effect of the conflict depends on the country's economic structure, notably whether the country is a net exporter or importer of oil and other commodities (figure 1.23).

However, in relative terms, the extreme poverty rate is projected to decline to 32.9 percent in 2023, from 34.3 percent in 2021 (figure 1.22, right panel), in line with the revised growth recovery outlook, but to remain around 2 percentage points higher than prepandemic estimates.

The majority of the new poor due to COVID-19 and the Russia–Ukraine conflict are in West Africa, which accounts for an average of around 39 percent of the total in 2021–23, with Nigeria having the largest poverty increase (around 5.4 million more a year, against some 465,000 on average for other countries in the region). North Africa (excluding Libya) and East Africa, with the highest real GDP per capita growth in 2021–23 (2.7 percent and 2.4 percent, respectively), are projected to show the smallest increases in extreme poverty rates in that period (0.5 percentage point and 2.1 percentage points).

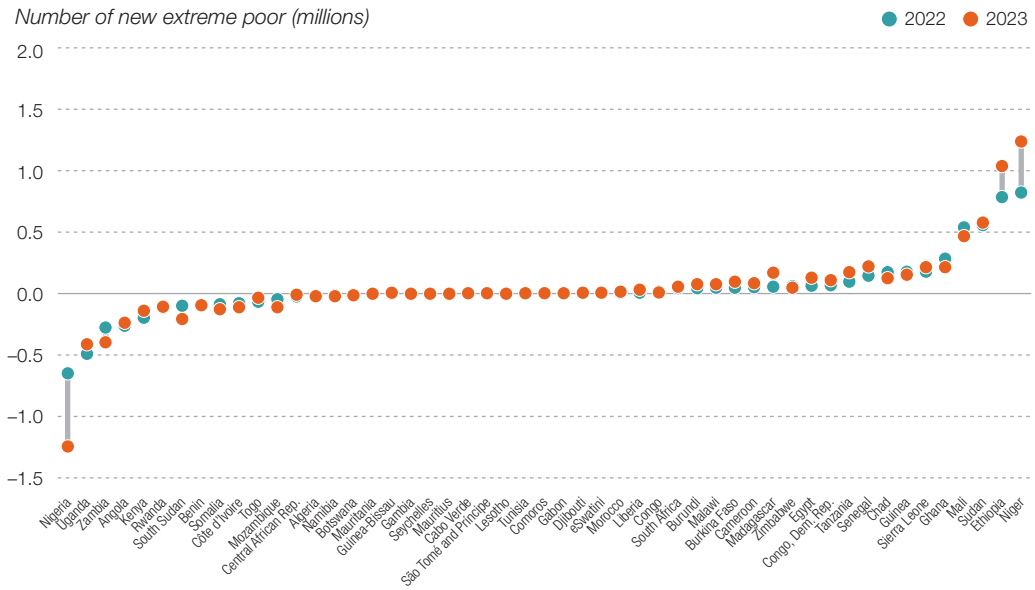
FIGURE 1.22 Extreme poverty in Africa, 2018–23



Note: The baseline scenario refers to projections before the COVID-19 pandemic. The scenario without the Russia–Ukraine conflict includes only COVID-19 pandemic projections without accounting for the impact of the Russia–Ukraine conflict. The scenario with the Russia–Ukraine conflict incorporates the impacts of the COVID-19 pandemic and the Russia–Ukraine conflict.

Source: Staff calculations based on World Bank PovcalNet datasets, growth projections from African Development Bank statistics, and population projections from the United Nations Population Division.

FIGURE 1.23 Projected impact of the Russia–Ukraine conflict on Africa's extreme poverty by country, 2022 and 2023



Note: For each year, the poverty impact of the Russia–Ukraine conflict is computed as the difference between the preconflict and postconflict poverty projections.

Source: Staff calculations based on World Bank PovcalNet datasets, growth projections from African Development Bank statistics and population projections from the United Nations Population Division.

Poverty persistence is likely to delay reversion to pre-COVID-19 extreme poverty rates

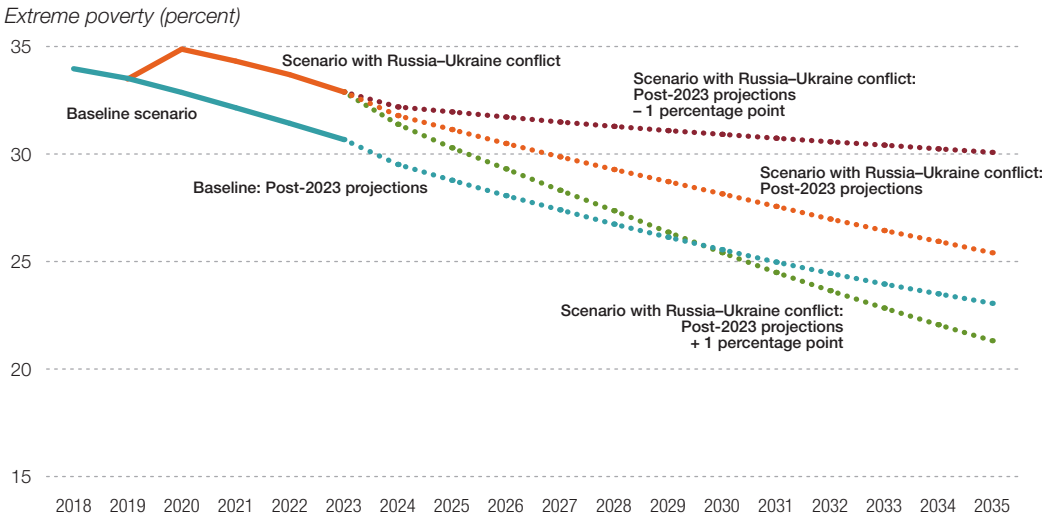
Going back to pre-COVID-19 rates of extreme poverty is likely to take more time than previously projected, especially in the current economic growth outlook (figure 1.24). On the assumption that African economies grow at the same average rate as currently projected over 2021–23, African countries would need more than a decade to catch up to the poverty rates projected before COVID-19, because real GDP per capita growth remains insufficient to offset the pandemic's economic impact. In a more optimistic scenario, which assumes average GDP per capita growth of 1 percentage point higher from 2024 in each country, it would still require up to seven years on average to reach the extreme poverty rate that could have prevailed had there been no pandemic or Russia–Ukraine conflict. Policies supporting stronger recovery post-COVID-19 will thus be important not only to revert to prepandemic poverty rates but also to reduce them further.

If African economies grow at the same average rate as currently projected over 2021– 23, they would need more than a decade to catch up to the poverty rates projected before COVID-19

The pandemic is still disrupting labor markets in Africa, and employment is yet to fully recover

Before the pandemic, Africa registered a steady movement of labor from agriculture to non-agriculture, particularly to the informal services subsector, which is estimated to be a source of livelihood for around 90 percent of Africa's labor force. The pandemic further exacerbated the skewed trend in employment because of its strain on the private sector. According to the World Bank's Enterprise Surveys Follow-up on COVID-19, about 18 percent of firms in the eight African countries covered by the surveys were forced to close temporarily or permanently between the first quarter of 2020 and April 2021, with wide variation in the share of firms across countries—from 5.2 percent in Mozambique to 65.8 percent in Chad (figure 1.25). The pandemic affected a higher proportion of firms in services (retail, hotel, restaurants, and other services) than in manufacturing—around 11 percent (5.7 percent permanently closed and 5.5 percent temporarily closed), against around 1 percent (permanently or temporarily closed).

FIGURE 1.24 On current projections, Africa will need more than a decade to catch up to pre-COVID-19 and pre-Russia–Ukraine conflict extreme poverty rates



Note: Post-2023 projections assume that each African country's GDP per capita will grow from 2024 at a rate similar to its average per capita GDP growth in 2021–23, for both the baseline (pre-COVID-19) scenario and the scenario with the Russia–Ukraine conflict scenarios.

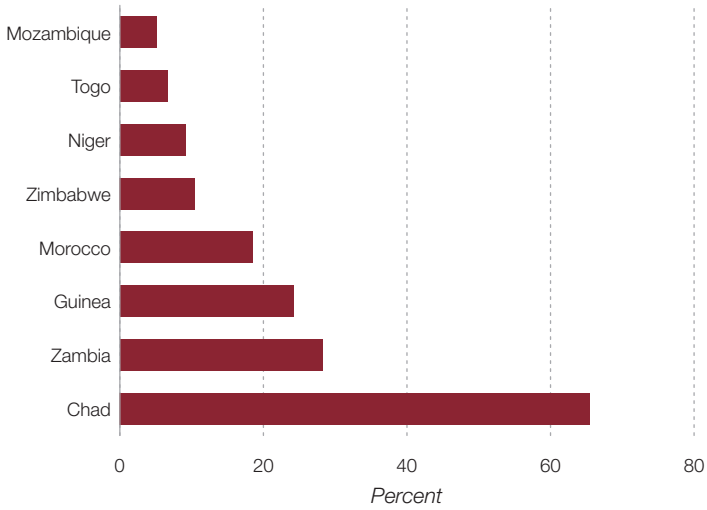
Source: Staff calculations based on World Bank PovcalNet datasets, growth projections from African Development Bank statistics, and population projections from the United Nations Population Division.

Business closure is still more pronounced in Africa than in other developing regions (table 1.1): 91.5 percent of firms in Africa remained open during the pandemic, against more than 95 percent in other developing regions. And while around 4.5 percent of African firms were permanently closed, 4.1 percent were still only temporarily closed at the survey. This is much higher than the proportion of firms permanently (1.3 percent) and temporarily (3.4 percent) closed in other developing regions. Firms in the formal sector faced a higher chance of business closure in Africa than in other regions, but an encouraging proportion of temporarily closed firms are reopening.

Businesses may be set on a slow path of reopening because employment has not fully recovered to prepandemic levels. The International Labour Organization estimated, for the first three quarters of 2021, working hours of at least 4.5 percent below the level in the fourth quarter of 2019, which is equivalent to 131 million full-time jobs (figure 1.26). In addition, Africa's share of the global loss in working hours increased to 16 percent in 2021, with such divergence due partly to wide variations in vaccination access (figure 1.27; and see the "COVID-19 vaccination" section below).

One of the main reasons for the vaccination gap between Africa and the rest of the world is vaccine access. While other regions—mainly advanced economies—are swiftly extending their vaccination efforts by securing enough doses for their populations, African countries lag due to limited resources and options, despite initiatives such as COVAX[5] and bilateral vaccine donations. Most African countries have therefore failed to vaccinate the 60 percent of the population initially targeted by their health authorities to achieve herd

FIGURE 1.25 Share of firms closed at least once, first quarter of 2020 to April 2021



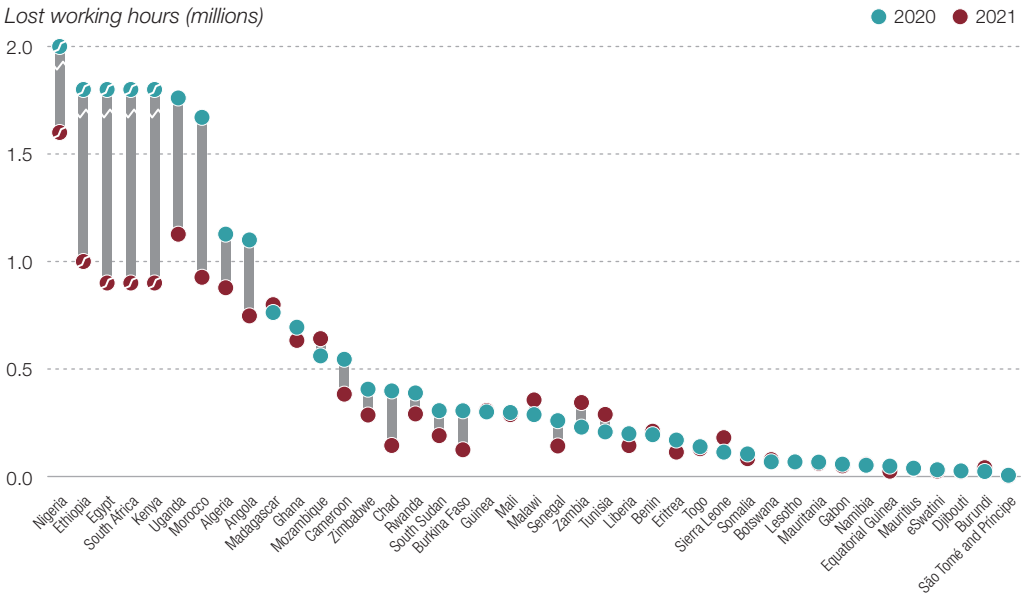
Source: World Bank's Enterprise Surveys Follow-up on COVID-19.

TABLE 1.1 Transition probability of firm survival during COVID-19 between first quarter of 2020 and April 2021, Africa and other developing regions, percent

		Round 2				
		Permanently closed	Temporarily closed	Open	Total	
Round 1	Permanently closed	1.78	0	0	1.78	Africa
	Temporarily closed	0.09	1.47	6.74	8.30	
	Open	2.58	2.59	84.75	89.92	
	Total	4.45	4.06	91.49	100	
	Permanently closed	0.51	0	0	0.51	Other developing regions
	Temporarily closed	0.20	1.18	4.85	6.23	
	Open	0.59	2.21	90.47	93.26	
	Total	1.29	3.39	95.32	100	

Note: Cell proportions are weighted using Enterprise Survey firm-level weight. Other regions of the world include, on World Bank definitions, Middle East and North Africa (excluding North African countries), Latin America and the Caribbean, East Asia and Pacific, and Europe and Central Asia. African countries in the survey are shown in figure 1.24.
Source: Staff calculations using Enterprise Surveys Follow-up on COVID-19, rounds 1 and 2.

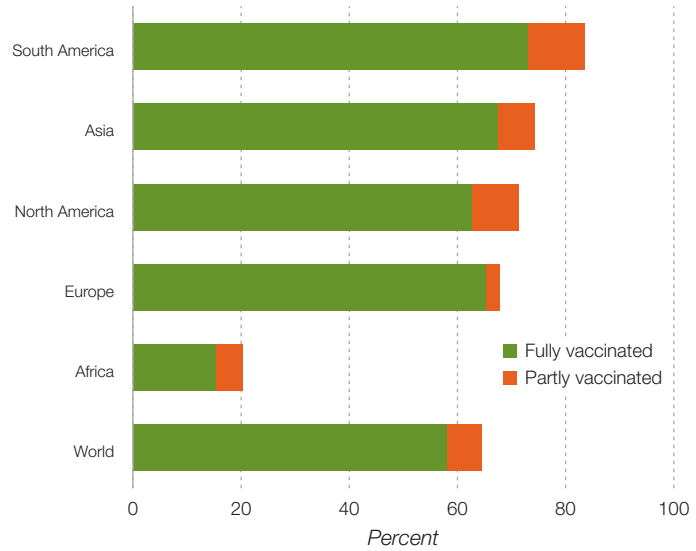
FIGURE 1.26 Lost working hours due to COVID-19 in 2020 and 2021



Note: Values are truncated for Nigeria (5,735 in 2020 and 3,628 in 2021), Ethiopia (3,380 in 2020 and 2,316 in 2021), Egypt (2,956 in 2020 and 1,871 in 2021), South Africa (2,542 in 2020 and 1,816 in 2021), and Kenya (2,538 in 2020 and 1,745 in 2021).

Source: Staff calculations based on International Labour Organization statistics.

FIGURE 1.27 Africa lags other global regions in COVID-19 vaccination rollout



Source: Staff calculations from Our World In Data, 31 March 2022.

immunity through vaccination. In addition, the emergence of highly resistant COVID-19 variants such as Omicron and its rapid global propagation have highlighted the importance of vaccine equity.

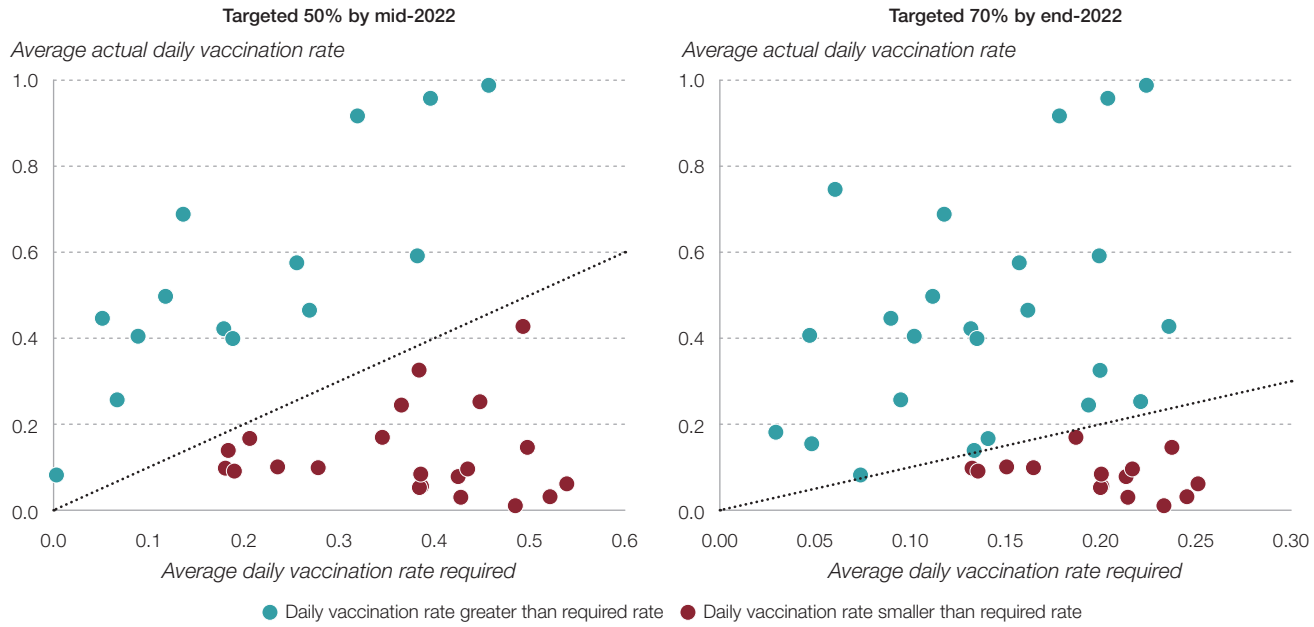
Many African countries will need to speed up their vaccination rollout, which, beyond health and mortality considerations, will also be critical for economic recovery, but vaccination rates of 50–70 percent for herd immunity seem implausible for most African countries on current trends. Of 46 countries with vaccination data by 31 March 2022, 23 had daily vaccination rates greater than what is needed to meet the 50 percent target by mid-2022, but 17 countries will be unable to vaccinate 70 percent of their population by end-2022 unless they step up the rate (figure 1.28).

COVID-19 vaccination

Vaccine delivery inefficiency still curtails vaccination rates in Africa

Inefficiencies in vaccine delivery still affect many African countries (figure 1.29). These impediments can be measured by the ratio of vaccines administered to vaccines received (through the COVAX initiative, bilaterally, or by any other means): the higher the rate, the more efficient the delivery.[6] Between 2021 and 2022, vaccine delivery efficiency increased in 30 countries (group I) and

FIGURE 1.28 Gaps in vaccination rates for different vaccination coverage targets



Note: Countries that reached the specific vaccination coverage rate by 31 March 2022 are excluded from the panels. Dashed lines represent the 45-degree lines.

Source: Staff calculations based on data from the African Development Bank Statistics Department.

decreased in 22 countries (group II). Average vaccine delivery efficiency rate was around 58, meaning that out of 100 doses, about 42 had not been distributed.

Many factors could explain these efficiency differences, including institutional, economic, and geopolitical. Regression results in figure 1.30 show that African countries with more COVID-19 deaths per 1,000 people were more efficient in delivering vaccines, probably because the relatively high death rates created a sense of urgency to try to stabilize or reduce mortality. Countries with larger urban populations, where most COVID-19 cases are concentrated in Africa, also had lower efficiency rates, which might reflect coordination or networking challenges in reaching people. Unsurprisingly, countries with a higher density of physicians per 1,000 people, better logistics for international shipment, or high-quality logistics services, performed better in administering COVID-19 vaccines. Finally, countries in which people perceived greater control of corruption and greater political stability were also more efficient, highlighting the importance of improving governance on the continent.

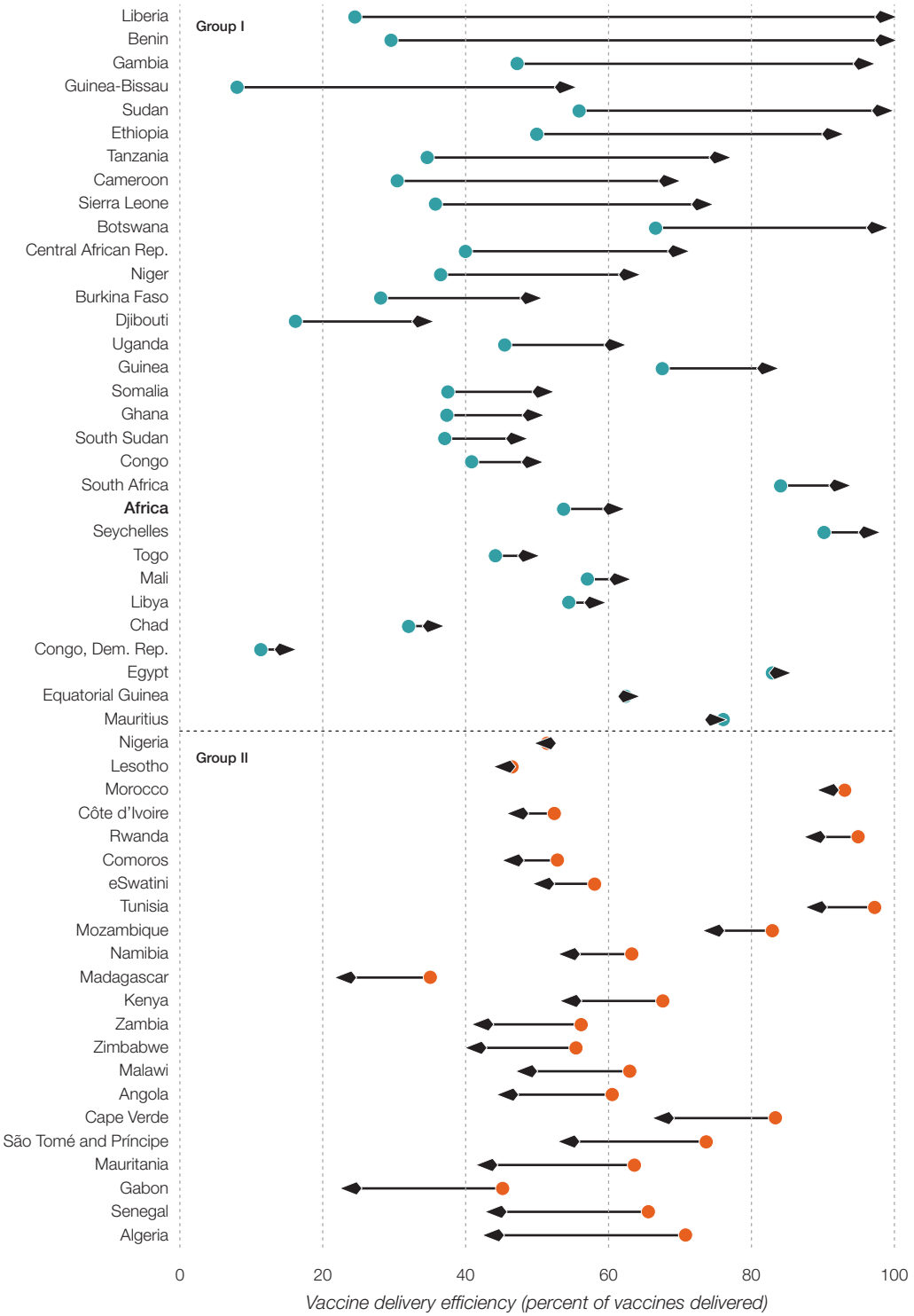
Inefficiencies in vaccine delivery still affect many African countries

Speeding up vaccination rollout is vital for fighting COVID-19 infections and reducing the death toll

Results from a regression analysis[7] of the links between confirmed COVID-19 cases, as well as deaths, and vaccination rates in Africa show that countries that have deployed large-scale vaccination campaigns have lower infection and death rates. After lockdown stringency, public information campaigns, existence and intensity of testing, contact tracing, face covering, and protection of elderly people are controlled for, confirmed COVID-19 cases per capita start declining just four to five days after intensified vaccination campaigns, relative to the baseline scenario (figure 1.31, left panel). In particular, 30 days after the launch of an aggressive vaccination campaign, cumulative confirmed COVID-19 cases per capita were on average 2.7 percent lower than in countries with no vaccination rollout policy.

Vaccination is also effective in stabilizing and even reducing the COVID-19 death toll: on average during the first 10 days after a positive shock of vaccination rollout, COVID-19 death rates become

FIGURE 1.29 Changes in efficiency rates of COVID-19 vaccine delivery in Africa between 2021 and 2022



Boosting COVID-19 vaccination rollout can help accelerate economic recovery

Note: Countries in group I had an increase in their COVID-19 vaccine delivery efficiency rate between 2021 and 2022, and countries in group II had a decrease. Data are from 1 September 2021 to 31 March 2022.
Source: Staff calculations based on data from the Africa CDC COVID-19 Vaccine Dashboard.

relatively stable, against those in other countries and start declining (figure 1.31, right panel).

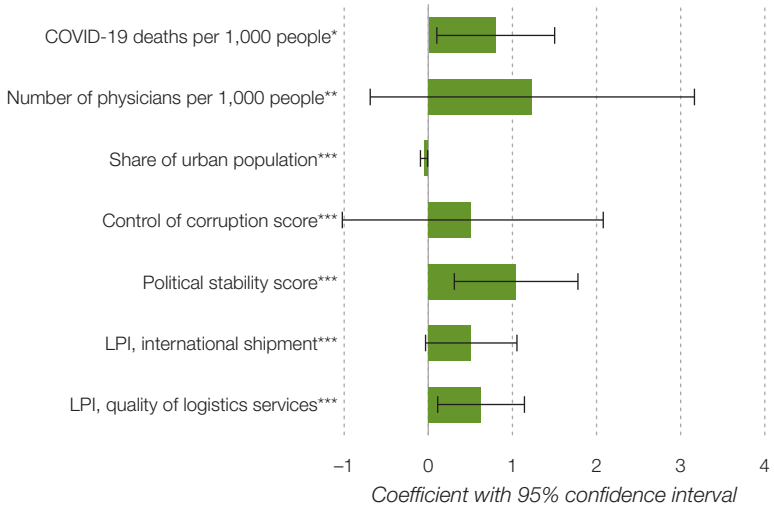
A higher rate of COVID-19 vaccination is also associated with quicker economic recovery

Boosting COVID-19 vaccination rollout can also help accelerate economic recovery. Figure 1.32 shows a positive association between COVID-19 vaccination rates and estimated real GDP growth among African countries in 2021 after infection cases are controlled for. The positive relationship could stem from many factors.

First, by vaccinating a larger share of the population, countries can open their economies more quickly than those with lower vaccination rates, domestic firms can return to normal activities faster—especially in contact-intensive sectors such as tourism, hospitality, and retail businesses—and trade with other countries can resume with fewer disruptions.

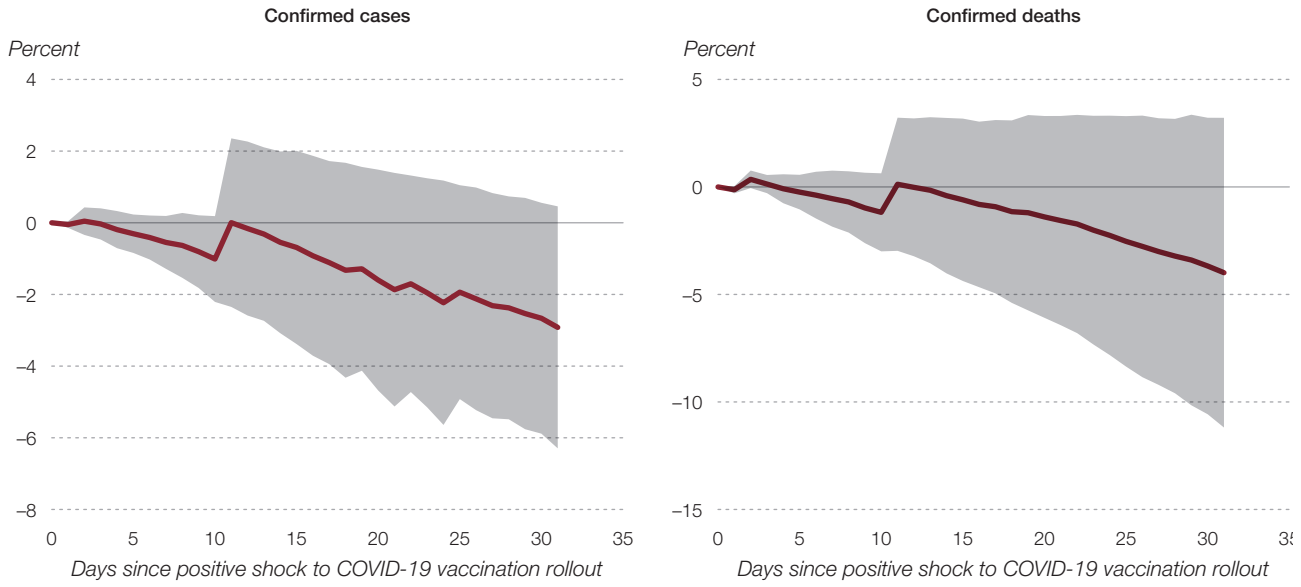
Second, by decreasing the high rate of COVID-19-related hospitalizations, deaths, and other health complications, a surge in vaccination rates will ease budget constraints, allowing countries to allocate more resources to other growth-enhancing sectors.

FIGURE 1.30 Drivers of COVID-19 vaccination efficiency in Africa



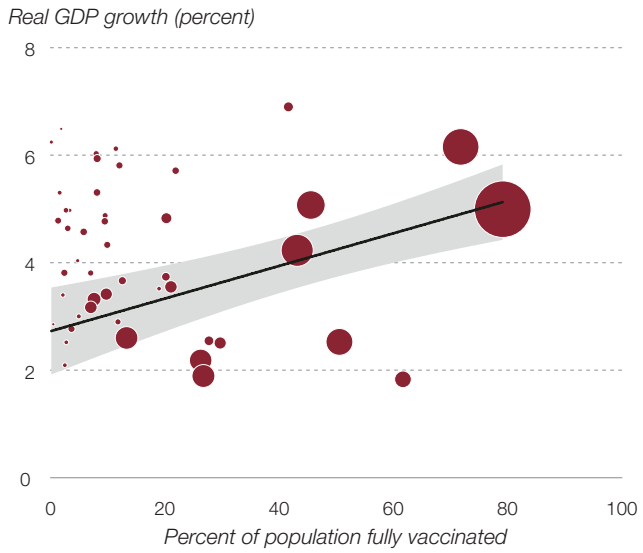
* is significant at the 10 percent level; ** is significant at the 5 percent level; *** is significant at the 1 percent level.
LPI is the Logistics Performance Index of the World Bank.
Note: All variables except COVID-19 deaths per 1,000 people have been averaged over 2010–19 to smooth out the effects of temporary shocks. An efficiency delivery score greater than 100 has been winsorized to 100. COVID-19 deaths are as of 31 March 2022, and vaccine delivery efficiency rates are averaged between 1 September 2021 and 31 March 2022.
Source: Staff calculations based on data from the African Development Bank Statistics Department, the Africa CDC COVID-19 Vaccine Dashboard, World Bank World Development Indicators database and LPI rankings, and the Global Health Security (GHS) Index.

FIGURE 1.31 Responses of confirmed COVID-19 cases and deaths to vaccination rollout in Africa



Note: The shaded area shows the 95 percent confidence interval computed with standard errors clustered at the country level. COVID-19 data are as of 31 March 2022.
Source: Staff calculations based on African Development Bank statistics.

FIGURE 1.32 COVID-19 vaccination rollout and real GDP growth in African countries, 2021



Note: The shaded area shows the 95 percent confidence interval. The size of the bubbles is proportional to confirmed COVID-19 cases per capita for each country. Libya is excluded due to the extreme value of its real GDP growth (177.3 percent). Vaccination data are as of 31 December 2021.

Source: Staff calculations based on African Development Bank statistics.

Third, a higher vaccination rate implies quicker labor market recovery and fewer jobs lost due to the pandemic and is associated with less stringent workplace restrictions because vaccinated people are better protected against coronavirus than the unvaccinated. Recent evidence suggests a strong positive correlation between COVID-19 vaccine rollout and mobility in Africa (figure 1.33). In addition, for every 14 people fully vaccinated in the second quarter of 2021 worldwide, one full-time equivalent job was added to the global labor market.[8]

Fourth, by mitigating new outbreaks of the pandemic,[9] which could re-induce large-scale lockdown restrictions, vaccination creates a more conducive environment for stimulating economic recovery. Finally, recent evidence shows that vaccination often leads to higher consumer confidence among the vaccinated or those who plan on being vaccinated, which may then sustain household consumption growth and subsequently induce a growth rebound.[10]

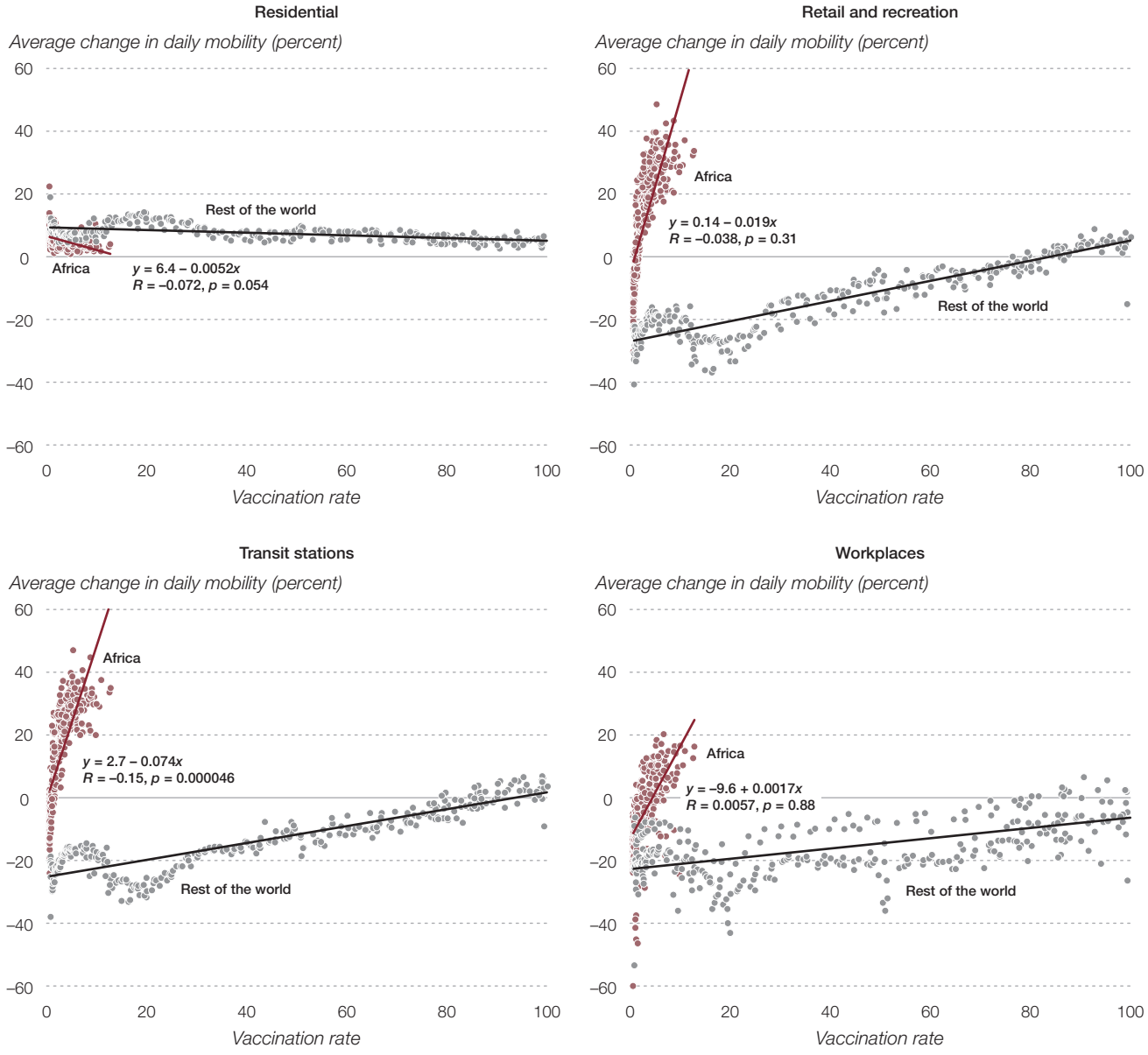
CHALLENGES BEYOND COVID-19 AND THE RUSSIA–UKRAINE CONFLICT: THE EXISTENTIAL THREAT OF CLIMATE CHANGE

Beyond COVID-19 and the Russia–Ukraine conflict lies the existential threat of climate change, and Africa is the global region most vulnerable to climate disasters.[11] Of the 10 countries most affected by climate change and climate-related weather events in 2019, 5 were in Africa.[12] A total of 131 extreme-weather, climate change–related disasters were recorded on the continent in 2020 and 2021, of which 99 were floods, 16 storms, 14 droughts, and 2 wildfires (figure 1.34). Climate-related disasters have huge long-term effects on human welfare and economic development.[13] The economic costs of extreme weather events in Africa were estimated in the range of $7–$15 billion in 2020[14] and could reach $45–$50 billion a year by 2040, equivalent to 7 percent of Africa's GDP by 2100.[15] In short, climate change presents massive risks to African economies; threatens the lives and livelihoods of tens of millions of people; and could undo hard-won progress in achieving some of the key targets of the Sustainable Development Goals (SDGs), the African Union's Agenda 2063, and the Bank's High-5s.

Because efforts to "build back better" and to engender resilient economies may be hampered by devastating climate-related shocks, policies to support postpandemic economic recovery for Africa must include initiatives to enhance its resilience by mitigating these shocks, which exacerbate output fluctuations and poverty. Yet climate change may also be seen as an opportunity to leapfrog to green growth and employment creation by leveraging the benefits from a just energy transition in Africa to sustainable and renewable energy systems.

A lack of affordable and reliable modern energy supply was one of the fundamental factors that hindered Africa's competitiveness in the global economy and its economic transformation—and it still is in many places. Despite Africa's abundant renewable and nonrenewable energy sources, the continent produces and consumes meager amounts of modern energy. An estimated 600 million Africans

FIGURE 1.33 Correlation between COVID-19 vaccination rate and human mobility



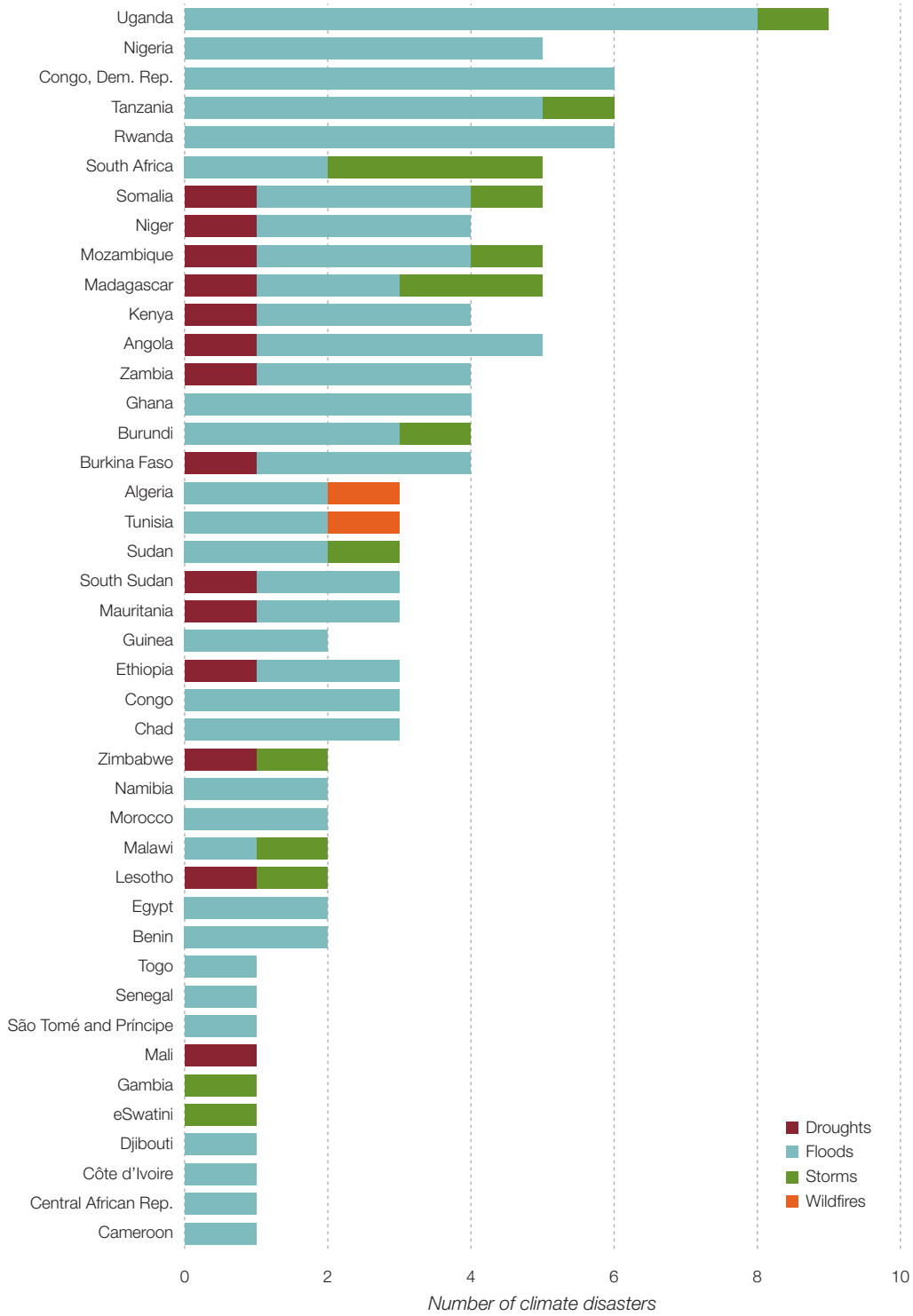
Note: Africa and rest of the world averages are weighted by population.
Source: Staff calculations based on Google Community Mobility Data and Our World in Data.

have no access to electricity, and Africa is the only region in the world where energy poverty is expected to increase over the coming decades.

Beyond the impact on long-term growth and competitiveness, lack of access to modern energy is detrimental for poverty reduction, job creation, health, education, and a host of other SDG-related areas. The post-COVID-19 recovery and climate-resilience efforts must therefore strike the right balance between Africa's critical developmental needs and its energy system transitions, for it to achieve its global climate commitments.

Chapters 2 and 3 focus on the challenges and opportunities brought about by the pathways to a clean energy economy and discuss the expected costs and benefits of different just transition scenarios for the continent's postpandemic development needs.

FIGURE 1.34 Climate disasters in Africa, 2020–21



Source: Emergency Events Database.

Beyond COVID-19 and the Russia–Ukraine conflict lies the existential threat of climate change, and Africa is the global region most vulnerable to climate disasters

POLICY RECOMMENDATIONS TO BUILD BACK BETTER AND ENGENDER RESILIENT ECONOMIES IN AFRICA

- *Speed up COVID-19 vaccination rollout through better vaccine delivery policies and, in the medium to long term, strong support to domestic pharmaceutical industries.* The resolute macroeconomic policy responses that African governments undertook in 2020 and 2021 have left most countries with limited room for additional policy maneuver. Keeping the pandemic under control should therefore remain the top policy priority for African countries. Increasing vaccination rates would reduce infections and protect against the emergence of more transmissible and deadly variants of the virus. In addition, better vaccination coverage will ensure that scarce public financial resources are channeled directly to post-COVID-19 recovery efforts and will help build economic resilience against future shocks.
- *In the short run, these efforts will require better vaccine delivery policies that address logistical bottlenecks that have sometimes led to vaccine wastage.* Countries also need to address vaccine hesitancy among citizens through better and well-tailored public information campaigns that reassure them of the safety and efficacy of COVID-19 vaccines and, where feasible, contain the spread of misinformation. In the medium to long term, strong policy support is needed to strengthen domestic pharmaceutical capabilities to produce vaccines locally and thus greatly reduce the overdependence on external manufacturers. Current efforts to produce COVID-19 vaccines locally, spearheaded by the Bank, should be accelerated and scaled up.
- *Increase investments in critical healthcare systems.* The pandemic is the latest health shock to hit the continent in two decades. Others include the 2014–16 and 2018 Ebola virus disease epidemics, as well as frequent outbreaks of cholera, dysentery, and hemorrhagic fever (such as Rift Valley fever, Crimean–Congo fever, and yellow fever). The inadequacy of critical healthcare systems in Africa raises the economic and social costs of these shocks, pushing countries further away from achieving the SDGs. Governments should invest more in their healthcare systems and increase the number of key healthcare workers to deal with recurrent health shocks by considerably expanding the budgetary allocation to the sector. Prioritizing the sector will entail investing in new healthcare facilities—or rehabilitating and upgrading existing ones—with state-of-the-art infrastructure and equipment; training health professionals in medical advances in managing and responding to pandemics and epidemics; and establishing clear preparedness plans against future resurgence of health shocks.
- *Promote inclusive growth to address rising poverty and inequality through social programs and job opportunities targeting vulnerable people.* The impact of the lingering COVID-19 pandemic and the Russia–Ukraine conflict has put a dent in growth recovery in the medium term. As a result, extreme poverty in Africa is expected to exceed prepandemic levels in the medium term at least. Countries should undertake tailored social programs that reach the most vulnerable, such as women, young people, disabled people, informal workers, and female-headed households. Creating opportunities for decent jobs that target such groups would make them economically independent and resilient to future shocks. These efforts will require countries to implement reforms that support industrialization, diversification, and digitization; improve labor market regulation and make labor markets more adaptable and responsive to shocks; improve the management and efficiency of public tax systems; encourage private sector productivity-enhancing innovations; and match the curricula of education systems to the needs of labor markets.
- *Contain inflation while safeguarding the recovery.* The recent increase in commodity and energy prices due to the Russia–Ukraine conflict and the ensuing inflationary pressures in many countries are making the trade-off between curbing inflation and safeguarding growth particularly challenging. In the

Keeping the pandemic under control should remain the top policy priority for African countries. Increasing vaccination rates would reduce infections and protect against the emergence of more transmissible and deadly variants of the virus

current situation, prompt and adequate policy responses are needed to avoid the risk of Africa sliding into stagflation. Given elevated inflation and debt in the context of a fragile recovery, as well as tightening global financial conditions, many countries were already grappling with diminished policy space, and this situation has worsened as a result of the conflict. To navigate this difficult trade-off, monetary authorities will need to carefully monitor the pass-through effects of rising international prices to domestic inflation, to calibrate appropriate responses. Monetary policy would need to take on a cautious tightening path in countries where the pass-through of rising energy and other commodity prices is stronger. In countries with independent monetary policy, raising policy rates would be warranted if there are signs of broadening price pressures and/or risks of de-anchoring inflation expectations. In countries where underlying inflation pressures remain contained, central banks can maintain an accommodative stance where the recovery is weak.

- *Coordinate monetary and fiscal policy, given the persistently weak policy space.* The complexity and limitations in policy space have made coordination between monetary and fiscal policies a crucial necessity. A tighter monetary policy that targets inflation should be complemented with a carefully calibrated fiscal policy response to support the recovery and protect the most vulnerable people. Some countries are planning to temporarily reduce the value-added tax and excise duties on household consumer goods (for example, food, cooking oil, and gas) and to introduce, reinstate, and maintain energy subsidies to cushion consumers from the impact of high energy costs. These measures could have significant fiscal costs, especially for net importers, if elevated commodity prices are prolonged. For this group of countries, supporting the most vulnerable will require reprioritizing spending—for example, by cutting nonessential expenditure such as wasteful subsidies to state-owned enterprises. Better targeting of social safety nets, focusing on the most vulnerable, could supplement efficiently implemented subsidies. Net oil exporters have the opportunity to use the fiscal windfall created by higher oil prices to build fiscal buffers and support the recovery and the most vulnerable. Where the recovery is weak, countries could use their extra fiscal space wisely by prioritizing targeted social spending and productive investment to build the foundation for faster future growth. However, for many countries, navigating this complex path will require decisive support from the international community and global cooperation to prevent a humanitarian and debt crisis.
- *Reinstate and reconfigure the DSSI and Common Framework, scale up efforts to accelerate governance reforms and strengthen public financial management to deal with the structural challenges of Africa's rising public debt.* High public debt threatens recovery efforts on the continent and is holding back prospects to engender high and sustainable economic growth. Domestic policy response remains constrained by limited fiscal space amid growing social sector spending pressures. It is therefore imperative that the global community rethink terminating the DSSI framework, which was designed to provide temporary relief to countries facing growing debt overhang. A reconfigured DSSI and Common Framework will limit the impact on Africa's public debt from the depreciation in domestic currencies due to the global uncertainty stoked by the Russia–Ukraine conflict and spillover effects of the tight monetary policy stance being implemented in advanced economies. African countries need to accelerate governance reforms and improve public financial management in order to decisively address their recurrent debt vulnerabilities. These actions require building strong budget institutions to efficiently mobilize domestic resources, conduct sound public expenditure, and implement rigorous debt management and budgeting. Strengthening the nexus among debt, growth, and governance will help maximize growth dividends of debt-financed public investments.[16] Finally, countries need to improve their debt transparency by upgrading their debt statistics overall, particularly on

Monetary policy would need to take on a cautious tightening path in countries where the pass-through of rising energy and other commodity prices is stronger. In countries with independent monetary policy, raising policy rates would be warranted if there are signs of broadening price pressures and/or risks of de-anchoring inflation expectations

state-owned enterprises' debt. Given that the consequences of the Russia–Ukraine conflict are compounding macroeconomic imbalances and debt vulnerabilities across the continent, effectively implementing global initiatives for debt relief and resolution is critical to avoid a wave of debt crisis.

- *Reduce dependence on any single supplier of food.* One lesson from the Russia–Ukraine conflict is that countries should diversify sources of imports of crucial goods and commodities such as energy and food to build resilience against idiosyncratic shocks. The long-run policy response to economic diversification should include enhancing intra-Africa trade to build food self-sufficiency. This will be crucial to build economic resilience to future shocks. The African Continental Free Trade Area offers substantial opportunities for diversifying trade and developing trade networks in key agricultural commodity markets and less volatile manufacturing value added products.
- *Boosting local cereal production in Africa will be important to mitigate global supply risks.* Supporting Africa's small-scale farmers can trigger an agriculture revolution to feed Africa, especially in urban areas. It is imperative that African countries provide farmers with ample access to affordable finance, improved food production technologies (especially certified seeds adapted to extreme climatic conditions), large-scale systematic extension, and mechanization services, to boost food production. Moreover, food prices can be stabilized in the short term through targeted release and replenishment of strategic food reserves. Such interventions often work best if they bring together the private sector, the international community, national and international research centers, and governments.

ANNEX 1.1 STATISTICAL APPENDIX

TABLE A1.1 Real GDP growth (percent)

	April 2022 estimates			
	2020	2021 estimated	2022 projected	2023 projected
Central Africa	–0.5	3.4	4.6	4.3
Cameroon	0.5	3.5	3.8	4.1
Central African Rep.	1.0	0.7	3.8	3.9
Chad	–2.2	0.6	2.9	3.2
Congo	–8.1	–0.2	4.3	3.2
Congo, Dem. Rep.	1.7	5.7	6.2	6.5
Equatorial Guinea	–4.9	1.4	5.0	–1.9
Gabon	–1.8	1.3	3.3	3.4
East Africa	1.5	4.8	4.7	5.5
Burundi	–1.0	2.3	3.6	4.6
Comoros	0.2	1.9	2.5	3.2
Djibouti	1.2	3.9	3.4	5.2
Eritrea	–0.6	2.9	4.7	3.6
Ethiopia	6.1	5.6	4.8	5.7
Kenya	–0.3	6.7	5.9	5.5
Rwanda	–3.4	10.0	6.9	7.9
Seychelles	–7.7	7.9	5.0	5.9
Somalia	–0.3	2.0	3.0	3.6
South Sudan	13.2	–6.0	5.3	6.5
Sudan	–3.6	0.5	2.5	4.5
Tanzania	4.8	4.9	5.0	5.6
Uganda	–1.5	6.0	4.6	6.2
North Africa	–1.3	11.7	4.5	4.2
Algeria	–4.9	4.0	3.7	2.6
Egypt	3.6	3.3	5.7	5.1
Libya	–59.7	177.3	3.5	4.4
Mauritania	–1.8	3.9	4.8	4.6
Morocco	–6.3	7.2	1.8	3.3
Tunisia	–8.7	3.4	2.5	3.2
Southern Africa	–6.0	4.2	2.5	2.4
Angola	–5.4	0.7	2.9	3.5
Botswana	–8.7	12.5	4.2	4.4
Lesotho	–7.6	1.0	2.5	2.8
Madagascar	–7.1	3.3	5.0	5.4
Malawi	0.9	2.5	2.8	4.0
Mauritius	–14.9	4.0	6.2	5.6
Mozambique	–1.2	2.2	3.7	4.5
Namibia	–7.9	2.4	2.6	3.5
São Tomé & Príncipe	3.1	2.2	1.5	3.2
South Africa	–6.4	4.9	1.9	1.4
eSwatini	–1.9	3.2	2.2	1.8
Zambia	–3.0	4.0	3.2	3.8
Zimbabwe	–5.3	6.3	3.5	3.3
West Africa	–0.6	4.3	4.1	4.2
Benin	3.8	7.0	6.1	6.4
Burkina Faso	1.9	6.7	5.0	5.4
Cabo Verde	–14.8	7.1	5.1	5.7
Côte d'Ivoire	2.0	7.4	6.0	6.7
Gambia	–0.2	5.5	4.8	5.8
Ghana	0.4	5.0	5.3	5.1
Guinea	6.4	4.3	4.9	5.7
Guinea-Bissau	–1.4	3.8	3.7	4.5
Liberia	–3.0	3.3	3.5	4.3
Mali	–1.2	3.2	2.1	5.4
Niger	3.5	1.4	6.5	7.2
Nigeria	–1.8	3.6	3.4	3.0
Senegal	1.3	6.1	4.6	8.2
Sierra Leone	–2.0	3.2	4.0	4.2
Togo	1.8	6.0	5.8	6.8
Africa	–1.6	6.9	4.1	4.1
Africa (excluding Libya)	*–1.2*	*4.2*	*4.1*	*4.1*
Africa (excluding Nigeria)	*–1.5*	*7.5*	*4.2*	*4.3*
Memorandum items				
North Africa (including Sudan)	*–1.5*	*10.9*	*4.4*	*4.3*
Sub-Saharan Africa	*–1.7*	*4.3*	*3.8*	*4.0*
Sub-Saharan Africa excluding South Africa	*–0.7*	*4.2*	*4.2*	*4.6*
Oil-exporting countries	*–1.0*	*8.1*	*4.4*	*4.1*
Oil-importing countries	*–2.4*	*5.3*	*3.7*	*4.1*

Source: African Development Bank statistics.

TABLE A1.2 Country groupings

Oil exporters	Other resource intensive	Non–resource intensive	Tourist dependent	Low income	Middle income
Algeria	Botswana	Benin	Cabo Verde	Benin	Algeria
Angola	Burkina Faso	Burundi	Comoros	Burkina Faso	Angola
Cameroon	Central African Republic	Cabo Verde	Mauritius	Burundi	Botswana
Chad	Congo, Dem. Rep.	Comoros	São Tomé and Príncipe	Central African Republic	Cabo Verde
Congo	Ghana	Côte d'Ivoire	Seychelles	Chad	Cameroon
Egypt	Guinea	Djibouti		Congo, Dem. Rep.	Comoros
Equatorial Guinea	Liberia	Eritrea		Eritrea	Congo
Gabon	Mali	Ethiopia		Ethiopia	Côte d'Ivoire
Libya	Namibia	Gambia		Guinea	Djibouti
Nigeria	Niger	Guinea-Bissau		Guinea-Bissau	Egypt
South Sudan	Sierra Leone	Kenya		Liberia	Equatorial Guinea
	South Africa	Lesotho		Madagascar	Gabon
	Sudan	Madagascar		Malawi	Gambia
	Tanzania	Malawi		Mali	Ghana
	Zambia	Mauritania		Mozambique	Kenya
	Zimbabwe	Mauritius		Niger	Lesotho
		Morocco		Rwanda	Libya
		Mozambique		Sierra Leone	Mauritania
		Rwanda		Somalia	Mauritius
		São Tomé and Príncipe		South Sudan	Morocco
		Senegal		Tanzania	Namibia
		Seychelles		Togo	Nigeria
		Somalia		Uganda	São Tomé and Príncipe
		eSwatini			Senegal
		Togo			Seychelles
		Tunisia			South Africa
		Uganda			Sudan
					eSwatini
					Tunisia
					Zambia
					Zimbabwe

NOTES

1. Currency depreciation continued in 22 of 37 countries in 2021.
2. "Above-the-line" measures include those for which the full cost is reflected in the fiscal deficit, government debt, and increased borrowing needs in the short term. These measures include additional spending (for instance, health services and unemployment benefits); capital grants and targeted transfers (such as wage subsidies and direct transfers); and tax measures (for example, tax cuts and other relief) provided through standard budget channels.
3. UNCTAD 2021.
4. African Development Bank 2021b.
5. COVAX aims to scale up the procurement and manufacture of COVID-19 vaccines and to guarantee fair and equitable access for all people around the world. The initiative is co-led by Gavi, the Vaccine Alliance; the Coalition for Epidemic Preparedness Innovations; and the World Health Organization.
6. Goel and Nelson 2021.
7. The following specification was used to estimate the responses of COVID-19 infections and deaths to shocks to vaccination rates (Jordà 2005):

$$lnC_{i,t+h} - lnC_{i,t-1} = \alpha_{i,h} + \gamma_{t,h} + \sum_{p=0}^{P} \beta_{h,p} V_{i,t-p} + \sum_{p=0}^{P} \tau_{h,p} X_{i,t-p} + \sum_{p=1}^{P} \sigma_{h,p} lnC_{i,t-p} + \varepsilon_{i,t+h}$$

   where $lnC_{i,t+h}$ denotes confirmed COVID-19 cases or deaths per capita (in log terms) in country i on day $t + h$, with h being the time horizon ($h = 1, 2, \ldots, 30$). $lnC_{i,t-1}$ refers to COVID-19 cases or deaths per capita (in log terms) on day $t - 1$. $V_{i,t-p}$ is the COVID-19 vaccination rate in country i on day $t - p$, where p features lags to account for past values. $lnC_{i,t-p}$ is used to track the stage of the pandemic in the country. The specification includes two week's worth of lags ($p = 1, 2, \ldots, 14$). X_i refers to a vector of control variables including lockdown stringency, public information campaigns, testing, contact tracing, and policies on face coverings and protection of elderly people. $\varepsilon_{i,t+h}$ is the error term.
8. ILO 2021.
9. Moghadas et al. 2021.
10. Leer 2021.
11. Bündnis Entwicklung Hilft 2021.
12. Eckstein, Kunzel, and Schafer 2021.
13. Lalthapersad-Pillay and Udjo 2014.
14. African Development Bank 2021a.
15. African Development Bank 2015.
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2

CLIMATE RESILIENCE AND A JUST ENERGY TRANSITION IN AFRICA

KEY MESSAGES

- **Africa's historical and current carbon emission share is below 3 percent of global emissions, but the burden of climate change on economies and livelihoods across the continent is disproportionately high—a climate injustice.** Africa is also the least climate-resilient region in the world, with high vulnerability to climate change and a low readiness for its impacts. Climate change is already threatening to derail development gains and impose further economic costs and social disruption, with adaptation alone projected to cost the continent at least $50 billion annually by 2050.
- **Africa's low access to modern energy is undermining its development goals and ability to build climate resilience.** Moves toward low-carbon sources of energy to reduce global greenhouse gas (GHG) emissions are of paramount importance, but they need to be compatible with achieving the continent's development aspirations and meeting the unmet energy needs of some 600 million Africans.
- **At 46 percent in 2020, the share of fossil-based energy sources in Africa's energy mix is relatively modest compared with the share in other global regions.** The continent has also increased its renewable energy technologies, which along with natural gas—which could serve as the transition fuel in countries that have access to it—will allow them to gradually reduce coal in their energy mix.
- **Although low-carbon transitions in Africa vary by country, they could be transformational.** These variations reflect differing ecological zones, climates, settlement patterns, economic structures, resource bases, and governance systems. Africa is richly endowed in energy and mineral resources, such as lithium, graphite, cobalt, nickel, copper, and rare earth minerals—all of which are new market opportunities for the green transition. With Africa's limited lock-in to fossil-based energy technologies, these opportunities could help the continent build a climate-resilient and integrated sustainable energy sector.
- **Policies to achieve climate resilience and a just energy transition in Africa should be inclusive, "leaving no one behind."** This transition requires close consideration of the equity implications and challenges associated with prevailing energy poverty, low energy consumption and energy needs for economic growth and transformation.
- **The principle of a just energy transition in Africa must consider past emissions and how they shape future emission trajectories.** Africa contributed little to the buildup of historical emissions and should therefore not be denied the "carbon space" to develop its economies. True climate justice suggests that Africa is owed almost 10 times as much as the global climate finance that it received in recent years.

INTRODUCTION

With the increasing concentration of the main GHGs—carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O)—the global temperature is rising, sparking huge global concerns. World leaders inked their collective effort in the Paris Agreement, which entered into force in November 2016 and called for keeping the increase in the global average temperature to well below 2°C above preindustrial levels and for pursuing efforts to limit the temperature increase to 1.5°C above those levels. The agreement highlights "common but differentiated responsibilities" for climate adaptation and for mitigation of GHG emissions. Climate justice—overarching a just energy transition in Africa—is about how the world should transition from carbon-intensive to climate-resilient pathways and how the cost of historical and current emissions should be shouldered by countries whose contribution to previous and present GHG emissions is negligible.

Africa is exceptionally vulnerable to climate variability and climate change, which affect millions of people and make adaptation efforts more pressing as rapid changes in weather patterns erode the productivity of local water and food systems and generate unintended consequences for sustainable development

The projected temperature increase across Africa exceeds the global average and is expected to be accompanied by increases in the frequency and intensity of heavy rainfall events, heatwaves, floods, and droughts, heightening the risk of economic and social catastrophe. All this threatens to derail hard-won development gains over the past two decades, with adaptation costs estimated at a minimum of $50 billion annually by 2050.[1] Cognizant, many African countries joined the global effort to reduce GHG emissions through the Nationally Determined Contributions.

The continent's commitment, despite a historical and current carbon emissions contribution below 3 percent, to reducing carbon emissions is commendable, but Africa faces a unique challenge in access to modern energy to fulfill its development needs, including building climate resilience. About 600 million Africans do not have access to electricity, although the continent is richly endowed with energy resources to meet current and future demand. With the current demographic, urbanization, and economic growth trends, Africa needs to sharply lift its modern electricity production and consumption, which has important implications for its climate commitments. These policy challenges call for a close examination of the issues, balancing sustainable development and climate resilience and with the transition to a just energy system at the center.

The 26th UN Climate Change Conference of the Parties (COP26) concluded with parties agreeing to the Glasgow Climate Pact, which included several items. The pact requests that countries revisit and strengthen their Nationally Determined Contributions to align with the Paris Agreement temperature goal by the next COP in Egypt. It also reaffirms developed countries' responsibility to fulfill their pledge of providing $100 billion a year to developing countries and to double their collective provision of climate finance for adaptation, to 50 percent of global climate finance. Given that the next COP will take place in Egypt, Africa needs to make a strong case that the current climate finance architecture for accessing finance is not meeting Africa's needs. Further, meaningful efforts will need to be made for a stronger narrative on financing loss and damage.

This chapter closely analyzes the state of climate vulnerability in Africa; resilience to climate change and its socioeconomic impacts; and the opportunities and challenges of building climate resilience while meeting development needs. The chapter lays out the development and fairness arguments for a just global energy system and examines low-carbon transition pathways and new opportunities, focusing on the roles of renewables, minerals, gas, and green hydrogen. The chapter concludes with a call for balancing Africa's energy needs and global climate commitments and offers actionable policy recommendations.

CLIMATE RESILIENCE, READINESS, AND VULNERABILITY IN AFRICA

The state of climate resilience and readiness in Africa

Africa is warming faster than the global average over land and oceans. According to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC), current predictions are that critical global warming levels will likely be reached earlier than mid-century in Africa.[2] Africa is, therefore, exceptionally vulnerable to climate variability and climate change, which affect millions of people and make adaptation

efforts more pressing as rapid changes in weather patterns erode the productivity of local water and food systems and generate unintended consequences for sustainable development.[3]

To account for the multiple elements involved in climate resilience, this chapter uses a Climate Resilience Index (CRI),[4] measured by structural characteristics of a country that help either to increase or to decrease the risk of adverse effects of climate-related disasters.[5]

In 2010–19, Africa was the least climate-resilient region in the world, with both the lowest median (28.6) and mean (34.6) CRI scores, well behind Europe and Central Asia, the most resilient region to climate shocks (figure 2.1).

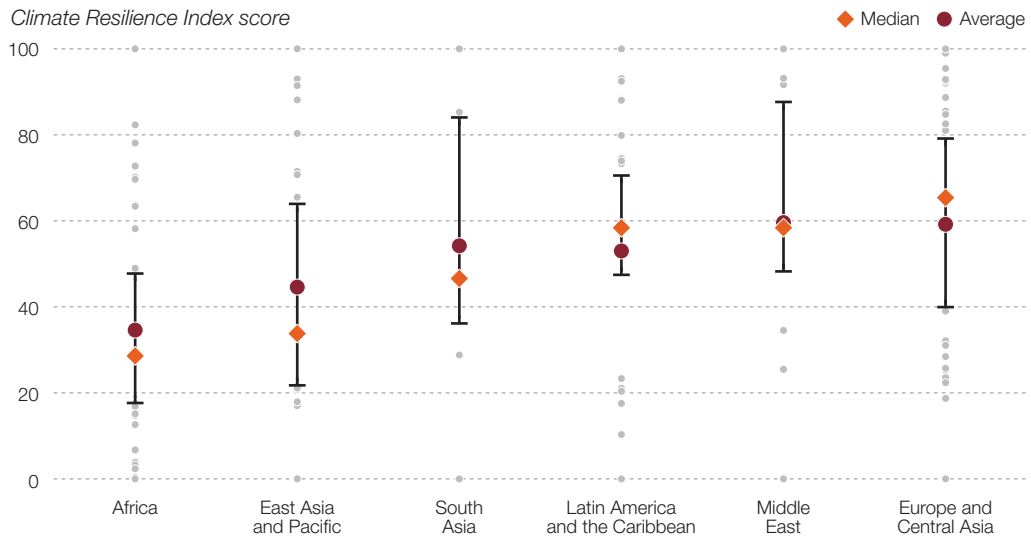
Within Africa, disparities between regions and countries are vast. Among African regions, the most climate resilient are North Africa (63.5 CRI) and Southern Africa (43.6), followed by West Africa (25.6), East Africa (25.0), and Central Africa (20.6; figure 2.2). At the country level on the CRI score, the six least resilient countries were Democratic Republic of Congo, Chad, Central African Republic, South Sudan, Somalia, and Libya; the six most resilient were Mauritius, Cabo Verde, Tunisia, Morocco, Botswana, and South Africa (figure 2.3). Most of the low resilient countries are in desert and semidesert climatic zones, and the moderately low resilient countries are largely in the grassland zones in tropical and subtropical regions.

In countries with high CRI scores, the levels of economic diversity, innovation, and skilled labor force; the quality of healthcare, education, and information and communication technology (ICT); geographic characteristics; and the quality of infrastructure and local institutions are more adapted for reducing vulnerabilities to potential climate shocks and for increasing capacity to respond effectively to the adverse effects of climate-related events (figure 2.4). In contrast, in low and moderately low resilient countries, the CRI score is predominately explained by environmental factors, often beyond the country's control, at the expense of other important dimensions that appear to play a negligible role in building resilience. Still, countries can build capacity to adapt to these shocks and increase resilience.

Africa is not only the second-most climate vulnerable region of the world[6]—only South Asia is more vulnerable—but also shows the least climate readiness[7] (figure 2.5). North Africa and Southern Africa are the least vulnerable (figure 2.6), with high readiness, and tend to leverage climate finance and investments, which confirms the previous result

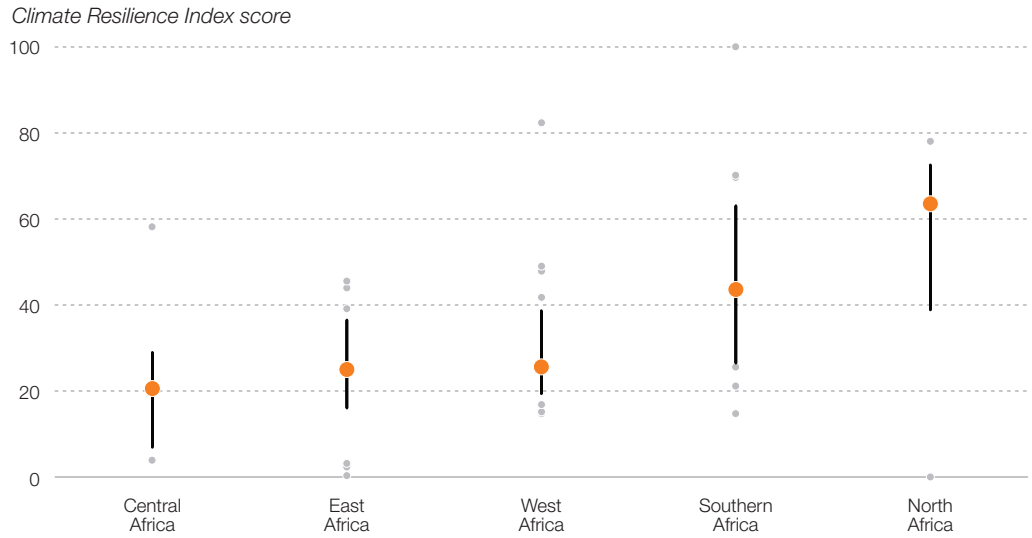
Africa is not only the second-most climate vulnerable region of the world; it also shows the least climate readiness

FIGURE 2.1 Africa was the least climate-resilient region in the world over 2010–19



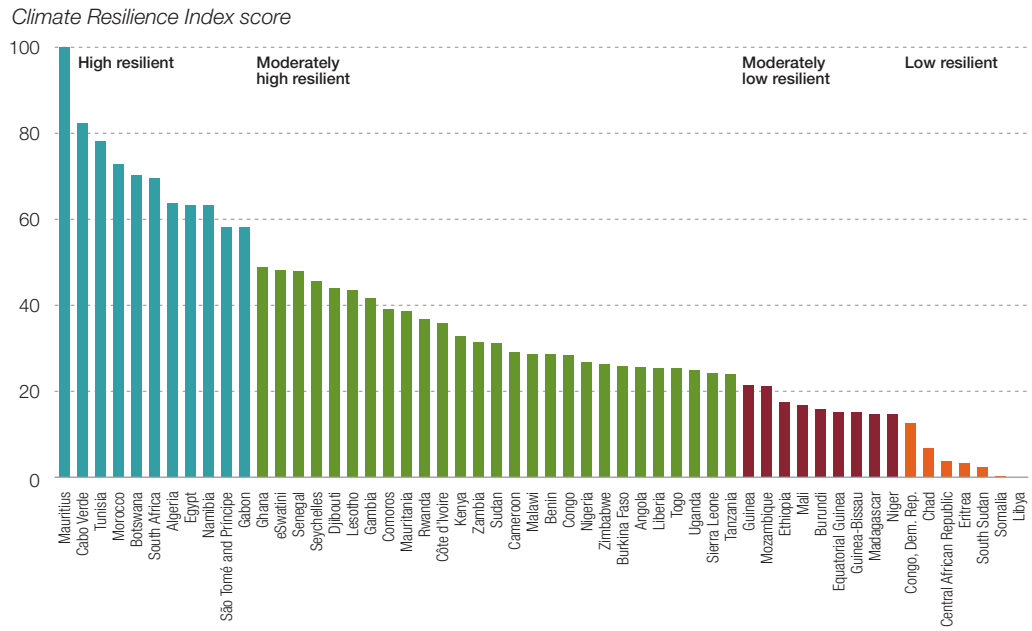
Note: The chart shows the median Climate Resilience Index by region with the interquartile range (IQR) in 2010–19 using principal component analysis. Scatters represent values outside the IQR.
Source: Staff calculations.

FIGURE 2.2 Climate Resilience Index score by African region, average 2010–19



Note: The chart shows the median climate resilience index by region with the interquartile range (IQR) in 2010–19 using principal component analysis. Scatters represent values outside the IQR.
Source: Staff calculations.

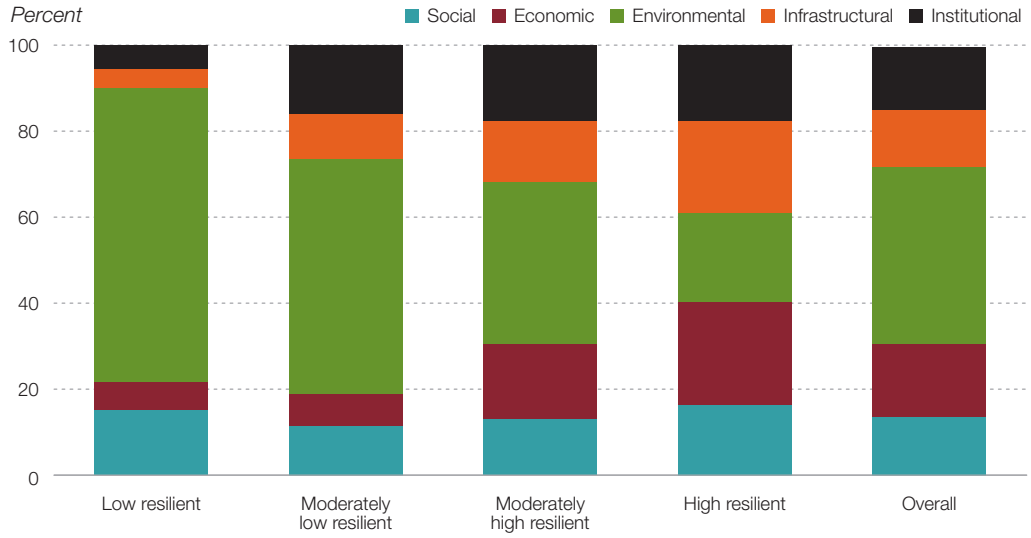
FIGURE 2.3 Climate Resilience Index score for African countries, average 2010–19



Source: Staff calculations.

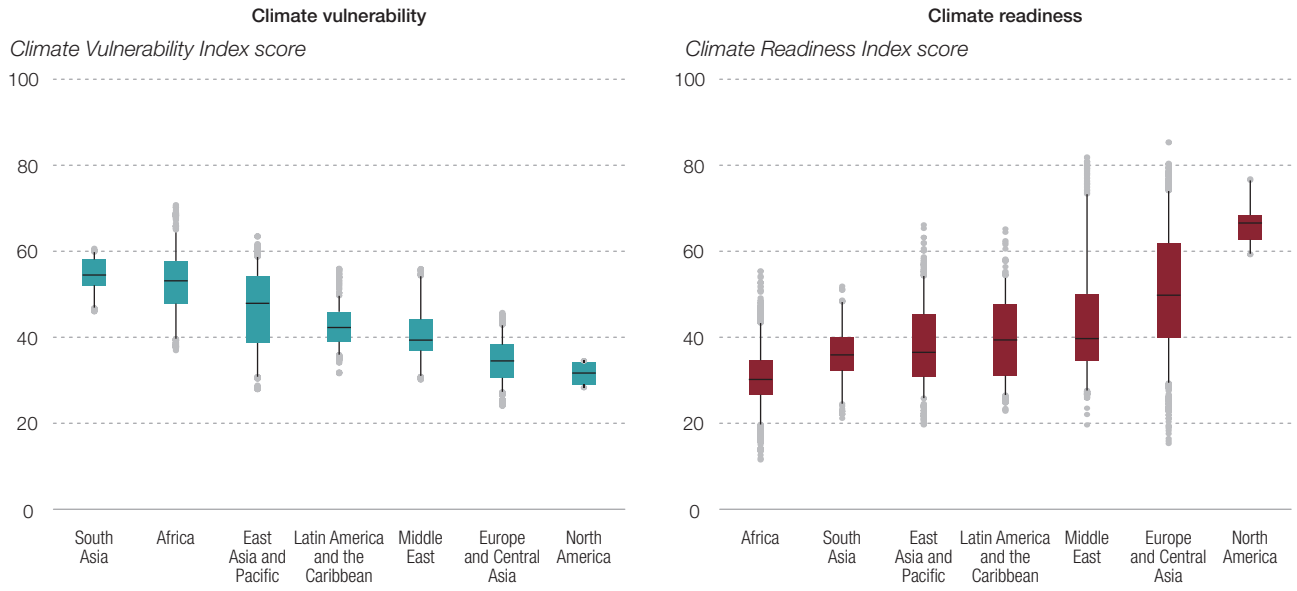
that they are the most resilient to climate change (figure 2.7). They are also relatively well positioned to implement their climate policies. Indices of climate vulnerability and climate readiness show great variation across countries. Data for 53 African countries show that all countries are vulnerable to climate change, with countries including Somalia, Niger, Guinea-Bissau, Chad, and Sudan classified as the most vulnerable to climate shocks, and South Africa, Angola, Morocco, and Tunisia as the least so.

FIGURE 2.4 Contribution of climate resilience dimensions to the overall Climate Resilience Index score, average 2010–19



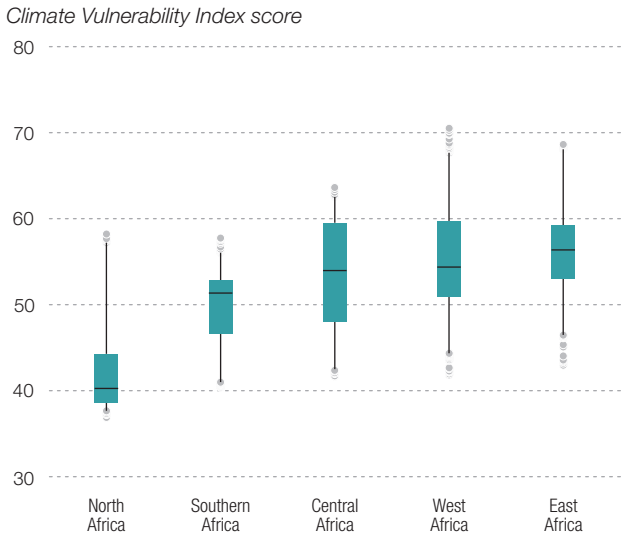
Source: Staff calculations.

FIGURE 2.5 Africa is the second-most climate vulnerable region of the world and displays the lowest climate readiness, average 2010–19



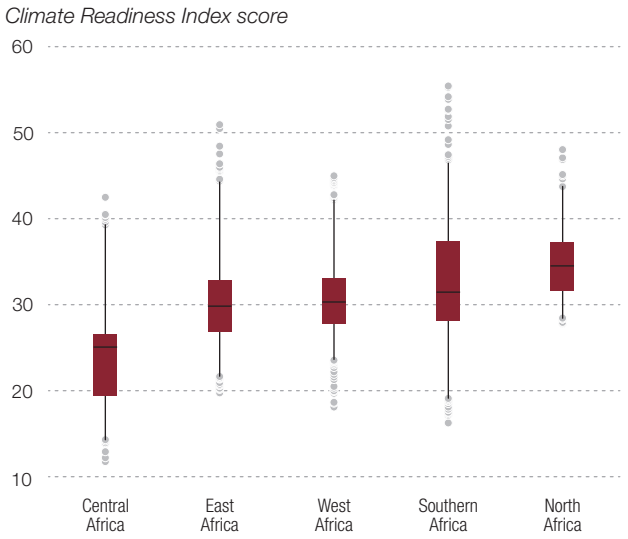
Note: Regional averages are weighted by population size. Reported values represent the regional median. Lower and upper whisker values stand for 5th and 95th percentile values, respectively. Scatters represent outliers (values outside the 5th and 95th percentiles).
Source: Staff calculations based on Notre Dame Global Adaptation Initiative database.

FIGURE 2.6 Climate Vulnerability Index score, by African region, average 2010–19



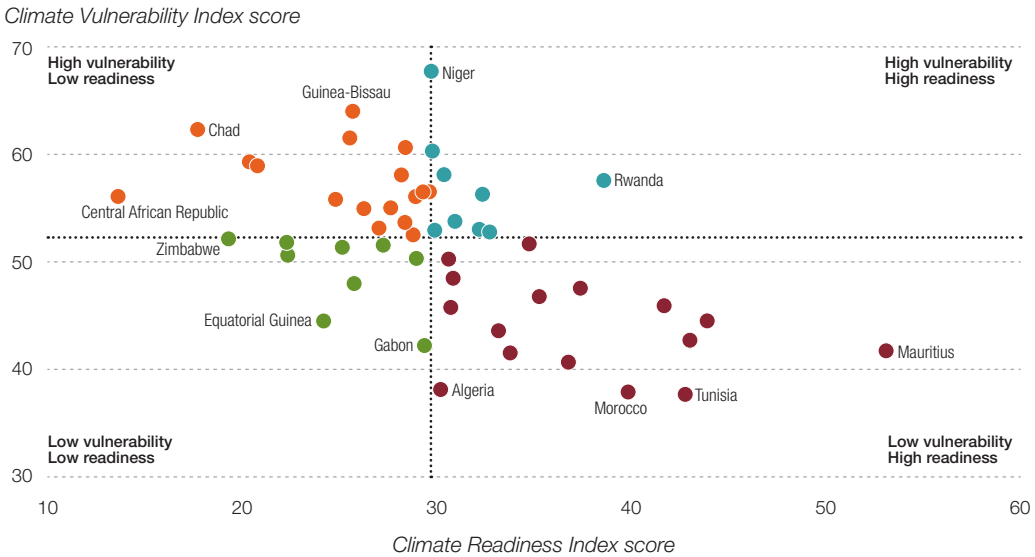
Note: Regional averages are weighted by population size. Lower and upper whisker values stand for 5th and 95th percentile values, respectively. Scatters represent outliers (values outside the 5th and 95th percentiles).
Source: Staff calculations based on Notre Dame Global Adaptation Initiative database.

FIGURE 2.7 Climate Readiness Index score, by African region, average 2010–19



Note: Regional averages are weighted by population size. Lower and upper whisker values stand for 5th and 95th percentile values, respectively. Scatters represent outliers (values outside the 5th and 95th percentiles).
Source: Staff calculations based on Notre Dame Global Adaptation Initiative database.

FIGURE 2.8 Classification of countries by climate vulnerability and readiness characteristics, average 2010–19



Note: The four quadrants are delineated by the median score of vulnerability and readiness indices across all countries in 2010–19.
Source: Staff calculations based on Notre Dame Global Adaptation Initiative database.

The upper right quadrant of figure 2.8 shows nine countries with high climate vulnerability and high readiness, and they need both adaptation and mitigation measures to reduce the impact of climate-related or climate-exacerbated hazards. Countries in the lower right quadrant (17) display low vulnerability but high readiness and are thus well positioned to pursue innovative adaptation and mitigation measures. Countries in the lower left quadrant (9) with low climate vulnerability and low readiness may show lagging efficiency of climate investment in such measures due to their low readiness. Last, the 17 countries in the upper left quadrant face the greatest climate challenges and need to take steps urgently on adaptation and mitigation and have the greatest need of climate finance.

Although contributing only marginally to global warming, Africa is bearing a disproportionately high burden as one of the regions of the world most vulnerable to the adverse effects of climate change.[8] The region's vulnerabilities stem from generally low socioeconomic development, where lack of resources increases the future risk of not meeting sustainable development objectives. It is therefore imperative that African regions and countries focus on developing response measures through identifying and assessing disaster risks and strengthening collaboration and coordination.

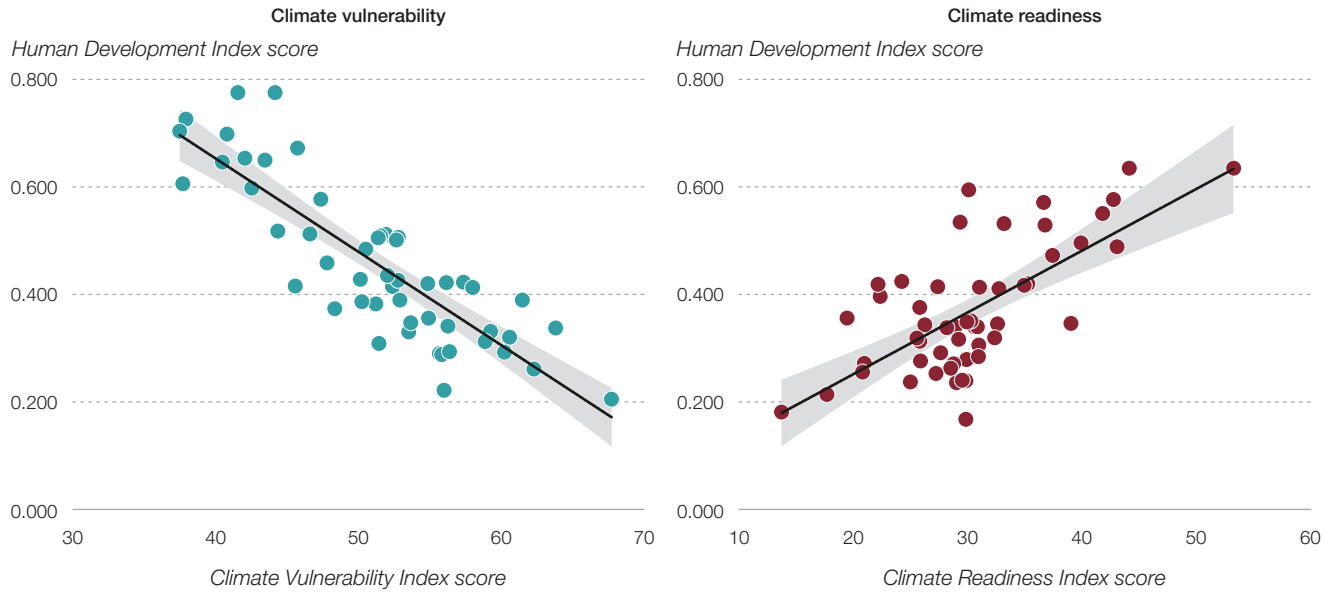
The Human Development Index (HDI),[9] on the one hand, and climate vulnerability, readiness, and climate resilience, on the other, show a strong association. Climate vulnerability scores and HDI scores generally have an inverse relationship, while the climate readiness score is positively associated with HDI score (figure 2.9). Data at the regional level show similar associations.

Climate change and socioeconomic impacts

Compounded by countries' low adaptation, climate change is slowing Africa's economic growth considerably, and in all countries (figure 2.10),[10] with average annual losses in GDP per capita growth of 5–15 percent in 1986–2015. These losses stem largely from differences in economic structure and exposure to climate change. For instance, estimated losses for resource-rich

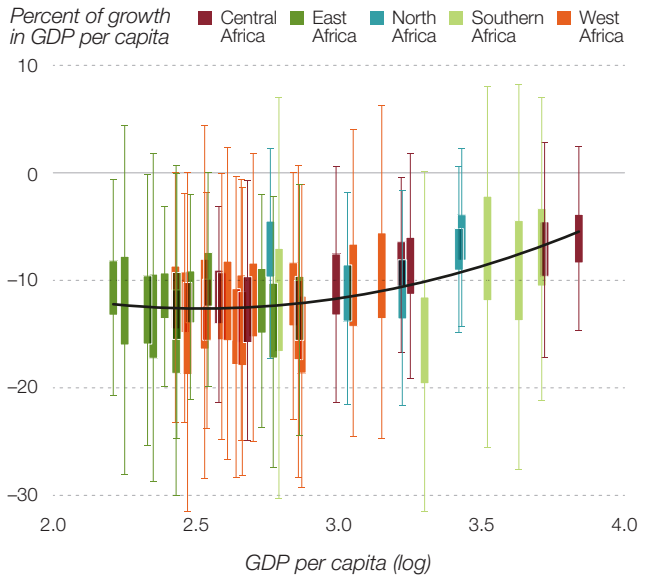
Compounded by countries' low adaptation, climate change is slowing Africa's economic growth considerably, and in all countries

FIGURE 2.9 Human Development Index scores, climate vulnerability scores, and climate readiness scores for African countries, average 2010–19



Note: Data are weighted by GDP per capita at purchasing power parity.
Source: Staff calculations.

FIGURE 2.10 Average annual climate-induced losses as a share of GDP per capita growth in Africa, by country and region, 1986–2015

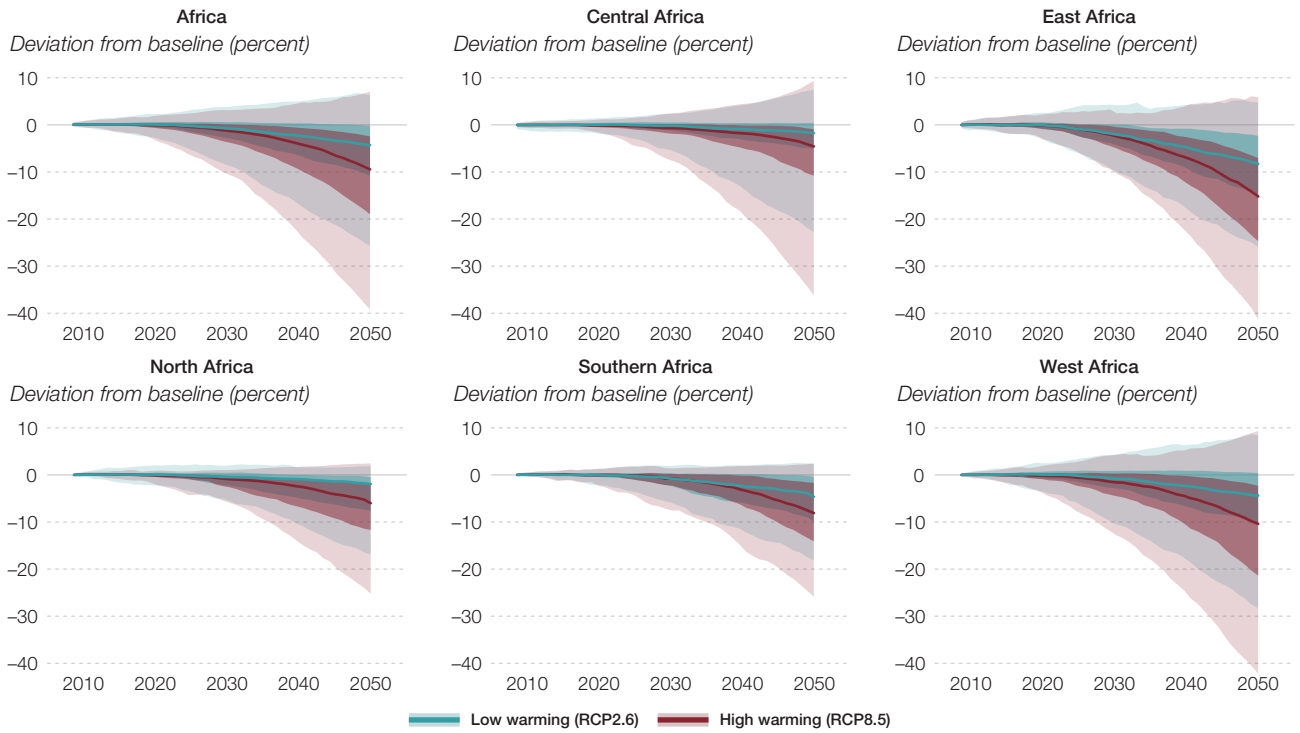


Note: Technical details of the model are provided in Baarsch et al. (2020).
Source: Baarsch et al. (2020); staff calculations using precipitation and temperature data from NASA.

countries, such as Botswana, Equatorial Guinea, and Gabon, and for services and manufacturing-based economies, such as Mauritius and South Africa, are more modest than in the majority of African countries whose economies are largely dependent on agriculture, whether measured by value added or employment shares. More concerning is that many of the countries severely hurt by climate change were already poor.

This economic cost is projected to be much higher in the next few decades. The future climate-induced macroeconomic risk for African countries was estimated under two Representative Concentration Pathways—RCP2.6 and RCP8.5.[11] Figure 2.11 shows the loss in GDP per capita growth due to climate change in these low (RCP2.6) and high (RCP8.5) warming scenarios for Africa and its five regions for 2010–50. West and East Africa are projected to be the most affected regions in both scenarios, with above 10 percent median reduction in GDP per capita growth in the high warming scenario by 2050. The effect on North, Southern, and Central Africa will be more

FIGURE 2.11 Estimated losses in GDP per capita growth under low and high warming scenarios, by African regions, 2010–50



Note: The red line represents the high warming scenario (RCP8.5), and the blue line the low warming scenario (RCP2.6). The shaded ribbon represents the 66 percent statistical confidence interval, and the solid blue and red lines the median values under the low and high warming scenarios, respectively.
Source: Baarsch et al. 2020.

modest, with below 10 percent reduction in projected growth.

The high warming scenario will have particularly severe consequences for African economies. The reduction in GDP per capita growth in the high warming scenario is projected at 16–64 percent by 2030. The differences in the impacts between these scenarios are relatively small for North Africa (2 percent vs. 2.3 percent) and Central Africa (a negative 0.6 percent vs. 0.9 percent). The differences are much larger for East Africa in the high warming scenario. After 2030, the difference in losses under the two scenarios widens rapidly, with the estimated losses in the high warming scenario almost twice as high.

The evolution of temperature and precipitation alterations induced by climate change does not follow a similar pattern. According to the Global Climate Model (GCM), temperatures are projected to rise over time at different rates depending on underlying climate scenarios, whereas precipitation tends to vary greatly across climate regions.[12] Because of these differences in climate patterns, projected temperatures and precipitation also evolve. While in the recent past, hydrometeorological events such as extreme dry weather and extreme wet weather were the main stressors, the GCM projections show that temperature-induced losses are having a progressively greater effect on economic growth. The changing nature of climate risks is observed across all countries in Africa, and a better understanding of these risks is essential for adaptation planning.

Beyond macroeconomic impacts, climate change has significant impacts on socioeconomic outcomes. For instance, the average global risk of mortality from high temperatures amounts to an additional 85 deaths per 100,000 people in 2100, but the effect is worse in Africa. In Ghana and Sudan, for instance, high temperatures could be responsible for an additional 160 and 200 deaths per 100,000, respectively, in 2100.[13] High temperature projections for that year would raise the prevalence of child-wasting among children under the age of five by 37 percent in West Africa and by 25 percent in Central Africa and East Africa.[14]

In addition, the risks of climate change–related conflicts, such as fighting over scarce water resources, are increasing. A 1°C higher temperature is associated with a greater risk of conflict in Africa of about 11 percent since 1980.[15] In 2020, 30 million people worldwide became internally displaced as a result of weather-related disasters, including 4.3 million in Africa—the highest level since 2012—suggesting that climate-related disasters lead primarily to internal rather than international migration, particularly in developing countries.[16]

Extreme weather events account for 89 percent of all disaster displacement. In most African countries, they lead to higher rural–urban migration because of the effects on agriculture. Further, internally displaced persons struggle to find safety in camps, tents, and makeshift shelters, often for uncertain and prolonged periods. Lacking privacy for daily activities such as bathing, sleeping, and dressing, the camps become an ungoverned space for increased sexual violence.[17] Many women and girls have reported heightened exposure to gender-based and sexual violence when living in makeshift camps with very little protection.

Opportunities and challenges in building climate resilience

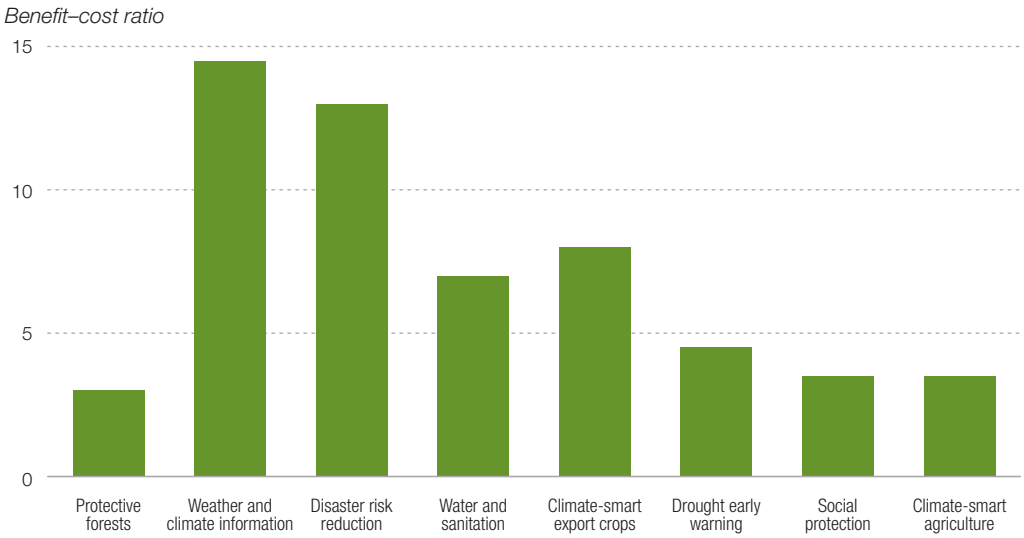
Realizing opportunities

Building resilience, if well planned and implemented, can be very cost-effective, with benefits multiple times the costs. Some of the actions taken to build climate resilience involve synergies with considerable mitigation co-benefits (figure 2.12). Examples for Africa include climate-smart agricultural practices and low-cost but effective technologies such as water harvesting and small-scale irrigation techniques, land and water conservation and management strategies, and minimum or zero tillage agriculture with high net returns to farmers—and even higher when farmers adopt complementary technologies.[18]

Building resilience requires transformative changes, with support from the public sector. Creating enabling environments for innovation and involving stakeholders, including the private sector, are key challenges. For example, making climate information and early warning services available to enable forecast-based actions by users are two areas that require support for technologies and human and institutional capacity. These measures

Building resilience, if well planned and implemented, can be very cost-effective, with benefits multiple times the costs

FIGURE 2.12 Benefit–cost ratios for climate-resilient options in Africa



Note: The figure shows averages of a range of indicative benefit–cost ratios reported in the source. These ratios are highly site- and context-specific, and future uncertainty about the scale of climate change could affect them greatly.
Source: Adapted from Global Center on Adaptation (2021).

Social protection to support poor people during climate shocks increases beneficiaries' resilience by minimizing associated losses

would also need to overcome the "usability challenge" by reducing the mismatch between supply of and demand for climate information.

Adaptation investments, including social protection, in Africa can also support economic growth and reduce inequality and poverty. Estimates for Africa show that such investments in resilient infrastructure, with measures to complement and upgrade the infrastructure, could considerably reduce the negative impacts of climate change on economic growth compared with a business-as-usual scenario of investments in standard infrastructure. Investing in resilient infrastructure also reduces inequality.[19] An example from Mozambique's Beira port shows the benefits of building weather-resilient infrastructure in reducing losses of life and assets and in quicker resumption of activities after cyclones.[20]

Social protection to support poor people during climate shocks also increases beneficiaries' resilience by minimizing associated losses. For instance, a social protection program in Ethiopia improved food security and reduced sales of assets by beneficiaries after climate disasters, compared with nonbeneficiaries. Because the transfers to able-bodied beneficiaries of the program were made in exchange for labor contributions in public works, such as soil and water conservation, the program also helped build the resilience of the community and households.[21]

Overcoming challenges

With Africa's limited adaptive capacity and climate resilience, climate change may undermine decades of hard-earned development gains, which are already under threat from the added impacts of COVID-19.

In response, efficient and cost-effective adaptation requires policy instruments designed and implemented to provide proper incentives for adaptation while avoiding perverse incentives of the type touched on earlier. Examples of proper instruments include price signals for water use and payments for ecosystem services.[22] However, these instruments will have to take into account the need for technologies to be accessible and affordable against, for example, credit barriers that inhibit the uptake of climate-friendly technologies. Given the multisectoral and multilevel needs for building climate resilience, coordination challenges have to be tackled horizontally and vertically across institutions, sectors, and jurisdictions, including by maximizing synergies, considering "low-regret" options in the face of uncertainty,

mainstreaming climate resilience across sectors, and reducing maladaptation risks.

One upshot of these challenges is that additional, climate change–linked costs will be incurred, including adaptation investments and costs, which are higher per capita for Africa than for other regions, owing to its high vulnerability, low readiness, and low climate resilience. Such investments and costs are estimated at about $70–$100 billion a year globally for a 2°C warmer world by 2050. This has important implications for allocating adaptation funds because the benefits of adaptation are location specific, unlike mitigation of GHG emissions.

Adaptation investments and costs vary considerably across Africa, as seen in anticipatory adaptation investments (investments in building adaptation capital), reactive adaptation costs (costs of adaptation in reaction to climate change), and residual damages (the difference between total damages and total adaptation investments and costs; figure 2.13). East Africa has the highest adaptation investments and costs and residual damages, while North Africa has the lowest. Generally, regions with higher HDI (weighted by GDP per capita at purchasing power parity) tend to have lower adaptation investments and residual damages as a percentage of regional GDP.

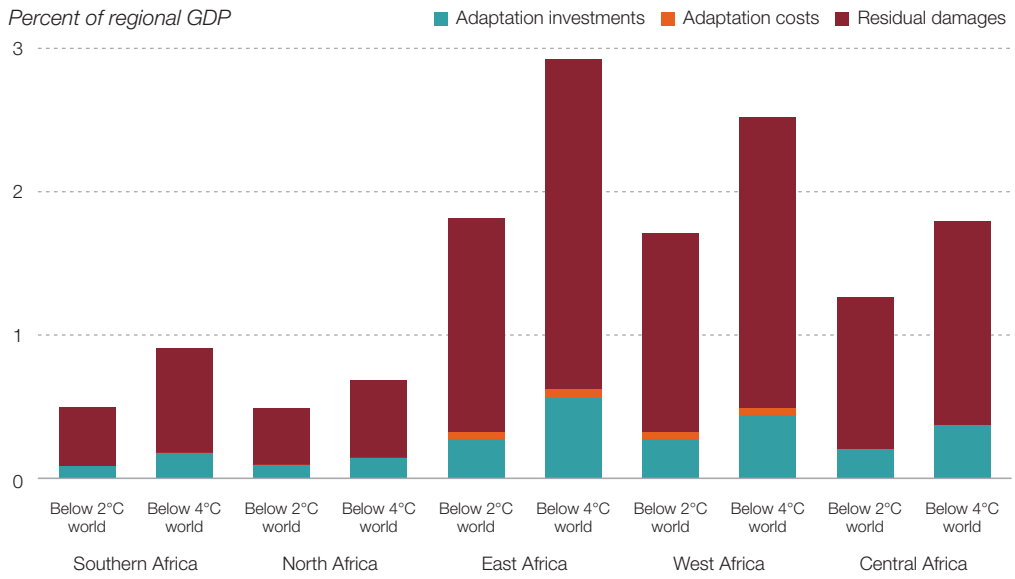
The low adaptive and climate-resilience capacity of Africa and the huge costs of building resilience mean that international cooperation is required to cover not only adaptation investments and costs but also losses and damages associated with residual damage and adaptation deficits. Considering the high vulnerability and low readiness of African countries (problems worsened by the impacts of the COVID-19 pandemic) and the limited contribution of Africa to climate change, increased bilateral and multilateral international cooperation and partnership are required to cover financial costs and enable technology transfer, technical cooperation, and human and institutional capacity building. Although adaptation investments and costs would cover the additional costs of addressing climate change impacts, the residual damages also require provision for a losses and damages mechanism.

Modern energy in building climate resilience

One of the most important challenges contributing to Africa's low level of climate resilience and

The low adaptive and climate-resilience capacity of Africa and the huge costs of building resilience mean that international cooperation is required to cover not only adaptation investments and costs but also losses and damages associated with residual damage and adaptation deficits

FIGURE 2.13 Adaptation investments, adaptation costs, and residual damages in 2050, by African region



Note: Results are reported for scenarios with global temperature change below 2°C and above 4°Celsius.
Source: African Development Bank, UNEP, and UNECA 2019.

climate readiness is its huge energy gap. As extreme weather events become more frequent and intense, installation of residential and workplace climate control systems is important for building climate resilience among households and businesses requiring modern energy, but such efforts are held back by Africa's low modern energy production and consumption. For example, to cool the approximately 700 million people in Africa who needed cooling in 2018 due to increasing temperatures would require over 1,000 terawatt-hours (TWh) of electricity, or one-fifth of total electricity produced in Africa.[23] If air-conditioning technology remains unchanged, powering residential air-conditioning units for about 1.2 billion people, or 240 million households, by 2040 would require around 1,008 TWh of electricity, which suggests that the continent must produce more than 10,080 TWh of electricity a year, or 3.5 times as much as in 2020. Thus, the requirement for cooling should alert policymakers about integrating energy needs in buildings and building materials to minimize the use of energy for cooling.

Africa remains the world's least industrialized region, and modern energy holds a pivotal role in facilitating the speed and degree of structural transformation

Energy is vital in building resilience for key productive sectors of African economies, including agriculture, where changing patterns in rainfall and temperature threaten output and productivity.[24] At present, lack of access to enough reliable and affordable energy poses a major constraint on agriculture production and post-harvest processing. Investment is critical in climate-smart agriculture or adaptation infrastructure to improve yields and productivity, reduce post-harvest wastage through cold storage, and strengthen food security and climate resilience, particularly among subsistence farmers. For example, improved access and greater use of modern energy services may reduce deforestation as the demand for traditional biomass declines. Further economic opportunities can be created by intensifying agriculture and ensuring farmers' involvement in wider agricultural value chains, which were not possible in the past because of the scarcity of energy.

The use of modern energy in building climate resilience has the potential to improve the well-being of women and young people in particular. Household energy is traditionally managed by women and youths who take on the tasks of gathering, preparing, and using wood for cooking. These tasks can adversely affect their health, notably through the inefficient combustion of biomass, which results in indoor air pollution, a major cause of illnesses that disproportionately affect women. The health effects of cooking go further, as the physical burden of arduous fuel collection increases women's risk of injury and personal insecurity. The burning of wood-based biomass also contributes greatly to deforestation in Africa. Given these real concerns with the unsustainable harvesting and use of biomass, access to modern and reliable energy for cooking offers multiple co-benefits of building climate resilience and of increasing women's well-being and human capital.[25]

ENERGY, DEVELOPMENT, AND A JUST TRANSITION IN AFRICA

Africa's development vision and the centrality of energy

Africa needs to industrialize to meet the development aspirations of its people and to create high-quality jobs and prosperity for all. The same route to industrialization that others have taken is rapidly closing, largely because of the limits imposed by a warming climate, as well as the increasing importance of automation, which renders cheap labor less important in businesses' location decisions than during previous industrialization eras. Huge opportunities lie in industrialization to meet the continent's own needs beyond its export-led strategy. Given Africa's less than 3 percent contribution to the depletion of the "carbon budget"—a concept that helps in comprehending the issues underpinning the "common but differentiated responsibilities and respective capabilities," as outlined in the United Nations Framework Convention on Climate Change (see "Development and fairness arguments for a just global energy system" below), the continent's ambition for inclusive industrialization must be supported as part of a fairer and more equitable way of addressing development and climate challenges simultaneously.

Africa remains the world's least industrialized region, and modern energy holds a pivotal role in facilitating the speed and degree of structural transformation. Surges in energy use raised

average per capita consumption levels in today's advanced economies to unprecedented heights, propelling their industrialization and ultimately helping them achieve high levels of prosperity. A strong correlation exists between GDP per capita and modern energy consumption in the form of electricity across a wide range of countries (figure 2.14). Emerging economies such as China, and more recently India, have driven most of the energy growth of the last 15 years, while some high-income countries seem to have already peaked on per capita and even total energy demand.

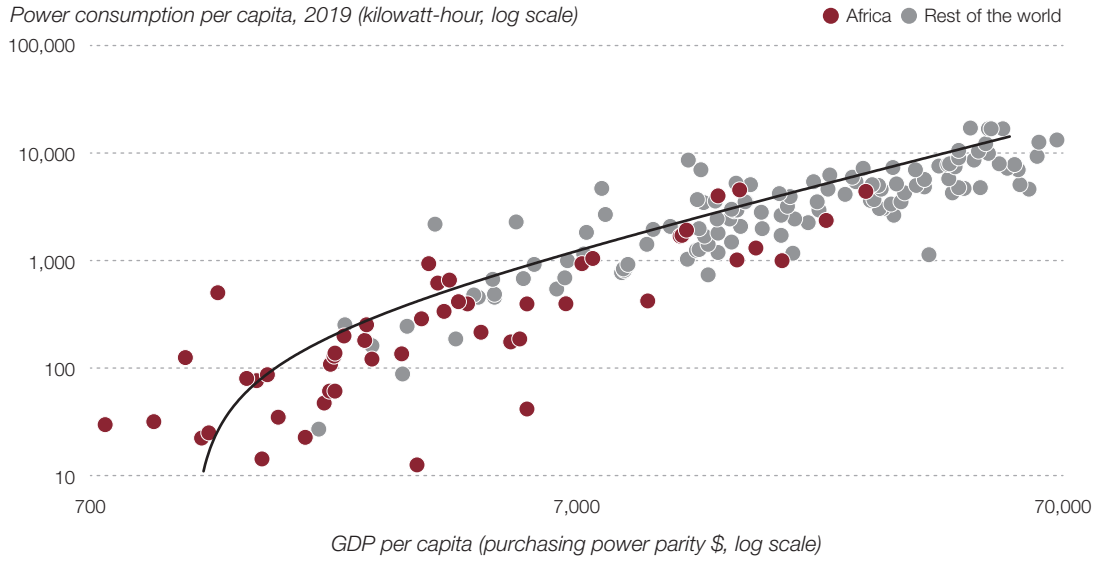
Energy use follows a fairly linear path during the lower stages of economic development (see figure 2.14), then begins to plateau as countries achieve higher affluence. This pattern is rapidly changing with the global push to electrification of energy systems such as "green steel," "green cement," enhanced digitization of end-use technologies, and transport based on electricity, which will drive up electricity consumption.[26] Africa is thus faced with the dual conundrum of expanding electricity provision to all its people as well as building a sustainable energy system based on a highly efficient and resilient power sector.

Energy is an important contributor to human development and key for achieving the Sustainable Development Goals (SDGs). Electricity consumption is highly correlated with the HDI, with a notable exponential slope, suggesting that electricity is particularly important for attaining broader socioeconomic development. For countries with an HDI score of less than 0.8, the positive relationship between electricity consumption and development is strongly correlated at low levels of energy use. The relationship levels off at an HDI score of higher than 0.8—mainly developed countries—because these countries tend to minimize energy intensity and maximize energy efficiency, suggesting that even small increments in energy services amount to proportionately more significant impact on well-being.

Traditional biomass is still the dominant source of energy in many African countries, although the continent has rich and diverse primary energy resources, with substantial gas, coal, geothermal, hydro, solar, and wind resources with more than 11 terawatts of capacity.[27] Yet, Africa remains energy poor, unable to harness its enormous energy potential to meet its socioeconomic development challenges. While oil and natural gas account for more than 80 percent of North Africa's primary energy needs, most African countries still rely heavily on traditional and inefficient biomass to meet their energy needs (figure 2.15), especially

Energy is an important contributor to human development and key for achieving the Sustainable Development Goals

FIGURE 2.14 Per capita electricity consumption and GDP per capita, 2019



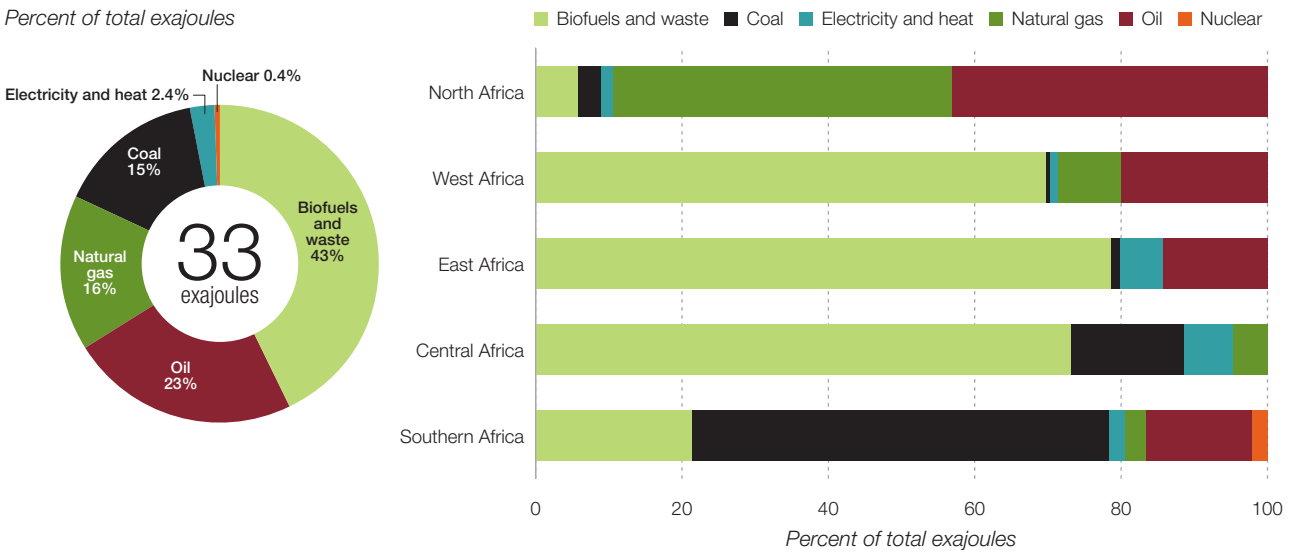
Note: Black line represents a linear projection.

Source: Staff calculations based on BP data.

West Africa, East Africa, and Central Africa, where biomass accounts for over 60 percent of primary energy supply. Traditional biomass is predominantly for domestic use, mainly cooking.

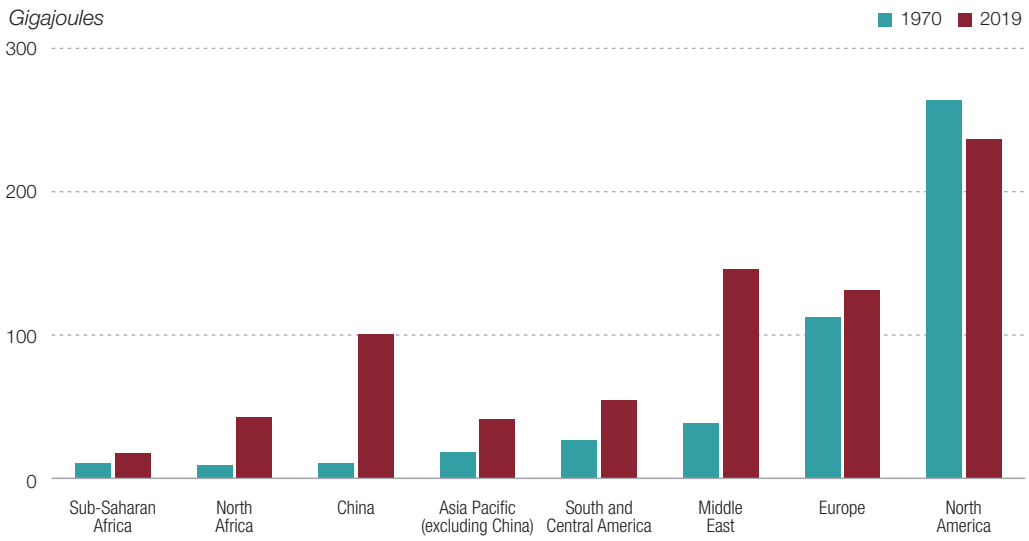
Sub-Saharan Africa's per capita consumption of modern forms of energy is much lower than that of any other global region (figure 2.16). While its per capita consumption was on a par with China's in 1970, it was less than a fifth of China's in 2019. As primary energy consumption in industrialized economies remained largely the same over the past five decades, energy consumption inequality

FIGURE 2.15 Primary energy supply in Africa and its regions, 2022



Source: IRENA 2022.

FIGURE 2.16 Per capita primary energy consumption of modern forms of energy in 1970 and 2019, by global region



Note: Modern forms of energy are defined as oil, natural gas, coal, nuclear energy, hydropower, and renewables. Traditional biomass is not included.

Source: BP, World Bank, and staff analysis.

has fallen for every global region except Sub-Saharan Africa.

Electricity production, a critical part of modern energy systems, is severely lacking in Africa. In 2018, Africa had an installed power generation capacity of 244 gigawatts (GW) for a population of 1.2 billion people, just slightly above Germany's 211 GW for a population of 83 million. North Africa accounted for about 110 GW, South Africa about 64 GW, and the rest of Africa about 70 GW of installed capacity in 2019. This last figure, for 47 countries, is less than the installed capacity of Turkey. The average expansion of installed capacity has been roughly on a par with population growth since 1990 across Africa, while installed capacity per million inhabitants grew fourfold in India and Southeast Asia. More recently, some of the gap has been filled by off-grid systems: in 2020, nearly 60 million people in Africa had access to off-grid solar solutions, mainly in solar lights, solar home systems, and to a lesser extent mini-grids.[28]

Beyond electricity generation, Africa's transmission and distribution infrastructure is weak, averaging 200 kilometers of high-voltage transmission lines for every million inhabitants. This is less than a quarter of the coverage for the United States (800 km per million), France (720), and Chile (680). National transmission rates vary from roughly 30 and 40 km per million in Nigeria and Kenya to over 500 km per million in South Africa. However, benchmarking different countries against each other is difficult given that required transmission line length per capita greatly depends on country-specific geographic factors as well as great variation in economic viability and independence of utilities, technical and nontechnical losses, regulatory environment, and electricity generation capacity.

Around half of Africa's population still does not have access to electricity. At slightly above 50 percent—about 600 million people—Africa has the lowest electricity access rate of all global regions—a rate that drops to less than 30 percent on average in rural areas. By region, access to electricity is near universal in North Africa (and far advanced in South Africa), but in 27 countries in West, East, Central, and Southern Africa, more than half of the population does not have access to electricity (figure 2.17). Moreover, since the 1980s, the rate of population growth has outpaced the growth of installed electricity capacity and connections, with roughly 140 million more people without access to electricity in 2019 than in 1990. Only Ghana, Kenya, and South Africa substantially reduced the number of people without access in this period.

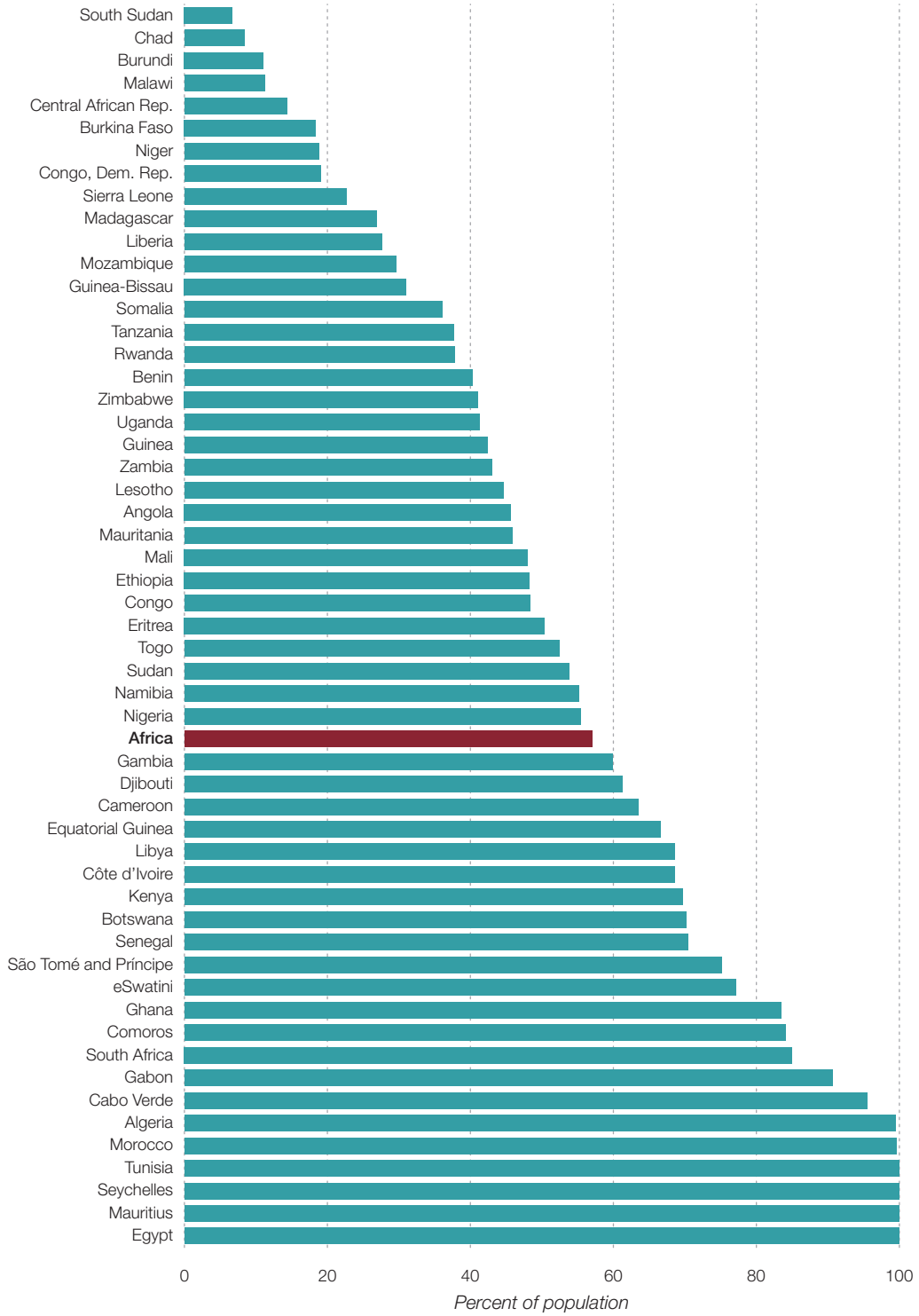
Per capita electricity consumption in Africa remains very low, at around 550 kWh (370 kWh without North Africa and South Africa) compared with 920 kWh in India and 2,300 kWh in Asia.[29] Both the cost of being connected and equipped (connection fee, acquisition of the decentralized system or the stove, appliances) and the cost of energy used (electricity supply, cooking fuels) are higher in Africa than elsewhere in the world. The unit cost of electricity to consumers in many African countries is more than double that in high-income countries such as the United States ($0.12/kWh) and far higher than in many emerging markets such as India ($0.08/kWh) (figure 2.18). The key is efficient energy pricing that reduces waste and enables reinvestment in grid extension and utilities, as well as strategies for expanding mini-grids. For example, except in Mauritius, Namibia, and Uganda, most African utilities do not receive cost-reflective electricity tariffs because of low tariff collection rates; high transmission, distribution, and nontechnical losses; and poor financial and technical management.

Low rates of access to electricity and inadequate supply and infrastructure affect not only households in Africa, but also social and productive sectors. About 1.75 million of Africa's public health centers and schools lack reliable electricity supply, while one healthcare facility in four lacks electricity, and three in four lack reliable power.[30] Further, around 80 percent of businesses in Africa (except in North Africa and South Africa) experience outages, compared with 66 percent in South Asia and 38 percent in Europe. Power outage durations tend to be far longer in Africa than in Asia and Europe, with large between-country variations.

The energy access of power productive sectors is an enduring problem in Africa. Agriculture employs half of the African workforce but accounts for less than 10 percent of energy for productive uses, pointing to the sector's large energy gap.

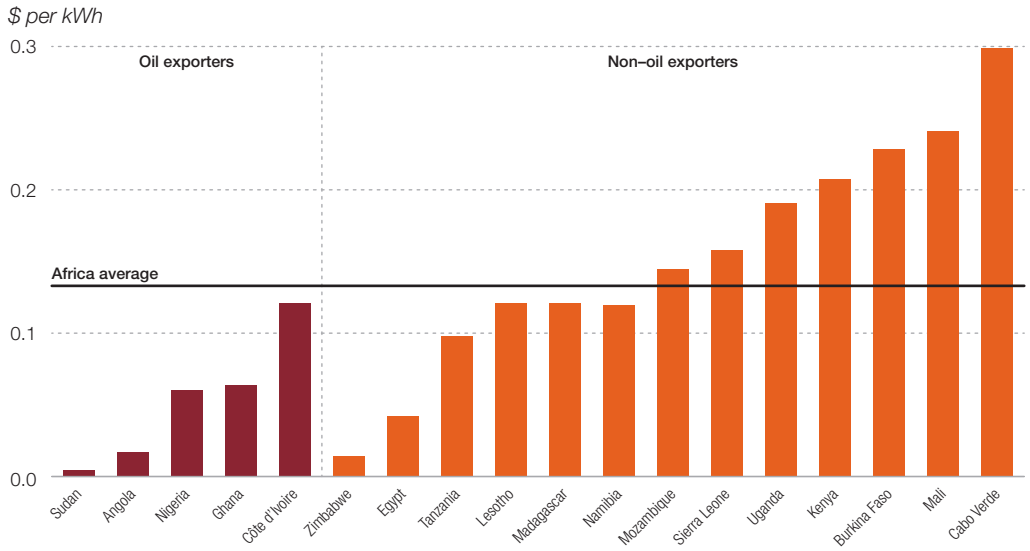
Low rates of access to electricity and inadequate supply and infrastructure affect not only households in Africa, but also social and productive sectors

FIGURE 2.17 Electricity access in Africa, by country, 2019



Source: World Bank 2021.

FIGURE 2.18 Indicative electricity prices in selected African countries, June 2021

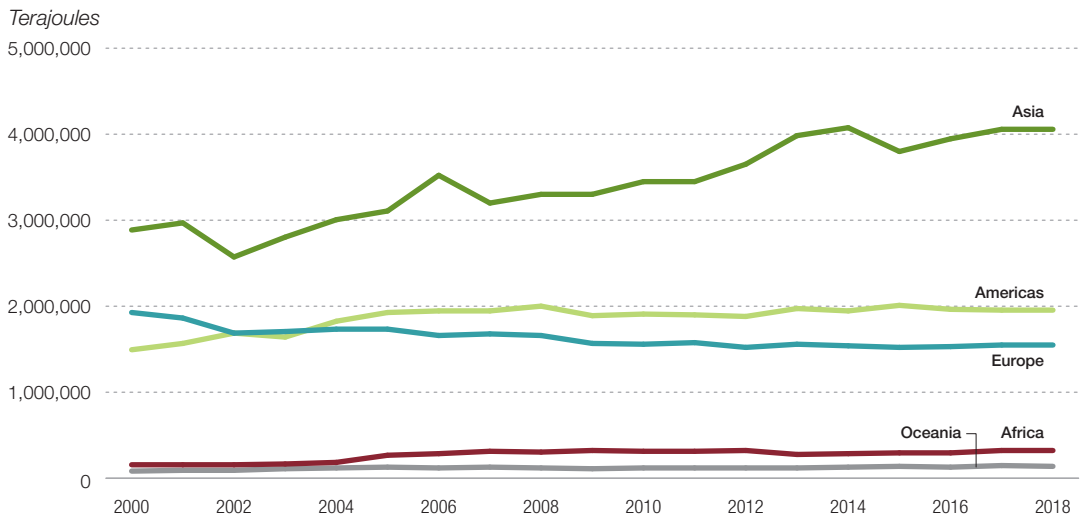


Source: United Nations Economic Commission for Africa electricity tariff statistics.

Low energy inputs along the value chain for irrigation, mechanized production, storage, processing, and transport have huge effects on productivity.

Energy consumption in agriculture is distributed far from evenly across global regions (figure 2.19). Over the past two decades, energy consumption in Asia has grown as agriculture has become more mechanized along the agricultural value chain, from irrigation to processing. Still, generally low energy consumption and disparities across regions largely explain why Africa's cereal yield is the lowest globally at 1,445 kilograms per hectare, against 3,250 in India, 5,240 in the European Union, and 6,081 in China.[31] African agriculture's low energy use is an outcome of factors such as the characteristics of land, land markets, and land-use rights and the characteristics of farmers, such as education and access to capital and inputs. Energy for agriculture therefore needs to be tackled as part of wider agricultural transformation.

FIGURE 2.19 Energy consumption in agrifood systems, by global region, 2000–18



Source: FAOSTAT.

Development and fairness arguments for a just global energy system

The historical responsibility of different countries for climate change is at the heart of debates over climate justice and is deeply rooted in the United Nations Framework Convention on Climate Change. Article 3.1 states that "The Parties should protect the climate system for the benefit of present and future generations of humankind, based on equity and in accordance with their common but differentiated responsibilities and respective capabilities. Accordingly, the developed country Parties should take the lead in combating climate change and the adverse effects thereof." This also means that adherence to the principle of a just energy transition requires consideration of past emissions and how they shape future emissions trajectories.

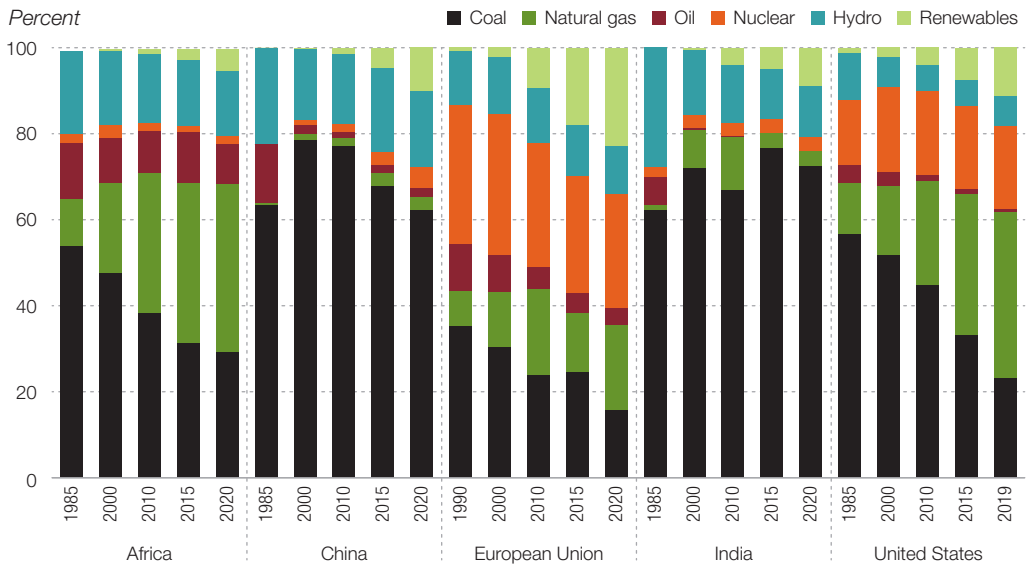
True climate justice suggests that Africa is owed almost 10 times as much as the global climate finance that it received in 2016–19

Energy mixes are slowly changing as natural gas assumes a more prominent position in most countries. In recent years, renewables have also become important sources of electricity, especially in the European Union, where they account for around 23 percent of the electricity mix (figure 2.20). Africa's energy mix is also changing as the share of gas increases. Of course, there is a huge difference in the size and scale of growth of power systems across countries. Since the 1980s, for example, developed economies have replaced part of their coal with gas, but their overall electricity consumption has shot up—by 48 percent in the United States, for instance, between 1985 and 2020. Growth in coal power generation alone has gone up 8-fold in China and 18-fold in India. In Africa, in contrast, although its power sector is far smaller, the energy mix is shifting toward gas as more reserves are discovered across the continent.

The evolving global energy mix highlights the important but gradual steps high-GHG-emitting regions of the world are taking to reduce fossil use to stay within the remaining carbon budget.[32] Since 1850, humans have released around 2,400 gigatons of carbon dioxide equivalent ($GtCO_2eq$) into the atmosphere, leaving less than 400 $GtCO_2eq$ in the remaining carbon budget in order to stay below the 1.5°C warming target.[33] This means that the world has used over 85 percent of its carbon budget and, at current levels of annual emissions of 42.2 $GtCO_2eq$, is fast depleting the remaining carbon budget. As said, Africa contributed little to the historical emissions buildup but could be denied the carbon space to expand its economy. And true climate justice suggests that Africa is owed almost 10 times as much as the global climate finance that it received in 2016–19 (box 2.1).

Continued emissions from production and high-consumption lifestyles in developed

FIGURE 2.20 Changes in the power generation energy mix, selected regions and countries, 1985–2020

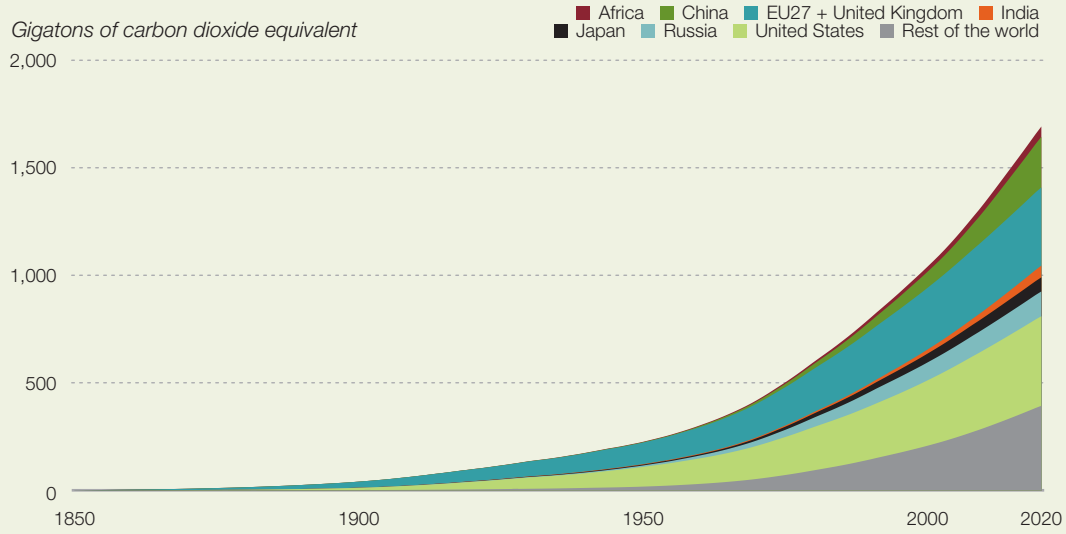


Source: Staff calculations.

BOX 2.1 Finding a just balance: Estimating carbon debts and credits

One of the most important issues in global climate commitments to limit temperature increases to 1.5°C and in climate finance negotiations is attributing the amount of carbon that countries emitted in the past and allocating the remaining carbon budget. The global consensus seems to be that by limiting future emissions and setting commitments equitably, including those for finance, countries can quantify the "common but differentiated responsibilities" of countries for historical climate damage.[1] This chapter refers to this as carbon debt or credit. Given that the Intergovernmental Panel on Climate Change (IPCC) puts cumulative carbon dioxide (CO_2) emissions at around 2,400 gigatons of carbon dioxide equivalent ($GtCO_2eq$), the estimated remaining carbon budget from the start of 2020, with a 67 percent chance of limiting temperature increases to the 1.5°C target by 2050, is only 400 $GtCO_2eq$ (box figure 2.1.1). Almost all carbon emissions have come from industrialized countries, with the developing world emitting very little.

BOX FIGURE 2.1.1 Cumulative carbon emissions by region, 1850–2020



Source: Staff calculations based on Our World in Data.

Also important is how to allocate the remaining carbon budget set out by the IPCC in a way that meets the global commitment to net-zero emissions by 2050 (see the section "Green finance" in chapter 3). However, there is no universally agreed carbon allocation framework that accounts for or offers a just balance between countries' historical responsibilities and other countries' development needs. The two extreme approaches in the literature are "grandfathering" (allocating future emissions based on current emission shares) and an abrupt transition to equal per capita emissions (allocating to all countries a carbon budget equivalent to their share of the world population).

One pragmatic approach between these two is the "contraction and convergence" framework.[2] This approach proposes a two-phased future emission rights allocation that balances environmental effectiveness, equity, national capacity and ability, political feasibility, economic efficiency, and technical requirements. In the first phase, the contraction and convergence framework suggests that emissions increase for current low emitters and decrease for current high emitters for some period until the per capita emissions levels converge at equal per capita emissions across countries. In the second phase, all countries and regions are entitled to the same amount of annual per capita emissions, which decreases at the same rate until the net-zero emission target is met. While this framework is simple and has limitations, it is pragmatic, allowing current high-emitting countries to gradually reduce their emissions and providing carbon space for historically low-emitting regions, such as Africa.

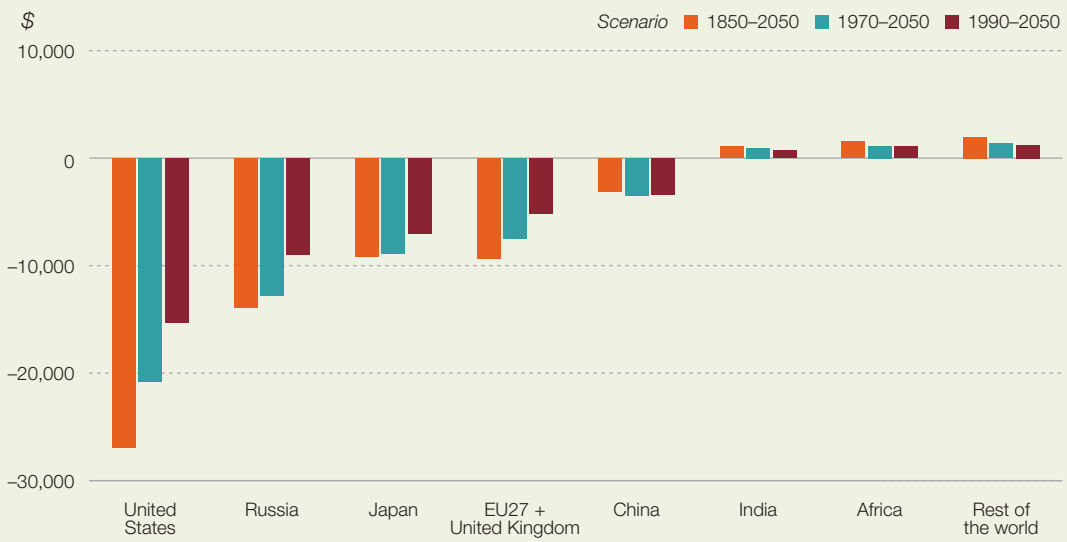
(continued)

It also offers a useful way to engage in the discussion of historical responsibility, which is often ignored by countries with a much bigger footprint on past and present emissions.

Taking 2035 as a year of convergence, with per capita emission for all countries at around 2 tCO_2eq a year, then gradually falling to zero by 2050, we calculated historical and future carbon debts and credits for countries. We used the 2020 average international energy market carbon price of $31 a ton[3] (box figure 2.1.2) and the average social cost of carbon of $70 per ton (box figure 2.1.3) suggested by the High Commission on Carbon Prices, and used the suggested 2 percent per year discount rate for historical and future emissions.[4] We also deducted the 2 tCO_2eq per capita per year equal share from the actual annual per capita emissions before computing the per capita carbon debts and credits.

Box figure 2.1.2 shows the discounted cumulative per capita carbon debts and credits at a discounted international average carbon price of $31 per ton for three cut-off years: 1850, 1970, and 1990. The estimates vary widely depending on historical per capita emission levels: emerging and developing regions have carbon credits, but almost all the developed regions, as well as China, have large carbon debts. Africa's estimated per capita carbon credits are $1,050–$1,570, and India's are $700–$1,500, which are the amounts that an average person in these regions is owed. The largest carbon debt is held by the United States—$15,272–$26,954—the amount that the average US citizen needs to pay to clear off all carbon debts valued at current carbon market prices.

BOX FIGURE 2.1.2 Cumulative per capita emission debt at the 2020 discounted international average carbon price of $31 a ton



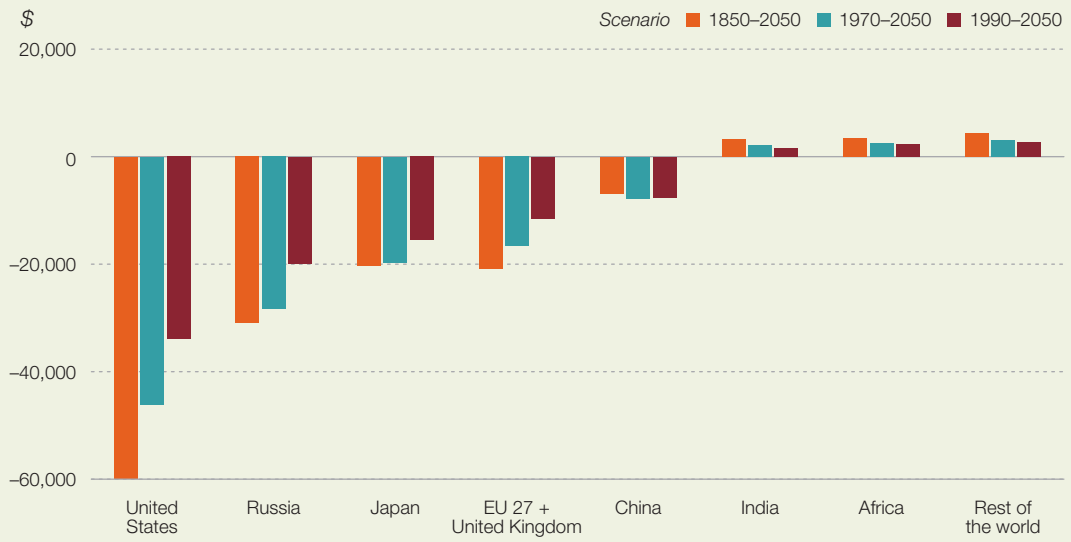
Source: Staff calculations.

Market prices are, however, distorted on the global commons—as are carbon emissions—due to inherent market failures. To measure the true extent of cumulative damage to the climate, we used the discounted average social cost of carbon, finding that cumulative per capita social carbon debts and credits are more than double the amount using market prices (box figure 2.1.3). These costs reflect the true monetary extent of climate damages that emitters owe to the world—and to themselves. In contrast, countries and regions with carbon credits should be compensated substantially if equity and climate justice are to prevail.

In sum, Africa has a total carbon credit of $4.58–$4.8 trillion, averaging $4.64 trillion, a credit that considers historical, current, and future shares of carbon emissions. Paid annually over 2022–50, this comes to about $165.8 billion a year, with lower and upper amounts of $163.4 billion and $173 billion. The amount of carbon credit that the continent is owed is, therefore, almost 10 times as much as the global climate finance that it received, which was around $18.3 billion annually in 2016–19.

(continued)

BOX FIGURE 2.1.3 Cumulative per capita emission debt at a discounted average social cost of carbon of $70 per tCO_2



Source: Staff calculations.

Notes

1. Mitchell, Robinson, and Tahmasebi 2021.
2. Meyer 1999.
3. https://carbonpricingdashboard.worldbank.org/.
4. https://www.carbonpricingleadership.org/report-of-the-highlevel-commission-on-carbon-prices; Mitchell, Robinson, and Tahmasebi 2021.

countries and rapid economic growth in emerging economies are the main causes of the shrinkage of the global carbon budget. The United States leads with a 25 percent share of cumulative global emissions between 1850 and 2020, followed by the EU27 + the United Kingdom at 22.5 percent and China at 14 percent.[34] Africa's cumulative share is just 2.7 percent. The average American had a carbon footprint of 14 tCO_2eq in 2020, and the average African 0.95 tCO_2eq, which is on the right side of the required global per capita average of 2.0 tCO_2eq needed to achieve the 1.5°C target.

At the heart of the just energy transition in Africa is its right to part of the remaining carbon budget. Africa is endowed with significant renewable and nonrenewable resources that are distributed unevenly across the continent. Some regions are rich in hydropower, others in geothermal and wind energy. Some countries have been longstanding exporters of hydrocarbons and made little use of these resources to transform their own economies and social development programs.

Africa's key direction on climate is adaptation, for which substantial energy services will be needed to build resilience in its future transformation. Current carbon emissions from Africa are still extremely low so that, even with steep increases in gas for power generation and heat, its increases in GHG emissions will amount to only a small fraction of global emissions.

Components of a just transition in Africa's energy system

Africa needs a just and equitable energy transition that strengthens inclusion and synergies to reduce inequality and empower people through modern energy access.[35] An affordable, reliable, and sustainable energy system is critical not only for pulling millions of Africans out of poverty—the transition needs to open new opportunities and strengthen the rights of people living in poverty—but also for

building climate resilience, strengthening climate readiness, and minimizing climate vulnerability.

Critically, the feasibility of different clean energy transition pathways will depend on national starting points and path dependencies. Installed power capacity shares differ greatly by region (figure 2.21). North and West Africa are dominated by natural gas and, to a lesser extent, oil, but in East and especially Central Africa hydropower accounts for the largest share. Southern Africa's capacity mix is dominated by coal from South Africa and by a mix of hydropower, coal, gas, and oil from outside South Africa. Resource endowments, especially fossil fuels, are similarly context specific. Africa needs to use its gas resources efficiently and prudently where it can and to develop robust renewable energy programs to keep abreast of the renewable energy revolution.

A just energy transition in Africa requires careful consideration of the equity implications and challenges associated with energy poverty, low consumption, and pent-up energy demand for economic growth and transformation (box 2.2). While these issues require a well-purposed strategy, a just energy transition presents immense opportunities that countries should maximize. For example, countries with large parts of their rural and peri-urban populations still without electricity have launched national electrification plans to achieve universal access. Decentralized renewable energy systems could be crucial in meeting household energy needs and in electrifying key public institutions, such as healthcare and education facilities, at the heart of socioeconomic development.[36] Decentralized renewable energy systems can also power local needs, including those in remote areas, help to achieve universal access, and contribute to climate change mitigation—based on least-cost electrification. Moreover, distributed systems can be executed alongside grid expansion to target remote areas that might otherwise not be reached for a decade or more.

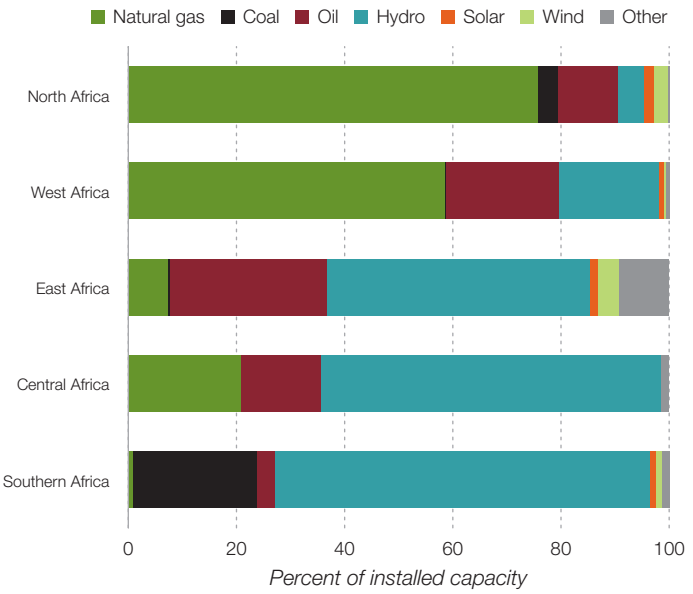
Africa needs to maintain a balanced energy mix to manage short-term energy security and build long-term trajectories that reconcile achieving low greenhouse gas emissions with meeting key objectives for the well-being of its population

Africa needs to maintain a balanced energy mix to manage short-term energy security and build long-term trajectories that reconcile achieving low GHG emissions with meeting key objectives for the well-being of its population. As the energy needs in much of Africa continue to grow and energy insecurity remains, countries will need to develop long-term strategies to exploit their enormous renewable energy resources that are consistent with the goals of the Paris Agreement. African countries with huge natural gas resources will also need to formulate short- and medium-term goals to exploit gas as a transitional fuel that can be paired with renewable energy sources to ensure reliable energy to drive economic growth.

Diversification of the economy is key. For instance, in Ghana, fossil fuel wealth is being used to support the government's One District, One Factory development programs and to move the country toward an export-orientated economy and reduce its dependence on food imports.[37]

Global finance to developing countries in support of clean and renewable energy had risen to $21.3 billion in 2017. But these investments do not always aim to ensure universal energy access: they aim for high returns over a short period or are not applied equitably and to all regions. For example, the International Renewable Energy Agency shows that Africa received only 12 percent of the overall independent power producer (IPP) investments in energy globally in 2010–20 ($54 billion).[38] North and Southern Africa received the major share, Central Africa only $1.9 billion—and only $0.2 billion for renewables.[39]

FIGURE 2.21 Installed power capacity shares in Africa's regions, 2018



Note: The total for Africa in 2018 was 244 gigawatts.

Source: IEA 2019.

BOX 2.2 What is a just transition? An African perspective

The framing of a just transition has been shaped by underpinnings of both "labor rights" and "environmental justice" movements. The concept stemmed from the trade union movement in the United States in the 1980s and was expanded by international organizations such as the International Labour Organization and the United Nations Environment Programme. The ideas associated with a just transition have been incorporated in the Paris Agreement of 2015. Its preamble cites "the imperatives of a just transition of the workforce and the creation of decent work and quality jobs in accordance with nationally defined development priorities, alongside the separate but related issues of environmental integrity and climate justice."

Africa is defining and framing its just transition. In South Africa, a just transition has found space in climate policy frameworks since 2012. Given the country's dependence on energy-intensive sectors for employment and on mining for revenue, the 2012 National Development Plan recognized the need for a "judicious transition" to address the fact that poor and vulnerable people are likely to be disproportionately affected by climate change and associated policies. In 2015, the Intended Nationally Determined Contribution articulated a just transition as an inclusive process that would take "local and indigenous knowledge, gender considerations, as well as social, economic and environmental implications" into account. The latest revised Nationally Determined Contribution (2021) aligns the concept with a country's "broader development objectives" and reiterates that a just transition must include energy security, water security, food security, infrastructure resilience, land use, and mobilization of necessary technological innovation and climate finance.

A just transition requires that climate change actions be carried out in an equitable and just manner, grounded in the existing economic structure and challenges, to ensure that actions are socially acceptable, economically viable, and directed at positive environmental and developmental outcomes. Africa will disproportionately bear the negative impacts of climate change and the socioeconomic impacts of climate hazards. This means that equitable solutions to climate change will require policies favorable to those most affected. Given the extent of energy poverty and inequality, and with economic development in mind, a just transition in Africa should prioritize the equitable distribution of benefits associated with the shift to a low-carbon and climate-resilient future across all sectors of society, including vulnerable groups.

Countries' broader sustainable development agendas must view their just transition as integral. Plans and initiatives need to align with development priorities and increase access to advanced and efficient energy systems and technologies across economic sectors and socioeconomic groups. Thus, application of a just transition needs to serve as the foundational principle for accelerating progress in achieving the Sustainable Development Goals. The equity and fairness aspects should be applied to mitigate the adverse effects of energy insecurity and should address challenges at sectoral and regional levels and by intergenerational, gender, and age-based groups, including marginalized and vulnerable groups.

The leave-no-one-behind argument embedded in a just transition must consider and overcome political-economy and institutional challenges to ensure that affected communities not only benefit but can define their own futures. While social dialogue is at the center, the transition will also include innovative finance directed toward meeting multiple co-benefits rather than mobilizing investment with the narrow aim of stimulating commercial markets. In communities with high energy poverty and inequality, innovative finance must be able to open up new opportunities and not undermine communities' resilience and adaptive capacity.

The global pattern of emissions per person and by sector indicates not only the urgent need to reduce carbon emissions but also immense inequity in carbon-intensive production and consumption. In a just transition framework, while it is essential that Africa carry its fair share of commitments to climate goals, it is also essential that Africa be given the energy transition and decarbonization policy space and time horizon needed to balance development goals with climate objectives.

The energy transition is not only about providing access to electricity. It is also about securing socioeconomic gains from value-addition opportunities that the transition offers. One such opportunity is the manufacturing of green technologies. A 2022 study by Renewable Energy Solutions for Africa, International Renewable Energy Agency, and the UN Economic Commission for Africa indicates that by 2050, under the 1.5°C global warming scenario, Africa's energy sector will employ 23 million people, with about 73 percent of them engaged in transition-related jobs.[1] Currently, Africa captures less than 3 percent of the global renewable energy employment share, largely because of the limited role of renewable energy in Africa's energy mix. Therefore, a just energy transition should mitigate the risks of locking Africa out of the green technology manufacturing value chain and should aim to increase Africa's share of green jobs.

Note

1. RES4Africa, IRENA, and UNECA 2022.

For Africa, with almost full dependence on imported energy technologies, a just energy transition framework should avoid locking the continent out of the green technology manufacturing value chain. Although global investments in renewable energy have grown over the past 10 years, this growth has taken place mainly in developed and transition economies. Recent research shows that the green energy transition is a transformational opportunity for fossil fuel importers with good renewable energy resources by enabling them to domesticate former fuel imports and produce their own renewable energy–based fuel supplements.[40] (See the penultimate section for a detailed discussion of green growth opportunities.) More broadly, the continental market for clean energy technologies should offer sufficient clusters of demand to encourage new manufacturing plants in countries with enough technical, regulatory, and policy preparation.

Energy systems in Africa must be designed with technologies that are technically adequate, cost optimal, and viable—now and in the future. They must also deliver maximum value for sustainable development in Africa by strengthening local capacity, resources, and knowledge

BUILDING SUSTAINABLE ENERGY SYSTEMS FOR THE FUTURE

Making the energy sector work

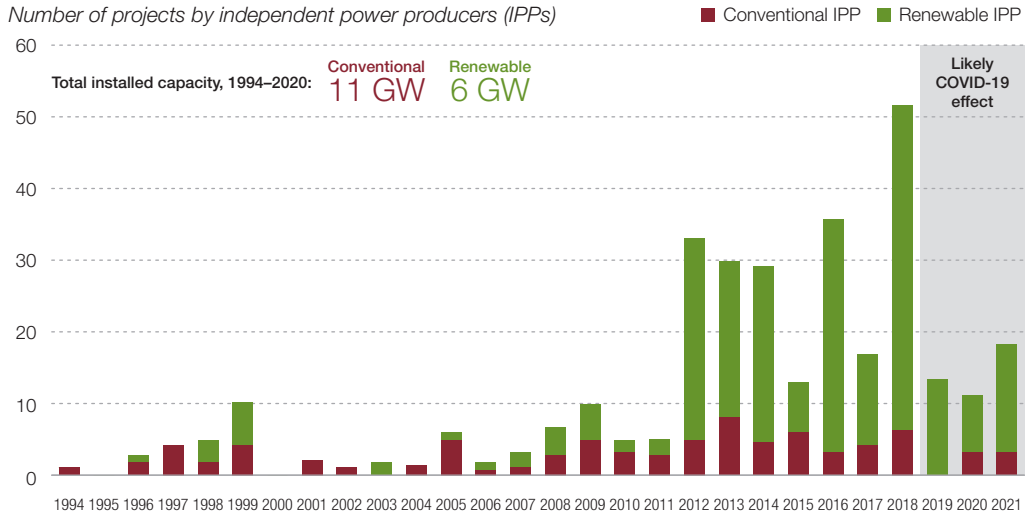
The energy transition presents a unique opportunity for redefining Africa's energy systems to deliver on the African Union's Agenda 2063, the Paris Agreement, and the SDGs. To make these systems work for the future, they must be designed with technologies that are technically adequate, cost optimal, and viable—now and in the future. They must also deliver maximum value for sustainable development in Africa by strengthening local capacity, resources, and knowledge.

Natural gas as a transition fuel will need to be part of Africa's future energy mix, for several reasons. First, African countries have over 600 trillion cubic feet of proven natural gas reserves, in Nigeria, Algeria, and Mozambique, with new reserves discovered in Senegal, Mauritania, and Tanzania. Second, in many African countries, natural gas power plants will be needed to support the baseload, provide reserves, and balance the grid. Electricity systems and markets must adapt and be re-optimized to incorporate large proportions of variable renewables generation. Third, identifying an optimal energy mix over the next decades is necessary to determine the best contribution of renewables and natural gas in Africa. This focus needs to consider fuel availability, transmission infrastructure for greater country and regional interconnection, fuel cost, technology advancement, and a carbon price subject to change due to policies of non-African and African countries. In short, countries in Africa will need new technologies, management systems, and finance to develop and integrate their energy resources, including gas, to drive their industrial transformation.

Renewables are Africa's cheapest generation options. Utility-scale solar photovoltaic (PV) and onshore wind systems are now firmly established as the cheapest sources of electricity generation. According to the latest figures from IRENA and from Lazard, solar PV electricity costs levelized[41] over their lifetime have fallen by almost 90 percent since 2010, to $0.03–$0.06 per kWh.[42] Onshore wind has fallen to a similar cost range. These costs are far below the average fossil fuel levelized cost of electricity of $0.055–$0.145. Recent detailed geographic modeling by the University of Oxford of Egyptian and South African case studies confirms these price ranges for solar PV and wind, as well as their cost advantages over fossil-fuel generation in both countries.[43] Solar PV auctions have produced winning bids of $0.025–$0.06 per kWh in some African countries, in a strong falling trend.[44]

The private sector is becoming increasingly important for closing Africa's energy gaps, but governments will remain vital players. Historically, around 80 percent of Africa's installed capacity has come from state-owned projects, with private IPPs accounting for 13 percent of installed capacity in 2019. But the number of IPP projects has grown steeply in the last decade (figure 2.22). Over 80 percent of financially closed projects since 2010 have been renewable energy–based, albeit at considerably smaller scale than fossil fuel–based IPPs, which have dominated IPP installations from a capacity perspective since the 1990s and offer promise for large-scale industrial uptake. Despite a notable downturn of IPP financial closures since the onset of the COVID-19 pandemic, IPPs make up almost half of all planned power

FIGURE 2.22 Government and independent power producer investments in Africa's power sector, 1994–2021



Source: Alao and Kruger 2022.

generation capacity in Africa, with state ownership dropping to roughly one-third.

In Southern Africa, IPPs account for over 60 percent of the planned generation capacity in the pipeline, driven by Botswana, Zimbabwe, Malawi, and South Africa. South Africa's Renewable Energy Independent Power Producer Procurement Programme (REI4P) has been transformational in attracting renewable energy IPPs to the country and driving down costs of solar and wind power. The IPP share in the pipeline is also high in West Africa, driven mainly by Nigeria and Ghana.[45] In North Africa, roughly half of the power generation pipeline is owned by IPPs, though in East and Central Africa IPP ownership stands at below 25 percent. While government ownership increases the chances of successful commissioning of planned power plants, many IPPs, especially public–private partnership plants, have failed in the past, suggesting the need to improve policy and finance support for this category. Analyzing REI4P and other IPP projects, South African researchers have suggested that investment flows are less affected by electricity market structures than by strong planning, regulatory, procurement, and contracting capacity.[46]

A focus in Africa on expanding generation capacity alone would not close the modern energy gaps on the continent. In addition, transmission, distribution, and off-grid systems need to be greatly expanded to ensure more reliable and wider-reaching coverage.

Designing, building, and running optimal "clean energy portfolios" in Africa: Five balancing options

The first few solar PV and wind projects in a country can commonly be added to the grid without much change in the grid's structure. As their share grows, several options for compensating daily and seasonal supply intermittencies of solar and wind power should be included in the system to balance supply and demand, yielding what is sometimes referred to as "clean energy portfolios." Yet, while the potential of such portfolios for Africa is very promising, how much can be feasibly realized depends heavily on whether there is enough upfront finance and how quickly renewables and various balancing options can be ramped up, including energy storage and increased interconnection, as they all have high initial cost but low operation and maintenance costs. Hence, attaining high shares of solar and wind power requires that African countries strongly commit to such pathways and that they are decisively supported financially by the international community and the private sector.

Expanding generation capacity alone would not close the modern energy gaps in Africa. In addition, transmission, distribution, and off-grid systems need to be greatly expanded to ensure more reliable and wider-reaching coverage

Five supply and demand balancing options enable the integration of large shares of solar and wind power in Africa and are usually associated with critical additional, nontechnical benefits for sustainable development (and discussed in more detail below): flexible generation[47] on the grid, different storage technologies, interconnectivity, sector integration and demand-side measures, and use of decentralized off-grid energy.[48] The likely optimum clean energy portfolio for most African countries is to complement solar PV and wind installations with a combination of these options. Research suggests that a well-designed Africa-wide clean energy portfolio with around 80 percent generation from solar PV and wind that incorporates all five options could meet Africa's entire electricity demand for every hour of the year at an overall levelized cost of electricity of roughly $0.06 per kWh.[49] Renewable energy and storage will continue their cost decline, further improving the business case for clean energy portfolios.

Storage costs are falling rapidly and present intriguing prospects for the grid and local development in Africa

Flexible generation on the grid can quickly react to and balance out differences in supply and demand. Certain conventional electricity generation technologies can be dispatched flexibly on short timescales to cover electricity shortfalls during prolonged periods of low availability of sunshine and wind. Open-cycle natural gas turbines, for example, are often ramped up and down on subdaily timescales to meet differences between supply and demand. Reservoir hydropower, currently Africa's most popular renewable electricity source, can provide balancing on both subdaily and seasonal timescales. Climate change, however, affects hydrologic cycles, and so expanding the share of hydropower in Africa needs to appreciate these anomalies in countries. For example, the Grand Ethiopian Renaissance Dam—Africa's largest hydropower plant—could operate flexibly to allow large shares of cheap solar PV and wind onto the grid while meeting dynamic demand curves at all times.[50]

Storage costs are falling rapidly and present intriguing prospects for the grid and local development in Africa. Utility-size batteries have decreased in cost enough to be cost competitive with open-cycle natural gas turbine plants for balance times of up to four hours (to cover, for example, evening demand peaks).[51] Over the next few years, battery storage should continue its fast growth, making technological gains and no doubt leading to further rapid cost declines, rendering it far cheaper than open-cycle natural gas turbine plants for short-term storage. Batteries do not have ramp-up times—they can instantly dispatch electricity—and they offer large-scale local industry development potential as they could be produced cost-optimally in Africa. Pumped storage hydro is another form of storage deployed successfully in many parts of the world.

Interconnectivity increases trade and reliability and decreases end-user costs. The more regionally interconnected an energy system is, the more potential it offers—for example, when it is cloudy in one location, it may be sunny in another—allowing a greater number of cheap renewables on the grid. Africa is seeking to make interconnectivity a reality through the Continental Power System Masterplan and the accompanying African Single Electricity Market (box 2.3).

Sector integration, which aims to meet energy demand in sectors in which demand is currently not met by electricity (such as transport, cooking, agriculture, and some industries), helps to balance the grid and, perhaps more important, is driving sustainable development and supplying energy services beyond energy as a commodity. Demand-side measures include both improved energy efficiency (reducing demand while keeping service levels constant) and sector integration. This leads to smoother demand profiles because parts of these sectors' energy demand occurs at (or can be shifted to) times of the day when solar and wind energy are abundant. Both measures lower overall unit energy costs. In addition to allowing more renewables onto the grid, sector integration would allow Africa's future energy system to drive socioeconomic development in three main ways.

- Electrification can lead to savings for end-users. In almost all African countries, it is cheaper for end-users to operate an electric vehicle than one with an internal combustion engine, especially motorcycles and minibuses (figure 2.23). Innovative companies such as Ampersand in Rwanda, MAX in Nigeria, Bodawerk in Uganda, ARC in Kenya, and Agilitee in South Africa are part of a rapidly growing African electric motorcycle industry that has presented convincing business cases for producing new electric

BOX 2.3 Making the case for regional energy markets and regional grids in Africa

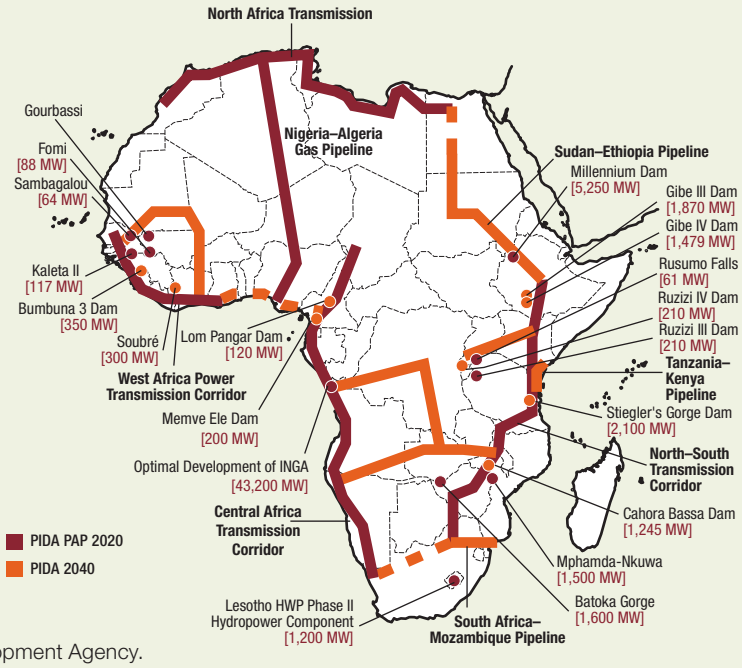
Integration of regional power grids in Africa is an essential pillar of the continent's long-term energy sustainability aspiration. Connected markets can pool diversified supply sources and aggregate load patterns across borders. Electricity trade is thus expected to help reduce generation costs, optimize energy assets, and increase power system flexibility. Five regional power pools in Africa vary greatly in scale, governance, and effectiveness but face some common challenges in a fast-changing market.

Limited power trade within the continent takes place against a backdrop of the weak financial sustainability of the sector, due mainly to a lack of cost-reflective tariffs. The key question is: How can price signals support efficient entry and economic investments in resource adequacy for the future? On the one hand, while energy prices tend to converge across countries owing to power market integration, distributive effects of power trade may affect importing and exporting countries differently. On the other, a country will have to maintain adequate generation and transmission capacity not only for its own system but for whole-of-region system reliability. A fair cost allocation across countries therefore calls for a concerted regional action to support investment certainty and to ensure security of supply.

Given the limited availability of the baseload and constraints of transmission lines to balance the power system, the effect of uptake of renewable generation on the intermittency of power supply could be disproportionally large, making the cross-border power flows more volatile and unpredictable. Further, renewables growth is changing the economics of the conventional generation fleet, particularly natural gas power plants, which are still much needed in many African countries. The growth of distributed energy generation, such as mini-grid, energy storage, and electric vehicles, is also expected to unlock flexible opportunities for transmission and distribution operators to balance the system across countries. So, there is a need for African countries to consider new developments from the best solutions to promote emerging investment opportunities, while avoiding future stranding of assets in a changing competition environment.

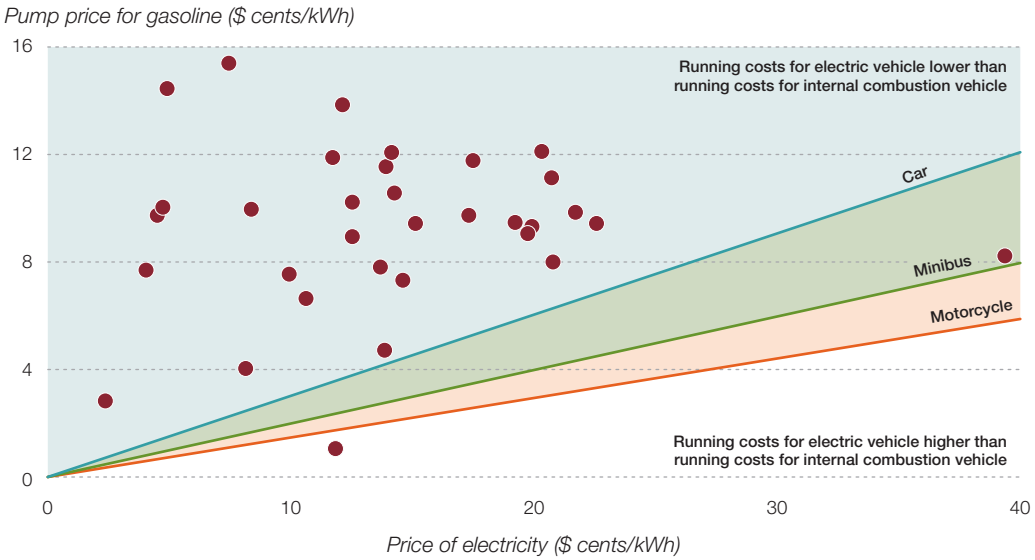
The Continental Power System Masterplan integrates the visions of implementing the African Single Electricity Market (AfSEM), the African Development Bank's New Deal for Energy in Africa, and the concept of clean energy corridors. Once operational, AfSEM will be the largest interconnected electricity market by geographic area in the world (box figure 2.3.1).

BOX FIGURE 2.3.1 Planned African interconnections



Source: African Union Development Agency.

FIGURE 2.23 The fuel cost benefits of electrifying transport in Africa



Note: Lines represent the difference between electric vehicle and internal combustion engine fuel efficiency. Markers above the line indicate countries where the running costs of an electric vehicle are cheaper than those of an internal combustion engine.

Source: Adapted from Collett et al. (2020).

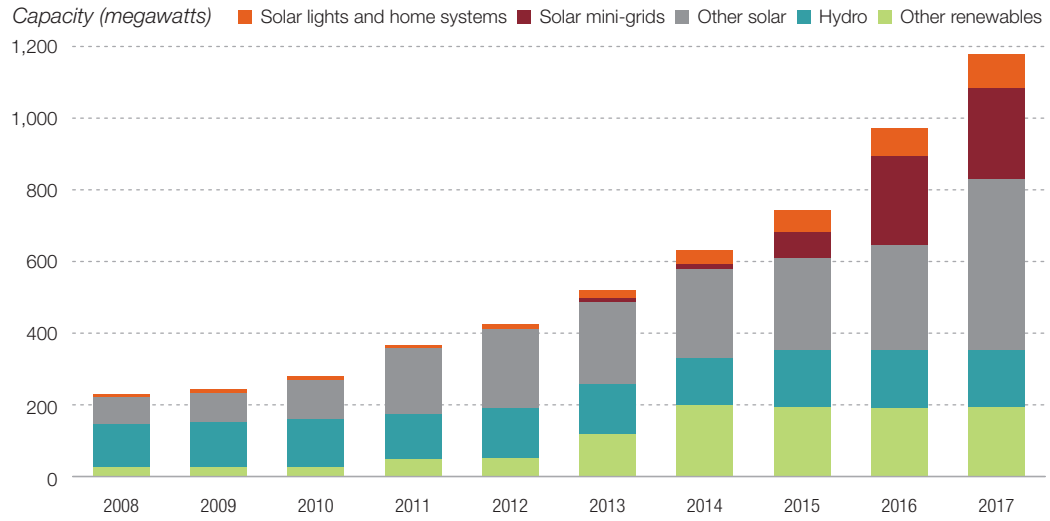
Decentralized energy systems are critical for rapid energy access and need to be co-designed with grid expansion plans

motorcycles or retrofitting conventional ones with electric motors. Crucially, electric vehicles have no local emissions, and far lower overall emissions, especially where the grid features high shares of renewables.

- Second, integrating new sectors into electrification and energy access planning can create multiple synergies. It allows planners to explicitly design energy systems to capture value addition through productive use of energy. Examples include a solar mini-grid developer integrated into the local fish value chain who installed a system that generates income for the developer and for local fishers, while charging low tariffs to households.[52] Such synergies are not limited to food production but extend to all energy-enabled sustainable development interventions, including those aimed at reducing poverty or food waste or improving agricultural productivity, education facilities, or water access. Cost synergies from project integration in a given location can be expected to increase the more the SDGs are tackled simultaneously rather than being addressed individually.
- Health is an important sector to integrate into power sector planning, with benefits that move in both directions. Solar energy has been shown to be a feasible, cheap, and reliable way of electrifying all rural health centers without access in Africa,[53] while electrifying new sectors and meeting demand through renewables can have substantial health benefits. In addition to the well-known health hazards of indoor pollution (which can be mitigated with clean-cooking facilities), outdoor (or ambient) pollution in the form of particulate matter of 2.5 microns or smaller ($PM_{2.5}$) increases the risks of lower respiratory infections, heart disease, neonatal disorders, and stroke, and is responsible for 400,000 deaths a year in Africa.[54]

Decentralized energy systems are critical for rapid energy access and need to be co-designed with grid expansion plans. Off-grid solar energy systems have grown rapidly, especially in Sub-Saharan Africa, in recent years (figure 2.24). Solar home systems reached over 144 million people in 2019 alone due to pay-as-you-go business model innovations and increased ability to secure finance for off-grid systems. According to IRENA, investments in off-grid systems in Africa are small but growing, reaching $380 million in 2020, with East Africa accounting for over half.[55]

FIGURE 2.24 Off-grid energy growth in Africa



Source: IRENA 2020.

A total of 1,500 mini-grids were in use across Africa in 2018, and plans are in place to install several thousand more. Off-grid systems are critical to provide universal access to electricity and to increase productivity, especially for parts of the population far removed from reliable grid systems. Analysis by IRENA suggests that roughly 70 percent of off-grid solar energy capacity is used for productive and industrial purposes to ensure reliable access to power, commonly in systems between a few and several hundred kilowatts capacity.

One largely unaddressed issue is integrating off-grid systems once the grid arrives in an area. In traditional grid systems, energy flows one way from the main power plants to end-users. Modern grid infrastructure is designed, using feed-in tariffs, to allow mini-grid operators to sell to as well as buy from the main grid, often with remote sensing. Crucially, agreements need to be in place with mini-grid developers for areas where the grid arrives, to allow for long-term business security and integrate the solar and battery capacity. Some options for mini-grids include being converted to small power producers or small power distributors that operate side by side with the main grid without any physical connection between the two systems, or being compensated to exit.[56] The selection will depend on the regulatory, commercial, and technical characteristics of the mini-grid environment.

Improving energy efficiency in Africa

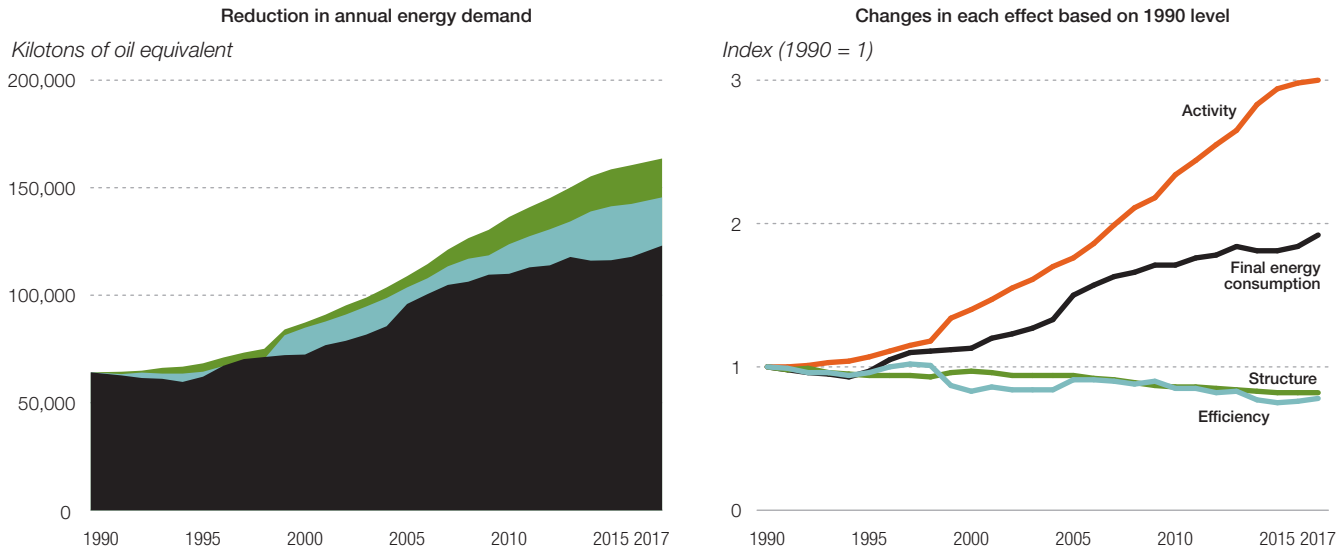
African countries need to increase energy production not only to address low access, but also to enhance energy efficiency and so widen energy access on a more sustainable path. In 1990–2017, gains from improved energy efficiency and from economic structural change reduced Africa's energy demand by 22 percent and 18 percent, respectively (figure 2.25, right panel), leading to cumulative energy savings of 493,957 kilotons of oil equivalent (ktoe)—280,599 ktoe and 213,358 ktoe, respectively (figure 2.25, left panel). These energy savings represent about 20 percent of cumulative final energy consumption in the three productive sectors over the period.

RENEWABLES, MINERALS, AND GAS IN THE GREEN-ENERGY TRANSITION: AFRICA HAS THE WORLD'S BIGGEST TECHNICAL POTENTIAL FOR RENEWABLE ENERGY

The energy transition presents a transformative socioeconomic opportunity for Africa. To achieve the goals of the Paris Agreement, Africa requires around $3.5 trillion in average energy investment every year between 2016 and 2050, a near-doubling from the $1.8 trillion in 2015. Africa is ideally

African countries need to increase energy production not only to address low access, but also to enhance energy efficiency and so widen energy access on a more sustainable path

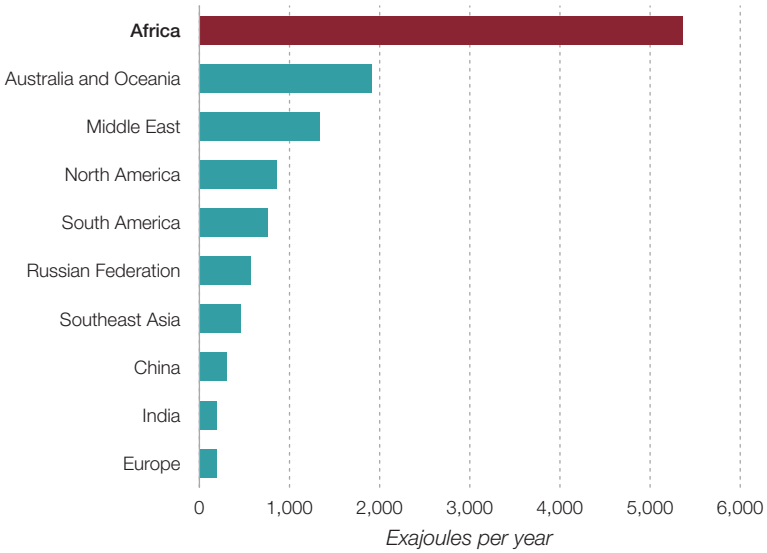
FIGURE 2.25 Decomposition of final energy consumption in agriculture, industry, and services in Africa, 1990–2017



Note: In the left panel, the blue and green areas indicate a reduction in annual energy demand (or annual energy savings) in kilotons of oil equivalent based on the level in 1990. The activity effect means that energy consumption rises commensurate with an increase in the aggregated economic output of all the productive sectors. The economic structural effect describes the energy consumption change attributed to the proportion change of each productive sector in the total economy output. The efficiency effect is an improvement in the energy use per unit of economic output in an economy.
Source: Staff analysis.

endowed for this transition and set to capitalize on this opportunity because, though a small player in the global fossil economy—of global reserves, it has 8 percent of oil, 6 percent of natural gas, and 1 percent of coal—it is far and away the world's richest region for cheap renewable energy potential, with approaching half (44.8 percent) of the total technical potential of renewable energy (figure 2.26). Other world regions are unlikely to complete their transformation to net zero without green energy imports, in the form of either electricity or green fuels, such as green hydrogen (box 2.4 below), methanol, and ammonia.

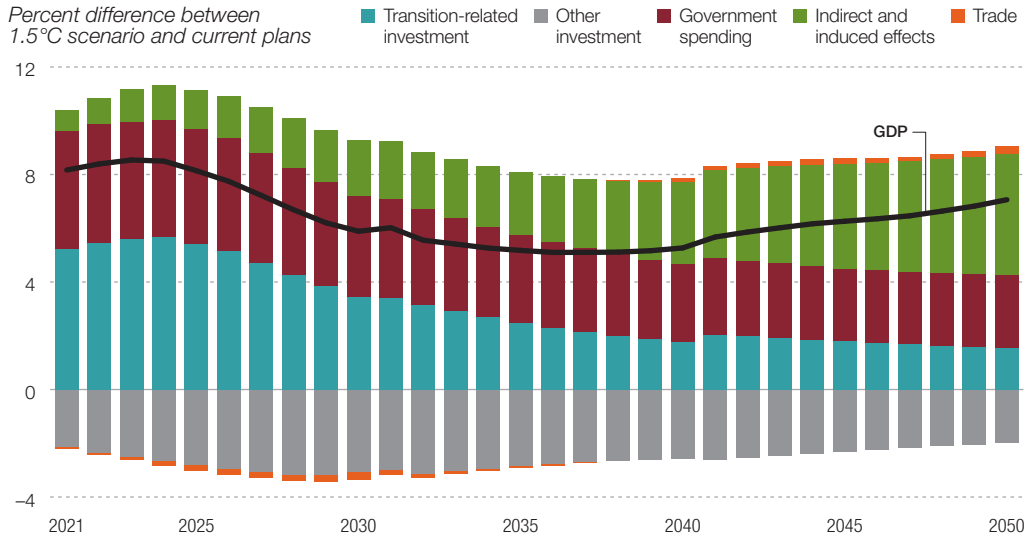
FIGURE 2.26 Technical renewable energy potential, by world region



Source: REN21 2021.

A recent study by RES4Africa, IRENA, and UNECA finds that a green transition scenario that keeps the global temperature to 1.5°C above the preindustrial level by 2050 would lead to 6.4 percent higher GDP in Africa in 2021–50 than in the current planned energy scenario—a business-as-usual scenario (figure 2.27).[57] These results corroborate ones that modeled the macroeconomic effects of net-zero transitions but included the entire world at finer granularity and found a net positive effect for Africa of a 6.1 percent GDP increase for 2021–50.[58] In contrast, for countries heavily dependent on fossil fuels for export, the green transition is likely to have a net negative impact on GDP due to reduced export incomes and stranded fossil fuel assets. These countries need to closely scrutinize any new fossil fuel investments to avoid potential long-term losses.

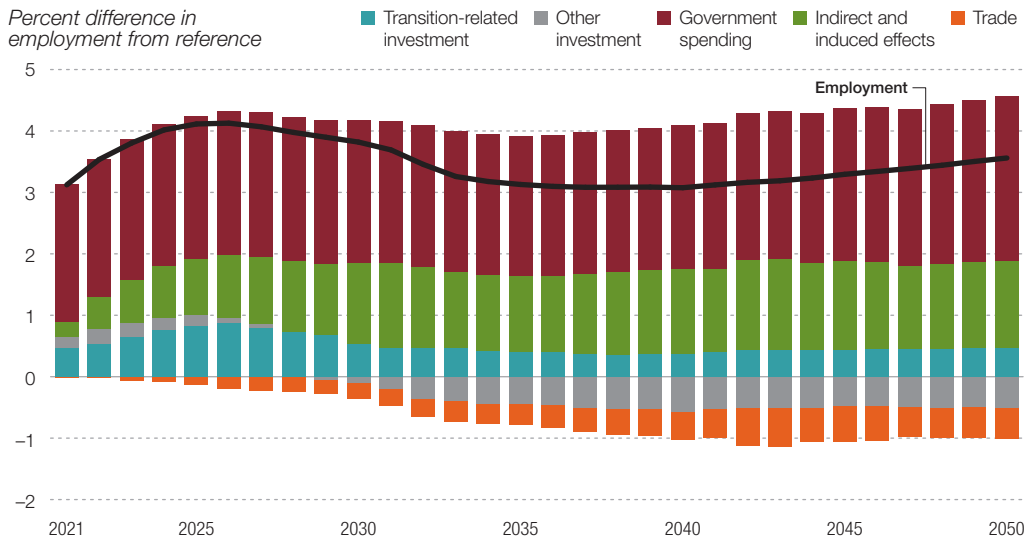
FIGURE 2.27 GDP difference between the 1.5°C scenario and current planned energy scenario, by driver, 2021–50



Source: RES4Africa, IRENA, and UNECA 2022.

Investments and economic activities required for the 1.5°C scenario generate about 20.5 million more jobs (3.5 percent on average) than under the planned energy scenario by 2050 in Africa (figure 2.28), most of them in promising green industries and services. The employment and growth effects are associated with overall welfare improvement estimated at 24 percent by 2050 under the 1.5°C transition scenario compared with the planned energy scenario, with most of it in the environmental, social, access, and distribution attributes fundamental to a just energy transition. Other social benefits of the green transition are linked to increased solar off-grid finance,

FIGURE 2.28 Employment difference between the 1.5°C scenario and current planned energy scenario, by driver, 2021–50



Source: RES4Africa, IRENA, and UNECA 2022.

including accelerated modern energy access, reduced access inequalities and energy poverty, and improved healthcare.

While many of these investments are yet to be made, there are already practical examples of energy projects fostering growth, employment, and social development. For example, the Noor Solar Complex development in Morocco, through local content policy, captured 24–40 percent of expenditures in the local economy while creating over 1,100 jobs. The South African IPP Procurement Programme led to the creation of over 100,000 job-years, helping to build local renewable energy industries, resulting in over $100 million in spending on social infrastructure and saving 60.7 million tons in CO_2 emissions.

Africa has a unique competitive advantage in several large, green growth sectors (figure 2.29) on which it must capitalize to benefit from the green transition. They include raw materials, components, products, and services that are relevant for domestic and international use and that stretch across sectors and along the value chain. Which green growth sectors to focus on will be context dependent, reflecting capacities, experience, infrastructure, policy priorities, ability to mobilize investment, and global demand. Africa's large endowments in renewable energy and minerals, and its innovative capacities in technologies for sustainable development, suggest sizable potential for green growth.

Africa has a unique competitive advantage in several large, green growth sectors on which it must capitalize to benefit from the green transition

Green growth products

Renewable energy as a product, and the green products it enables further downstream in the value chain, are a cornerstone of green growth potential in Africa. Renewables are subject to manufacturing economics—unlike fossil fuels, which are largely subject to resource-oriented economics—enabling African countries to enter the sector as manufacturers of components such as bio-gasifiers, electrical equipment, and solar cells. A growing solar PV components manufacturing industry in Kenya demonstrates the potential of the sector in Africa.

The green energy transition also offers African firms the chance to integrate deeper into industrial value chains and capture larger shares of value added by becoming industrial producers of green fuels, widely seen as key for global decarbonization (box 2.4). Green liquid fuels are produced from green hydrogen[59] and CO_2, a conversion again driven by renewable energy.

Green growth materials and components

Africa can benefit from building on its large endowments in minerals (see figure 2.29) and on its potential to produce critical components from these minerals. Electric batteries are a key example of how the continent's resource endowments

FIGURE 2.29 African countries have a competitive advantage in several large, green growth sectors

Example sectors and associated value chains with substantial green growth potential in Africa

Raw materials	Components	Products	Services
• Minerals for batteries (**lithium, nickel, cobalt, manganese,** and graphite) • Minerals for magnets and other electric equipment (**rare earths**) • Materials for conductivity and grid infrastructure (**copper, aluminum**) • **Natural gas** as transition fuel (if benefits outweigh economic risks) • …	• Electric **batteries** • Other **electrical components** (pumps, magnets, capacitors, etc.) • **Solar cells** • **Mirrors** for concentrated solar power • **Bio-gasifier** units • Transmission and distribution **grid components** • …	• **Renewable electricity** (solar, wind, hydro, geothermal, biomass) • **Green fuels** (green hydrogen, green ammonia, green methanol, etc.) • **Electric vehicles** (incl. electric mini-buses and motorbikes) • **Electric appliances** for agricultural productivity (farming, processing, cold storage, etc.) • Various **frugal technologies** • …	• **Energy-related services** (energy access, energy efficiency, energy-enabled rural development, etc.) • **Waste management** and **recycling** services • **Installation and construction** services for green and climate-resilient infrastructure • **Carbon removal** (direct air capture, ecosystem services, etc.) • Green development **finance** services • …

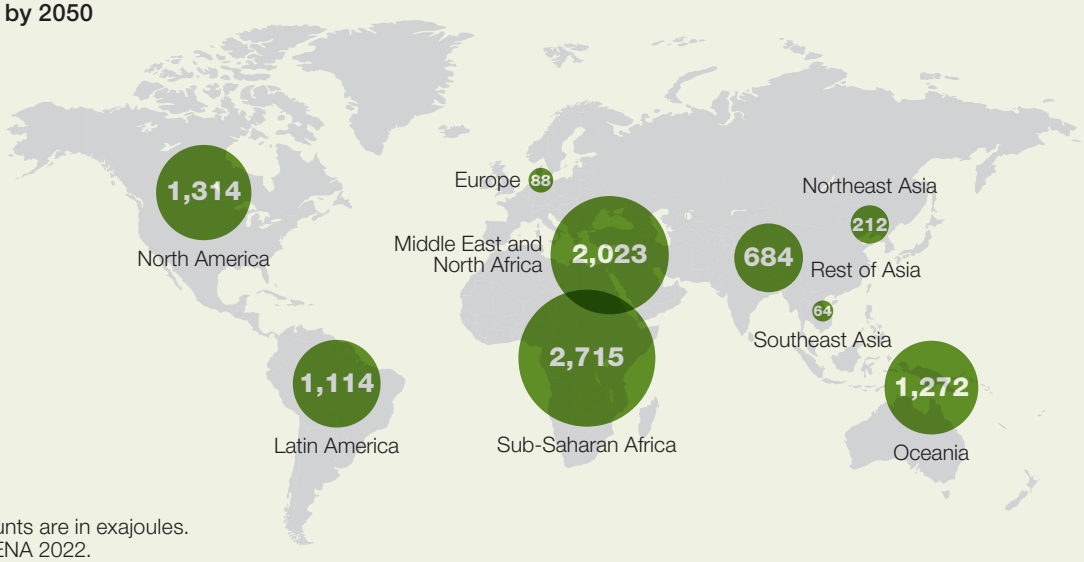
Source: African Development Bank analysis.

BOX 2.4 Letting it slip: Prospects for green hydrogen in Africa

According to Precedence Research, the global green hydrogen market will reach roughly $90 billion in 2030, for an annual compound growth rate of 54 percent between 2021 to 2030.[1] By 2050, projections foresee a green hydrogen market of 400–800 million tons, worth $0.8–$1.6 trillion a year. Green hydrogen has many different uses: for decarbonization in chemical and steel industries; heating; heavy goods transport by road, sea, and air; and in the power sector as seasonal industry storage and for flexible renewable energy–based generation.

Africa has the world's best potential to produce cheap hydrogen due to its abundant solar and wind potential (box figure 2.4.1) but is failing to grab this opportunity (see figure 2.32 in the main text). Recent research has shown that, in practical terms, Europe, for example, cannot decarbonize its chemical industry without relying on green fuel imports due to limited renewable energy, and cites Africa as among its most promising sources.[2]

BOX FIGURE 2.4.1 Global regions' technical potential for producing cheap, green hydrogen at under $1.50 per kilogram, by 2050



Note: Amounts are in exajoules.
Source: IRENA 2022.

Mauritania is establishing itself as the leading African country in the green hydrogen market, with a pipeline of the 4th and 11th largest green hydrogen plants worldwide, with more than 20 gigawatts in installed capacity in 2021. The capital investment in these two plants is roughly five times Mauritania's GDP.

The following are selected opportunities and risks of green hydrogen in Africa:

Opportunities

- Large scale green-growth based on Africa's competitive advantage.
- Leverage to turn current fuel-importing countries into fuel exporters.
- Long-term storage option for clean energy.
- Multitude of domestic and export end uses.
- Enabler for increasing African value added and a driver of African industrialization.
- Creator of local value, jobs, and skills.

Risks

- High upfront investment costs.
- "Resource curse" risk—too heavy dependence on a single good or industry making export diversification more difficult—hence the need to use revenue to diversify.
- Resource conflicts over land.
- Risk of pure export focus; need to ensure local benefits.
- Scale of projects has risks for corruption and transparency, stakeholder exclusion, and the environment unless coupled with recycling and waste management.

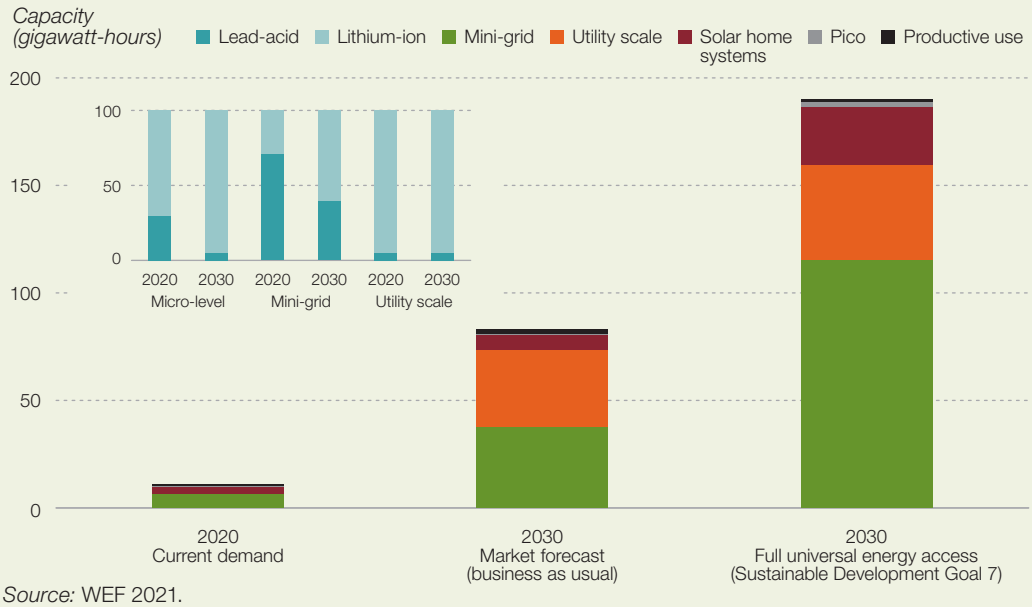
Notes

1. https://www.precedenceresearch.com/green-hydrogen-market.
2. Kätelhön et al. 2019.

BOX 2.5 Rare minerals and battery technology: Prospects for the battery industry in Africa and lessons from countries in the Organization of the Petroleum Exporting Countries

Growth in off-grid energy, in solar and wind generation, and in electrification of transport and industry feeds into growing demand for batteries in Africa. Stationary-battery capacity in Africa is expected to grow by 22 percent a year to 2030, to 83 GWh and as high as 190 GWh with full universal energy access (box figure 2.5.1).

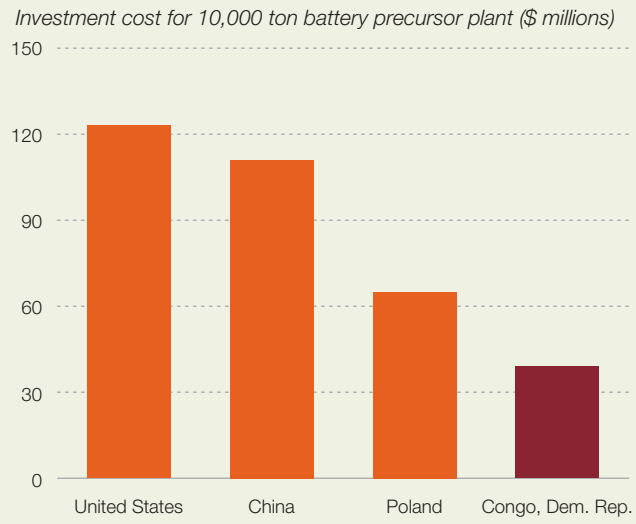
BOX FIGURE 2.5.1 Africa's technical potential for producing cheap, green hydrogen at under $1.50 per kilogram, by 2050



Source: WEF 2021.

African countries have strategic presences in critical rare earth minerals used in battery manufacture that are in high global demand. Democratic Republic of Congo has 50 percent of global reserves of cobalt, and South Africa and Gabon have nearly 40 percent of global manganese reserves. Mozambique and Tanzania, albeit at a smaller scale due to the relative size of their reserves, could play a value-chain role in graphite. Zimbabwe could develop a niche presence in lithium, and because of cost-efficient logistics as well as cheap project development, a battery factory in that country would cost roughly one-third of one in the United States or China (box figure 2.5.2).

BOX FIGURE 2.5.2 Investment cost of a 10,000-ton battery precursor plant, four countries



Source: BloombergNEF.

make production far cheaper in Africa than elsewhere (box 2.5). The battery industry has huge potential to build on and incorporate existing—and often informal—capacities of recycling precious materials for establishing a "circular" battery industry in Africa, where batteries and their constituent minerals and compounds are kept in a perpetual cycle of use and reuse. A further primary resource is natural gas, a potential transition fuel to clean energy systems: depending on country context, natural gas–based generation may be vital to bridge capacity gaps, though given its potential scale, it is critical for planners and decision-makers to assess the size of the associated economic risks of such investments.

With adequate policy and financial support, Africa could establish a large, lead-acid and lithium-ion battery recycling and repurposing value chain by organizing and formalizing existing informal capacities, linking regional battery sourcing, and standardizing battery value chains. Reusing batteries would generate environmental benefits, reduce battery costs by up to 30 percent, and build a job-heavy value chain (1,000 battery sales equal roughly 40 new jobs).

Yet, Africa risks missing opportunities. Despite solar energy being Africa's cheapest generation technology, with nearly 45 percent of combined global renewable energy potential and the many opportunities for socioeconomic development discussed above, Africa accounts for what is close to a rounding error—0.5 percent—of all new solar PV installations annually (figure 2.30).

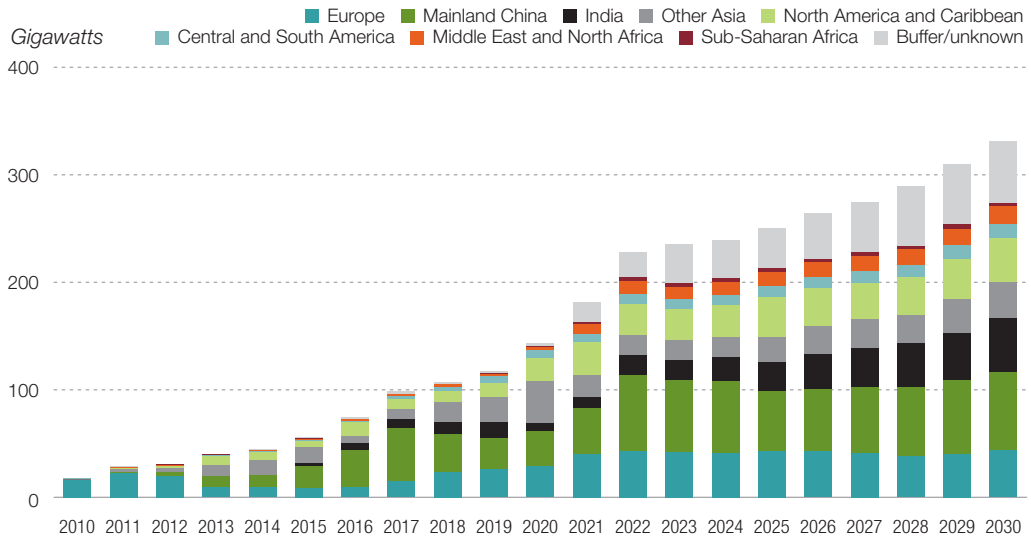
Africa has roughly 5 GW (0.7 percent) of global installed solar PV capacity. South Africa alone accounts for 42 percent of this capacity, three North African countries—Morocco, Egypt, and Algeria—40 percent, and the remaining 18 percent is spread across the other 50 countries on the continent. Both BloombergNEF and a study by the University of Oxford[60] predict that solar PV and wind shares in Africa will not markedly increase this decade given the planned power pipeline. In 2018, less than 4 percent of electricity in Africa came from solar, wind, geothermal, and biomass combined, and this share will not exceed 10 percent in 2030 on current plans (figure 2.31).

Similarly, the fast-growing green hydrogen market is overwhelmingly developing outside Africa (figure 2.32), despite the continent's competitive advantage.[61]

Apart from missing opportunities for development, continued reliance on fossil fuels means risks for African firms engaged in international trade in the medium and long term. As international companies are committing to Scope 3 net-zero targets (which refer to emissions from assets not owned or controlled by the company but

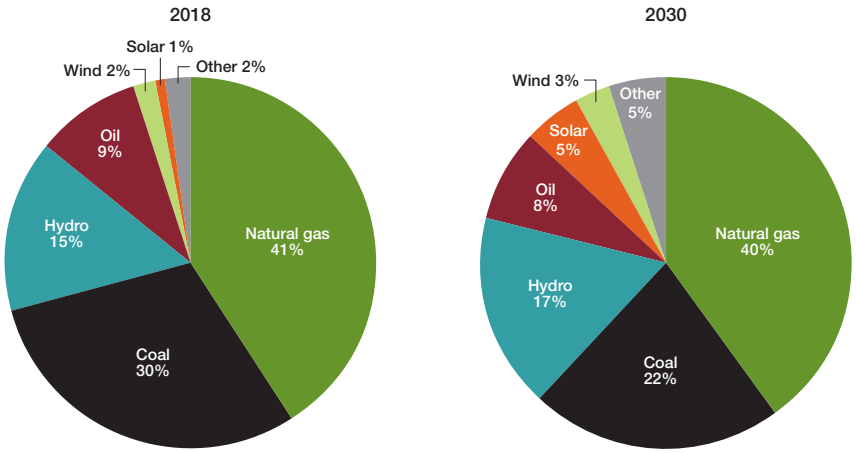
With adequate policy and financial support, Africa could establish a large, lead-acid and lithium-ion battery recycling and repurposing value chain by organizing and formalizing existing informal capacities, linking regional battery sourcing, and standardizing battery value chains

FIGURE 2.30 Global solar photovoltaic installation estimates and forecasts, 2010–30



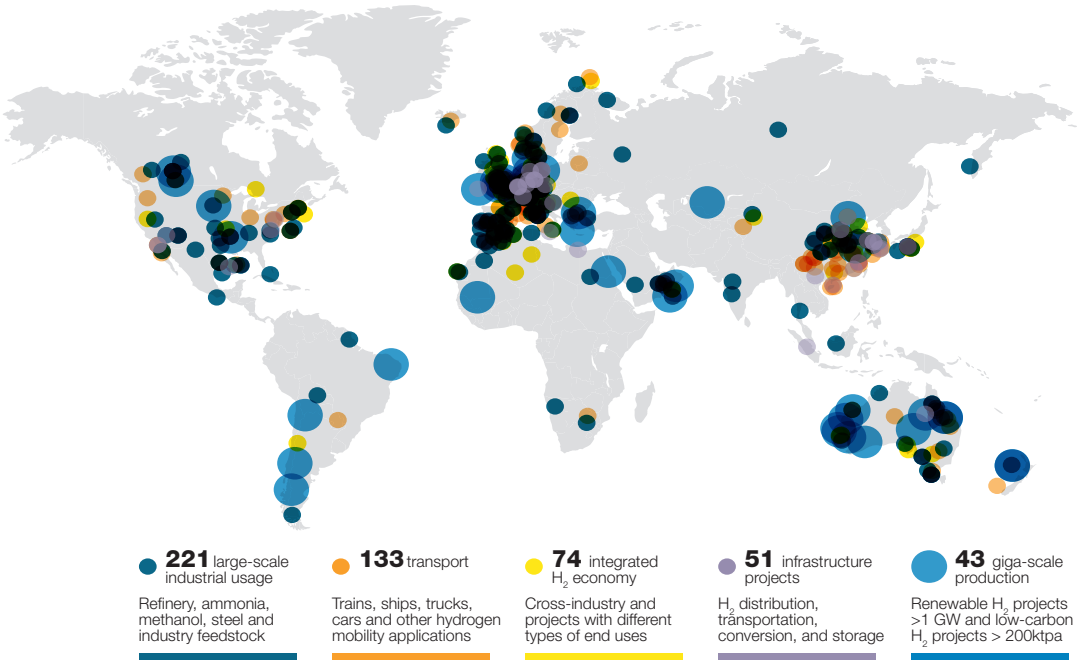
Source: BloombergNEF, January 2022 forecast.

FIGURE 2.31 Africa's electricity generation mix in 2018 and forecasts for 2030, based on national expansion plans, suggest little growth for solar and wind shares



Source: International Energy Agency; Alova, Trotter, and Money 2021.

FIGURE 2.32 Clean hydrogen projects and investments have grown quickly, but almost all outside Africa, despite its competitive advantage, November 2021



Source: IRENA 2022.

upstream or downstream of its value chain), African firms need to ensure low-carbon emissions along their value chains. Hence, trading with African businesses in a country with high fossil fuel shares in the energy mix becomes more expensive and so less attractive. For example, several regions and countries, including the European Union, Japan, and Canada, are planning—or have already implemented (California)—carbon border adjustment mechanisms intended to prevent carbon leakage and support their increased ambitions on climate mitigation. African countries and

their continental institutions should study these mechanisms and advise governments on ways to adjust to the constraints and capitalize on the opportunities.

A dominant theme is that the depth of energy poverty in Africa calls for ramping up investment in energy infrastructure to accelerate access to millions of people and that, while closing the access gap, it is also essential to ensure high-quality, affordable, and reliable power supply in an inclusive and equitable manner. Industrial growth is essential for a diversified and robust continental economy that meets the Agenda 2063 aspirations of economic transformation anchored on industrialization. Achieving that will require rapid development of Africa's energy infrastructure. In short, Africa needs energy-access and development gains.

Balancing Africa's own energy needs and its global climate commitments

While it is essential that Africa carry its fair share of commitments to climate goals, it is also necessary that Africa be given the energy-transition and decarbonization policy space to balance its development goals and climate objectives and the time horizon to do so. The High-Level Dialogue on Energy in September 2021 at the UN General Assembly recognized this reality for developing economies, seeing them phasing out coal in the 2040s and acknowledging the continuing role of gas as a transition fuel and with developed economies reducing their dependence to meet net-zero emissions by 2050.

Africa's future energy system requires a new way of finance and policy support. Evidence is mounting that Africa can have it all: the continent has the opportunity to rapidly scale up its energy system to provide cheap, sustainable, and reliable electricity. However, it cannot achieve this without dramatically increasing its domestic climate and development finance and ensuring, particularly, international financing. Africa's development needs, its endowments, and the green-transition opportunity need to be leveraged through accelerated financing for development, different approaches to mobilize private sector financing, and connection of financing to the Nationally Determined Contributions.

CONCLUSION AND POLICY RECOMMENDATIONS

Climate change and variability hit African countries' economies hard over 1986–2015, likely causing average annual losses in GDP per capita growth of 5–15 percent, with regional variations generally reflecting a country's economic structure and its exposure to climate change. Resource-rich, services-based, and diversified economies tended to experience more limited impacts, while agrarian economies suffered far higher losses, largely because of vulnerability to precipitation variability. Projected consequences of climate-related disasters and change at low (RCP2.6) and high (RCP8.5) warming scenarios also show regional patterns. Countries in West and East Africa are projected to be the most affected, with the impact of the high warming scenario becoming progressively more severe.

Understanding the changing nature of the stressors on African economies is essential for adaptation planning. Particularly in climate adaptation in agriculture, options focused solely on water supply—typically irrigation—could lead to stranded adaptive investments as farmers could experience more permanent and severe consequences from temperature and heat extremes than from insufficient water. Identifying problems contextually is thus of primary importance—at the heart of which is climate-resilient development.

Actions to build climate resilience involve synergies to be maximized, with considerable mitigation co-benefits, while many other actions have benefits that exceed the costs multiple times. These measures would need to be inclusive and equitable, offering just adaptation, considering the SDGs, and drawing on analysis of the best adaptation options in the local context. For example, climate-smart agriculture could involve uptake of climate-resilient crops for smallholder farmers. Affordable and reliable energy services would be important for enhancing the well-being of individuals, communities, and societies facing climate-related vulnerabilities and for helping create adaptive capacities to manage climate risks and build livelihood opportunities.

Energy poverty in Africa has critical negative implications for economic growth as well as for

Actions to build climate resilience involve synergies to be maximized, with considerable mitigation co-benefits, while many other actions have benefits that exceed the costs multiple times

broader goals. Despite more than 50 years of effort, energy systems on the continent remain largely underpowered, inefficient, unequal, and ultimately unsustainable given climate change. The countries that achieved affluence through industrialization did so using centralized, large-scale energy systems that rely on fossil fuels and large hydropower plants and associated infrastructure. Even without added pressures from climate change, low access to modern energy has been the norm for most African countries, and low energy consumption broadly correlates with low per capita GDP and inversely with the HDI. Many areas of low energy access—frequently agricultural areas—have poor access to communication systems, roads, and education and health systems, as well as poor income generation, often because they cannot add value through agricultural processing.

Given the importance of energy for economic and wider sustainable development, African countries must develop and support a just transition to a clean energy system that can drive socioeconomic benefits, social inclusivity, and empowerment

Given the importance of energy for economic and wider sustainable development, African countries must develop and support a just transition to a clean energy system that can drive socioeconomic benefits, social inclusivity, and empowerment. The current access gap needs to be closed to ensure that equity dimensions are not just discussed in policy circles but are acted on. Low-carbon transitions would need to be purposively designed through fair procedures to ensure that gender and social equity issues are included in design and implementation. African governments have a responsibility to create the governance and institutional conditions in which distributional ambitions are anchored on procedural justice.

Given its low GHG emissions and prevalent energy poverty, Africa must be allocated a carbon space and planning horizon to define optimal contextual transition pathways that protect its socioeconomic transformation aspirations. Africa contributed very little to the buildup of GHG emission. Thus, simple climate justice demands that it should not be denied access to the remaining global carbon budget to power its industrialization. Specifically, where the benefits of natural gas outweigh the economic risks of stranded assets, high electricity costs, and decreased macroeconomic performance, natural gas should be allowed as a transition fuel. Gas can also be used alongside renewables to help overcome intermittency of power supply. The composition of the energy mix will ultimately depend on a range of factors, including the speed and size of financing and the technology for developing and accelerating renewable energy options in African countries.

The Russia–Ukraine conflict and its impact on the global energy market have also shed some light on the limitations of the nascent renewable energy sector to meet rising global energy demand. To counter the energy shortage due to the embargo on Russian oil and gas, advanced economies are resorting to coal-fired energy sources and other environmentally damaging methods such as fracking. While such efforts might be warranted to fill the gap in energy needs in the short term, they go against the established global principles for a just energy transition, which these countries have committed to. Countries that face extreme energy poverty and high vulnerability to the effects of climate change but contribute disproportionately very little to global carbon emissions might view such actions as undermining the credibility and trust in global partnerships toward a just energy transition.

African countries can select from multiple transition pathways, depending on their circumstances, resources, and finances. Whichever pathways are chosen, the energy sector must be technically designed to meet the continent's sustainable development needs. Exploring access to global technologies and adapting them to exploit Africa's abundant and diverse energy resources should be the cornerstone of a future African energy system within the broader framework of universal access to energy, as underscored in the Paris Agreement and subsequent declarations. A just energy transition also means ensuring that the benefits of transition to Africa's future energy system are equitably distributed and that countries are not locked out of the green-technology manufacturing value chain.

Integration of large shares of solar and wind energy in Africa is possible and cheaper than other options, but requires large upfront investment in a combination of measures, notably flexible generation, storage technologies, regional and continental interconnectivity, sector integration, and demand-side measures, as well as off-grid energy systems. Much of Africa may, however, be missing out on this opportunity.

The green energy transition holds transformative potential for the economy, employment, welfare,

and wider sustainable development of Africa. The continent has competitive advantages in several raw materials—notably green hydrogen—and in some component manufacturing, industrial products and services for green growth. Whether it exploits those advantages will be crucial to the lives and livelihoods of all Africans in the coming decades.

NOTES

1. Global Center on Adaptation 2021.
2. IPCC 2021.
3. IPCC 2022.
4. The CRI was computed using principal component analysis and normalized between 0 and 100 for comparability.
5. Rifat and Liu 2020.
6. Climate vulnerability is a measure of a country's exposure (the degree to which the country is exposed to the negative impacts of climate change and its variabilities), sensitivity (the extent to which the country depends on climate-sensitive sectors such as rain-fed agriculture or on a sector of the economy that is highly susceptible to climate change disturbances), and adaptive capacity (the ability of the country and its supporting sectors to adjust and reduce potential damage and to respond to the negative consequences of climate events). The Climate Vulnerability Index is scaled between 0 and 100, with higher values representing greater climate vulnerability. The index is computed using six sectors: food, water, health, ecosystem services, human habitat, and infrastructure. Each sector comprises six indicators that represent three cross-cutting components: the sector's exposure to climate-related or climate-exacerbated hazards, the sector's sensitivity to the impacts of the hazard, and the sector's adaptive capacity to cope or adapt to these impacts.
7. The Climate Readiness Index score is measured through a country's economic abilities (the degree to which the country's investment climate facilitates the mobilization of capital from private sector), governance abilities (the extent to which governance and existing institutional arrangements contribute to reducing climate investment risks), and social abilities (the degree to which social conditions in the country help make efficient and equitable use of investment and yield more benefit from the investment). The index is scaled between 0 and 100, with higher values meaning greater climate readiness. It is computed using three components: economic readiness (Doing Business indicators: starting a business, dealing with construction permits, getting electricity, registering property, getting credit, protecting investors, paying taxes, trading across borders, enforcing contracts, and resolving insolvency), governance readiness (indicators of political stability and non-violence, control of corruption, rule of law, and regulatory quality), and social readiness (indicators of social inequality, information and communication technology infrastructure, education, and innovation).
8. WMO 2019.
9. The Human Development Index (HDI) is a composite of indices related to life expectancy, education, and standard of living (GDP per capita).
10. Baarsch et al. 2020.
11. RCP2.6 represents a low warming scenario of emission and concentration pathway that aims at limiting the increase of global mean temperature to 2°C by the end of the century, whereas RCP8.5 represents a high warming scenario of limiting the temperature increase to 5°C.
12. https://www.gfdl.noaa.gov/climate-modeling/.
13. Carleton et al. 2020.
14. Baker and Anttila-Hughes 2020.
15. This chapter uses the Notre Dame Global Adaptation Index methodology to define vulnerability and climate readiness (Carleton et al. 2020).
16. IDMC 2021.
17. Desai and Mandal 2021.
18. Tesfaye et al. 2017; Teklewold et al. 2017; Teklewold and Mekonnen 2017.
19. IMF 2020.
20. IMF 2020.
21. Knippenberg and Hoddinott 2017.
22. Niang et al. 2014.
23. IEA 2019.
24. Lipper et al. 2014; Taylor 2018.
25. Culver 2017.
26. Mulugetta et al. 2019.
27. McKinsey & Co. 2015.
28. IRENA 2022.
29. IEA 2019.
30. Moner-Girona et al. 2021.
31. World Bank Database.
32. Carbon budget represents the cumulative amount of carbon dioxide (CO_2) emissions permitted over a

period of time to keep within a certain temperature threshold. Commonly used thresholds are 2°C and 1.5°C above the preindustrial period.

33. IPCC 2021.
34. Evans 2021.
35. UN High Level Dialogue on Energy 2021.
36. Chen et al. 2019.
37. UNU–INRA 2019.
38. IRENA 2020.
39. IRENA and African Development Bank 2022.
40. Mercure et al. 2021.
41. The levelized cost of electricity is defined as the price at which the generated electricity should be sold for the system to break even by the end of its lifetime.
42. IRENA 2021; Lazard 2021.
43. Doorga, Hall, and Eyre 2022.
44. IRENA and African Development Bank 2022.
45. Alova, Trotter, and Money 2021.
46. Eberhard et al. 2017.
47. Flexibility is the ability of the power system to respond rapidly to changes in the supply–demand position, such as changes in variable renewable energy generation output, generation failures, and variations in demand (Australian Energy Market Operator 2018).
48. Sterl 2021.
49. Barasa et al. 2018.
50. Sterl et al. 2020.
51. Clean Energy Council 2021; Lazard 2021.
52. Haney et al. 2019.
53. Moner-Girona et al. 2021.
54. Fisher et al. 2021.
55. IRENA and African Development Bank 2022.
56. Tenenbaum, Greacen, and Vaghela 2018.
57. RES4Africa, IRENA, and UNECA 2022.
58. Mercure et al. 2021.
59. Green hydrogen is produced by using large amounts of RE to split water into hydrogen and oxygen in a process called electrolysis. Hydrogen is a combustible gas that emits only water when burned.
60. Alova, Trotter, and Money 2021.
61. Africa's investments in off-grid energy were hampered by the COVID-19 pandemic. Athough they have largely held their ground, they are still too small to achieve universal energy access.

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FINANCING CLIMATE RESILIENCE AND A JUST ENERGY TRANSITION IN AFRICA: NEW STRATEGIES AND INSTRUMENTS

3

KEY MESSAGES

- **Between about $1.3 trillion and $1.6 trillion, averaging $1.4 trillion, will be needed over 2020–30 to implement Africa's climate action commitments and Nationally Determined Contributions (NDCs).** Moreover, after historical and future carbon emission shares are accounted for, total climate finance due to Africa is estimated at $4.76–$4.84 trillion in 2022–50, representing annual flows of $163.4–$173 billion.
- **Still, climate finance committed and mobilized for Africa falls short of the continent's needs and historical carbon emission shares, creating an estimated annual financing gap of $99.9–$127.2 billion in 2020–30.** Given challenges with current funding sources, poor regulatory frameworks, and risks, alongside COVID-19 disruptions and the Russia–Ukraine conflict, the deficit is expected to grow, unless new sources are identified and funds disbursed. By 2050, one-fifth of the projected global adaptation funding gap will be in Africa.
- **The global climate finance landscape is highly fragmented and mirrors the political economy of the donor-dominated architecture.** A myriad of stakeholders have led to weak coordination, poor transparency and accountability, and ineffective climate finance delivery. Major improvements are needed to establish clearer and more rigorous rules for enhancing support to countries, in line with domestic priorities.
- **Several innovative climate finance instruments can be used to support climate resilience and a just energy transition in Africa.** New sources could also be developed to complement the existing toolkit. Instruments include green bonds, as well as sustainability bonds and sustainability-linked bonds and loans. Debt-for-climate swaps and climate-linked debt are further options. Reallocating Special Drawing Rights (SDRs) to African countries would give them more flexibility to finance their climate needs. The potential of carbon markets, too, could be leveraged.
- **Domestically, green banks and national climate funds, as well as blended finance, could be used to de-risk private sector green finance investments.** Despite its potential, climate finance from private actors continues to lag public finance in Africa. Green banks and national climate funds could help mobilize private investment and direct funding to sector-specific climate change needs.
- **Leveraging innovative and new financing instruments will require actions from all key stakeholders in climate finance:**
    - *For the global community.* Based on this report's work on the carbon budget and carbon debt, the discussion on climate finance should move beyond the $100 billion commitment made by developed countries in 2009. Financing adaptation and mitigation should reflect the true opportunity cost of climate change in Africa and other developing

regions to ensure climate justice. The global community should also demonstrate strong political will for climate finance commitments, as it did for the COVID-19 global fiscal response.

- *For developed countries.* The $100 billion commitment should be distinct from official development assistance (ODA) commitments and funding from multilateral development banks (MDBs) and instead be treated as new or additional financing. Reallocating SDRs to African countries, with the Bank as a prescribed and preferred intermediary, should be fast-tracked. In addition, more efficient and better-priced carbon markets would likely provide much-needed financing for Africa's net-zero ambitions.
- *For African countries.* Urgent institutional and regulatory reforms are needed to mobilize more domestic and external private climate finance, to include strengthening public financial management, promoting transparency and accountability in public service delivery, improving government effectiveness in managing climate finance, building internal capacities in the life cycles of climate-related projects to enhance efficiency and reduce leakages, developing well-tailored domestic resource mobilization instruments, and reforming domestic financial systems to minimize investment risks.
- *For MDBs and bilateral stakeholders.* They should provide a greater volume of concessional finance instruments and grants, while supporting improved transparency in carbon accounting and in climate finance tracking.

Climate change remains one of the greatest challenges to Africa's post-COVID-19 recovery and sustainable development

INTRODUCTION

Climate change remains one of the greatest challenges to Africa's post-COVID-19 recovery and sustainable development. Tackling it requires scaling up climate finance from both domestic and external sources. Yet, past and current climate finance commitments fall short of expectations and financing needs. At the 15th UN Climate Change Conference of the Parties (COP15) in Copenhagen, Denmark, in 2009, developed countries committed to channelling $100 billion a year to developing countries for climate adaptation and mitigation and confirmed this in the Paris Agreement at COP21 in 2015 and at COP26 in Glasgow. Despite the evident impact of climate change in Africa, they have never met this target.[1] By contrast, in response to the COVID-19 pandemic, about $17 trillion was swiftly mobilized through fiscal measures in 2020 and 2021. Almost 90 percent of this figure was provided by the G20 advanced economies and emerging markets (chapters 1 and 2).

Mobilizing resources to tackle the climate challenge in Africa should go beyond UN negotiations and lofty commitments and into practical steps and delivery, deploying a range of market and non-market-based approaches specific to countries' needs. Apportioning the burden of responsibility is as important as actually delivering commitments.

This chapter discusses financing gaps in Africa, the current international climate finance architecture, new sources of finance for climate resilience, reasons for tightening global coordination of climate finance, and policy recommendations on how all parties can enable Africa to access climate finance more equitably to support its energy transition.

CLIMATE FINANCING NEEDS, COMMITMENTS, AND GAPS

Africa's financing needs for responding to climate change are estimated at $1.3–$1.6 trillion in 2020–30, with a larger share for mitigation

Accurately estimating worldwide climate finance needs, commitments, and gaps is tough because of the uncertainty around different climate change impact scenarios—and more so in Africa, where statistical capacity is limited. However, NDCs include conditional pledges by countries and unconditional external support to implement the NDCs, and these are taken as primary sources to estimate climate finance needs and commitments. The main problem is that not all African countries provide comprehensive details on the cost of climate adaptation in their NDCs. The Bank's Africa

NDC Hub provides estimates for all countries based on available costs reported by individual countries and extrapolates to determine adaptation costs for the remaining countries.[2] However, climate finance needs go beyond adaptation to include mitigation; technical and technological needs; loss and damage needs; monitoring, reporting, and verification; and capacity-building needs (table 3.1).

The estimated cumulative financing needs for Africa to respond adequately to climate change range from about $1.3 trillion to $1.6 trillion, averaging $1.4 trillion, in 2020–30 (table 3.1). Put annually, this comes to about $127.8 billion, with lower and upper amounts of $118.2 billion and $145.5 billion, respectively. Adaptation costs alone are estimated at $259–$407 billion. If the international-to-domestic commitment ratio in 2020 remains constant (with 64 percent of costs coming from international sources and 36 percent from domestic sources), the adaptation financing gap in Africa from international sources ranges from $166 billion to $260 billion in 2020–30. Over the same period, the cumulative adaptation finance needed from international resources in the top five priority sectors is estimated at $9–$14 billion for agriculture, $6.7–$10.6 billion for water and sanitation, and $4.48–$7 billion each for health, energy, and biodiversity and ecosystems.[3]

Regionally, East Africa has the highest estimated adaptation cost, $91–$143 billion, due largely to its higher vulnerability to climate change and lower resilience and readiness (chapter 2). It also requires the largest contribution from international resources ($58.2–$91.5 billion) to meet its adaptation needs. Central Africa has the lowest estimate, $6–$19 billion. The cost is estimated to be $73.5–$115.5 billion for West Africa, $33.7–$53 billion for North Africa, and $25–$42 billion for Southern Africa (figure 3.1).

Of the continent's $715 billion in mitigation needs for 2020–30, East Africa accounts for $7.12 billion, Central Africa for $1.96 billion, and West Africa for $2.81 billion, while North Africa and Southern Africa together account for the remaining $703 billion. The Bank's Light-Up and Power Africa estimates are $420–$670 billion for energy.[4] Integrating gender dimensions in financing and policy discussions could also increase climate financing needs for adaptation and mitigation, given the disproportionate impact of climate change on women (box 3.1).

TABLE 3.1 Africa's estimated climate financing needs in 2020–30

Type of finance needs	Amount or description
Adaptation	$259–$407 billion
Mitigation	$715 billion
Technical and technological needs	$1.38 billion
Loss and damage needs	$289.2–$440.5 billion
Monitoring, reporting, and verification	$258 million for report preparation $46.5 million to $93 million for monitoring, reporting, and verification capacity building
Other needs (not estimated)	
Climate finance environment needs	Need to provide attractive financing environment, diversify financing sources, mobilize the private sector, introduce risk-sharing mechanisms, and launch new financial instruments
Capacity-building needs	The Nationally Determined Contributions projects require capacity building from design to implementation. These costs are not often estimated

Source: Staff calculations based on data from Africa NDC Hub (2021).

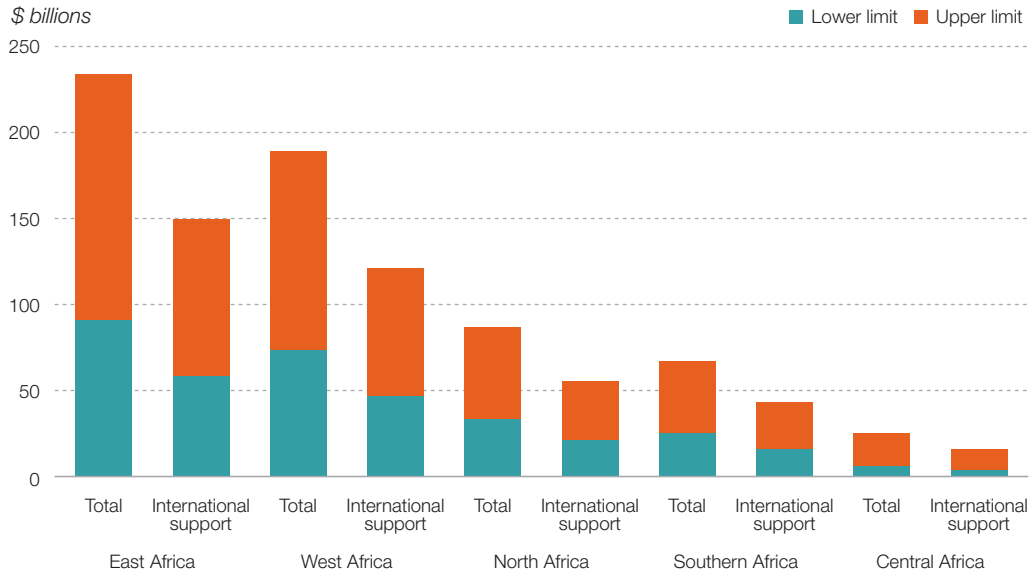
Loss and damage costs due to climate change are projected to range from $289.2 billion (in the low warming scenario) to $440.5 billion (in the high warming scenario),[5] with East and West Africa accounting for the largest shares of $72–$131 billion, followed by North Africa ($64.2–$85 billion), Central Africa ($35–$49 billion), and Southern Africa ($29.2–$47 billion). These estimates do not address the complex issue of compensating African countries for loss and damage stemming from climate change impacts. Resolving this issue will require innovative approaches to ensure that finance for loss and damage is not seen as an "act of charity but an act of reparation."[6] (See discussions on the carbon budget in "Africa's development vision and the centrality of energy" in chapter 2.)

The estimated cumulative financing needs for Africa to respond adequately to climate change range from about $1.3 trillion to $1.6 trillion, with an average of $1.4 trillion

Climate finance mobilized globally falls short of African countries' needs, creating a climate financing gap of $99.9–$127.2 billion a year in 2020–30

Despite a steady increase in global climate finance, only $79.6 billion of the $100 billion committed by developed countries was mobilized in 2019, two-thirds of which was for mitigation.[7] This is a small fraction of resources mobilized in response to the COVID-19 pandemic in under

FIGURE 3.1 Regional estimates of climate adaptation needs, 2020–30



Source: Staff calculations based on Africa NDC Hub (2021).

BOX 3.1 Gender perspectives in climate change and climate finance in Africa

Women are disproportionately affected by climate change impacts, due largely to persisting multifaceted gender inequalities. Without gender-responsive climate actions, climate financing instruments delivering adaptation and mitigation funding for Africa will underestimate financing requirements, exacerbating inequalities against women and girls.

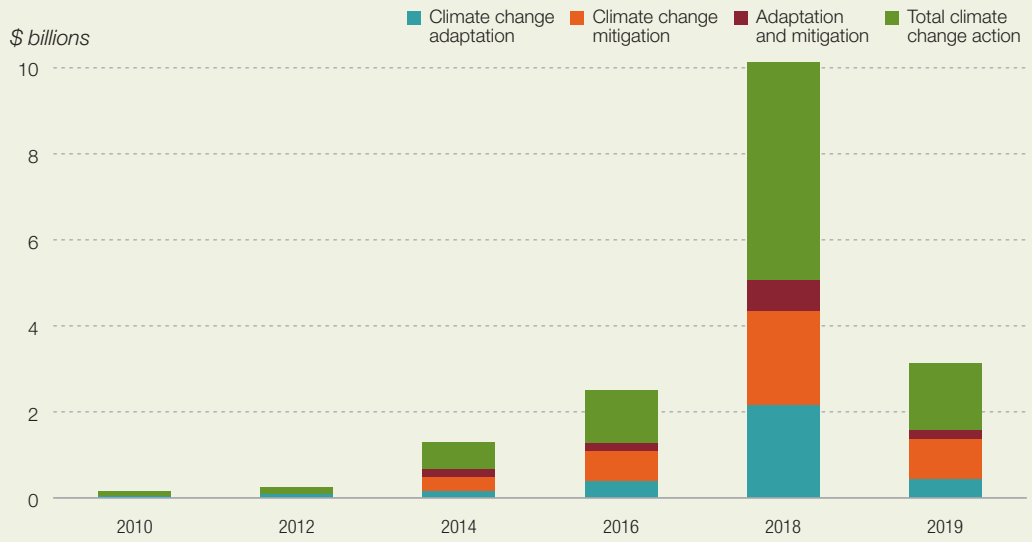
Recognition is growing of the importance of factoring in gender perspectives in climate finance in developing countries, which has led to the emergence of gender-responsive climate finance, which targets gender inequalities in Africa. Such finance, which comes from different sources, increased from an average of $80 million in 2010 to $1.6 billion in 2019, with a peak of $5 billion in 2018 (box figure 3.1.1). In the decade before the pandemic (2010–19), about 50 percent of gender-responsive climate finance (about $720 million) was channeled annually to mitigation in Africa, around 37 percent (roughly $545 million) to adaptation, and the remaining 13 percent (around $194 million) to mitigation and adaptation combined. Scaling up climate finance that targets gender inequalities and prioritizing women's access to climate financing instruments, will further bolster the "build back better" agenda in the post-COVID-19 period.

Although Africa fares relatively well among global regions, more than three-quarters of climate development finance failed to consider women's specific needs and contributions during the 2010s (box figure 3.1.2). More and better financing focusing on gender-specific needs will be crucial to empowering women and girls to reduce the persistent socioeconomic inequalities they routinely face. Thus, improving governance and operational procedures alongside providing technical expert advisory services is equally important in ensuring effective gender mainstreaming in climate finance.

Some African countries have already developed, with relative success, gender-responsive programs to empower women's adaptation to climate change impacts. In Mozambique, the Coastal Resilience to Climate Change program provides gender-responsive donor funding for women and men in coastal communities by investing in women's resilience to climate change and agricultural conservation initiatives. In 2019 and 2020, the program distributed materials to build mangrove nurseries and provided fishing conservation equipment to invest in conservation agriculture.[1]

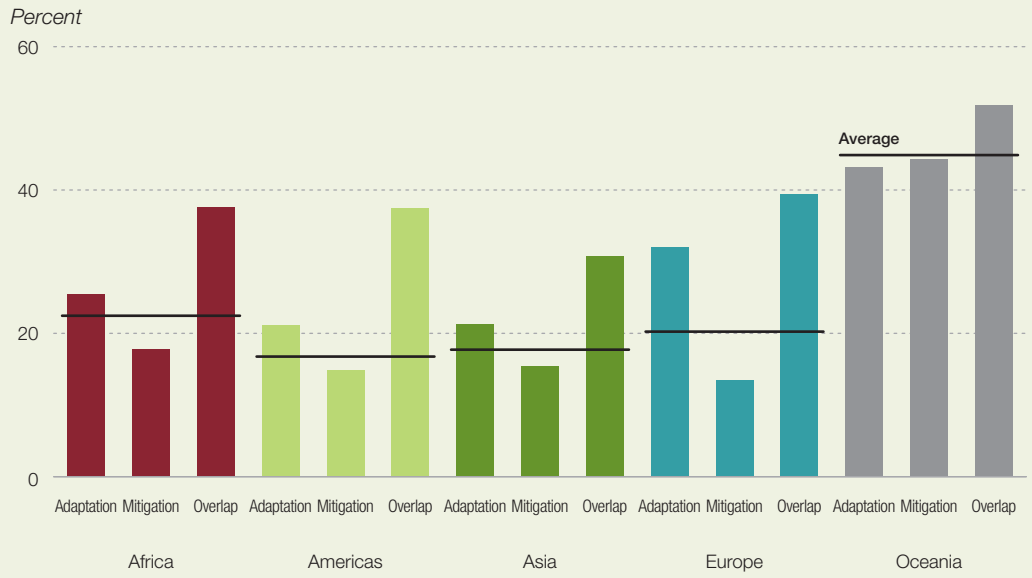
(continued)

BOX FIGURE 3.1.1 Trends in gender-responsive climate finance in Africa, by type of climate change action, 2010–19



Note: Gender-responsive climate finance refers to climate finance that targets gender equality as a principal or secondary, though significant, policy objective of climate finance activities. Data are in constant 2019 US dollars.
Source: Staff calculations based on OECD (n.d.a).

BOX FIGURE 3.1.2 Share of gender-responsive climate finance in total climate finance, by global region, average 2010–19



Source: Staff calculations based on OECD (n.d.a).

Note
1. IUCN 2020.

Assuming that Africa continues to receive the same amount each year in climate-related development finance up to 2030, the resulting financing gap would be $99.9–$127.2 billion a year in 2020–30, greatly limiting countries' ability to build climate resilience

two years (chapter 1). In addition, the $100 billion reflects neither the estimated financing needs in Africa to reach the net-zero transition by 2050 nor the true opportunity cost of historical emissions by advanced economies, which are far above the pledged $100 billion (chapter 2). Cognizant of the existing climate finance shortfall, developed countries, through the Glasgow Climate Pact, pledged to double the funding provided to developing countries for adaptation by 2025, taking the annual figure to around $40 billion.[8] Though commendable, this pledge should not just add to existing commitments on climate finance but be materialized into action.

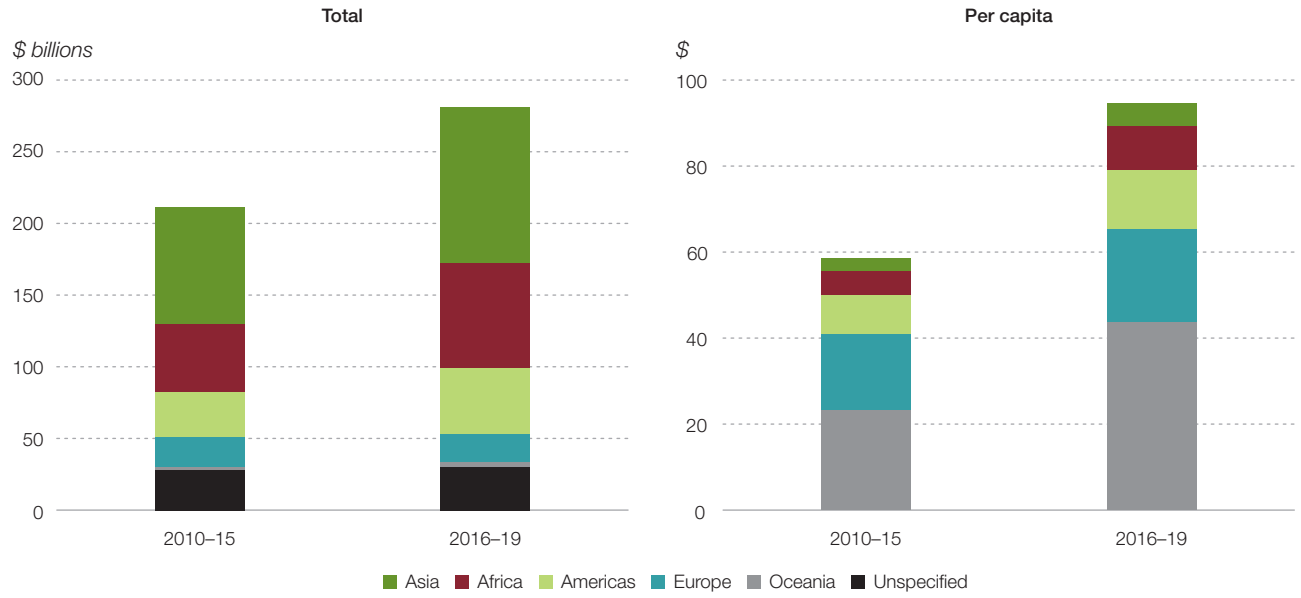
Africa's share of global climate finance flows increased by only 3 percentage points on average in 2010–19, from 23 percent ($48 billion) in 2010–15 to 26 percent ($73 billion) in 2016–19 (figure 3.2). This means that the continent benefited from only $18.3 billion a year in 2016–19, far behind Asia for example ($27.3 billion). The impact of COVID-19 and the Russia–Ukraine conflict on climate finance may further stanch the flow of climate resources to Africa, with governments in advanced economies reallocating resources to tackle the effects of these two shocks. Assuming that Africa continues to receive the same amount each year in climate-related development finance up to 2030, the resulting financing gap would be $99.9–$127.2 billion a year in 2020–30, averaging $108 billion, greatly limiting countries' ability to build climate resilience. Per capita, average annual climate finance to Africa in 2016–19 was among the lowest in the world, at $10.40.

Even though the energy sector accounts for 26 percent of Africa's annual climate finance, the resources are very small set against the continent's huge energy investment needs

About $15.5 billion of climate finance inflows to Africa in 2010–19, 26 percent of the total, was allocated to energy education, training and research, energy conservation and demand-side efficiency, energy policy, and administrative management or development of hydropower plants (figure 3.3).

However, these resources fall far short of the sector's investment needs. For example, under the New Deal on Energy for Africa initiative, the Bank estimates that investment of $32–$40 billion a year is needed along the value chain—generation, interconnection, transmission and distribution, mini-grids, and off-grid access—to achieve universal access to electricity by 2030,

FIGURE 3.2 Africa's share in global climate finance has increased only marginally since 2010



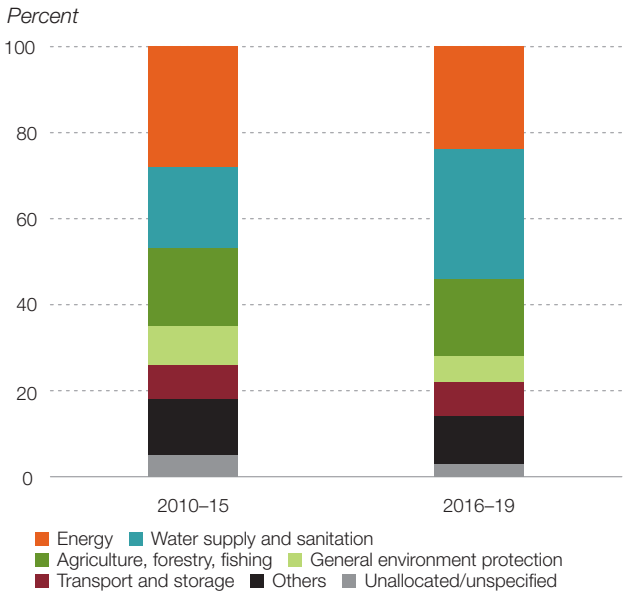
Source: Staff calculations based on OECD (n.d.a) and Africa NDC Hub (2021).

leaving an energy financing gap under the New Deal of $16.5–$24.5 billion, to be covered through domestic or other sources of international finance. The continent's large economies—Egypt, Nigeria, and South Africa—account for about one-third of its financing gap (figure 3.4). This is partly because the scale of transition for these countries is larger and more complex, requiring systemic change.

Insufficient climate finance means that most African countries will not meet their conditional Nationally Determined Contribution targets

Implementing most conditional NDCs depends on access to financial resources, technology transfer, and technical cooperation, as well as capacity building. Conditional targets account for about 85 percent of total financing needs, unconditional targets the rest (table 3.2). In Africa, of 41 countries with data on NDCs, 32 attach financing conditionalities to adaptation commitments, and 37 attach them to mitigation commitments (figure 3.5), with the majority requesting partial support. The costs associated with the conditional component vary widely by country, ranging from $35 billion in Zambia to $59 million in São Tomé and Príncipe.

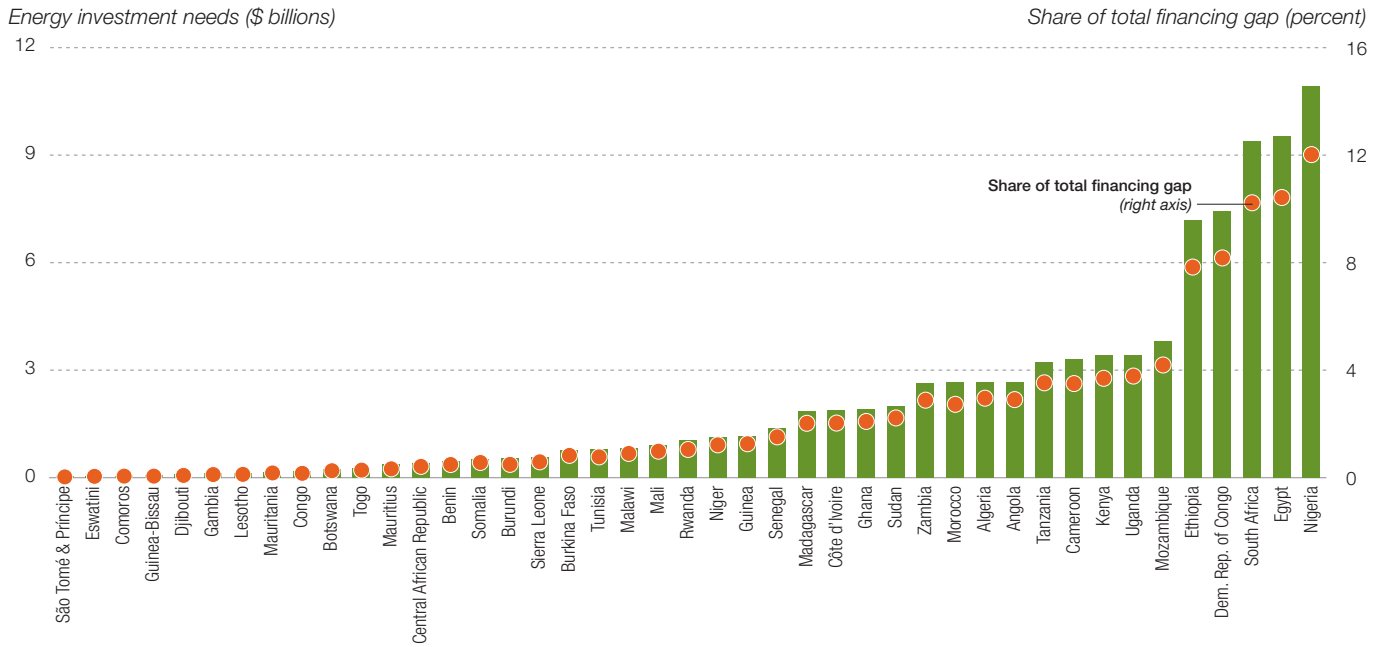
FIGURE 3.3 The energy sector received about 26 percent of Africa's climate finance inflows in 2010–19



Source: Staff calculations based on OECD (n.d.a) and Africa NDC Hub (2021).

Starkly put, unless developed countries scale up their climate finance to developing countries, Africa might not meet its climate commitments.

FIGURE 3.4 Egypt, Nigeria, and South Africa account for about one-third of Africa's climate financing gap in energy



Source: Staff calculations based on African Development Bank (2021b) and OECD (n.d.a).

TABLE 3.2 Unconditional and conditional finance required to fulfill Nationally Determined Contributions, selected African countries

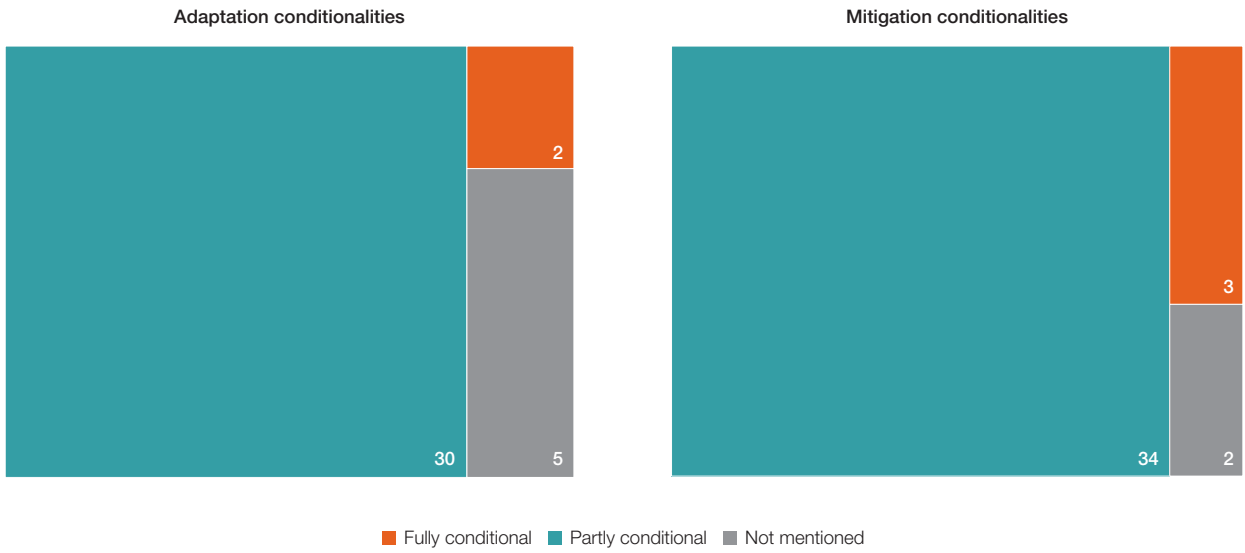
	Finance required, $ billions (unless shown otherwise)	
Country	**Unconditional**	**Conditional**
Benin	2.1	3.9
Burkina Faso	1.1	0.8
Central African Republic	0.3	2.0
Chad	0.5	6.5
Djibouti	70 percent of total costs	1.7
Eritrea	0.4	0.7
Guinea	..	6.5
Guinea-Bissau	..	0.2 by 2020 and 0.5 in 2020–30
Lesotho	1.2	0.6
Madagascar	4 percent from national financial sources	..
Mali	5.2	34.7
Mauritania	1.1	8.2
Morocco	26	24
Niger	0.8	6.2
São Tomé and Príncipe	..	[a]
Senegal	1.8	5.0
Seychelles	..	0.3
Tunisia	Around 10 percent of the total mitigation investment needs: 1.8	Around 90 percent of the total mitigation investment needs: 15.8
Zambia	..	35

.. is no data.

a. $59 million.

Source: Staff calculations based on Climate Watch data.

FIGURE 3.5 Adaptation and mitigation financing conditionalities in Africa's updated Nationally Determined Contributions



Note: The numbers refer to the number of Africa's updated Nationally Determined Contributions.

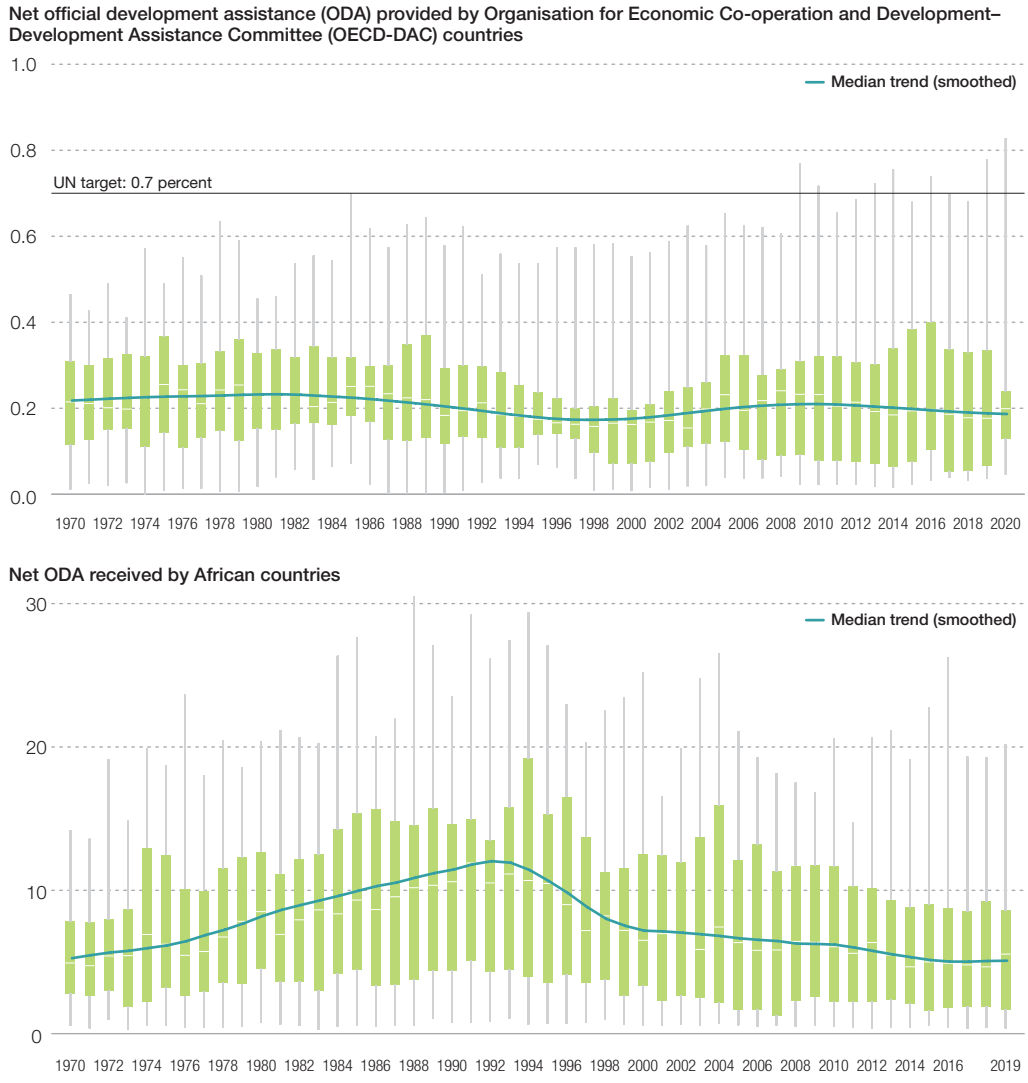
Source: Staff calculations based on data from Pauw, Beck, and Valverde (2022).

Climate finance commitments should not replace existing commitments to finance other Sustainable Development Goals

The United Nations set a target in 1970 for developed countries to spend at least 0.7 percent of their gross national income (GNI) on ODA, beyond other global financing commitments, including those for climate change. The average ODA-to-GNI ratio has been well below that target, with the median ranging from 0.23 percent in the 1970s to 0.25 percent in the 2010s (figure 3.6). Only a handful of developed countries have met it, notably Denmark, the Netherlands, Norway, and Sweden. Net official development assistance received by African countries (as a share of GNI) increased from 1970 up

FIGURE 3.6 Official development assistance outflows and inflows, 1970–2020

Percent of gross national income (GNI)



Note: The length of the bars corresponds to the interquartile range. OECD-DAC member countries are Australia, Austria, Belgium, Canada, the Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy Japan, the Republic of Korea, Luxembourg, New Zealand, Norway, Poland, Portugal, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, the United Kingdom, and the United States. Data have been truncated at the 5th and 95th percentiles of the ODA-to-GNI ratios.

Source: Staff calculations.

The average ratio of official development assistance to gross national income ratio has been well below the UN target of 0.7 percent, with the median ranging from 0.23 percent in the 1970s to 0.25 percent in the 2010s

to the mid-1990s but declined after that. While the continent strives to meet Sustainable Development Goal (SDG) 13 on climate action, eliminating poverty (SDG 1) is the most pressing SDG in Africa, requiring huge resources, which is why commitments to climate finance should not come from a declining ODA budget. With the outbreak of the Russia–Ukraine conflict, there is a risk that ODA flows to African and other developing countries might be reduced or delayed as developed countries reprioritize their assistance to support Ukraine. At the COP16 summit in Cancun, Mexico, in 2010, developed countries agreed that climate funding would be new and additional to address the urgent and immediate needs of developing countries that are particularly vulnerable to the adverse effects of climate change.[9]

The complexity of the global climate finance architecture increases financing options, innovation, and decentralization of sources and creates room for complementarity—but also introduces coordination difficulties, often leading to inefficient outcomes

EXISTING FINANCING INSTRUMENTS AND INITIATIVES FOR CLIMATE RESILIENCE AND THE ENERGY TRANSITION

The global climate finance architecture

Complex and rapidly evolving, the current architecture has multiple sources, instruments, and channels

Complexity increases financing options, innovation, and decentralization of sources and creates room for complementarity—but also introduces coordination difficulties, with overlapping mandates and initiatives, often leading to inefficient outcomes. In addition, it has added further layers to the monitoring, reporting, and verification of climate finance flows. The architecture has three main channels: bilateral development assistance institutions, multilateral climate funds, and regional or national funds (figure 3.7). Multilateral climate finance initiatives can fall either inside or outside mechanisms of the United Nations Framework Convention on Climate Change (UNFCCC).

The multilateral financial mechanisms of the United Nations Framework Convention on Climate Change

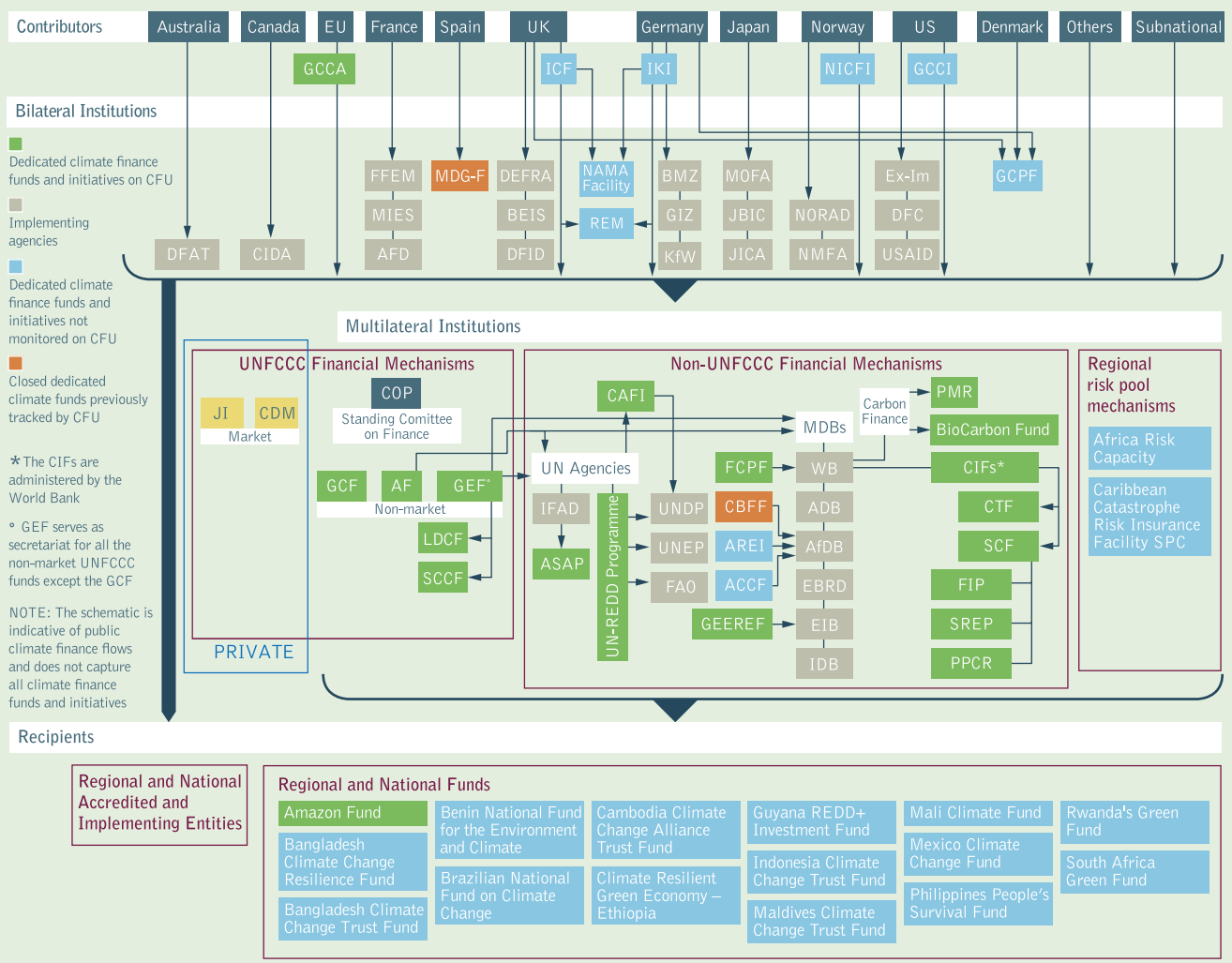
The UNFCCC encompasses the Global Environment Facility (GEF), established in 1991 as a financial mechanism of the UNFCCC. By March 2022, the GEF had approved more than 2,188 projects worldwide, including 1,219 national projects in Africa worth $3.1 billion.[10] GEF resources are allocated according to the impact of dollars spent on environmental outcomes and ensure a fair share for all developing countries. In addition, the GEF administers both the Least Developed Countries Fund (LDCF) and the Special Climate Change Fund, which support the development and implementation of National Adaptation Plans, mainly through smaller projects (with a country funding ceiling of $20 million).[11] The Green Climate Fund (GCF) was launched in 2015 as a finance mechanism of both the UNFCCC and the Paris Agreement. In 2019–20, the GCF provided about half the total finance from multilateral climate funds, followed by the GEF with 27 percent.[12] The Adaptation Fund, operating since 2009, is financed by a 2 percent levy on the sale of emission credits from the Clean Development Mechanism (CDM). Thus, the Adaptation Fund depends more on developed-country grant contributions if carbon prices are low.

Non–United Nations Framework Convention on Climate financial mechanisms

These mechanisms are governed, channeled, and implemented through multilateral development finance institutions or multilateral development agencies. For instance, Climate Investment Funds (CIFs), established in 2008, are administered by the World Bank with regional development banks, such as the African Development Bank. The main objective of the funds is to improve the understanding of how public finance is best deployed at scale for economic transformation; they have financed program interventions in developing countries.[13] The CIFs include the Clean Technology Fund and the Strategic Climate Fund, which is composed of the Pilot Program for Climate Resilience, the Forest Investment Program, and the Scaling Up Renewable Energy Program in Low-Income Countries.

As the largest part of the non-UNFCCC multilateral climate finance architecture, MDBs collectively committed $66.05 billion in climate finance in 2020, of which 76 percent was destined for mitigation and the rest for adaptation.[14] However, including climate finance from MDBs in global climate finance for developing countries distorts the picture by creating double counting. Because developing

FIGURE 3.7 The global climate finance architecture



CFU is Climate Funds Update. COP is Conference of the Parties. MDBs are multilateral development banks. SPC is Segregated Portfolio Company. UNFCCC is the United Nations Framework Convention on Climate Change.

Note: See annex 3.1 for the complete list of abbreviations in the figure.

Source: Retrieved from Watson and Schalatek (2022).

countries are shareholders in MDBs (60 percent in the Bank, for example), MDB financing for development is counted as climate finance, implying that developing countries are directly contributing to developed countries' $100 billion commitment.

Most MDBs also administer climate finance initiatives with regional or thematic scope. For instance, the Bank is the trustee for the Africa Renewable Energy Initiative and funds enhanced climate finance readiness through the German-funded Africa Climate Change Fund.[15] The Bank also manages the Sustainable Energy Fund for Africa, which provides catalytic finance to unlock private investments in renewable energy and energy efficiency. The Bank generally plays a determining role by championing climate finance in Africa and supporting its regional member countries in their energy sectors.

Bilateral initiatives

Such initiatives encompass a large proportion of public climate finance and follow a development aid approach. Even though financial flows are self-reported by countries without a standardized format, bilateral aid is recorded by the Organisation

for Economic Co-operation and Development–Development Assistance Committee, and climate change aid is tagged with Rio markers.[16]

Regional and national channels and funds

These funds, diverse in form and function, have been established by several developing countries, diverse in form and function, funded through international finance and domestic budgets, and by the private sector. However, data are limited on national funds.

The myriad of climate finance initiatives and instruments targeting Africa

Multilateral funding sources abound for Africa's climate financing (table 3.3). As a share of global financing to Africa (that is, more than 50 percent), the top ones include the Central African Forest Initiative, the LDCF, and the Adaptation for Smallholder Agriculture Programme. Bilateral climate finance initiatives also targeting Africa are in table 3.4.

TABLE 3.3 Multilateral climate funds targeting Africa

Fund	Fund focus	Approved ($ millions)	Percent of global approvals	Disbursed ($ millions)	Percent of global disbursement	Pledges ($ millions)
Adaptation for Smallholder Agriculture Programme (ASAP)	Adaptation	169.2	57.6	107.1	54.4	382.0
Adaptation Fund	Adaptation	260.7	29.9	162.6	31.1	1,160.0
BioCarbon Fund Initiative for Sustainable Forest Landscapes (BioCarbon Fund ISFL)	Mitigation—REDD	30	30.5			367.4
Central African Forest Initiative (CAFI)	Mitigation—REDD	192.7	84.3	192.2	92.3	784.0
Clean Technology Fund (CTF)	Mitigation—General	1,020.7	18.0	284.2	15.7	5,783.2
Congo Basin Forest Fund (CBFF)	Mitigation—REDD	13.1	15.8	5.5	9.3	186.0
Forest Carbon Partnership Facility—Readiness Fund (FCPF-RF)	Mitigation—REDD	121.4	38.6	105.7	38.0	468.8
Forest Investment Program (FIP)	Mitigation—REDD	264.6	42.8	133.2	48.2	748.6
Global Environment Facility (GEF7)	Multiple Foci	153.4	9.8			728.4
Global Climate Change Alliance (GCCA)	Multiple Foci	337.8	37.9	2.87	0.5	1,652.8
Global Energy Efficiency and Renewable Energy Fund (GEEREF)[a]	Mitigation—General	57.1	25.54	0	0	281.5
Green Climate Fund Independent Redress Mechanism (GCF IRM)	Multiple Foci	1,777.3	18.7	429.7	18.4	10,322.1
Green Climate Fund (GCF-1)	Multiple Foci	20	2.4			9,999.2
Least Developed Countries Fund (LDCF)	Adaptation	903.4	67.6	364	68.2	1,878.0
Millennium Development Goals (MDG) Achievement Fund	Adaptation	24	26.8	24	26.8	89.5
Partnership for Market Readiness	Mitigation—General	12.7	15.4	8.3	12.9	131.5
Pilot Program for Climate Resilience (PPCR)	Adaptation	293.3	28.7	253.9	34.6	1,151.8
Scaling Up Renewable Energy Program (SREP)	Mitigation—General	314.1	46.6	67.5	51.4	778.6
Special Climate Change Fund (SCCF)	Adaptation	61.7	21.7	47.4	26.2	379.8
UN-REDD Programme	Mitigation—REDD	29.2	8.5	28.6	8.5	344.9

REDD is Reducing Emissions from Deforestation and Forest Degradation.

a. Includes the Sub-Saharan Africa and the Middle East and North Africa regions.

Source: Staff calculations based on Climate Funds Update 2022 dashboard, https://climatefundsupdate.org/data-dashboard/.

TABLE 3.4 Main bilateral climate finance initiatives targeting Africa as of January 2022

Fund	Benefactor countries/bodies	African beneficiary countries
Global Climate Partnership Fund (GCPF)[a]	Germany, the United Kingdom, and Denmark	Ghana, Kenya, Namibia, Tanzania, Uganda
International Climate Initiative (IKI)[b]	Germany	Ethiopia, Ghana, Malawi, Morocco, Namibia, Nigeria, Rwanda, Sierra Leone, South Africa, Tunisia, Zimbabwe
MDG Achievement Fund (MDG-F)[c]	Spain	Ethiopia, Mauritania, Mozambique, Senegal
Nationally Appropriate Mitigation Action Facility (NAMA Facility)[d]	The United Kingdom, Germany, Denmark, and the European Commission	Cabo Verde, Gambia, Kenya, Madagascar, Morocco, Mozambique, South Africa, Tunisia
Norway's International Climate Forest Initiative (NICFI)[e]	Norway	Angola, Democratic Republic of Congo, Ethiopia, Kenya, Liberia, Madagascar, Malawi, Mali, Mozambique, Nigeria, Somalia, South Africa, South Sudan, Sudan, Tanzania, Uganda, Zambia, Zimbabwe
REDD+ Early Movers (REM)[f]	Germany and the United Kingdom	Benin, Burkina Faso, Central African Republic, Chad, Congo, Côte d'Ivoire, Democratic Republic of Congo, Equatorial Guinea, Ethiopia, Gabon, Ghana, Guinea-Bissau, Kenya, Liberia, Madagascar, Malawi, Mali, Mozambique, Namibia, Nigeria, Sudan, Tanzania, Togo, Uganda, Zambia

a. Countries where the fund invested in 2020. b. Countries where the initiative has bilateral projects running as of January 2022. c. The fund focuses on other areas, but in environment and climate change, experimental pilot initiatives took place in the beneficiary countries. d. Countries where the facility has projects active as of February 2022. e. The initiative's partner countries for development cooperation. f. Countries where REM has activities.

Source: Staff inputs based on various sources.

At the regional and national levels, other climate-related funds include the Benin National Fund for the Environment and Climate, the Mali Climate Fund, Rwanda's Green Fund, and South Africa's Green Fund. Continental initiatives include:

- *Africa Adaptation Acceleration Program.* The Bank and the Global Centre on Adaptation joined forces to develop this program to address the impacts of COVID-19 and climate change on economies through a "triple-win" approach. One goal is to mobilize $25 billion by 2025 to scale up innovative and transformative actions on climate change adaptation.
- *African Financial Alliance on Climate Change.* This alliance was launched by the Bank in 2018 to catalyze private capital for continent-wide low-carbon and climate-resilient development. It leverages the region's key financial institutions to promote knowledge sharing, climate risk–mitigating financial instruments, climate risk disclosure, and climate finance flows.
- *Africa Adaptation Benefit Mechanism.* Developed by the Bank, this mechanism mobilizes public and private finance for climate change adaptation. It intends to de-risk and incentivize investments by facilitating payments for delivery and certification of adaptation benefits, the latter aimed to guarantee credibility of adaptation activities and increase their attractiveness to potential investors.

Limits of the global climate finance architecture

Organizational silos and competing mandates

Silos are appearing between Africa's national institutions and agencies in climate and energy, where they have the mandate to receive and manage climate funds but different objectives. This misalignment may be aggravated by weak governance and institutional capacity. For example, in 2015–19, 6 percent of the most vulnerable countries received funds through national accredited entities under the GCF, often facilitated by international organizations.[17] While most of the very high vulnerability countries received adaptation project funding, some of Africa's most resource-constrained economies[18] had no such access.

Silos are appearing between Africa's national institutions and agencies in climate and in energy, where they have the mandate to receive and manage climate funds but different objectives

An underdeveloped financial sector in Africa

Financial systems in many African countries are small and underdeveloped, often dominated by

commercial banks, which constrains intermediation of long-term capital for several reasons, including high interest rates on the demand side. Further, most domestic financial institutions do not lend to key, low-carbon sectors, even with third-party partial guarantees, because they have little knowledge of these sectors or ability to assess returns on low-carbon projects. They prioritize high-return investments with explicit risk profile information, such as real estate.

Africa's capital markets are equally underdeveloped and illiquid. The highest stock market capitalization as a share of GDP in 2020—excluding South Africa (235 percent)—was in Mauritius (56.4 percent).[19] Africa's investment rate of 24 percent is lower than that in emerging economies and regions such as China (40 percent), East Asia and Pacific (32 percent), and South Asia (28 percent).[20] Underdeveloped financial markets also struggle to attract the growing pool of climate finance, such as green bonds. Africa is behind other emerging markets on issuing these bonds.

Macroeconomic factors

Even before the COVID-19 pandemic, Africa faced multiple macroeconomic headwinds, including exchange rate depreciation and commodity price shocks, which affected less-traditional climate financing.[21] Financial risk has increased since the onset of the pandemic, triggering a shift to risk-free global assets from riskier ones such as low-carbon projects.[22] Climate change and other natural disasters are causing more disruptions to African economies (chapter 2), but counterintuitively, instead of incentivizing climate financing, these events induce higher financing costs,[23] and with shrinking fiscal space in Africa, these added costs could worsen public debt vulnerabilities and impair a country's credit ratings.[24] Climate change impacts are also raising insurance premiums, further shutting out less-resourced investors.[25] Overall, Africa faces great uncertainty, and developed countries' counter-pandemic fiscal measures and SDR allocations do not favor the region, further widening inequality between Africa and the rest of the world.

Coordination could be tighter between fund providers and recipients in developing countries, through a single institution, equipped with all the necessary human, technical, and financial resources, designated by the government as the focal point for all climate funds

Four avenues for improving the global climate finance architecture

Getting better coordination

The complex architecture presents coordination challenges, causing overlapping initiatives and inefficient resource allocation, which could be eased with better engagement between fund secretariats and governing bodies. For instance, the LDCF could focus on supporting the least developed countries in adaptation planning, while the Adaptation Fund or GCF could support adaptation projects and programs that stem from those plans.[26] Coordination could also be tighter between fund providers and recipients in developing countries, through a single institution, equipped with all the necessary human, technical, and financial resources, designated by the government as the focal point for all climate funds. Progress would significantly lower the administrative costs that recipient countries bear (given the often-numerous national management entities), enhance the efficiency of funds received, and improve their implementation.

Harmonizing fund requirements

The international community should harmonize procedures to ease the burden of multiple applications on developing countries, while maintaining high fiduciary and safeguard standards.[27]

Funding programs, not one-off projects

Funding programs involves bringing together activities that contribute to a common outcome, such as a sustainable initiative in several African countries as opposed to one. This change could increase efficiency because entities would develop a larger pool of resources under a single proposal. The GCF and CIFs are particularly well placed to support more programmatic approaches.

Specializing existing funds

Funds could leverage their comparative advantage to specialize in different key areas and project sizes and assume increased risk. In the long term, and depending on the performance and evolution of the architecture, some funds could merge or close once they have served their purpose.

NEW FINANCING SOURCES TO SUPPORT CLIMATE RESILIENCE AND A JUST ENERGY TRANSITION IN AFRICA

This section highlights the main areas of new sources of finance for a just energy transition and wider activities—green finance, carbon markets, debt-for-climate swaps, climate-linked debt, reallocation of SDRs in Africa's favor, natural capital accounting, areas of new domestic finance, and increased private sector participation.

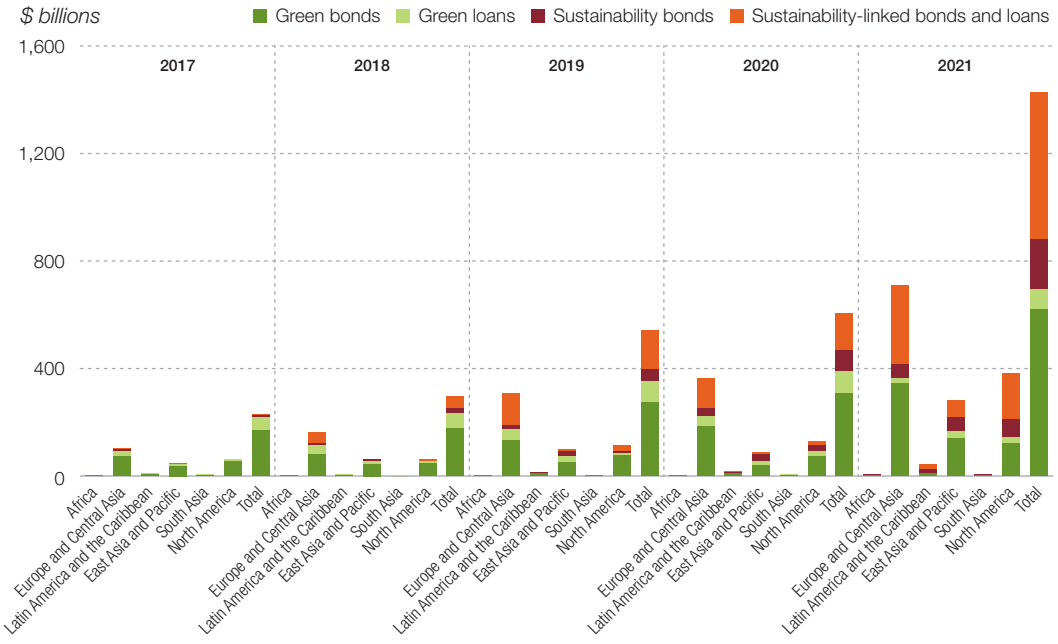
Green finance

The framing of climate action around net-zero emissions has renewed interest in green finance. Diverse sets of actors have rallied around the global goal of net-zero emissions to achieve the Paris Agreement. At COP26 in Glasgow, United Kingdom, in November 2021, more than 450 financial institutions representing $130 trillion in assets committed to science-based, climate-focused investing to achieve net-zero emission targets.[28] Around that time, about 1,500 pension funds, universities, and other organizations around the world, representing over $39 trillion in assets, had publicly pledged to divest from fossil fuels.[29] Additionally, 35 countries have pledged to provide investors with reliable climate risk information to guide green investments.[30] This global momentum toward green finance is likely to continue growing.

The African green finance market has expanded over the past five years, but the continent still has room for much more. A global appetite exists for green finance, as seen by the $623 billion in green bonds issued worldwide in 2021, though most were in developed countries (figure 3.8). In 2021, Africa accounted for only 0.26 percent of global green bond issuance, the lowest share of all global regions. And except for green loans, for which the continent accounted for about 1.9 percent of global issuance by value in 2021, Africa accounted for less than 1 percent of global issuance of sustainability bonds and sustainability-linked bonds and loans. Again, most green finance was issued in advanced economies. Box 3.2 defines these common types of green finance.

The African green finance market has expanded over the past five years, but the continent still has room for much more

FIGURE 3.8 Issuance of green finance is heavily concentrated in developed countries and has not yet taken off in Africa, 2017–21



Note: See box 3.2 for definitions of the four types of green finance shown.

Source: Staff calculations based on BloombergNEF (2021).

BOX 3.2 Green finance terms explained

Green finance includes finance directed at activities that generate environmental goods and services and that prevent environmental damage. Green finance is a subset of *sustainable finance,* which involves investments in activities that consider environmental (including climate change), social, and governance objectives; green finance has a more nuanced focus on achieving climate objectives.

Green finance therefore encapsulates investments that internalize climate change risks and that can still generate revenues despite these risks—in practical terms, gradually reducing financing for activities that contribute to global warming, such as use of fossil fuels, and increasing finance to areas that support a just transition, sustainable development, and climate resilience.

Green bonds are the most used type of green finance. These are debt-based instruments, which allow borrowers to allocate the proceeds to activities that generate positive environmental and climate change outcomes. *Green loans* are generally much smaller.

Other types of green finance include *sustainability bonds, sustainability-linked bonds* (SLBs), and *sustainability-linked loans.* With sustainability bonds, proceeds from bond issuance are used to finance green or environmental and social projects. Unlike sustainability bonds, which have several restrictions, SLBs have no limits on how the funds from SLB issuance are used; instead, SLB proceeds are expected to incorporate forward-looking sustainability targets. Sustainability-linked loans are any types of loan instruments or contingent facilities (such as bonding lines, guarantee lines, or letters of credit) that incentivize the borrower to achieve ambitious, predetermined sustainability performance objectives or targets, including key performance indicators. In climate-related projects, sustainability-linked loans are designed to encourage a move to a more sustainable economy by rewarding borrowers for measurable improvements in their impact on the planet or people.

Source: Staff input based on Spinaci (2021) and World Bank (2020, 2021).

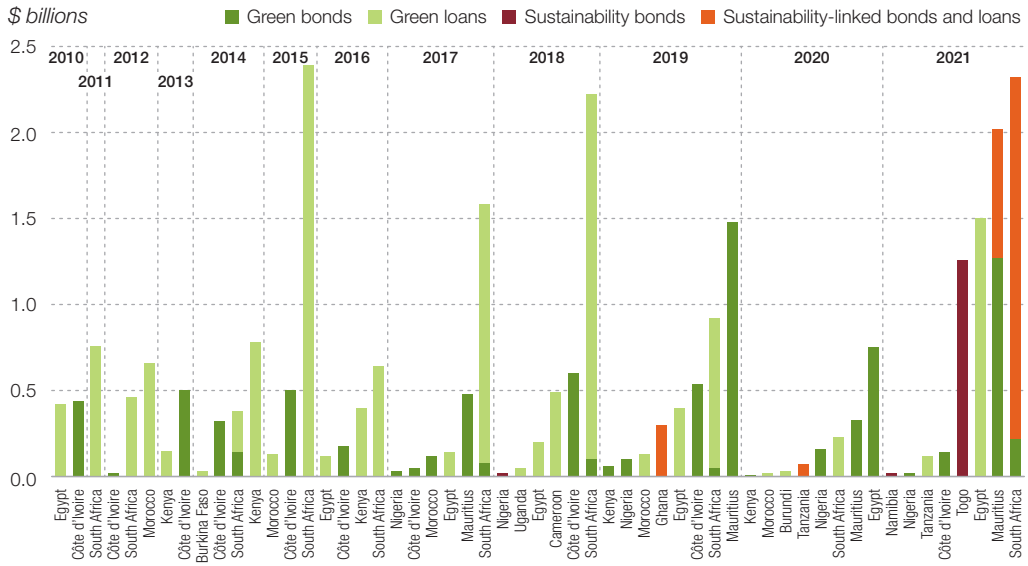
Green bonds offer a good opportunity for leveraging green finance in Africa

South Africa accounted for 73.8 percent of all cumulative bond issuance in Africa in 2010–21 (figure 3.9). The number of green finance issuers in Africa is small, dominated by corporates.[31] Proceeds from these issues are allocated mainly to energy development, although recent allocations have also gone to construction, transport, water, and waste management.[32]

Green bonds offer a good opportunity for leveraging green finance in Africa. They have financing cost benefits that loans and equity investments do not. First, bonds enable dispersed ownership of debt across investors, which translates into distributed risks and lower risk premiums and financing costs. Second, the secondary market for bonds promotes liquidity and offers financiers short-term exit strategies and shorter payback periods. Third, bond financing allows for delayed principal repayments, which enable projects to generate returns and cover the capital costs over the payback period. This is desired when capital-intensive clean energy technologies are involved, as the initial years of the project life cycle could likely generate negative cash flow.

Africa's priorities for green finance include clean-energy and climate-resilient infrastructure, such as low-emission transport and buildings in urban areas. Africa has seen a steady increase in market interest for green finance but still faces regulatory hurdles in expanding the landscape. The Africa Green Finance Coalition, established in 2021, is an initiative for collaboration among African countries to pool resources, share experience, and create pathways for increased flows of green investment in Africa.[33] However, barriers such as currency risk, poor regulatory environment, lack of green investment project pipelines, and weak understanding of climate risks are hampering the expansion of green finance. Additionally, local capacity for greenhouse gases monitoring and accounting is also often missing, and application of internationally recognized frameworks, such as

FIGURE 3.9 Green finance issued in Africa, 2010–21



Source: Staff calculations based on BloombergNEF (2021).

the Task Force on Climate-related Financial Disclosures, is limited.[34]

Strong capacity and sound policy and regulatory frameworks will be critical for advancing green finance in Africa as it leverages the global expansion, requiring peer learning, reforms, new laws, and willingness for rapid change. The green finance landscape will be enabled by a strong regulatory system embedded in financial and technology institutions.[35] Already, a few countries in Africa, such as Morocco, Nigeria, and South Africa, are making great strides in this landscape.[36]

Carbon markets

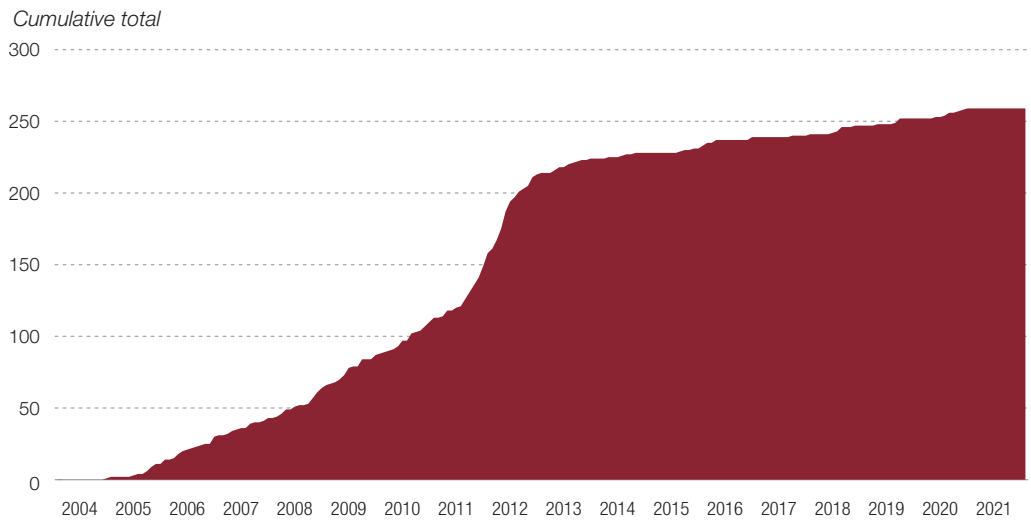
The net-zero commitments and the finalization of the Paris Agreement's Article 6 have boosted global confidence in carbon markets[37] and increased market demand for carbon credits from lower-cost emission reduction in Africa. After lengthy negotiations over Article 6, a consensus was reached on a global carbon market mechanism at COP26. There are now more stringent rules to reduce the risk of double counting and improve the transparency, reliability, and liquidity of voluntary carbon markets. Further, 5 percent of proceeds raised from carbon offsets[38] will be put into a fund for climate change adaptation in developing countries. This tighter offset regime should lead to higher-quality credits and give new impetus to governments to integrate offsets in their carbon-pricing regimes, which in turn should boost confidence in the carbon market. African countries need stable and fair price signals in the global carbon market to fulfill the conditional components of the NDCs (see table 3.2).

Africa has previously been successfully linked to compliance of emission-trading carbon markets of major industrialized countries through the CDM or voluntary carbon markets. Its number of CDM projects has increased (figure 3.10) but needs to be scaled up far more if carbon markets are to help mobilize billions of dollars in additional private capital.

Africa's participation in global carbon markets is hindered by challenges that are often self-imposed. Despite some notable progress over the past two decades, African projects still account for only a small fraction of the global CDM pipeline: for example, African countries account for only 3 percent of certified emission reductions issued globally through the CDM, and these reductions make up less than 2 percent of the African host countries' national emissions.[39] Beyond that, the continent accounted for less than 10 percent of all CDM projects in developing countries in 2010–21 (figure 3.11). Fluctuating

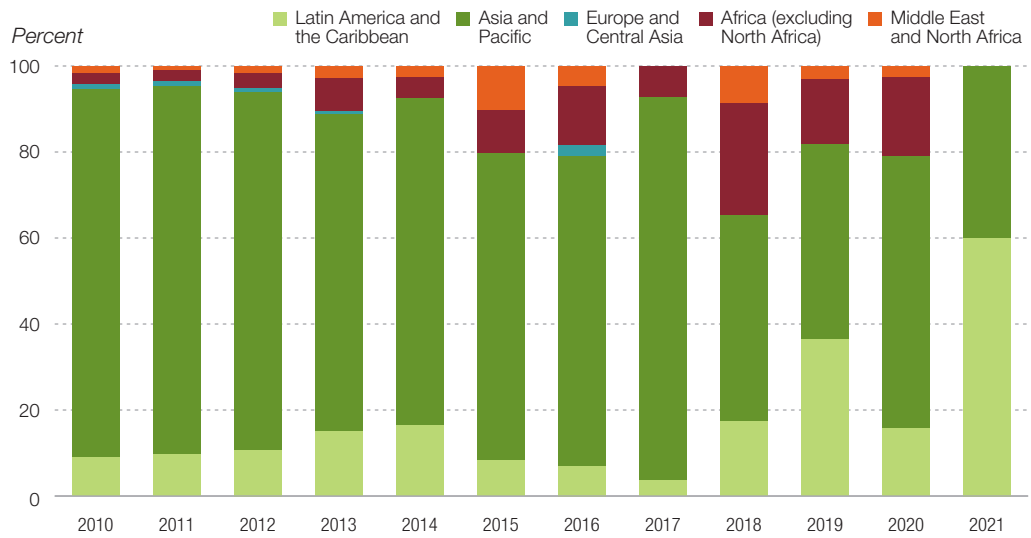
Africa's participation in global carbon markets is hindered by challenges that are often self-imposed

FIGURE 3.10 The number of projects under the Clean Development Mechanism in Africa has increased since 2004



Source: Staff calculations based on United Nations Environment Programme Copenhagen Climate Center/Joint Implementation Pipeline, March 2022.

FIGURE 3.11 Africa accounted for less than 10 percent of all Clean Development Mechanism projects on average in developing countries in 2010–21



Source: Staff calculations based on United Nations Environment Programme Copenhagen Climate Center/Joint Implementation Pipeline, March 2022.

Some of the main challenges hindering African countries' fuller participation in carbon markets stem from a paucity of political will, ineffective regulatory oversight, complexity tied to carbon markets, and lack of capacity among potential participants and regulators

carbon prices, due mainly to surplus emission allowances and the overlap of climate and energy policies, have created uncertainty and additional financial vulnerability for adaptation and mitigation investments in Africa.

Yet some of the main challenges hindering African countries' fuller participation in carbon markets stem from a paucity of political will, ineffective regulatory oversight, complexity tied to carbon markets, and lack of capacity among

potential participants and regulators. There is also a concern that projects in Africa tend to be much smaller than those in emerging economies, with higher transaction costs.

The Paris Agreement's Article 6 and outcomes at COP26 are expected to markedly improve the global carbon market's design, reducing the unbalanced distribution among project host countries. Although the future price of carbon remains uncertain, particularly so since the outbreak of the Russia–Ukraine conflict, some assessments project that the price of carbon offsets could increase from $2.50 a ton on average in 2020 to $11–$215 by 2030 and to as much as $47–$120 by 2050.[40] Other sources estimate that, if developing countries stay on emission pathways that see a later peaking in carbon emissions, which depends heavily on the aggregation of national climate targets, the global marketplace for carbon emissions could increase from $300 million in 2030 to over $1 trillion in 2050.[41]

The price of carbon and the potential revenue from these markets depend on global demand,[42] though carbon prices will need to rise to provide an incentive to protect current carbon stocks and create new ones.[43] The importance of carbon pricing (through carbon taxes or carbon markets) in Africa's trade with Europe when the European Union implements carbon border adjustments—scheduled to start gradually after a two-year transition period from January 2023 to December 2024—could be a significant source of climate finance.

Financially viable carbon projects in Africa could generate an annual return on investment of $2 billion a year, though this is much smaller than in the Asia and Pacific region ($24.6 billion) and the Americas ($19.1 billion).[44] Projects' viability will depend on global and domestic economic and political conditions and demand for carbon. Carbon-pricing planners would need to consider the powerful, potential co-benefits, such as improved air pollution and congestion, health of ecosystems, access to modern energy, and social impacts.[45] These outcomes would help create a premium carbon market in which projects with development impact do not necessarily have to compete purely on price—presenting a major opportunity for Africa.

Changes in domestic carbon market regulations will be important for generating carbon emission credits that can be used in this emerging carbon market, requiring resolution of issues around limited liquidity and scale. Globally, institutional investors who have committed to net-zero targets can contribute to resolving these issues by trading carbon allowances and by investing in reduction and removal credits.[46] African governments should consider creating regulations on risk disclosure and management that will influence these investors in decarbonizing their portfolios. For African governments, increasing liquidity and scale requires strong verification frameworks and transparency measures to ensure that credits from the continent meet global market standards. Exchange platforms can also help ensure transparency of pricing and trading, limiting the risk of underpricing carbon and increasing the chances that returns from trading will benefit the communities that generate these credits. Carbon finance in Africa needs to harmonize with domestic policies to scale up high-quality project pipelines in clean energy, urban transport, and buildings, as well as investments in natural climate solutions,[47] such as land use and forest management.

Generating carbon credits will require low-emission technologies—many of which have yet to penetrate African markets—and domestic policies to strengthen the tie-up between carbon finance and technology adoption. These technologies, notably linked to renewable energy, end-use energy efficiency, and waste management, are technically proven and financially viable in the global market. In African markets, however, these technologies are more expensive than alternatives and may require support to lower upfront capital costs, although costs over the life cycle could be competitive, given the savings made on operating costs.

Carbon finance should be better structured to support much-needed upfront investment in Africa, justified by faster cost reduction. Africa's domestic policies should strengthen consistency between carbon finance and technology adoption. Given the learning rate, cost target, and deployment speed of a given technology, countries need to forecast the additional investments required to achieve the cost competitiveness of large-scale technological adoption, such that government

Generating carbon credits will require low-emission technologies—many of which have yet to penetrate African markets—and domestic policies to strengthen the tie-up between carbon finance and technology adoption

intervention is no longer needed in the medium and long term.

Debt-for-climate swaps

These swaps are gaining traction internationally, and some regional and national organizations are exploring them as options for raising climate finance for low-income and highly indebted countries. They involve debt forgiveness on the condition that debt repayments are instead invested in climate change adaptation and mitigation to boost economic spending and accelerate private investments. Because these funds are invested in local currency, they are expected to reduce countries' debt portfolios and their foreign exchange risk. Progress on frameworks, however, is slow. Instead, arrangements for debt service suspensions have been offered to some highly indebted countries, from which some African countries have benefited (see "Sovereign debt" in chapter 1). Such swaps may be of particular interest for Africa because of the volume of its public debt due for repayment in the next decade (figure 3.12).

African countries and institutions should continue advocating for debt-for-climate swaps, directly with international financial institutions and indirectly through development partners

Previous debt-for-climate or nature swaps in Africa have been small

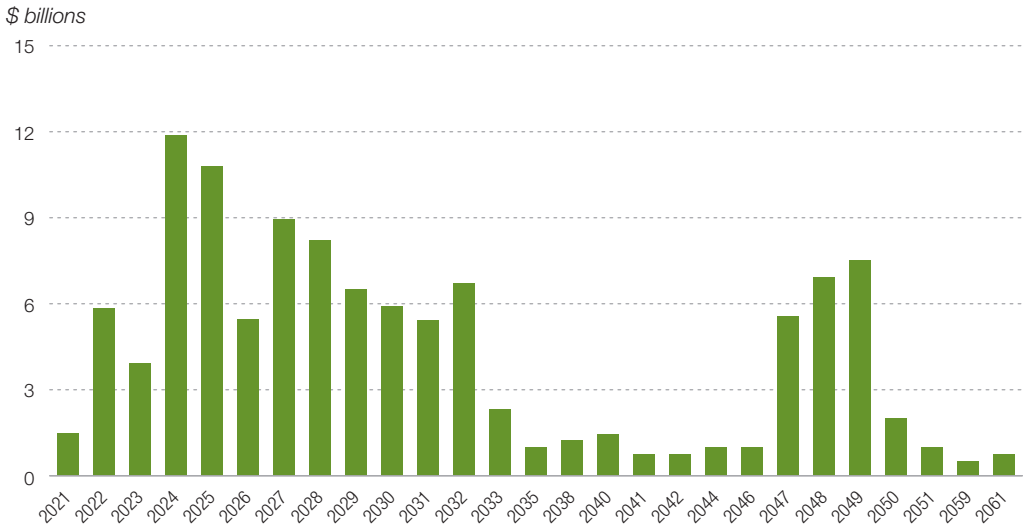
African countries that have previously benefited from bilateral or trilateral debt swaps include Ghana (2002, with the United States and Conservation International), Madagascar (2008, with the United States and the World Wide Fund for Nature/France), Cameroon (2006, with France), and Madagascar (2002, with Germany). In 2018, Seychelles engaged in a debt-for-marine swap with Paris Club creditors, which resulted in a $21 million investment in coastal protection and adaptation. In 2021, the International Monetary Fund (IMF) and World Bank announced plans to roll out a debt-for-climate swap program, which will benefit highly indebted countries, many of them in Africa.[48]

African countries and institutions should continue advocating for these swaps, directly with international financial institutions and indirectly through development partners. The Paris Club of creditor countries is better placed to offer debt-for-climate swaps because direct negotiations between creditors and debtors are likely to result in quicker agreements.[49]

Bipartite and tripartite agreements and sustainability-linked bonds can work for countries at different distress levels

Some of the quickest ways to accelerate debt-for-climate swaps in Africa for debt-distressed countries are bipartite or tripartite agreements, while sustainability-linked bonds offer options for debt restructuring for less debt-distressed countries.

FIGURE 3.12 A significant share of Africa's public debt falls due in 2022–32



Source: African Development Bank (2021a).

The Paris Club has a long history of debt restructuring and has supported these efforts during Africa's COVID-19 recovery. China—the largest bilateral creditor to Africa—has also supported debt restructuring by the IMF and World Bank in response to COVID-19. Tripartite swap agreements can also be made between public creditors and private institutions that have committed to greening their finance or that are seeking to make green finance investments, for example, swaps in exchange for carbon credits. African governments should intensify their direct engagement with these countries and institutions.[50]

Climate-linked debt and reallocation of Special Drawing Rights

For countries not highly indebted, options for additional and innovative finance include climate-linked debt and reallocating SDRs from willing developed countries (see "Sovereign debt" in chapter 1). Hence, the IMF's excess allocation of SDRs to developed countries could be revamped in favor of African countries to expand their fiscal space. Because the SDRs can be voluntarily exchanged, African countries should engage in bilateral discussions with developed-country partners to secure these funds. The Bank is well placed to serve as a prescribed holder to leverage these resources to provide greater financing to African countries.

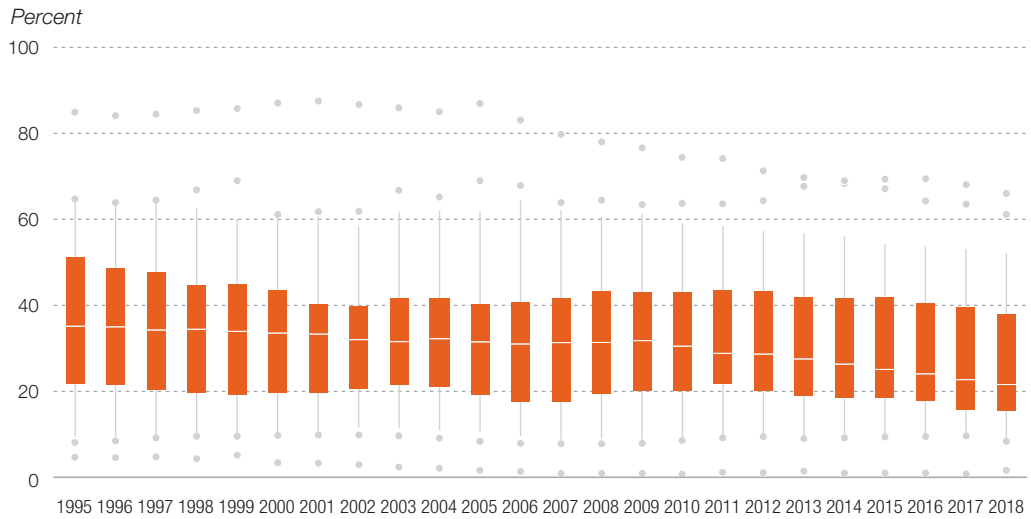
Natural capital accounting

Africa should leverage its natural capital to spur development

Natural capital resources account for 30–50 percent of Africa's total wealth (figure 3.13); their value increased from $3.6 trillion in 1995 to $4.5 trillion in 2018. Its blue resources, such as fisheries and aquaculture, are valued at $24 billion. The continent also holds about one-third of the value of the world's mineral stocks.[51] In addition, its extractive resources could contribute over $30 billion annually to government revenues until 2040 and thus help bridge the huge climate finance gap.[52] But this same natural resource wealth is threatened by climate change and by weak resource governance, causing rents from natural resources to fall:

The International Monetary Fund's excess allocation of Special Drawing Rights to developed countries could be revamped in favor of African countries to expand their fiscal space

FIGURE 3.13 Natural capital accounts for 30–50 percent of Africa's total wealth, 1995–2018



Note: The length of the bars corresponds to the interquartile range. Bubbles represent values below the 5th and above the 95th percentiles. Natural capital includes the valuation (at market exchange rates in constant 2018 dollars) of renewable natural capital (agricultural land, forests, protected areas, mangroves, and fisheries) and nonrenewable natural capital (fossil fuel energy such as oil, gas, hard and soft coal, and minerals). Total wealth is the sum of human capital, natural capital, produced capital, and net foreign assets.

Source: Staff calculations based on World Bank Wealth Accounts Database.

Africa is losing some $195 billion a year through, for example, illicit financial flows; illegal mining, logging, and trade in wildlife; unregulated fishing; environmental degradation; and other activities.[53] Leveraging Africa's natural capital to spur development, using appropriate technologies to ensure minimal damage, should guide policy actions.

New domestic finance

Green banks and national climate funds are some of the best avenues for mobilizing climate finance domestically

Some of the best opportunities to mobilize domestic climate finance in Africa come through green banks and national climate funds. Green banks are country-driven, nationally based, catalytic finance facilities designed to mobilize private investment. They direct funding toward specific sectoral climate change needs to support, for example, climate-smart agriculture or use of clean energy from nonrenewable or renewable sources. Interest in green banking in Africa is increasing. A survey by the European Investment Bank found that more than 70 percent of banks in Africa regarded green finance as an attractive lending opportunity, while 55 percent and 60 percent saw it as an opening for investing and accessing additional funding.[54]

Some of the best opportunities to mobilize domestic climate finance in Africa come through green banks and national climate funds

National climate funds have been developed by Benin, Ethiopia, Mali, Morocco, Rwanda, and South Africa with relative success, though lessons from across Africa point to likely challenges in mobilizing domestic and international climate finance. The main ones are securing capital from funding sources, particularly in debt-distressed countries; obtaining the necessary technical assistance funding for designing and structuring the work of green banks and national climate funds; and overcoming the uncoordinated approach to forming green banks.[55]

Domestic climate finance institutions should pursue context-specific funding sources

Through these domestic institutions, countries will engage with sources of finance in different ways, using local context to determine the most cost-effective source or sources of finance. They can select priority sources based on ease of mobilization and fit with existing infrastructure, although the cost-effectiveness of each one depends on system requirements. Leveraging these new sources requires countries to prepare a pipeline of green projects that either decarbonize fossil-fuel industries (for oil-dependent and semi-natural-resource-dependent countries) or new, high-potential green businesses (all countries), including renewable energy. These sectors can cover, for instance, agroprocessing, forestry-product manufacturing, transport, textiles, power, and basic materials.

Increased private sector participation

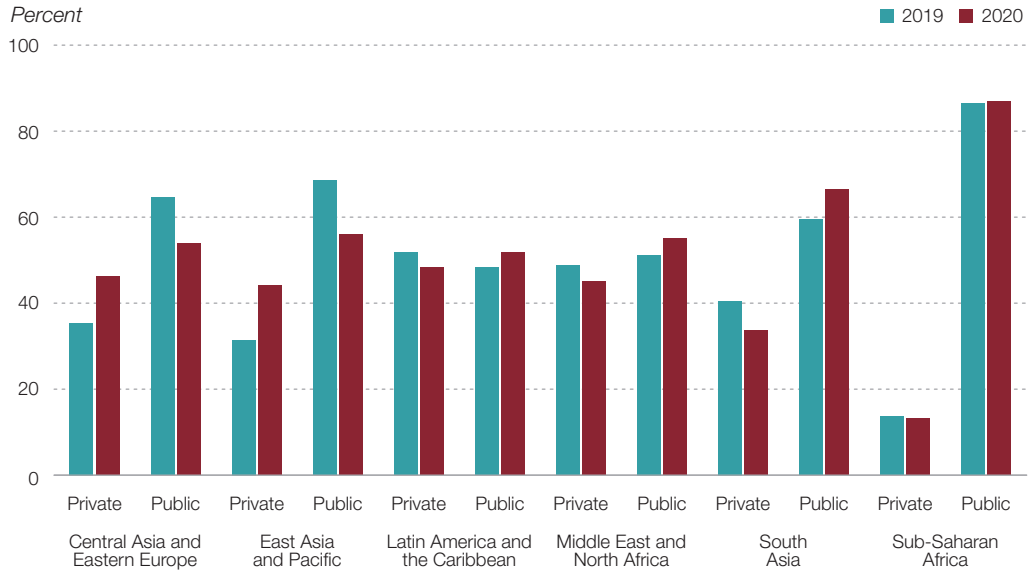
Greater involvement of the private sector in climate finance requires removing many barriers and maintaining safeguards

Private sector still greatly lags public climate finance in Sub-Saharan Africa, plateauing at around 13 percent in 2019–20, against an average of 42 percent in other developing regions (figure 3.14). Increased private sector participation faces three main barriers in Africa. First, important knowledge gaps on climate change and the climate finance landscape—including limited understanding of data on climate risk and vulnerability—reduce the incentive or ability of private actors to invest in adaptation and mitigation projects. Second, due to the public good nature of some adaptation or mitigation projects, private actors might not fully capture the economic benefits of their investments. Finally, the inherently long-term horizons of many climate change projects, in particular adaptation projects, dissuade private actors, as they would find it hard to make a business case for potentially large up-front costs set against long payback times in an uncertain future.

Blended finance should be used to de-risk private green finance investments

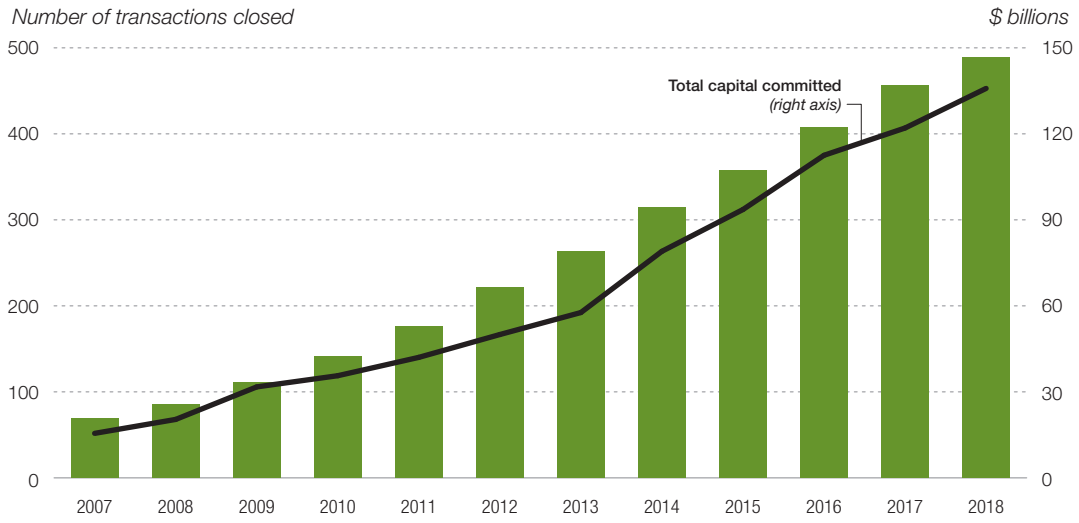
Blended finance—the use of catalytic capital from public or philanthropic sources to increase private investment—can help African countries leverage the private sector and close the climate finance gap. It accounted for about $136 billion in capital for sustainable development in developing countries in 2007–18, with nearly 500 closed transactions (figure 3.15). Sub-Saharan

FIGURE 3.14 The private sector mobilized a smaller share of climate finance targeting Africa than other developing regions, 2019–20



Source: Staff calculations based on CPI (2021).

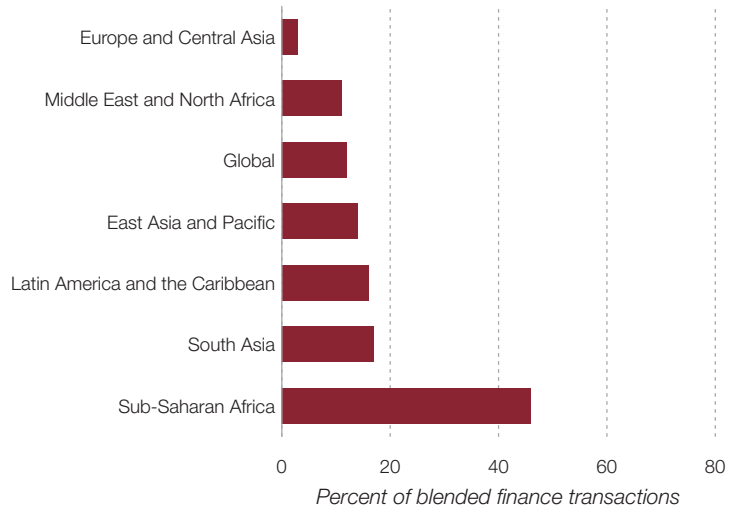
FIGURE 3.15 Cumulative value of blended finance worldwide, 2007–18



Source: Staff calculations using Convergence Finance data (https://www.convergence.finance/blended-finance).

Africa has about 46 percent of all blended finance transactions to developing countries (figure 3.16). Blended finance has already been used to encourage private financing of climate change adaptation and mitigation in Africa, but at small values. It can also be used to encourage commercial financial institutions to invest in Africa to bridge the infrastructure finance gap and provide finance to small and medium enterprises. International climate finance institutions such as the GCF should consider providing more blended finance.

FIGURE 3.16 Africa is the most frequently targeted region for blended finance transactions



Source: Staff calculations using Convergence Finance data (https://www.convergence.finance/blended-finance).

Without access to technology, Africa cannot shift to clean energy services, to which renewable energy is still a marginal contributor

Technology transfer should be scaled up and used to limit technology risks that discourage private investments in energy

Critical to a just transition is technology—without access to it, Africa cannot shift to clean energy services, to which renewable energy is still a marginal contributor. Where access is limited, a franchising model is one way for international firms to develop partnerships to localize production of clean energy technologies in Africa, while creating employment and reducing poverty. Although the Paris Agreement creates a provision for technology transfer to assist African countries in accelerating their low-carbon transition, their limited capacity in developing energy technologies has led to high costs for such transfer, usually because of intellectual property rights.[56] Countries such as South Africa, which have developed know-how locally, have been able to avoid these costs.

Strong domestic financial and regulatory structures are needed to manage policy and regulatory risks to private investors

Africa's private sector landscape is dominated by micro and small enterprises, with fewer medium and large enterprises, a phenomenon referred to as the "missing middle" or the "missing large." Small and medium enterprises rarely grow into large enterprises that can attract greater investment and generate higher incomes, yet these small enterprises are too large and too risky for micro-financing and too small for commercial financial institutions.

A few African countries are at different stages of developing regulations for climate risk disclosure and management for financial institutions. Still, private sector investment strategies should not crowd out domestic actors in favor of international players. This area is where partnerships should be created between domestic private actors with local knowledge and foreign participants with resources and technological know-how.

IMPROVING GLOBAL COORDINATION OF CLIMATE FINANCE

Three reasons for tightening global coordination

Global climate finance is increasingly fragmented, with a rising number of public institutions, funds, and instruments

Enhanced international coordination can help align finance and related projects with the African Union's Agenda 2063 and other international and regional agendas. Yet, there is a risk that domestic development agendas may be overlooked and opportunities for alignment with them lost, which is why coordination of finance at the national and subnational levels is very important. Local coordination can simplify the discovery of finance for enterprises of all sizes, as well as for communities and civil society. Cooperation among enterprises, government, and civil society organizations, as well as with development partners, in an ideal scenario can help generate bankable projects aligned with domestic development agendas, creating a pipeline of complementary projects. But this requires investment in capable and accountable institutions as well as technical and financial expertise.

Domestic models for coordinating climate finance and its alignment with domestic development agendas include the Ethiopia Climate Resilient Green Economy Facility and the National Fund for Environment in Rwanda. At the continental level,

the Climate for Development in Africa (ClimDev-Africa) Programme develops technical research into bankable projects that further Africa's interests. The program includes the United Nations Economic Commission for Africa's African Climate Policy Centre and the African Union Commission's Climate Change and Desertification Unit, providing technical support to member states. The Bank is home of the ClimDev-Africa Special Fund that finances projects.

Climate-resilient countries and countries less vulnerable to climate shocks have received more climate finance than others, in a perverse misallocation of resources

Although climate finance should have naturally flowed to African countries more likely to experience climate shocks and other extreme weather events or to those less resilient to climate change, data suggest that this has not happened—in fact, the opposite has (figure 3.17). Hence, in low-resilient countries (chapter 2 presents definitions of resilience groups, as displayed in figure 2.3), annual climate finance averaged $2.20 per capita in 2010–19, a figure that gradually increased, from moderately resilient countries ($8.40 per capita) to high-resilient countries ($11.60 per capita). Yet, the more vulnerable a country is to climate change, the smaller the amount of climate finance (relative to its population size) it is likely to receive. This implies that the current global climate finance architecture leans toward prioritizing risk considerations over development imperatives.

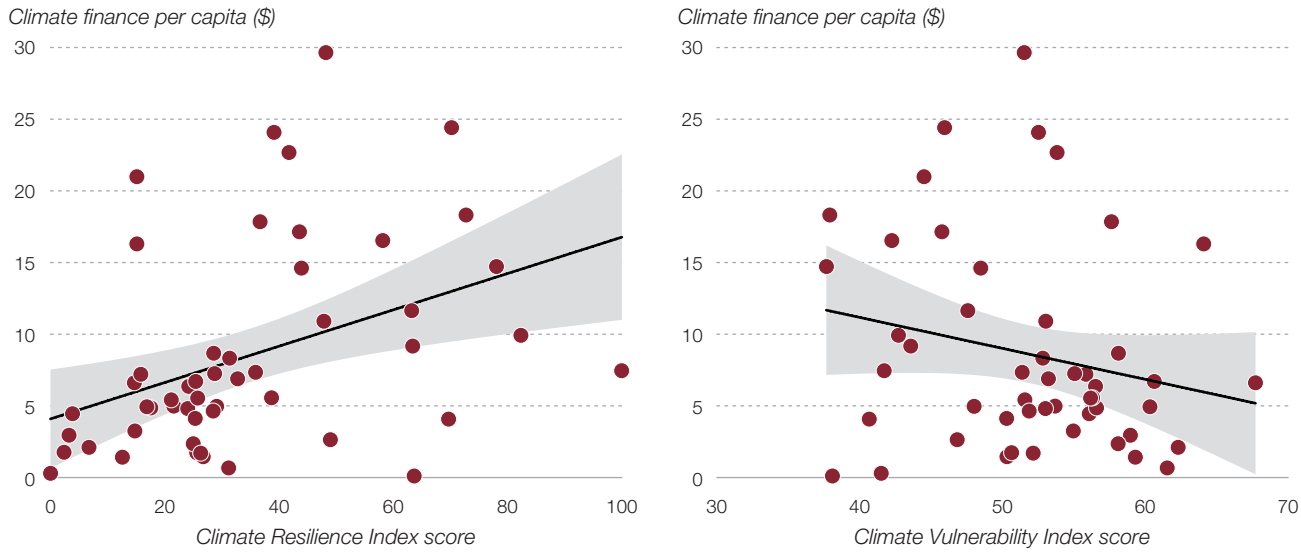
Beyond factors such as economic and political stability, the quality of regulatory and investment environments, return on investment requirements, and perceived credit risks of some countries, which might explain the relative attractiveness of climate finance to some countries, this perverse association indicates a misallocation of resources to countries less in need. There is therefore a need to consider a bold reform of the current climate finance architecture to ensure more climate justice and a better targeting of climate finance.

Debt instruments have been increasingly used to finance climate-related projects in Africa, risking aggravating debt sustainability

Instruments for climate finance have so far disproportionately leaned toward debt, which may have increased African economies' debt burden. Although a plethora of financial instruments have provided climate finance, debt instruments—either as loans or debt relief—have dominated in Africa (figure 3.18). In 2011–19, those instruments averaged

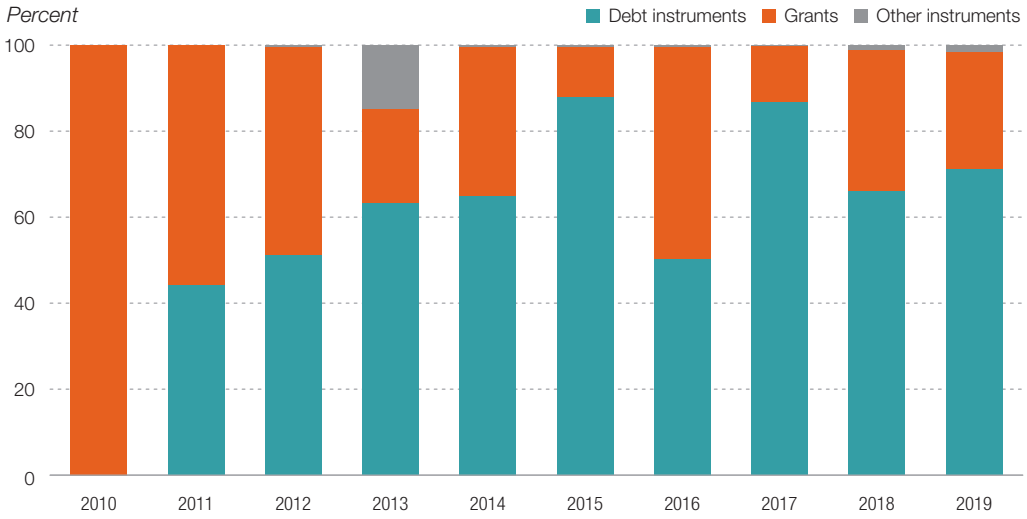
There is a need to consider a bold reform of the current climate finance architecture to ensure more climate justice and a better targeting of climate finance

FIGURE 3.17 **Paradoxically, African countries more resilient and less vulnerable to climate shocks have received more climate finance than others**



Source: Staff calculations based on OECD (n.d.a) and Notre Dame Global Adaptation Initiative database.

FIGURE 3.18 Debt instruments have been increasingly used to finance climate-related projects in Africa



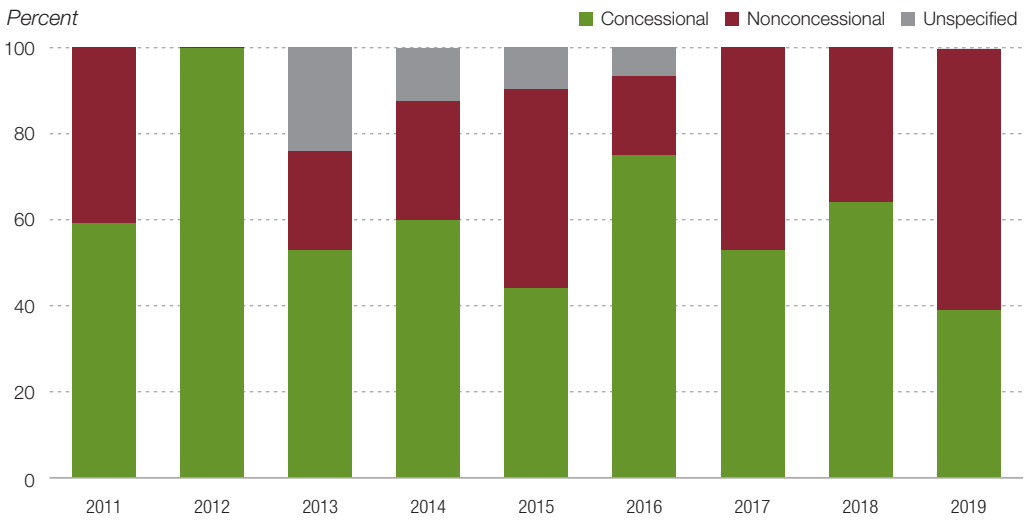
Note: Debt instruments include loans and debt relief. Other instruments encompass equity and shares in collective investment vehicles, mezzanine finance instruments, and other unspecified instruments.
Source: Staff calculations based on OECD (n.d.a).

Enhanced global coordination among all stakeholders will be essential to reverse the current trends of nonconcessional debt-financed climate projects in Africa

about two-thirds of all climate finance channeled to Africa. Debt relief, which could be one of the most viable options for fulfilling climate finance commitments under the UNFCCC, accounted for less than 0.1 percent of climate finance over the period.

Despite the absence of agreement on how developed countries should meet their $100 billion annual commitments for climate finance, the dominance of loans, often on nonconcessional terms (figure 3.19), can risk further indebting African

FIGURE 3.19 Only about three-fifths of debt-financed climate change projects in Africa have been on concessional terms



Source: Staff calculations based on OECD (n.d.a).

countries, especially with the economic disruptions due to the COVID-19 pandemic and the Russia–Ukraine conflict (chapter 1). Enhanced global coordination among all stakeholders will be essential to reverse the current trends of nonconcessional debt-financed climate projects in Africa.

The role of regional and international organizations

These bodies remain critical in supporting climate resilience

In Africa's adaptation and mitigation efforts, where bilateral and multilateral channels provide low-carbon finance, technology support, and capacity building, regional and international organizations have become important players. The landscape includes organizations at the global and continental levels, including UN agencies (UNFCCC, the International Renewable Energy Agency, the United Nations Development Programme, and the United Nations Environment Programme), multilateral financial institutions (World Bank and IMF), regional financial institutions (such as the Bank) and other supranational institutions (such as the European Union and the African Union). Regional bodies such as the Bank and the African Union are vital to cooperation at the global, regional, and subregional levels both because of their growing mandates and because of their proximity to African policymakers. In addition to engaging in direct climate financing, Bank influencing of national development banks and local financial institutions can be significant, as can its leveraging and crowding in of private investments in sustainable infrastructure.

Coordination across all levels is critical to bring out the comparative strengths of each organization

African institutions and international organizations are closely engaged in climate change issues, using the "Rio governance" approach, in turn intended to mobilize the broadest possible spectrum of political, economic, and civil society actors at all levels of the global system. Key international and regional organizations are part of the climate-decision landscape in Africa with specific roles—some of which are political, involving advocacy and international agreements, others helping create projects and initiatives that need funding. Beyond these, the African Continental Free Trade Area (AfCFTA), could prove a key mechanism to facilitate investment in climate and energy infrastructure (box 3.3).

The African Development Bank, climate resilience, and a just energy transition in Africa

The Bank, in supporting its regional member countries in adaptation and mitigation efforts in general, and climate resilience and a just energy transition in particular, has been guided by two consecutive climate change action plans, the first of which began in 2011. It was founded on four pillars: adapting to climate change, mitigating greenhouse gas emissions, mobilizing climate finance, and creating enabling environments. These pillars continued in the second plan of 2016–20 and have been embedded in the Bank's Climate Change and Green Growth Policy and Strategy (2021–30), which—in addition to the Action Plan (2021–25)—constitutes the Bank's Strategic Framework on Climate Change and Green Growth (see annex 3.2 for a list of the Bank's internal and external managed funds). This framework reflects the Bank's commitment to supporting African countries in their transition to an inclusive, resilient, and low-carbon trajectory.

Since 2011, the Bank has joined other MDBs in reporting climate finance for adaptation and mitigation using harmonized methodologies. In 2016, the Bank's climate finance was reported at 9 percent of total approvals of all operations. In 2020, the Bank adopted new climate finance targets with a commitment to allocate at least 40 percent of total lending to climate activities and to mobilize cumulative funds of $25 billion in 2020–25, while striving to achieve at least 50 percent of climate finance allocated as adaptation finance.

Over 2017–21, climate finance climbed toward this 40 percent target (figure 3.20), especially in 2017–19 (the share climbed from 28 percent to 36 percent). In 2020, although total climate finance fell because of the pandemic, the climate share was 34 percent, and the adaptation–mitigation parity goal was surpassed. In 2021, the adaptation share grew once more, to 67 percent, and climate finance was $2.6 billion (figure 3.21). At 41 percent of its total approvals, the Bank's climate finance in

Over 2017–21, climate finance climbed toward the Bank's target to allocate at least 40 percent of total lending to climate activities and to achieve at least 50 percent of climate finance allocated as adaptation finance

BOX 3.3 Leveraging the African Continental Free Trade Area for climate finance in Africa

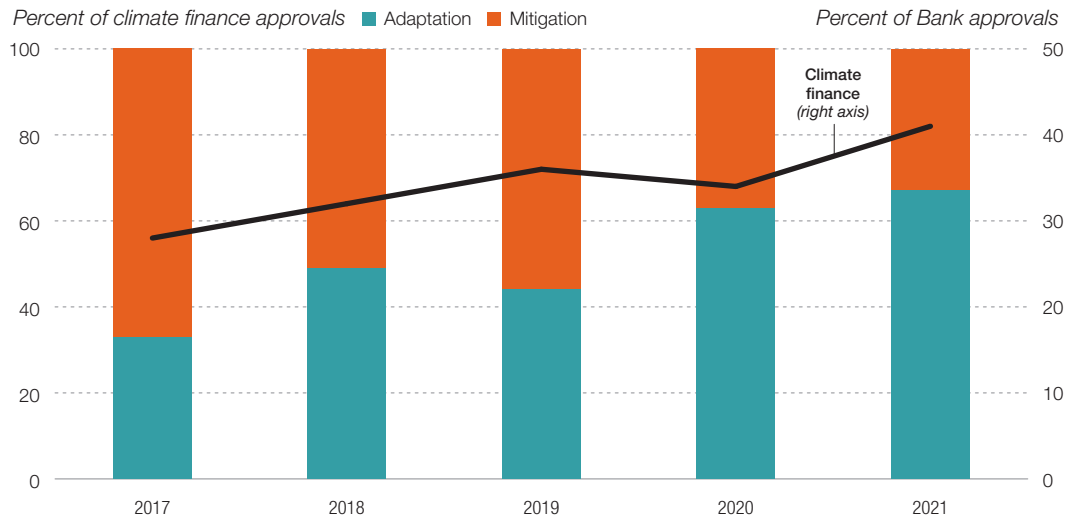
Trade under the African Continental Free Trade Area (AfCFTA) officially began on 1 January 2021. As African countries are seeking to emerge from the damage caused by the COVID-19 pandemic, they have major expectations that AfCFTA could bring vast economic benefits to the continent through boosting exports; lifting people out of poverty; stimulating greater movement of goods, services, and labor across Africa; and facilitating investment. AfCFTA has three phases, with the second phase most directly relevant to finance, as it addresses investment, competition policy, and intellectual property rights (Article 7). Under the AfCFTA Treaty, it is possible for protocols to be agreed on, for example, investment, which should encourage some sources of capital to move across borders, supporting intra-Africa investments. This second phase builds on initiatives within the regional economic communities (RECs), making them important for future rules on investment and sources of finance.

Stronger intra-Africa value chains, increased economic growth, and enhanced human development gains are fundamental areas that will define AfCFTA's success, but AfCFTA must also serve as a lever for sustainable growth. Not only would that be in line with some key components in Agenda 2063, but it would also align well with the inclusive and environment-friendly development plans of most African governments. AfCFTA would offer a platform to build a common and stronger position on climate-related issues in multilateral discussions, including technology transfer, food security, and finance, and use it to launch regulations that can harmonize mechanisms across the continent, including on carbon emissions trading.

RECs need to be involved more closely in climate finance as, for example, in trialing innovations in cross-border climate finance. They may consider working with domestic finance companies and innovators, looking at how they can facilitate cross-border investments, as well as lending and risk-sharing arrangements for climate-resilient projects. Such activities could enhance programs within RECs on agriculture, food security, water, energy, and infrastructure.

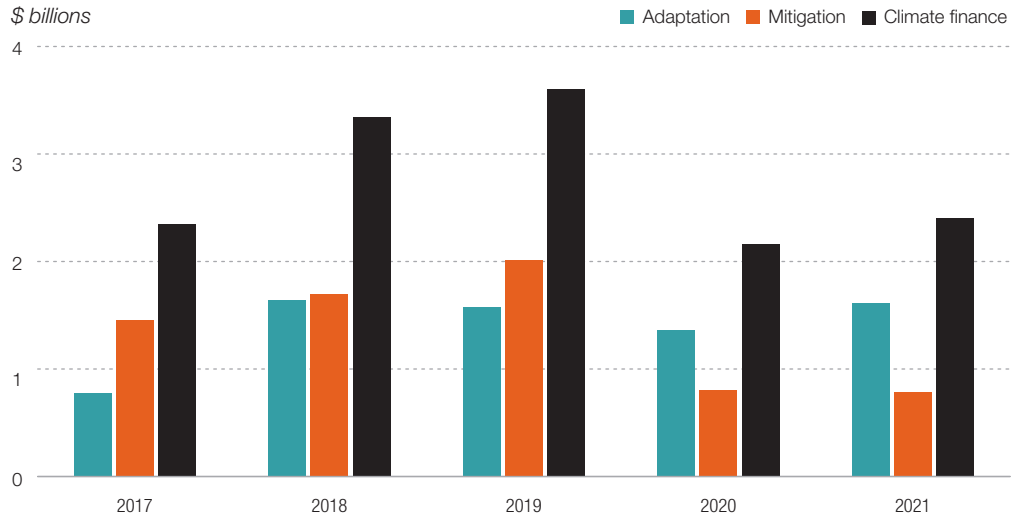
Source: Based on Van der Ven and Signé (2021).

FIGURE 3.20 The share of climate finance in Bank approvals has shown an increasing trend over the past five years



Source: Staff calculations based on African Development Bank annual reports, various years.

FIGURE 3.21 Bank climate finance approvals, 2017–21



Source: Staff calculations based on Bank annual reports, various years.

2021 represented a 7 percentage point increase compared with 2020.

The Bank's New Deal on Energy for Africa was launched in 2016 as part of the Bank's High 5 development agenda. Since the launch, the Bank has invested $7.35 billion from its own resources (public 80 percent, private 20 percent) and mobilized $950 million in cofinancing resources, including with the European Commission, CIFs, and the Green Climate Fund. These investments are expected to increase power generation capacity by 3 GW, with about 2.3 GW from renewable projects, such as the 800 MW Midelt and 510 MW Ouarzazate solar power projects in Morocco, which are among the world's largest concentrated solar power plants.

The Bank is an accredited entity for the major multilateral climate funds, including CIFs, the Global Environment Facility, and the Green Climate Fund. In addition to the multilateral trust funds listed above, the Bank hosts bilateral and multilateral funds including the Sustainable Energy Fund for Africa (SEFA), the Africa Climate Change Fund (ACCF), ClimDev Special Fund for Africa, and the newly formed Canada–Bank Climate Finance Facility (CACF). SEFA and CACF provide technical assistance grants early in a project cycle to help developers meet the additional costs tied to developing climate- and gender-focused projects. ACCF provides grants to African entities seeking accreditation to the Adaptation Fund and the GCF, while the ClimDev Special Fund for Africa provides grants for installing hydro-metrological data systems and weather stations, to provide short-term disaster warnings and long-term weather forecasts.

POLICY RECOMMENDATIONS

Recommendations for the global community

- *Based on this report's analysis of the carbon budgets and carbon debts, Africa has a total carbon credit of $4.58–$4.8 trillion, averaging $4.64 trillion, a credit that considers historical, current, and future shares of carbon emissions.* Paid annually over 2022–50, this comes to about $165.8 billion a year, with lower and upper amounts of $163.4 billion and $173 billion. The amount of carbon credit that the continent is owed is therefore almost 10 times the global climate finance that it received, which was around $18.3 billion a year in 2016–19. Global commitments for climate finance should be amended to approximate the true opportunity cost of climate change in Africa and other developing regions—and thus contribute to

Based on this report's analysis of the carbon budgets and csrbon debts, Africa has a total carbon credit of $4.58–$4.8 trillion, averaging $4.64 trillion, a credit that considers historical, current, and future shares of carbon emissions

climate justice. This applies to the countries' climate finance responsibilities, reflecting their past and future footprints in the carbon budget.

- *The global community should demonstrate strong political will in climate finance commitments, as it did with COVID-19.* This will fast-track climate finance and support African countries in moving to climate resilience.

Recommendations for developed countries

- *Developed countries need to honor their financial commitments.* The failure to achieve the $100 billion annual target in climate finance for developing countries raises questions on this commitment. Meeting the pledge in 2022 would help restore faith in climate negotiations.
- *Climate finance commitments need to be in addition to earlier commitments to address other SDGs, including those on poverty, health, and education.* Meeting commitments for ODA contributions should not be counted as part of the $100 billion annual target.
- *Reallocation of SDRs from willing developed countries should be fast-tracked to give African countries more flexibility to take climate action.* There is an estimated $650 billion in SDRs available from the IMF with provision for shareholder countries to voluntarily reallocate funds where they are needed most and to support the post-COVID-19 recovery of African countries. This amount is far larger than the GCF and could finance African adaptation and mitigation needs. The Bank is well placed to serve as a prescribed holder to leverage these resources to African countries and channel them to climate actions.

African governments need to invest in building human resources and their institutional capacity in public financial management, given their direct access to global climate funds

Recommendations for African countries

- *African governments need to invest in building human resources and their institutional capacity in public financial management, given their direct access to global climate funds.* Well-organized countries with strong systems in this area are likely to access more climate change and disaster risk financing than those countries most in need. Improving financial management on the public side should increase investor confidence in country systems, provide closer control and supervision by national governments and programs, and allow a move from a fragmented, project-based approach. Countries should also invest in building their internal capacities to be available for climate projects over their life cycle (programming, identification, appraisal, financing, implementation, and evaluation) to raise efficiency and reduce leakages.
- *Countries need strong pipelines of high-quality, fundable projects tailored for each new or innovating climate finance source and instrument.* National green banks and climate funds should develop such pipelines, enabling quicker resource mobilization. The key opportunity for Africa to generate new finance for the energy transition is to use the increased global interest in green and sustainable financing and investments since at least the Paris Agreement in 2015.
- *Governments need to adopt and enforce strong policies that incentivize use of local—or at the least, in-country—goods, services, and labor in climate actions.* They should also pursue franchising as a source of technology transfer, helping drive market efficiencies, achieve scale at speed, and create jobs, so as to share the benefits from value addition from manufacturing, at least partly, and not remain importers of energy technologies. Beyond that, Africa has unique challenges where the transition is more about moving forward in a clean and sustainable direction, rather than decarbonizing, for which locally developed technologies and business models are needed. These actions could well stimulate investment in Africa-led innovation, supported by demonstration and pilot projects to experiment with approaches that may be unique to Africa.
- *African countries should develop well-tailored domestic resource mobilization instruments for financing climate resilience and the energy transition, helping lighten overdependency on external climate finance resources.* With support from development partners such as the Bank, countries should push through ambitious tax reforms covering green taxes, subsidies, real estate taxes, and import duty reforms to give them the financial leeway to support climate resilience actions.

- *Countries should consider blended finance to provide fiscal incentives for issuers of green finance instruments.* Blended finance could help de-risk investments in the transition by the private sector and thus leverage instruments such as green bonds, green loans, sustainability bonds, and sustainability-linked bonds and loans. South Africa's $8.5 billion package announced at COP26 demonstrates the potential for African countries to use bilateral and multilateral agreements and a mix of grant and concessional finance packages to fund energy transitions.

Recommendations for Africa's bilateral and multilateral development partners

- *These partners should aim to provide more concessional finance instruments and grants for climate change.* They should firmly target not only increasing the share of climate finance in their activities but also provide it on concessional terms to avoid exacerbating debt sustainability issues. Further, they should endorse a clear push for meeting and exceeding the $100 billion commitment by developed countries and for supporting greater transparency in carbon accounting and climate finance tracking.
- *Partners need to support harmonizing policies and regulations to ensure regional integration.* AfCFTA will require a concerted effort to coordinate policy approaches and implementation to align local laws with continental plans. Unified climate change interventions and closer coordination of the whole reform agenda could reduce trade barriers and increase cooperation, and improve trust between stakeholders.
- *The Bank in particular should leverage its comparative advantage in leading continental, multinational, and global efforts at climate resilience.* With its long presence on the ground in countries and privileged experience with Africa's stakeholders, it should be a catalyst for change to channel more climate resources to the continent and help African countries increase their absorptive capacity. These steps will also require the Bank to be a leading player in climate negotiations at COP27 in Egypt, rescheduled (owing to COVID-19) to November 2022.

Bilateral and multilateral development partners should aim to provide more concessional finance instruments and grants for climate change

ANNEX 3.1

TABLE A3.1 Abbreviations for figure 3.7

Implementing agencies and institutions	
AfDB	African Development Bank ("the Bank")
AFD	Agence Française de Développement (French Development Agency)
ADB	Asian Development Bank
BEIS	Department for Business, Energy & Industrial Strategy (UK)
BMZ	Bundesministerium für Wirtschaftliche Zusammenarbeit und Entwicklung (Federal Ministry of Economic Cooperation and Development, Germany)
CFU	Climate Funds Update
CIDA	Canadian International Development Agency
DEFRA	Department for Environment, Food and Rural Affairs (UK)
DFAT	Department of Foreign Affairs and Trade (Australia)
DFC	United States International Development Finance Corporation
EBRD	European Bank for Reconstruction and Development
EIB	European Investment Bank
Ex-Im	Export-Import Bank of the United States
FAO	Food and Agriculture Organization of the United Nations
FCDO	Foreign, Commonwealth and Development Office (UK)
FFEM	Fonds Français pour l'Environnement Mondial (French Global Environment Facility)
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH (German Technical Cooperation)
IDB	Inter-American Development Bank
IFAD	International Fund for Agricultural Development
JBIC	Japan Bank of International Cooperation
JICA	Japan International Cooperation Agency
KfW	Kreditanstalt für Wiederaufbau (German Development Bank)
MIES	Mission Interministérielle de l'Effet de Serre (Inter-ministerial Taskforce on Climate Change, France)
MOFA	Ministry of Foreign Affairs (Japan)
NMFA	Norwegian Ministry of Foreign Affairs
NORAD	Norwegian Agency for Development Cooperation
SPC	Segregated Portfolio Company
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
USAID	United States Agency for International Development
WB	World Bank

Multilateral funds and initiatives	
AF	Adaptation Fund (GEF acts as secretariat, and WB as trustee)
ACCF	Africa Climate Change Fund
AREI	African Renewable Energy Initiative
ASAP	Adaptation for Smallholder Agriculture Programme
CAFI	Central African Forest Initiative
CBFF	Congo Basin Forest Fund (hosted by the Bank)
CDM	Clean Development Mechanism (implemented under the Kyoto Protocol)
CIFs	Climate Investment Funds (implemented through WB, ADB, the Bank, EBRD, and IDB)
CTF	Clean Technology Fund (implemented through WB, ADB, the Bank, EBRD, and IDB)
FCPF	Forest Carbon Partnership Facility
FIP	Forest Investment Program (implemented through WB, ADB, the Bank, EBRD, and IDB)
GCCA	Global Climate Change Alliance
GCF	Green Climate Fund
GEF	Global Environment Facility
GEEREF	Global Energy Efficiency and Renewable Energy Fund (hosted by EIB)
JI	Joint Implementation (implemented under the Kyoto Protocol)
LDCF	Least Developed Countries Fund (hosted by the GEF)
PMR	Partnership for Market Readiness
PPCR	Pilot Program for Climate Resilience (implemented through WB, ADB, the Bank, EBRD, and IDB)
SCCF	Special Climate Change Fund (hosted by the GEF)
SCF	Strategic Climate Fund (implemented through WB, ADB, the Bank, EBRD, and IDB)
SREP	Scaling Up Renewable Energy Program for Low-Income Countries (implemented through WB, ADB, the Bank, EBRD, and IDB)
UN-REDD Programme	United Nations Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation
Bilateral funds and initiatives	
GCCI	Global Climate Change Initiative (US)
GCPF	Global Climate Partnership Fund (Germany, UK, and Denmark)
ICF	International Climate Finance (UK)
IKI	Internationale Klimaschutzinitiative (International Climate Initiative, Germany)
MDG-F	MDG Achievement Fund (implemented by UNDP)
NAMA Facility	Nationally Appropriate Mitigation Action facility (UK, Germany, Denmark, and the EC)
NICFI	Norway's International Climate Forest Initiative
REM	REDD+ Early Movers (Germany and UK)

ANNEX 3.2

TABLE A3.2 The Bank's internal and external managed funds

Name	Description
Internal funds	
Africa Climate Change Fund (ACCF)	A multidonor fund managed by the Bank with contributions to date from Germany, Italy, and Flanders (Belgium), the ACCF supports African countries in scaling up access to climate finance and in enabling a transition toward low-carbon, climate-resilient development in line with their Nationally Determined Contributions.
African Climate Technology Center (ACTC)	ACTC is a project financed by the Global Environment Facility to support Sub-Saharan African countries in scaling up deployment of low-carbon and climate-resilient technologies for climate change adaptation and mitigation. This is delivered by enhancing networking and knowledge dissemination with respect to climate technology transfer and financing; enabling the scaling-up of technology transfer through policy, institutional, and organizational reforms of the country and regional enabling environments; and integrating climate change technologies into investment programs and projects.
African Water Facility (AWF)	The AWF is an initiative of the African Ministers' Council on Water hosted by the Bank, established in 2004 to help African countries achieve the objectives of the Africa Water Vision 2025.
Agriculture Fast Track (AFT)	The AFT Fund (AFTF) is a multidonor trust fund managed by the African Development Bank with funding support from United States Agency for International Development, Danish International Development Assistance, and Swedish International Development Cooperation Agency. The goal of the AFT is to unlock financing for agriculture infrastructure projects by defraying the initial preparation costs that investment sponsors are unable to shoulder alone.
ClimDev Special Fund (CDSF)	This is a multidonor trust fund established to support African countries, institutions, and communities in building resilience to the impacts of climate change and climate variability with three areas of focus: • Generating, disseminating widely, and using reliable and high-quality climate information for development in Africa. • Enhancing the capacity of policymakers and policy support institutions to generate quality analysis and evidence on climate change and its implications for Africa, for use in development planning. • Implementing pilot adaptation practices that demonstrate the value of mainstreaming climate information in development planning and creating awareness to inform decisionmaking.
Rural Water Supply and Sanitation Fund (RWSSI)	RWSSI is an Africa-wide initiative hosted by the Bank. It is a focused regional response to Africa's rural water supply and sanitation crisis and is funded through contributions from the Bank, bilateral and multilateral agencies, African governments and communities, and the RWSSI Trust Fund. The objective is to accelerate access to drinking water supply and sanitation in rural Africa in order to achieve the Sustainable Development Goals and the African Water Vision targets.
Sustainable Energy Fund for Africa (SEFA)	This is a Bank-hosted multidonor fund with contributions to date from Denmark, the United States, the United Kingdom, and Italy. It promotes renewable energy and energy efficiency through private sector–driven small to medium projects necessary to stimulate the continent's transition to more inclusive and green growth.
Urban Municipal Development Fund (UMDF)	Launched in April 2019, UMDF is a multidonor trust fund with contributions from the Nordic Development Fund, the Walloon Export and Foreign Investment Agency, and Switzerland's State Secretariat for Economic Affairs. It is designed to support African cities in improving their resilience and better managing urban growth through planning, governance, and quality of basic services. UMDF seeks to enhance technical assistance, capacity building in urban planning, project preparation, and governance—to strengthen the viability and competitiveness of African cities to reach sustainable socioeconomic development.
External funds	
Adaptation Fund (AF)	The Bank is an accredited entity to the Adaptation Fund to help increase African countries' capacity to adapt to the negative impacts of climate change and decrease their vulnerability to these effects.
Climate Investment Funds (CIFs)	Established in 2008, the $8.3 billion CIFs provide financial support to middle- and low-income countries in low-carbon technologies and climate-resilient development. The CIFs provide new and additional financing to complement existing bilateral and multilateral financing mechanisms to demonstrate and deploy transformational actions to mitigate and adapt to climate change.
Global Environment Facility (GEF)	The GEF is a multidonor trust fund that finances actions to address critical threats to the global environment. It provides grants and some concessional funding to cover the "incremental" or additional costs associated with transforming a project with national benefits into one with global environmental benefits.
Green Climate Fund (GCF)	The GCF was established in 2010 as an operating entity of the financial mechanism of the United Nations Framework Convention on Climate Change (UNFCCC). It became operational in 2015. The main objective of the GCF is to promote a paradigm shift toward low-emission and climate-resilient development pathways in developing countries. The Bank is one of the Accredited Entities of the GCF through which the fund disburses its finances to recipient countries. Funding decisions are guided by six investment criteria reflecting the key GCF features.

Source: African Development Bank 2019.

NOTES

1. UNFCCC n.d.
2. Analysis based on 44 African countries.
3. Integral Consult 2021.
4. Integral Consult (2021) based on data from Africa NDC Hub (2021).
5. Low and high warming scenarios correspond to less than 2-degree and more than 4-degree Celsius increases in global average temperatures, respectively. Values are based on Bank data.
6. Scottish Government 2021.
7. OECD 2021.
8. Masood and Tollefson 2021.
9. UNFCCC 2011.
10. https://www.thegef.org/projects-operations/database?f%5B0%5D=%3A2207&f%5B1%5D=focal_areas%3A2207.
11. Watson and Schalatek 2022.
12. CPI 2021.
13. Watson and Schalatek 2022.
14. Bennett 2021.
15. Watson and Schalatek 2022.
16. Rio markers refer to Rio de Janeiro's 1992 Earth summit conventions on biodiversity, climate change (mitigation and adaptation), and desertification (OECD n.d.b).
17. Garschagen and Doshi 2022.
18. Including Burundi, Central African Republic, Democratic Republic of Congo, Eritrea, Guinea-Bissau, Liberia, Mauritania, Sierra Leone, Somalia, South Sudan, and Sudan.
19. Retrieved from https://data.worldbank.org/indicator/CM.MKT.LCAP.GD.ZS?locations=MU.
20. Soumaré et al. 2021.
21. Kahn et al. 2019.
22. Jordà et al. 2019.
23. Cherif and Hasanov 2018.
24. Benali, Abdelkafi, and Feki 2018; Kling et al. 2018.
25. Dafermos, Nikolaidi, and Galanis 2018.
26. Thwaites et al. 2017.
27. Thwaites and Amerashinghe 2017.
28. GFANZ 2021.
29. Marsh 2021.
30. UNFCCC 2021.
31. CPI 2021.
32. CPI 2021.
33. Napier 2021.
34. FSD Kenya and South Pole 2021.
35. Muganyi, Yan, and Sun 2021.
36. Marbuah 2020.
37. A "carbon market" or greenhouse gas trading system is a method for reducing carbon dioxide and other greenhouse gases by putting a price on releasing carbon. When well designed and implemented, this method for cutting pollution has been successful in controlling other pollutants.
38. A "carbon offset" is a reduction in greenhouse gas emissions—or an increase in carbon storage (for example, through land restoration or tree planting)—that is used to compensate for emissions that occur elsewhere.
39. Compared with 4 percent in Latin America, 5.9 percent in China, and 5 percent in India (UNFCCC 2012).
40. Henze 2022.
41. Yu et al. 2021.
42. Koh et al. 2021.
43. Koh et al. 2021.
44. Koh et al. 2021.
45. CPLC 2017.
46. McKinsey 2021.
47. The International Union for Conservation of Nature (IUCN) defines nature-based solutions as "actions to protect, sustainably manage, and restore natural or modified ecosystems, that address societal challenges effectively and adaptively, simultaneously providing human well-being and biodiversity benefits."
48. Shalal 2021.
49. Kahn et al. 2019.
50. See African Development Bank (2021a) for discussions on debt restructuring issues in Africa.
51. African Development Bank 2016.
52. African Development Bank 2016.
53. UNEP 2016.
54. EIB 2021.
55. African Development Bank 2021b.
56. IRENA 2020.

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COUNTRY NOTES

CENTRAL AFRICA

Cameroon

Recent macroeconomic and financial developments

In 2021, GDP growth picked up to 3.5% from 0.5% in 2020, driven by revival of nonoil activity and continued investment. The budget deficit narrowed to 3.1% of GDP in 2021 from 3.3% in the two previous years, stemming from budgetary consolidation measures aimed at reducing expenditure and increasing nonoil budgetary revenue. Of the SDR 264.5 million allocation in August 2021, SDR 61.5 million was used in fiscal year 2021. The realization of structural infrastructural projects financed for the most part by commercial and public loans and implemented within the framework of the country emergence politics has led to a strong increase in debt. The rate of public debt distress rose from 28.8% of GDP in 2015 to 46% in 2021.

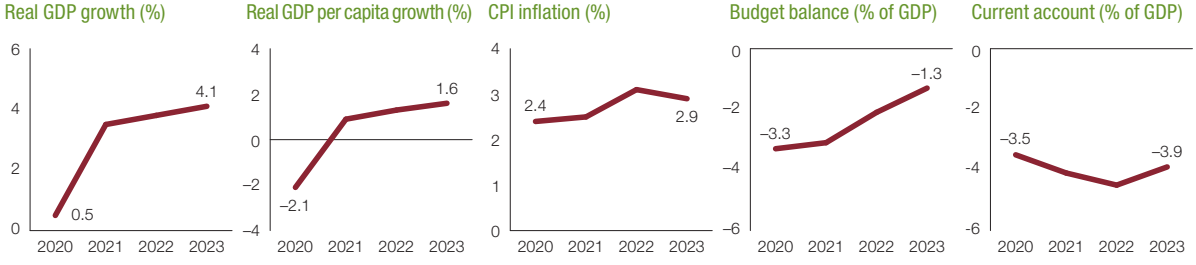
Inflation reached 2.5% in 2021, up from 2.4% in 2020, owing to a price control system for necessities. In March 2022, the central bank raised its principal key rate from 3.5% to 4%. Gross receivable NPLs represented 16.8% of outstanding banking system loans. The current account deficit widened to 4.1% of GDP in 2021 from 3.5% in 2020, linked to the sharp increase in import prices. Foreign exchange reserves fell slightly in 2021 to 3.7 months of imports from 3.8 months in 2020. In 2021, the unemployment rate stood at 6.1%, up from 3.84% in 2020, while the underemployment rate declined by 4 percentage points, to 65%.

Outlook and risks

Growth could reach 4.1% in 2022 and 4.3% in 2023, due particularly to increased gas output. With continued budgetary consolidation engaged within the framework of an economic and financial program signed with the IMF in July 2021, the budget deficit is forecast to improve to 1.9% of GDP in 2022 and 1.3% in 2023. Inflation should remain below 3% in 2022 and 2023, due mainly to continuation of the price control system and government consultation with actors in the production and marketing of the main consumption products. The current account is likely to remain in deficit, owing to the rigidity of the decrease in import prices. Foreign exchange reserves are projected at 3.9 months of imports in 2022 and 4.2 months in 2023. Yet, the outlook remains uncertain—and dependent on the evolution of the health crisis as well as on the adherence of a greater number of the population to vaccination, the continuation of barrier measures, and global supply chain disruptions.

Climate change issues and policy options

Cameroon is 68 on the 2021 GCRI. It is subject to flooding, deforestation, recurrent droughts in the north, and an uncertain duration of rainy seasons. Climate change heavily affects the agricultural sector, and more particularly agro-industry, which accounts for nearly 33% of industry sector output. The urbanization rate, which reached 58% against the average of 41% in Sub-Saharan Africa in 2020, heightens challenges of sustainable urbanization, urban planning, and pollution reduction. The Nationally Determined Contribution, submitted in October 2021, aims to reduce emissions by 35% by 2030. The share of the population with access to electricity is 90% in urban areas against only 20% in rural areas. The proportion of renewable energy in the electricity mix is predicted to reach 25% by 2035, up from 2% in 2019. The population's water access rate reached nearly 62% in 2020, with a target of 80% in 2025.



Source: Data are as of April 2022 and are from domestic authorities; figures for 2021 are estimates and figures for 2022 and 2023 are projections by the African Economic Outlook team.

Central African Republic

Recent macroeconomic and financial developments

With the pandemic and insecurity still present, GDP growth stabilized at 0.3% in 2021, while pre-COVID-19 projections had been for 3.3% growth. The agriculture, hotel, and diamond sectors were the most hit, while the services sector (transport, trade, and finance) remained at around 42% of GDP. The worsening economic situation led to a drop in public revenues even as the health situation required an increase in social protection spending, widening the budget deficit in 2020 and 2021 to 3.5% and 5.7% of GDP. Still, public debt fell slightly from 47% of GDP in 2020 to 46% in 2021.

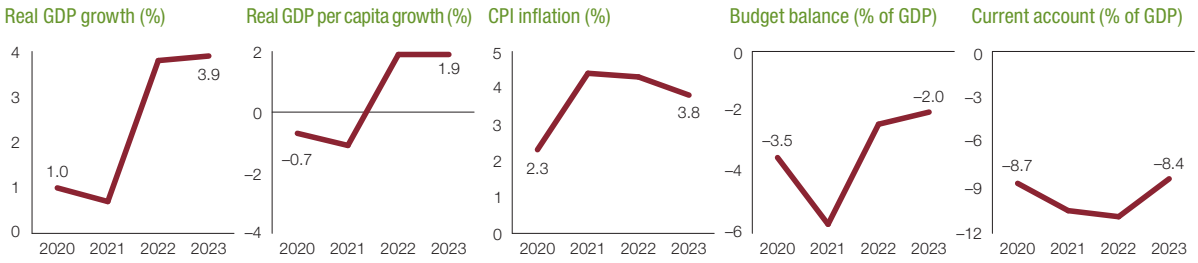
The security situation and supply chain disruptions pushed inflation to 4.4% in 2021 from 2.3% in 2020. In November 2021, the Bank of Central African States (BEAC) raised its Interest Rate on Tenders from 3.25% to 3.5% and its Marginal Lending Facility Rate from 5% to 5.25% to replenish the region's foreign exchange reserves. The current account deficit increased to 10.5% of GDP in 2021 from 8.7% in 2020. The financial and banking sector is still embryonic, dominated by a few commercial banks and microfinance institutions based in Bangui. In 2019, unemployment was around 34.5%—36% in urban areas and 30% in rural areas, and 42.5% among women and 28.5% among men. In 2017, the Central African Republic was one of the poorest countries in the world, with an estimated poverty rate of 75%.

Outlook and risks

The Bank projects GDP growth to rebound to 3.8% and 3.9% in 2022 and 2023, reflecting completion of structural projects in transport and energy. Agriculture, mining, and public works are also seen rebounding. Inflation is forecast to increase to 4.3% in 2022 and 3.8% in 2023 due to the Russia–Ukraine conflict. Tax reforms, notably consolidation of public funds alongside control of current expenditure, are projected to reduce the budget deficit to 2.4% in 2022 and to 2% in 2023. The public debt ratio is forecast to continue declining, to 44% of GDP in 2022 and 42.3% in 2023. The current account balance is projected to remain in deficit at 10.9% of GDP in 2022 and 8.4% in 2023, a slight improvement on better terms of trade. A continuing pandemic, combined with falling commodity prices and deteriorating internal security, conjugated with the Russia–Ukraine conflict, could undercut growth, however.

Climate change issues and policy options

The country is 70 on the 2021 GCRI. Environmental risks are land and watershed degradation and loss of biodiversity among ecosystems and species. The country has ratified international agreements to combat global warming, including one with the EU on forest regulation and with the Programme des Nations Unies pour la Gestion du Bassin du Congo. Strategies and policies include the National Forest Monitoring Strategy, the National Strategy to Combat Deforestation and Forest Degradation, and the National Policy on the Environment. The Central African Republic has set targets for 2030 on land degradation neutrality: restore 50% of vegetation cover (that is, 19,384 ha); reduce loss of land productivity by 50% and the biomass rate by 25%; increase the soil's organic carbon rate by 10%; reduce GHGs by 5%; and restore 20% of mining areas. Although the country has considerable renewable water resources, only 30% of the population has access to clean drinking water—rates range from 36.5% in Bangui to 27% in rural areas.



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Chad

Recent macroeconomic and financial developments

In 2021, the economy grew by 0.6% after contracting by 2.2% in 2020, with expansion led by recovery in oil and agriculture. On the demand side, growth came primarily from private consumption, public investment, and exports. The budget balance moved from a surplus of 2.1% in 2020 to a deficit of 1.1% in 2021 due to the net effect of more public expenditure and less tax revenue. Renewed growth has helped to lower public debt from 51.5% of GDP in 2020 to 48.2% in 2021, though the risk of debt distress remains high. With lower food prices, inflation was –0.9% in 2021 after hitting 4.5% in 2020.

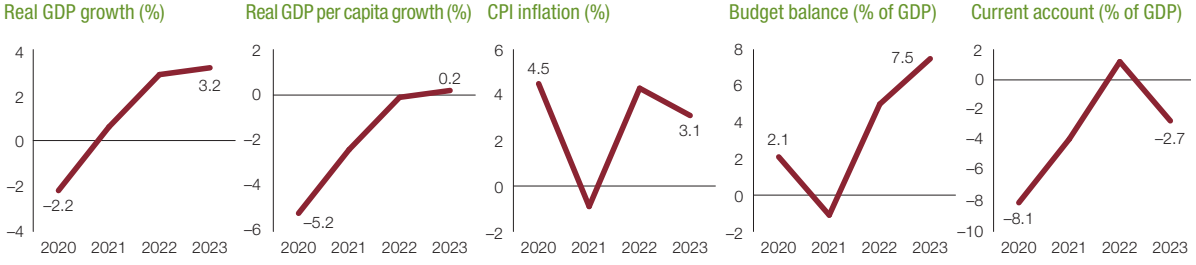
In March 2022, the BEAC adopted measures to strengthen CEMAC's foreign exchange reserves (raising its Interest Rate on Tenders and Marginal Lending Facility Rate). The current account deficit narrowed from 8.1% in 2020 to 3.9% in 2021 on good export performance. Foreign exchange reserves averaged 3.4 months of imports in 2021/22. The ratio of NPLs remained high at 25% in 2021, against 26% in 2020. The poor capitalization of Chad's banks led to a steep drop in their solvency ratio. In the context of the plan to clear domestic arrears, since April 2020 the government has been paying back direct debt to two banks and has made a commitment to recapitalize the Commercial Bank of Chad to CFAF 4.5 billion. The pandemic has probably exacerbated the poverty rate, which was 42% in 2018, particularly affecting workers in the informal sector in urban and peri-urban areas.

Outlook and risks

With a new IMF program of $570 million concluded in December 2021, prospects are favorable for 2022–23. Real GDP is forecast to average about 2.9% in 2022 and 3.2% in 2023, led by recovery in oil output and in agriculture and livestock farming. Combined with the second debt restructuring with the trading company Glencore, this should create fiscal space for public investment. This environment is projected to lead to a budget surplus of 5.0% of GDP in 2022 and 7.5%. The debt ratio is forecast to remain below 50% of GDP in both years. Inflation is projected to increase to 4.3% in 2022 and 3.1% in 2023. Key rates set by the BEAC in March 2022 are likely to ensure internal and external monetary stability. The current account balance is forecast to improve and result in a surplus of 1.2% of GDP in 2022, due to a greater volume of exports and a higher oil price, but to revert again to deficit of -2.7% in 2023. This outlook remains dependent on the pandemic's trajectory and the duration of the Russia–Ukraine conflict.

Climate change issues and policy options

Chad is 130 on the 2021 GCRI. The reduction in Lake Chad's surface area due to climate change has led to lower fisheries production, degradation of land and pastures, lower capacity in agricultural output and availability of forage, and a reduction in livestock and biodiversity. Climate vulnerability leads to considerable human pressure on natural resources and fertile lands, causing community conflict. The agropastoral sector (about 30% of GDP) is where 80% of Chad's population makes its living. Adaptation is a key concern of the government, which in addition to the National Strategy to Combat Climate Change has adopted a National Environmental Action Plan, a National Action Program to Combat Desertification, and a National Program for Climate Change Adaptation. Further, aware of energy challenges, in August 2018 it adopted a 2018–2030 policy letter and an RE development blueprint. Exemption from duties and taxes on all imports of solar components was granted in 2020.



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Congo

Recent macroeconomic and financial developments

As other countries, Congo is facing a third year of COVID-19, which is disrupting socioeconomic patterns already badly damaged by five years of recession. Added to the negative effects of the pandemic were floods in the northern part of the country in November 2021. Increased output and prices of oil were not enough to offset the effects of the pandemic and floods. Though smaller than its contraction of 6.2% in 2020, the economy shrunk by 0.2% in 2021. In 2020, unemployment was estimated at 10.3% and the poverty rate at 46.1%, exacerbated by job losses after COVID-19 hit. Central government operations resulted in a budget surplus of 1.4% of GDP, after a deficit of 1.7% in 2020. The debt ratio fell to 84.7% of GDP in 2021 from 101% in 2020.

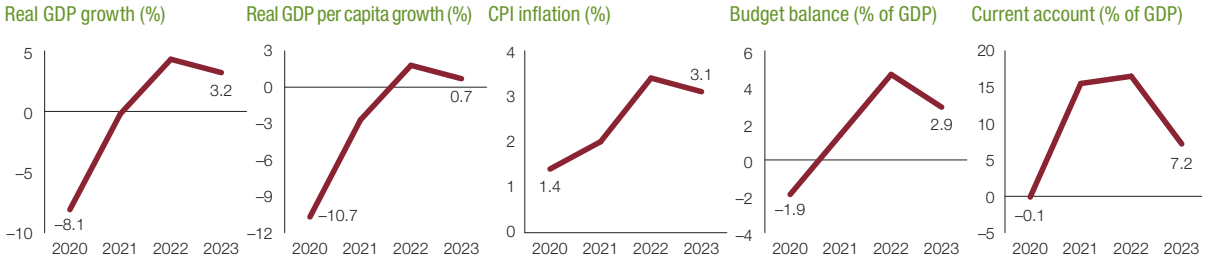
Inflation was moderate at 2.0% in 2021, within CEMAC's criterion. Credit to the economy grew by only 1.6% in 2021, reflecting weak demand for credit in a period of uncertainty. NPLs declined to 17%, helping to reduce vulnerabilities in the banking system. In 2021, supported by oil prices, the current account showed a surplus of 15.5% of GDP, after a deficit of 0.2% in 2020. Foreign exchange reserves strengthened from 2 months to 2.7 months of imports from 2020 to 2021.

Outlook and risks

The outlook is favorable but remains fragile in a context marked by the persistence of the COVID-19 pandemic and the global consequences of the Russia–Ukraine conflict. GDP growth is projected at 4.3% in 2022 and 3.2% in 2023, driven by the accelerated vaccination campaign, higher oil production, and dynamics in the agricultural and mining sectors, allowing growth of the nonoil sector (building and public works, wood, mining, and services) to pick up to 3.3%. Oil output is forecast to rise by 1.0% with the resumption of investment by the largest producers, with a forecast average price per barrel of $70. Inflation is projected to rise to 3.4% in 2022 and to 3.1% in 2023. Medium-term fiscal consolidation, combined with strong oil revenues, should lead to budget surpluses of 4.7% and 2.9% of GDP in 2022 and 2023. Public debt is expected to continue declining marginally, to 83.6% of GDP in 2023. The current account should remain in surplus at 16.5% of GDP in 2022 and 7.2% in 2023, driven by the trade balance. Prospects also remain dependent on the implementation of structural reforms launched with the IMF and on the duration of the Russia–Ukraine conflict.

Climate change issues and policy options

Congo is 109 on the 2021 GCRI. It is experiencing an increase in intensity and frequency of extreme events caused by climate change. They are more pronounced in urban areas, where 70% of the population lives and where the ability to be resilient and adapt is still lacking. Indeed, infrastructure (including housing, roads, and drainage and sanitation) is either weak or destroyed. The country is ranked 165 on the Country Index of the Notre Dame Global Adaptation Initiative 2020. The government's NDC provides for a reduction in national emissions of 48% and 55%, by 2025 and 2035. The country has also started planting 40,000 ha of forest to sequester more than 10 Mt of carbon, thus protecting the Congo Basin peatlands, which serve as an important carbon sink. On the energy transition, the country is improving its energy supply, based on RE including natural gas. To this end, 300 MW of electricity production capacity has been installed in addition to that from four hydropower stations. The drinking water access rate is 66% in urban areas and 47% in rural areas, for a 56% national average.



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Democratic Republic of Congo

Recent macroeconomic and financial developments

After a year of moderate, 1.7% growth in 2020, the economy recorded 5.7% expansion in 2021, on the back of solid mining output and high world prices for export commodities such as copper and cobalt. Growth of nonextractive sectors went from a 1.3% contraction in 2020 to 3.3% growth in 2021, owing to telecommunications, energy, and noncommercial services. The country's growth is driven by strong exports of raw material (11.5%) and private investment (9.8%). Despite high current spending (salaries were exceeded by 10.9%), the 39.3% increase in tax revenues, reflecting tax audits and penalties, lowered the budget deficit from 2.1% of GDP in 2020 to 1.6% in 2021. Public debt remains moderate at 22.8% of GDP, however.

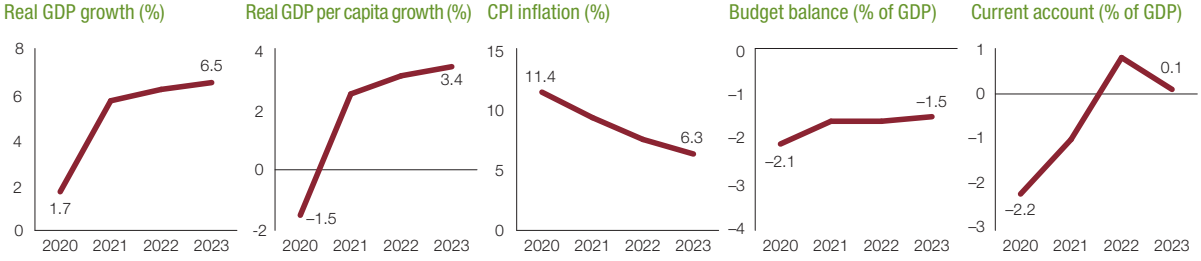
Inflation was better controlled, falling from 11.4% in 2020 to 9.3% in 2021, with a 7% target, enabling the central bank to lower its prime rate from 18.5% to 8.5% in 2021. The NPL ratio to total gross loans declined from 9.2% to 8.8% between 2020 and August 2021. Foreign exchange reserves increased from $709 million in 2020 to $3.344 billion in 2021, partly due to receipt of 50% of the $1.52 billion SDR allocation, with the remainder being allocated to priority investments. As mining exports increased, the current account deficit fell from 2.2% of GDP in 2020 to 0.5% in 2021. Unemployment, as defined by the ILO, went down from 4.7% in 2012 to 3.0% in 2020. Monetary poverty decreased from 63.4% in 2012 to 56.2% in 2020—a period of solid economic growth.

Outlook and risks

The economic outlook is encouraging despite the Russia–Ukraine conflict, with GDP growth in 2022–23 reaching 6.4%, driven by mining and recovery of nonextractives. Priority investments should continue to support internal demand. Improvements to transport and logistical infrastructure are set to support resumption of nonextractive activities, services, and industries, stimulating export and tax revenue. The 2023 elections are forecast to increase public spending and slightly widen the budget deficit from 1.6% in 2022 to 1.5% in 2023. Public debt is projected to be 22.5% in 2023. Coordination of public finance and monetary reforms should maintain inflation at around 6.9% in 2022–23 and assure exchange rate stability. The current account surplus is projected to reach 0.8% in 2022 and 0.1% in 2023, with foreign exchange reserves at $3.860 billion in 2022 and $4.606 billion in 2023, for 3 months of imports. The decline in commodity prices, global demand for minerals, the Russia–Ukraine conflict, and security issues could undermine the outlook.

Climate change issues and policy options

Democratic Republic of Congo is 51 on the 2021 GCRI. The country has great vulnerability to climate change, characterized by a rise in temperature, long dry seasons, violent rains causing flooding, soil degradation, and agriculture losses. Thus, first, in 2020 the Ministry of the Environment revised the Climate Change Policy, Strategy and Action Plan and developed its National Adaptation Plan (2020–2024) to reinforce resilience. Funding also relies on the production and monetization of carbon credits, knowing that the large tropical peatland is managed according to REDD+ (Reducing Emissions from Deforestation and Forest Degradation) mechanisms. On the energy transition, the government favors modern and sustainable use of "eco-energy" models, enabling a 21% decrease in GHG emissions by 2030. The measures for mitigation concern primarily the agriculture, forestry, land use, energy, and waste management sectors. Specific measures for adaptation affect forest, agriculture, energy, health, water resources, and sewerage systems, as well as coastal zones and waste management. According to the NDC, the cost of both measures will be $48.68 billion, to be financed by resources from the state budget, the carbon market, REDD+ resources, and international climate funds.



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Equatorial Guinea

Recent macroeconomic and financial developments

In 2021, GDP growth bounced back to 1.4% after a 4.9% contraction in 2020, aided on the supply side by growth in the petroleum sector of 3.3% and the nonpetroleum sector of 1.3%, with positive changes particularly in the tertiary sector, where the following all rose: private education 4.1%, private health 3.4%, business 2.3%, and restaurants and hotels 1.7%. The primary source of recovery on the demand side was public consumption, up 13.6%. The budget deficit continued to narrow in 2021, to 1%, after a 1.7% decline in 2020. The public debt to GDP ratio decreased from 49% in 2020 to 43% in 2021. In 2021, inflation of 2.1% was below the CEMAC criterion of 3%, after 4.8% in 2020 due to monetary and budget policies responding to the economic and health crises. After mining resumed in 2021, the current account deficit narrowed to 3.6% of GDP, from 6.3% in 2020.

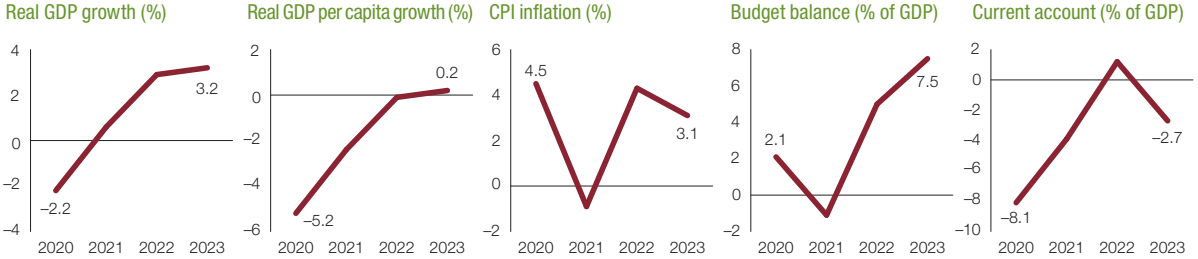
The banking sector remains poorly developed and focused on short-term financing of the economy. The banking sector has been weakened by its strong exposure to the building and public works sectors, which are themselves affected by state arrears. Short-term credit accounts for over 80% of total credit, long-term credit just 2.8%. Since 2016, foreign exchange reserves have come to less than 1 month of imports, that is, below the 3 months recommended by the BEAC. Unemployment was 9.2% in 2020, and higher among women and youth, as was job insecurity. The poverty rate, estimated at 67% in 2020, had grown from 43.7% in 2011, largely because of decreased petroleum revenues since 2016.

Outlook and risks

Growth is forecast to continue in 2022 at 5.0%, followed by a contraction of 1.9% in 2023. Inflation should ebb from its high in 2020, settling to 3.7% in 2022 and 3.8% in 2023, due to decreases in imported inflation. The budget balance is expected to be in surplus of 3.8% of GDP in 2022 and 4.4% in 2023, on the assumption that the oil price per barrel will increase from $63.20 in 2021 to $66.20 in 2022, given that 81.4% of tax revenue stems from petroleum income. Improvements in the trade balance should lead to a sharp decrease in the current account deficit by 2023. Authorities are expected to adopt regulations to comply with the anticorruption law passed in 2021, implementing a system of asset declaration for public officials. Likely bank stabilization measures include the clearance of domestic arrears and recapitalization of big banks. The health crisis may result in widening inequalities and increasing poverty and require targeted measures. Decree No. 43/2020 instituted an emergency budget system in support of SMEs and vulnerable populations.

Climate change issues and policy options

The country has 1,626 million acres of tropical forest, 58% of its area. Because deforestation at an estimated annual rate of 0.9% is one of the primary factors in declining biodiversity, the National Investment Plan REDD+ 2020 proposes a green economy model that aims to protect the forest and contribute to sustainable development. Rising sea levels caused by climate change expose the country to flooding and coastal erosion that threaten infrastructure and vital biodiversity reserves. Equatorial Guinea has crafted plans to ensure national resource management compatible with economic development. The National Plan for Climate Change Adaptation prioritizes resilience of ecosystems and communities, yet to date ineffective enforcement of environmental strategies and plans has forestalled expected results. The country has three power plants with a capacity of 154 MW, against maximum demand of 91.5 MW. Still, access to electricity is minimal in rural areas, even falling between 2011 and 2019, from 10.1% to 2.2%, on high prices among other factors. Implementing initiatives in the NDC (CDN-2015) will require about $3.94 billion. The country's economic crisis may, however, affect its capacity to mobilize climate change resources.



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Gabon

Recent macroeconomic and financial developments

From a contraction of 1.8% in 2020, GDP growth rebounded to 1.7% in 2021, linked to nonoil sector expansion, notably palm oil (120%) and the wood industry (29.8%). Unemployment, estimated at 20.5% in 2020, remains high, particularly for young people, exacerbating poverty, which was estimated at 33.4% in 2017. The budget deficit widened from 2.1% in 2020 to 3.4% because of a rise in health crisis–related capital and current spending. Public debt is estimated at 74.7% of GDP in 2021, down from 77.4% in 2020.

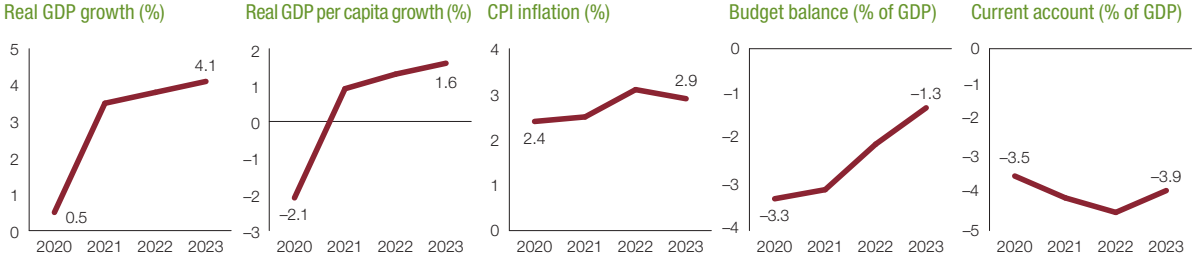
In 2021, inflation declined to 1.1% from 1.3% in 2020, owing to control of the price of transport and food products. In March 2022, the BEAC increased its Interest Rate on Tenders from 3.5% to 4% and its Marginal Lending Facility Rate from 5.25% to 5.75%, to replenish regional exchange reserves; from 2020 to 2021, these reserves rose from 3 months to 3.6 months of imports. The current account deficit narrowed from 6% in 2020 to 3.5% in 2021, given a stronger increase in exports (31%) than imports (9%). The performance in the banking sector in 2021 was supported by the supervisory measures implemented by the Central African Banking Commission to mitigate the effects of the health crisis on the quality of assets and bank solvency. A deterioration in the quality of assets is projected for 2022, because at the end of 2021, the Commission removed its supervisory measures.

Outlook and risks

The short-term outlook for economic growth is favorable with projected GDP growth of 3.3% in 2022 and 3.4% in 2023, reflecting a dynamic nonoil sector (agriculture, wood, and mining). With the rise in oil prices and reforms initiated within the framework of the IMF program, the budget balance is forecast to post a surplus of 2.3% of GDP in 2022 and 3.4% in 2023. Public debt is forecast to decline further to 70.1% of GDP by 2023. For 2022 and 2023, the Bank projects inflationary pressures, owing to the Russia–Ukraine conflict, which will affect the price of food and transportation. Inflation is expected to be 2.9% in 2022 and 2.5% in 2023. The prime rates established in March 2022 by the BEAC should guarantee internal and external monetary stability. The balance on the current account is likely to improve, owing to the rising price of exported raw materials (oil, palm oil, gold, and manganese), reaching a surplus of 2.9% of GDP in 2022 and 0.7% in 2023. These outcomes are, however, subject to the execution of ongoing structural reforms as well as the pandemic's trends and the Russia–Ukraine conflict.

Climate change issues and policy options

Gabon is 130 on the 2021 GCRI. It is exposed to a rising sea level, frequent flooding, and coastal erosion, which affect key sectors such as hydropower, agriculture, fishing, and forests. Authorities have taken steps to protect fauna and flora with the creation of protected areas covering 11% of national territory. The adoption of the Forest Code in 2001 contributed to forestland resilience. Gabon has a relatively developed political, institutional, and legal framework integrated into the national development strategy. The country is revising its NDC with an objective of reducing its carbon emissions by 50% by 2025. Eighty-eight percent of Gabon is covered by forest, which constitutes a carbon pool, absorbing four times more CO_2 than it gives off. The country aims to monetize its carbon credits, estimated at $5 billion in 2021, and is counting on using and monetizing flared gas to reduce its dependence on finished-product imports and move to green energy. Gabon flares about 35 billion cubic feet of gas a year, which represents about 200 MW of electricity. To reach a more ecological level for electricity and transport, it must overcome technology, infrastructure, finance, and regulations challenges.



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EAST AFRICA

Burundi

Recent macroeconomic and financial developments

After a contraction of 1% in 2020, the economy bounced back in 2021 with GDP growth of 2.2%, driven by agriculture and by investment in public infrastructure. The inflation surge of 2020 due to disruptions in global supply chains continued in 2021, with an inflation rate of 8.3%, up from 7.5% in 2020. The budget deficit narrowed to 4.5% of GDP from 7.8% in 2020 owing to an increase in public revenue that exceeded the increase in public expenditure. The deficit was financed by foreign grants and loans, and by domestic borrowing. Public debt grew to 71.9% of GDP in 2021 from 67% in 2020.

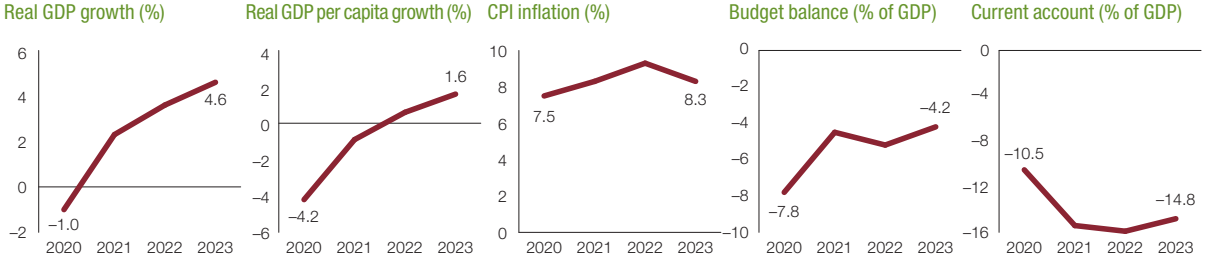
The decrease in exports (notably mining and coffee) with increased imports widened both the trade deficit —estimated at 25.7% of GDP in 2021—and the current account deficit—estimated at 15.4% of GDP in 2021, up from 10.5% in 2020. The current account deficit accentuated foreign exchange shortages, leading to a 3% depreciation in the Burundian franc against the US dollar. Reserves were estimated at 3.3 months of imports in late September 2021 against 0.9 months a year earlier. The financial sector was resilient, with NPLs decreasing by 12.6% from September 2020 to September 2021. The SDR 147.6 million ($211.2 million) allocation in August 2021 strengthened foreign reserves and supported public infrastructure financing. Income poverty climbed to 87.1% in 2021 from 85% in 2020.

Outlook and risks

Burundi's economic outlook is favorable, with projected GDP growth rates of 3.6% in 2022 and 4.6% in 2023 owing to the continuing recovery of agriculture and public investment. Global inflationary pressure intensified by the Russia–Ukraine conflict is expected to increase the inflation rate to 9.3% in 2022. But the rate will decrease in 2023 to 8.3%. The rising value of oil product imports will increase the commercial deficit and aggravate the current account deficit, which will increase from 15.4% of GDP in 2021 to 15.9% in 2022 before narrowing to 14.8% in 2023. This evolution should affect foreign exchange reserves, which will fall in 2022 but increase in 2023, to $430.8 million, covering 3 months of imports. Public debt is projected to fall to 70.2% of GDP in 2022 and 66.5% in 2023, from 71.9% in 2021, on budget consolidation. However, this outlook could be undermined by low rainfall that decreases agricultural yields, by sociopolitical instability, and by new COVID-19 variants. Strengthening security and COVID-19 vaccination rollout should mitigate these risks.

Climate change issues and policy options

Burundi is 57 on the 2021 GCRI but ranked 10 specifically on the number of climate-related fatalities per 100,000 inhabitants. Lake Tanganyika's flooding from April to July 2021 displaced more than 40,000 people and destroyed crops and homes. The country loses about 4% of GDP every year due to land degradation. It ratified the UNFCCC in 1997 and endorsed the Paris Agreement in 2017. The implementation of its NDC of 2015 allowed for afforesting 20,000 ha in five years and fostered the start of construction of four hydropower plants. The NDC, revised in 2020, helps Burundi strengthen its commitments to mitigation and adaptation with actions focusing on conserving carbon sinks, adopting climate-resilient seeds and crops, and developing nonmotorized transport infrastructure. Estimated at $3.2 billion, implementing the NDC will be financed by domestic ($430 million) and foreign resources ($2.77 billion, split into $1.32 billion for mitigation and $1.45 billion for adaptation), moving toward reaching SDG 13 on climate action.



Source: Data are as of April 2022 and are from domestic authorities; figures for 2021 are estimates and figures for 2022 and 2023 are projections by the African Economic Outlook team.

Comoros

Recent macroeconomic and financial developments

Economic activity rebounded in 2021 with GDP growth of 1.9%, up from 0.2% in 2020. On the supply side, it was supported by agriculture, which grew by 3.7% and which benefited from favorable weather conditions. On the demand side, it was driven by external demand—exports grew by 19.5% in 2021 after a crash of 52.4% in 2020. The central bank continued its expansionary monetary policy in 2021 by maintaining the reserve requirement rate, which it had lowered to 10% in March 2020. The rate of NPLs in the banking system remained high, at 20.3% in 2021. Inflation reached 1.4% in 2021, up from 0.9% in 2020, owing to increasing food prices resulting from supply constraints in imported goods.

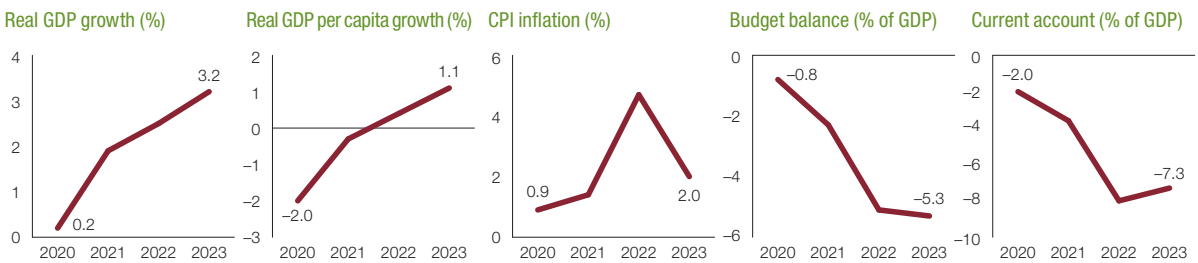
Transfers from the diaspora increased by 18.3% in the first 9 months of 2021; foreign exchange reserves are estimated at 9 months of imports. The budget deficit widened to 2.3% of GDP, given increased public expenditure (44.8% year on year in June 2021) generated by the economic recovery. The country received $24.3 million under the SDR allocation. Public debt is estimated at 29.8% of GDP in 2021, but the risk of debt distress is high mainly because of the large volume of nonconcessional loans. The current account deficit widened in 2021 to 3.6% of GDP from 2% in 2020 due to the drop in external aid, coupled with the trade deficit increase. The poverty rate is estimated at 39.8% in 2021, little changed from the 40.4% in 2020.

Outlook and risks

The outlook is favorable, with average growth of 2.8% in 2022–23, but remains fragile. It is buttressed by good vaccination coverage against COVID-19, implementation of the Emerging Comoros Plan, and the IMF's Staff-Monitored Program. Services and agriculture should remain the engines of growth, buoyed by the rise in prices of the main export products, particularly cloves. Inflation is expected to increase, owing to the rising price of food products and oil, due to the Russia–Ukraine conflict. The budget deficit is likely to remain high at 5.1% of GDP in 2022, reflecting the increase in public spending to support economic recovery. The current account deficit is projected to widen further to 8.0% of GDP in 2022 owing to large needs for external resources. In 2022, public debt is projected to rise to 33.1% of GDP and foreign exchange reserves to decline to 8.6 months of imports. Risks to the outlook include new waves of COVID-19 and declines in external funding.

Climate change issues and policy options

Comoros is 97 on the 2021 GCRI. Climate change is seen in increased frequency and intensity of cyclones, a longer dry season, and rising sea levels. The agriculture and biodiversity sectors are the most vulnerable. The average annual cost of climate change was estimated at $23 million in 2014. Comoros ratified the UNFCCC in 1994 and the Paris Agreement in 2017. Its 2015 NDC helped to mainstream climate change adaptation into national policies and strategies. The updated 2020 NDC aimed to strengthen the country's ambition and resilience for climate change. Comoros forecasts a net reduction in its GHGs of 23% and an increase in its net CO_2 absorption sink of 47% by 2030 against the reference scenario. Its energy transition is only in its infancy, despite the country's potential for RE. Comoros needs €1.3 billion for implementing its NDC, including €902 million for mitigation and €399 million for adaptation.



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Djibouti

Recent macroeconomic and financial developments

The economy began to recover in 2021 with GDP growth of 3.9%, up from 1.2% in 2020. This pickup was supported by a revitalized services sector, which generates about three-fourths of GDP, port activities in particular. On the demand side, exports and investment remained the key factors, with an estimated contribution in 2021 of 14.6% and 4.8%. Djibouti is following an expansionary monetary policy to support economic recovery and avoid cash depletion. Credit to the economy grew 24.1% year on year through June 2021 but remains relatively low as a share of GDP. Inflation is estimated at 1.2% in 2021, higher than the 0.3% in 2020, and is attributable to moderate pressure from internal demand. NPLs in the banking system remained stable at 13.3% in 2021.

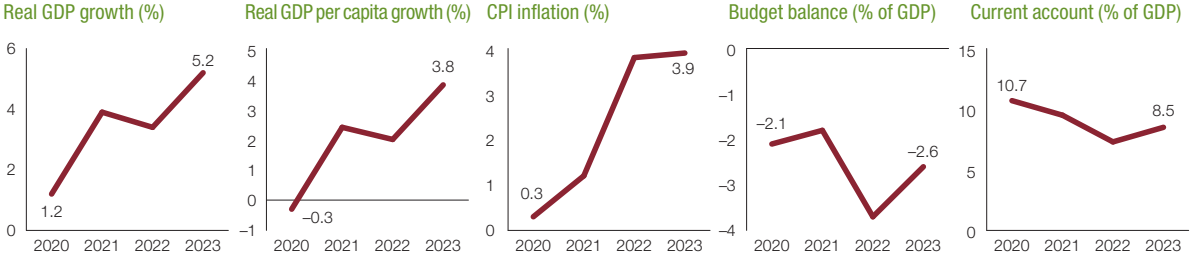
The budget deficit narrowed slightly, from 2.1% in 2020 to 1.8% of GDP in 2021, due to a 7% decrease in current spending tied to pandemic management and a 2.4% increase in public revenue stemming from the economic recovery. The country received $43.3 million under the IMF allocation, but earmarking has yet to be determined. Exchange reserves are estimated at 3.2 months of imports in 2021. Public debt declined in 2021 to 67.7% of GDP from 73.1% in 2020, though the risk of debt distress remains high. The current account surplus fell in 2021 to 9.5% of GDP from 10.7% in 2020, reflecting slow growth in the surplus on the services balance. The poverty rate declined from 35.9% in 2020 to 34.1% in 2021.

Outlook and risks

The outlook is positive. Average GDP growth over 2022–23 is forecast to reach 4.3% and remain supported by port and investment activities. Inflation is likely to increase, owing to the rising prices of food products and oil due to the Russia–Ukraine conflict, as is the budget deficit, given government subsidies to mitigate higher consumer prices. The current account surplus is projected to continue falling due to the declining surplus in services and the rise in imports. In 2022, public debt is forecast to decline further to 64.5% of GDP, and foreign exchange reserves remain at 3.2 months of imports. Risks to the outlook include, primarily; a possible falloff in external trade because of the crisis in Tigray, which could cause a drastic drop in customs revenues—about 90% of Ethiopia's foreign trade transits through Djibouti's ports; and the resurgence of COVID-19. To mitigate these risks, Djibouti strongly supports mediation efforts in the war in Ethiopia and promotes vaccination against COVID-19.

Climate change issues and policy options

Djibouti is 65 on the 2021 GCRI. Recurrent droughts, increasingly acute water stress, flooding, and recent cyclones attest to climate change. It is one of the countries that signed the Kyoto protocol in 1997 and endorsed the Paris Agreement in November 2016. Within the framework of the 2015 NDC, it committed to reduce GHGs by 40% relative to the 2030 reference scenario. In adaptation, Djibouti has implemented numerous national plans and programs to reduce vulnerability to drought, protect itself from rising sea levels, develop access to drinking water, protect biodiversity, and reinforce the resilience of rural populations. The energy sector has been identified as a focal point for reduction, given the country's potential in RE. The development of solar, wind, and geothermal power continues, so as to meet national needs in electricity, to reduce the price of electricity, and to achieve a 100% green energy mix by 2025. The investment necessary to maintain an emissions level similar to that of 2010 is $5.5 billion. Reaching SDG 13 on climate action is on track, but major challenges remain.



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Eritrea

Recent macroeconomic and financial developments

Eritrea's economy recovered from multiple shocks, notably desert locust invasions and COVID-19, to grow by 2.9% in 2021, a switch from a contraction of 0.6% in 2020. Growth was led by industry and services on the supply side and private consumption and investment on the demand side. The uptick in global demand and prices for metals boosted industry, but services' contribution to growth in 2021 was lower than pre-COVID levels as hospitality, tourism, transport, and trade were hit by containment measures. Stability of global supply and value chains eased inflation to 4.5% in 2021 from 4.8% in 2020.

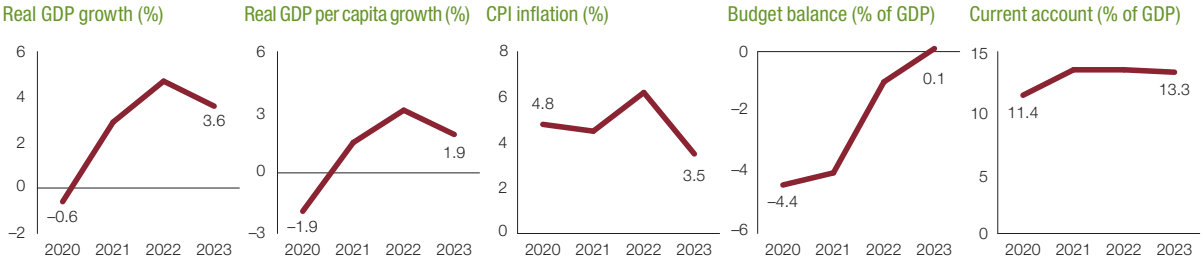
The financial sector is small, bank-based, and offers a limited range of financial services. The fiscal deficit narrowed to 4.0% of GDP in 2021 from 4.4% in 2020, reflecting fiscal consolidation and a gradual pickup in public revenues with the economic recovery. The fiscal deficit was financed by a drawdown on government deposits with the central bank. Eritrea's public debt-to-GDP ratio dropped by 9.1 percentage points to 175.6% in 2021 relative to 2020; the country remains in debt distress. The current account surplus widened to 13.5% of GDP in 2021 from 11.4% in 2020, reflecting the rise in global demand for and prices of metals (metals account for about half of total exports). International reserves were estimated at 4 months of imports in 2020.

Outlook and risks

GDP growth is projected at 4.7% and 3.6% in 2022 and 2023, due to increased international prices for metals. Growth will be led by industry and services, and by private consumption and investment. Fluctuations in commodity prices are a key downside risk to the outlook, which calls for increasing value addition and export diversification. Higher food and oil prices triggered by the Russia–Ukraine conflict are expected to increase inflation to 6.2% in 2022 before it eases to 3.5% in 2023. Fiscal consolidation and enhanced public revenues from metal exports is projected to lower the fiscal deficit to 1% of GDP in 2022 and generate a surplus of 0.1% in 2023, with the current account surplus stabilizing at13.5% and 13.3% of GDP. The $21.51 million (0.9% of GDP and 2.2% of international reserves) SDR allocation, recorded at the central bank, is expected to boost international reserves.

Climate change issues and policy options

Eritrea is highly susceptible to climate change, including El Niño. In 2008–21, Eritrea experienced five major droughts, which affected over 3.3 million. Reliance on rainfed agriculture absent an integrated climate-smart agriculture policy has increased deforestation, land degradation, and vulnerability of smallholder farmers. Eritrea is ranked 178 out of 181 countries on the 2019 Country Index of the Notre Dame Global Adaptation Initiative and 130 out of 180 on the 2021 GCRI. The climate adaptation and mitigation plans are outlined in the 2021 NDC strategy, which commits to reduce GHG emissions by 12.6% unconditionally and by 38.5% with international support by 2030. The NDC identified agriculture, marine resources, health, water, and land resources as the most vulnerable sectors, and proposes rehabilitation of degraded land; introduction of energy-saving cooking solutions and solar-powered water systems; and promotion of integrated coastal marine management systems. Transition to RE is equally critical given the country's reliance on fossil-powered thermal plants for electricity. Implementing the NDC will cost about $7 billion, requiring innovative climate financing.



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Ethiopia

Recent macroeconomic and financial developments

Ethiopia's economy decelerated to 5.6% growth in 2021 from 6.1% in 2020, due to civil conflict and the effects of COVID-19 on transport and hospitality. Growth was led by industry and services on the supply side and private consumption and investment on the demand side. Inflation increased to 26.7% in 2021 from 20.4% in 2020, much above the central bank's 8% target, because of domestic credit expansion to revive the economy and COVID-19-induced supply chain disruptions. The fiscal deficit, including grants, declined to 2.6% of GDP in 2021 from 2.8% in 2020 due to expenditure reprioritization and growth in tax revenue. The banking sector is stable but closed to international competition; it accounts for 76% of the financial sector's total capital (with state-owned banks accounting for 51.8% of banking sector assets), followed by microfinance (15%), and insurance and leasing (9%).

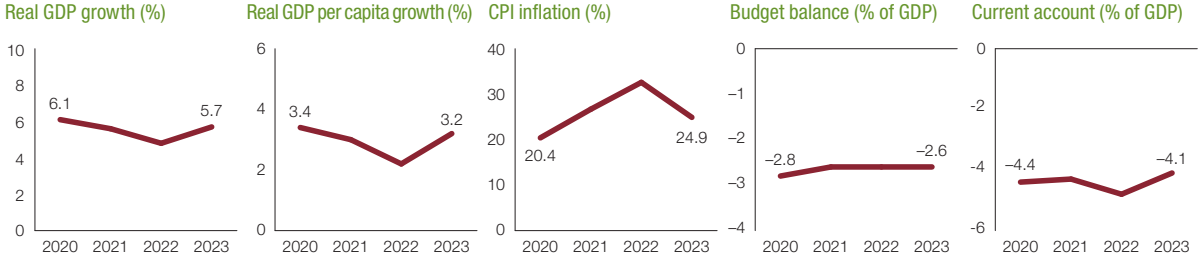
Public and publicly guaranteed debt was estimated at 57.8% of GDP (external debt, 32.8% of GDP) in June 2021. The current account deficit improved slightly from 4.4% of GDP in 2020 to 4.3% in 2021 on account of subdued imports. The current account deficit was financed by FDI and remittances. International reserves remained low at 2.5 months of import cover in 2020, and 2.2 months in 2021. The $408 million SDR allocation (0.4% of GDP), recorded at the central bank, will boost international reserves. Conflict and the COVID-19 pandemic increased the number of people requiring humanitarian support to close to 15.8 million in 2021 from about 8 million in 2020.

Outlook and risks

GDP growth is projected to fall to 4.8% in 2022 but pickup to 5.7% in 2023, driven by industry and by private consumption and investment. A tourism rebound and liberalization of the telecoms sector are expected to boost the growth outlook. Key downside risks to the growth outlook include the civil conflict in northern Ethiopia, COVID-19, and debt vulnerabilities. Higher global food and oil prices due to the Russia–Ukraine conflict are expected to increase inflation to 32.6% in 2022 before it eases to 24.9% in 2023. The fiscal deficit is projected to remain stable at 2.6% in 2022 and 2023 due to implementation of the fiscal consolidation strategy and improvement in tax revenue mobilization. The current account deficit is expected to widen to 4.8% of GDP in 2022 but to narrow to 4.1% in 2023. This reflects the slow recovery in merchandise and service exports and FDI, amidst lower imports of capital inputs.

Climate change issues and policy options

Ethiopia is 72 on the 2021 GCRI. Its climate change vulnerabilities include droughts, flooding, desertification, water scarcity, and increased incidence of pests, affecting the agriculture, energy, and health sectors. The 2016 El Niño–induced drought affected about 10.2 million people, requiring a $1.9 billion humanitarian response. The productive safety net program, adopted in 2005 to reduce vulnerability to climate shocks, covers 8 million–10 million people at an annual cost of $0.44 billion. The 2011 Climate Resilient Green Economy (CRGE) Strategy provides a framework for lowering GHG emissions. In its update to its NDC for 2020–30, Ethiopia set emission targets under three scenarios—business-as-usual, unconditional, and conditional. The last projects emissions to decline by 68.8% to 125.8 $MtCO_2eq$ in 2030 from 347.3 $MtCO_2eq$ in 2020. Innovative climate financing would be critical for implementing the Strategy. Ethiopia's NDC financing needs for 2020–30 amount to $316 billion ($275.5 billion for mitigation, $40.5 billion for adaptation); $63.2 billion will come from domestic, and the rest from international climate finance, sources. Ethiopia is on course to meet SDG 13 on climate action.



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Kenya

Recent macroeconomic and financial developments

The Kenyan economy grew by 6.7% in 2021 after 0.3% contraction in 2020. Growth was driven by services on the supply side and by private consumption on the demand side, both benefiting from supportive policies and eased COVID-19 restrictions. Inflation climbed to 6.1% in 2021 from 5.3% in 2020, reflecting increased input costs. The fiscal deficit nudged down to 7.9% of GDP in 2021 from 8% in 2020 due to improved revenue, reversed tax cuts as the economy recovered, and rationalized spending. Public debt surged to 68% of GDP at end-June 2021 from 63% in 2020, driven by the primary deficit. Kenya is assessed as being at high risk of debt distress. The current account deficit widened to 5.2% of GDP in 2021 on the back of an increased trade deficit.

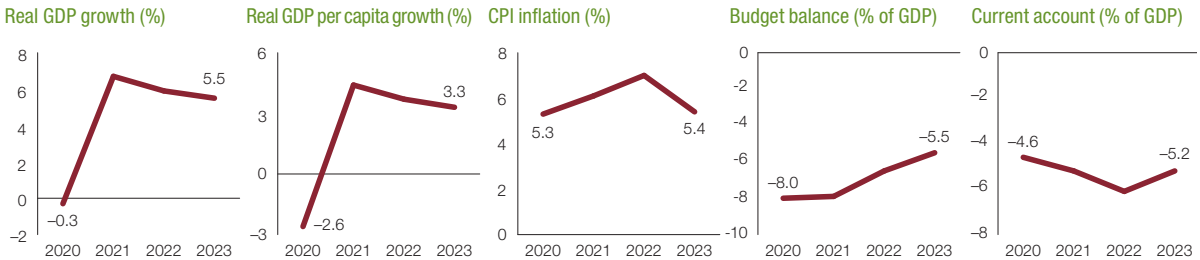
International reserves reached $8.8 billion as at end-November 2021 against $8.1 billion in 2020 (5.4 months of import cover), reflecting the SDR allocation of $737.6 million, about half of which was used to finance the fiscal deficit. The exchange rate depreciated by 3.7% year on year in 2021. The banking sector is profitable, liquid, and well-capitalized; yields on government securities and the NSE-20 index, and market capitalization, increased. The number of people in extreme poverty declined to 16% in 2021 from 17% in 2020, and unemployment fell to 12.3% from 14.3% over the period, attributable to per capita income growth, social safety-net programs, and economic recovery.

Outlook and risks

Growth is projected to decelerate to 5.9% in 2022 and 5.7% in 2023, driven on the demand side by a decline in domestic and external demand caused by lower income and by an increase in food and fuel import costs and on the supply side by tepid economic activity across sectors due to cost-push factors. Inflation is projected to edge up to 7%, close to the upper end of the target band (7.5%), caused by greater energy and food inflation. The fiscal deficit will narrow to 6.5% of GDP in 2022 and to 5.5% in 2023 with the resumption of the IMF-supported fiscal-consolidation and debt management program. The current account deficit is projected to widen further to 6.1% and 5.2% of GDP over the two years, attributable to higher fuel and food import bills. Downside risks could stem from the 2022 general election, a surge in COVID-19 infections (vaccine rollout was at 30% by mid-April 2020), limited access to external resources, and natural factors. Risk mitigation could include organizing election-education events, continuing growth-friendly structural reforms to build resilience to shocks, and addressing COVID-19 vaccine hesitance.

Climate change issues and policy options

Kenya is 25 on the 2021 GCRI. Over 84% of its land is classified as arid and semi-arid and so exposed to extreme natural events—drought, locust invasion, and flood, which have displaced communities, disrupted social services delivery, and induced social tensions. An average drought results in a food deficit of 20–30%, slashes GDP growth by 3–5%, and affects the livelihoods of over 80% of the population. In line with its Vision 2030, Kenya has introduced policies and frameworks to tackle climate change. It updated its NDC to 32% in 2021 and put in place mitigation and adaptation measures to achieve the COP26 emission reduction targets, which are forecast to cost $64.9 billion between 2021 and 2030. They include increasing the share of renewables in the electricity generation mix, increasing tree cover to at least 10% of land area, building a low carbon and efficient transportation system, and increasing the uptake of adaptation technology across all sectors. Kenya is exploring sources of climate finance such as carbon markets, the Green Climate Fund, and the Africa Climate Change Fund. It is on track to meeting the five climate action targets of SDG 13 by 2030.



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Rwanda

Recent macroeconomic and financial developments

After contracting by 3.4% in 2020 due to COVID-19, GDP growth reached 10% in 2021, buoyed by sustained fiscal stimulus, accelerated vaccination rollout (7.9 million people or 61% of the population vaccinated by March 20, 2022), relative easing of COVID-19 restrictions, and recovery in global demand. Growth was driven by expansion in services (12%), industry (13%), and agriculture (6%). GDP per capita recovered from a 5.9% contraction in 2020 to post 7.4% growth in 2021. Inflation declined from 7.7% to 0.8% over the period, owing mainly to low food prices. Monetary policy remained accommodative, and the policy rate was kept at 4.5% from May 2020 (to support economic recovery) until February 2022, when it was raised to 5% (to address expected spikes in inflation).

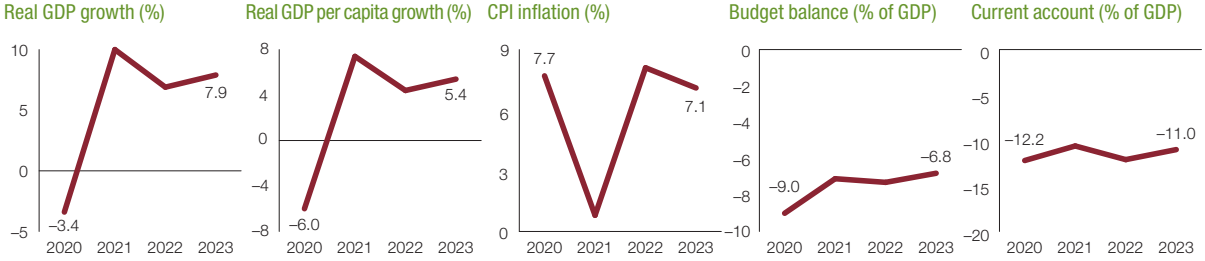
The financial sector remained stable with a capital-adequacy ratio of 26.3% in 2021. The fiscal deficit remained large at 7.1% in 2021 due to spending on COVID-19. It was financed by proceeds from August 2021's $620 million Eurobond issue and the SDR allocation of $219 million (1.9% of GDP and 12.8% of its international gross reserves). The current account deficit widened from 12.2% of GDP in 2020 to 13.5% of GDP in 2021 due to higher oil prices and increased imports for intermediate and capital goods. The Rwandan franc was relatively stable in 2021, declining by 2.6% against the dollar. The debt-to-GDP ratio climbed from 71.2% in 2020 to 74.6% in 2021. The risk of debt distress remains moderate.

Outlook and risks

GDP growth is projected at 6.9% and7.9% in 2022 and 2023. The accelerated vaccination rollout, pickup in external demand, and government support to small and medium enterprises will help to support continued economic recovery. The current account and fiscal deficits are expected to narrow on the back of increased domestic savings from envisaged fiscal consolidation, reforms in commercial agriculture, and services digitization. Downside risks include the possibility of subdued external demand and fears of repeated waves of COVID-19 variants, which could undermine consumer and investor confidence, as well as the Russia–Ukraine conflict, which might cause supply disruptions: Rwanda relies heavily on Russia for wheat and fertilizer, with 64% of its wheat coming from Russia. The country plans to spend additional $50 million in fiscal stimulus in 2022 while seeking alternative sources of wheat and other disrupted supplies.

Climate change issues and policy options

Rwanda is vulnerable to climate change and is ranked 124 out of 182 countries on the 2020 Country Index of the Notre Dame Global Adaptation Initiative. Due to seasonal temperature shifts, the occurrence of extreme weather events has become more frequent, especially in high altitude areas of the North and Western provinces, and droughts in the low-lying Eastern province, causing serious damage to agriculture, infrastructure, health, and livelihoods. If left unaddressed, the total cost of climate change in Rwanda is estimated at an additional 1% of GDP a year by 2030, rising to 4% by 2050. Rwanda has submitted its updated NDC, which outlines the country's commitment to developing a climate-resilient, low carbon economy, including a 38% reduction of GHG emissions relative to business as usual by 2030, equivalent to up to 4.6 $MtCO_2eq$, estimated at $11 billion. To ensure that the country remains coordinated in financing these goals, the Rwanda Green Fund was created, and has since raised $217 million for green investments in RE, climate-smart agriculture, and sustainable urbanization. Rwanda is likely to meet SDG 13 by 2030.



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Seychelles

Recent macroeconomic and financial developments

GDP is estimated to have rebounded by 7.9% in 2021 after contracting by 7.7% in 2020 due to the COVID-19 pandemic. On the supply side, growth is driven by tourism and fisheries, which are the major contributors to GDP, foreign exchange, and employment. On the demand side, growth is driven by household consumption and investment. With an accommodative monetary policy by the central bank, inflation in 2021 is estimated to have risen to 9.7% from 1.8% in 2020 owing to supply disruptions. The fiscal deficit is estimated to have narrowed in 2021 to 6.0% of GDP from 18.9% in 2020 as revenue collection improved. The current account deficit narrowed slightly in 2021 to 19.8% from 23.1% in 2020, reflecting the recovery. Fiscal and current account deficits were financed by concessional loans and domestic borrowing.

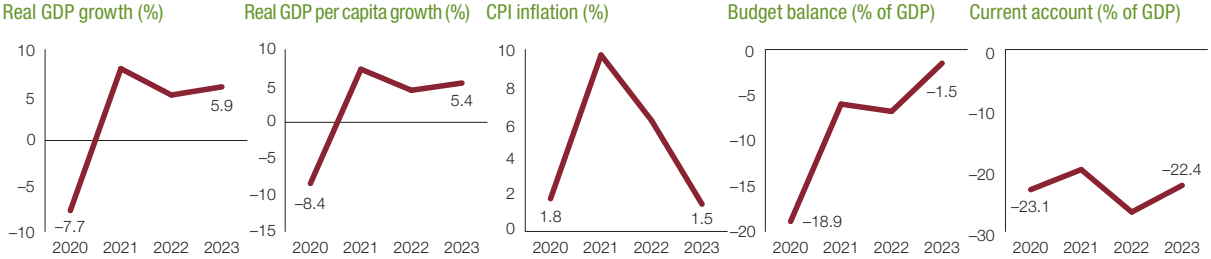
As tourism revenues declined, the exchange rate depreciated from an average of 13.8 SCR/$ in 2019 to 21.3 in February 2021. External reserves remained strong at 4.5 months of import cover in 2021. Debt is estimated to have declined in 2021 to 81.2% of GDP from 92.2% in 2020. The financial sector is well developed, with eight banks and five nonbank financial institutions. Yet, the banks are highly concentrated, with the three largest holding 80% of banking sector assets, deposits, and loans. Poverty is low overall at 1.1% and most social indicators are strong. With about 15 social welfare programs, the impact of COVID-19 on poverty was not huge, though unemployment increased in 2020 to 4.8% from 2.3% in 2019. The SDR allocation to Seychelles was 21.9 million, more than twice the previous cumulative allocation of 8.3 million and equivalent to about 4% of foreign exchanges reserves.

Outlook and risks

The medium-term outlook remains positive. GDP is projected to grow by 5.0% and 5.9% in 2022 and 2023 as the economy continues rebounding. The fiscal deficit is projected to further narrow to 1.5% in 2023 after slightly widening to 6.8% in 2022 as revenue collection increases. The current account deficit is projected to widen to 26.8% and 22.4% in 2022 and 2023 due to uncertainty in global economic recovery and the situation in Russia, where most of the tourists in 2021 came from. Debt stock is expected to decline to 76% of GDP in 2022 and to below 70% in 2023. Inflation is projected to decline to 6.1% and 1.5% in 2022 and 2023 as supply chains improve. Tourism and fisheries will remain key growth drivers, but opportunities in knowledge-intensive services, including digital finance and ICT (the latter projected to grow by 7% in 2022) will also contribute to economic growth. Uncertainty about the global post-pandemic economic recovery, vaccination rollout, and the Russia–Ukraine conflict and related effects on global supply chains and travel restrictions are downside risks. To reduce vulnerability and uncertainty of growth, Seychelles should continue to diversify economically to reduce its overdependence on tourism.

Climate change issues and policy options

As an oceanic nation, Seychelles is prone to tsunamis, hurricanes, and tidal surges, which can wipe out assets and reduce economic activity. Seychelles is 130 on the 2021 GCRI. Most recently (April 2021) tropical cyclone Jobo passed through the Outer Islands. Seychelles releases 5.38 tons of CO_2 per person annually, which is very high, 95% from electricity generation and transport. Still, the country remains committed to climate change: in 2021, it finalized a climate change strategic plan with targets for adaptation programs in transport, energy, and infrastructure. It introduced the world's first debt refinancing for ocean conservation, such that one-third of its ocean territory is protected against climate change and unregulated economic exploitation. Its NDC targets include 15% of energy from renewable sources and switching 30% of vehicles from fossil fuels to electricity by 2030. The updated NDC lists mitigation and adaptation projects with a financing cost of about $670 million, split roughly equally. With a continued focused approach and partnership with global partners, Seychelles is likely to meet SDG 13 by 2030.



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Somalia

Recent macroeconomic and financial developments

The economy recovered from recession in 2020 to register estimated GDP growth of 2.0% in 2021, driven by private consumption and livestock exports. Multiple shocks including floods, locust invasions, and COVID-19 curtailed the pace of recovery and increased poverty. Private consumption was boosted by remittances, which increased to an estimated 31.3% of GDP in 2021 from 30.8% in 2020. Private investment remained resilient, despite the slight reduction in FDI to 9.2% of GDP in 2021 from 9.4% in 2020. The currency reform program stalled due to political uncertainty and is holding back monetary policy measures, given widespread dollarization and currency counterfeiting. Inflation increased to an estimated 4.6% in 2021 from 4.3% in 2020 due to reduced food supply.

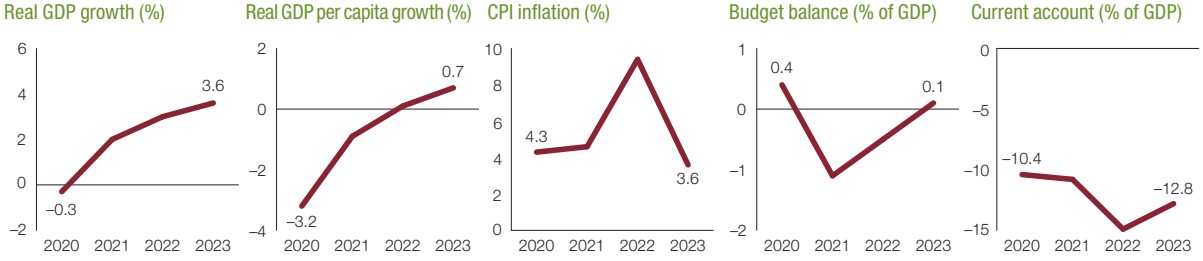
The banking sector remains stable, with NPLs at less than 3% of total credit. Somalia targets a zero-cash fiscal balance as part of the conditions for reaching the completion point under the Heavily Indebted Poor Countries (HIPC) initiative. The fiscal deficit in 2021 partly reflects the SDR allocation ($203 million or 4.1% of GDP), which helped to fill financing shortfalls created by the decline in public revenues and grants. Somalia is in debt distress, although when it reaches the HIPC completion point by 2023 as expected, that will ensure debt sustainability. The current account deficit widened to 10.8% of GDP in 2021, compared with 10.4% in 2020, owing to the slow recovery in livestock exports, and was financed by aid, remittances, and FDI.

Outlook and risks

The outlook is clouded by insecurity, political uncertainty, COVID-19 (given a 5.5% vaccination rate in December 2021), and climate change. Progress in concluding the national elections will catalyze development assistance and FDI. GDP growth is projected at 3.0% in 2022 and 3.6.% in 2023, driven by private consumption and recovery in livestock exports. Inflation is projected to surge to 9.4% in 2022 due to higher food and oil prices because of the Russia–Ukraine conflict and drought. High oil prices will also affect energy supply, considering Somalia's dependency on fossil fuels for electricity generation. Balanced cash budgets will remain a fiscal policy target over the medium term in line with Somalia's HIPC program. Undiversified exports are a key source of external vulnerabilities, despite the recovery in livestock exports and other financial inflows. The current account deficit is projected to reach 14.9% of GDP in 2022 and 12.8% in 2023.

Climate change issues and policy options

Somalia is vulnerable to climate change, especially in agriculture, land, and marine areas. An average 6 million Somalis were affected by drought or floods, or both, in 2019–21, slowing GDP growth and exacerbating poverty and income inequality. Somalia is ranked the second most vulnerable country and the least equipped to adapt to climate change on the 2019 Country Index of the Notre Dame Global Adaptation Initiative. Somalia prepared its NDC in 2021 as an update to its intended NDC and National Adaptation Programme of Action of 2015. The NDC proposes investing in RE resources, reversing deforestation and range-land degradation, and beefing up disaster management, among other measures, and targets a 30% reduction in GHG emissions by 2030; the proposed mitigation measures are estimated to cost $6.96 billion. However, implementation of NDC actions is hampered by lack of human as well as financial resources. Access to global climate funds has been constrained by the limited investments in potential beneficiary sectors such as energy, which will make it hard for Somalia to achieve SDG 13 on climate action.



Source: Data are as of April 2022 and are from domestic authorities; figures for 2021 are estimates and figures for 2022 and 2023 are projections by the African Economic Outlook team.

South Sudan

Recent macroeconomic and financial developments

GDP contracted by 6.0% in 2020/21 after growth of 13.2% in 2019/20, owing to floods, locust invasions, and COVID-19. Pandemic containment measures constrained movement and business operating hours and affected the services sector. On the supply side, agriculture was hurt by the floods and locusts. Production in the oil sector, which accounts for over 75% of GDP and 80% of the industry sector's value added, fell as some oilfields reached maturity. Public and private consumption, which drove growth on the demand side in 2020, were affected by reduced economic activity in 2020/21.

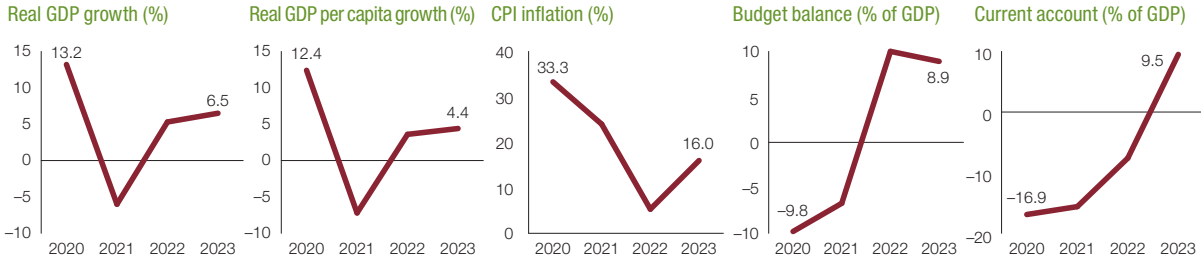
Tighter monetary policy reduced inflation to an estimated 24.0% in 2020/21 from 33.3% in 2019/20. The financial sector has limited competition, although banking NPLs at 12% of total loans in September 2021 were below the statutory requirement of 20%. The fiscal deficit narrowed to 6.7% of GDP in 2020/21 from 9.8% the prior year, reflecting fiscal consolidation, and was financed mainly by oil-backed loans. The risk of public debt distress improved, from "debt distress" to "high risk" in 2021 following debt restructuring in 2020. The current account deficit improved to 15.6% of GDP in 2020/21 from 16.9% the previous year due to lower financial transfers to Sudan and was financed by FDI and remittances. The SDR allocation ($334 million) financed the deficit ($150 million) and boosted international reserves ($184 million). A $49.2 million COVID-19 Strategic Preparedness and Response Plan was implemented to mitigate the socioeconomic effects of the pandemic.

Outlook and risks

Growth is projected to rebound to 5.3% and 6.5% in 2021/22 and 2022/23 due to increased oil export receipts. It will be driven by industry and by private consumption and investment. Inflation is projected to fall to 5.3% in 2021/22, reflecting improved food supply, but to increase to 16% in 2022/23 because of drought and higher food prices in the key source markets of Kenya and Uganda following the Russia–Ukraine conflict. Fiscal consolidation, the SDR allocation (about 3.8% of GDP), and increased oil revenues will generate a fiscal surplus of 10.0% of GDP in 2021/22 and 8.9% in 2022/23. The current account deficit is projected to improve to 7.6% of GDP in 2021/22 before flipping to a surplus of 9.5% in 2022/23 on higher oil export earnings. Disruptions to the peace process, fluctuations in oil prices, lingering COVID-19, and climate change effects are the main downside risks to growth.

Climate change issues and policy options

South Sudan is eight on the 2021 GCRI, and is heavily exposed to climate change, notably frequent droughts, floods, and locust invasions. This takes down agricultural productivity and GDP growth. Scarcity of water can aggravate intercommunal conflicts between pastoralists and crop farmers. Climate change–induced natural disasters and intercommunal clashes have triggered internal displacements and socioeconomic deprivation for the most vulnerable. They have also increased incidence of infectious diseases in a weak national health system, with diarrhea and malaria among the top five causes of deaths, according to the Second Nationally Determined Contribution (SNDC) Report of 2021. South Sudan adopted an Environmental Policy (2015–26) and prepared the SNDC Report to inform remedial actions. The SNDC prioritizes a transition to a low-carbon economy, targeting a 158% reduction in GHG emissions by 2030, and recommended forest and land-use policies to guide sustainable exploitation of forests and natural resources; policies and incentives for private investments in RE generation; and regulations to reduce gas flaring. Access to climate finance is limited, however, and so it is critical to raise awareness about carbon financing and associated credit programs. Achieving SDG 13 on climate action will be a challenge.



Source: Data are as of April 2022 and are from domestic authorities; figures for 2021 are estimates and figures for 2022 and 2023 are projections by the African Economic Outlook team. Data on the budget balance correspond to South Sudan's fiscal year, which runs from July 1 to June 30.

Sudan

Recent macroeconomic and financial developments

GDP grew by an estimated 0.5% in 2021, recovering from a negative 3.6% in 2020. Growth was supported by agriculture and mining on the supply side, and private consumption and investment on the demand side. The recovery follows several years of economic contraction stemming from macroeconomic imbalances, structural deficiencies, political instability, and COVID-19. The central bank adopted an accommodative monetary policy in 2021 to boost credit growth and economic activity. Inflation more than doubled from 163.3% in 2020 to 358.9% in 2021, owing to currency depreciation and removal of fuel subsidies. Banks dominate the financial sector, accounting for over 80% of total assets. Fiscal consolidation and improved public revenues, as COVID-19 restrictions were eased, reduced the fiscal deficit to 4.5% of GDP in 2021 from 5.6% in 2020.

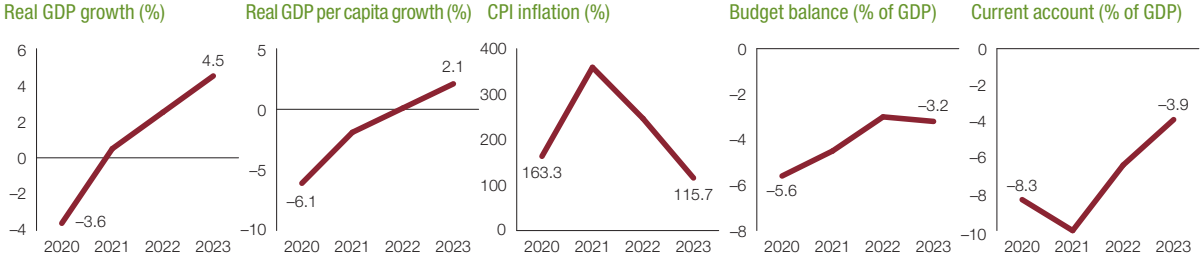
Sudan reached "decision point" under the HIPC initiative in 2021, cutting its $56 billion external debt (163% of GDP) by 50%. The current account deficit increased to 10.0% of GDP in 2021 from 8.3% in 2020, with higher imports after the lifting of COVID-19 restrictions, offsetting the pickup in exports arising from improved external demand. The current account deficit was financed by portfolio investments and external borrowing. International reserves remained very low at 0.3 and 0.4 months of imports in 2021 and 2020. Sudan's SDR allocation was equivalent to $857.7 million (262% of international reserves) in 2021, but it was suspended after the October 2021 military takeover. Poverty increased from 55.4% in 2020 to 55.9% in 2021 and unemployment remained high at 18% in 2020, partly due to COVID-19.

Outlook and risks

GDP is projected to grow by 2.5% in 2022 and 4.5% in 2023, driven by agriculture and mining, and by private consumption and investment. The main downside risks are political instability, COVID-19, and shocks related to the Russia–Ukraine conflict (notably higher food and oil prices). Ongoing efforts to form a civilian government are expected to restore political stability and accelerate macroeconomic and structural reforms. Consequently, inflation is predicted to fall to 246.4% in 2022 and again to 115.7% in 2023. Public spending rationalization is expected to reduce the fiscal deficit to 3.0% of GDP in 2022 and 3.2% in 2023. The fiscal deficit will be financed by domestic and external borrowing, and by part of Sudan's SDR allocation (which in all is equivalent to 3.4% of GDP). The current account deficit is projected to narrow to 6.4% of GDP in 2022 and to 3.9% in 2023, reflecting ongoing structural reforms.

Climate change issues and policy options

Sudan faces land degradation, temperature increases, frequent droughts and floods, erratic rainfall, and locust invasions, which have lowered agricultural output, slowed GDP growth, and destroyed livelihoods. Drought and floods are taking out 20% of the harvested area each year, and cause deaths of thousands of livestock. Climate risks are aggravated by unsustainable exploitation of natural resources and weak institutional and human capacities. Sudan ranked 174 out of 180 countries on the 2019 Country Index of the Notre Dame Global Adaptation Initiative and 11 on the 2021 GCRI. Sudan is party to UN initiatives on climate change and environmental conservation, and has established national institutions, laws, and regulations. Its transition to low-carbon and climate-resilient development is guided by its 2021 National Adaptation Plan and NDC strategy. The Plan's interventions, also mainstreamed in the Poverty Reduction Strategy Paper 2021–23, include 20% RE generation by 2030. Sudan requires $12.88 billion to mitigate climate change over 10 years, but spends an average of $23.3 million annually, which calls for larger resource mobilization to bridge the huge financing gap of about $1 billion a year. Sudan is therefore unlikely to achieve SDG 13 on climate action by 2030.



Source: Data are as of April 2022 and are from domestic authorities; figures for 2021 are estimates and figures for 2022 and 2023 are projections by the African Economic Outlook team.

Tanzania

Recent macroeconomic and financial developments

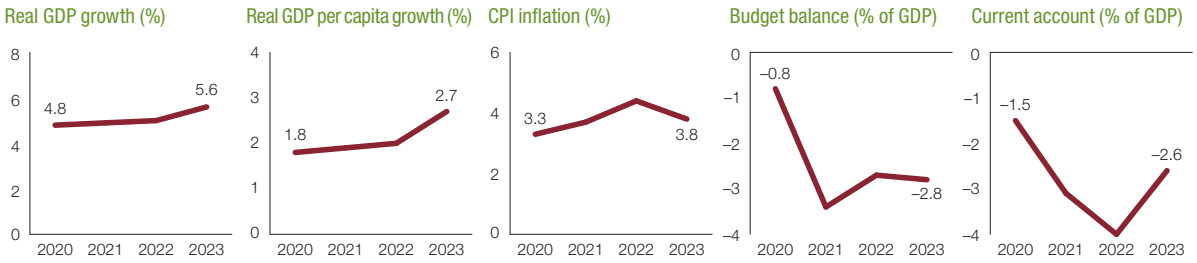
GDP grew at 4.90% in 2021, up from 4.8% in 2020, supported by the global economic recovery. Growth was driven by agriculture and services on the supply side and final consumption and investment on the demand side. Monetary policy remained tight, which stabilized inflation at 3.3% in 2020 and 3.7% in 2021. The Tanzanian shilling remained stable in 2020–21, depreciating by only 0.2% against the US dollar. The ratio of NPLs to gross loans fell to 9.4% in March 2021 from 11.0% in March 2020, but was still above the statutory requirement of 5%. The fiscal deficit increased to 3.4% of GDP in 2021 from 0.8% in 2020 due to weak revenue performance and growing financing needs to address the impacts of COVID-19; it was financed by external and domestic borrowing. The current account deficit widened from 1.5% of GDP in 2020 to 3.1% in 2021, partly due to subdued tourism receipts, and was mainly financed by external commercial debt because other financial inflows, including FDI and grants, declined. International reserves increased to 6.6 months of import cover in 2021 from 5.6 months in 2020 due to increased external official inflows and the SDR allocation of $543 million (0.8% of GDP). Tanzania had previously reduced poverty, but about 1 million people are estimated to have fallen back into poverty in 2020 due to COVID-19.

Outlook and risks

GDP growth is projected at 5.0% and 5.6% in 2022 and 2023, due to improved performance in tourism, the reopening of trade corridors, and accelerated rollout of vaccines. Inflation is projected to increase to 4.4% in 2022 and to 3.8% in 2023 due to higher energy prices because of the Russia–Ukraine conflict. The fiscal deficit is expected to narrow to 2.7% and 2.8% of GDP in the same period due to better revenue performance and will be financed by domestic and external borrowing. The current account deficit is expected to widen to 4.0% of GDP in 2022 due to higher oil prices before narrowing to 2.6% in 2023 as merchandise exports and tourism receipts stabilize, and will be financed mainly by external borrowing. The major downside risks relate to new COVID-19 variants and associated disruptions to economic activity, but should be mitigated by increased public awareness and uptake of vaccines.

Climate change issues and policy options

Agriculture, manufacturing, and energy are among the key sectors most vulnerable to climate change, with drought affecting agriculture and reliable power supply. Tanzania is 67 on the 2021 GCRI. Its latest review of the 2015 NDC estimated the economic costs from climate shocks at about 1% of GDP. The government has developed policies to support climate resilience, including the National Climate Change Strategy 2021–2026, the Zanzibar Climate Change Strategy (2014) and the Environmental Management Act Cap. 191. Tanzania's NDC has a target of reducing GHG emissions by 10–20% by 2030 through actions including promotion of clean technologies and RE sources. However, rapid population growth and a significant RE financing gap present substantial challenges to achieving the NDC targets. Tanzania estimates that about $60 billion is needed by 2030 for mitigation investments, requiring a scaling-up of mobilized climate finance. The country is on track to achieve SDG 13 on climate action.



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Uganda

Recent macroeconomic and financial developments

Economic activity was hit by COVID-19 lockdowns in 2020 and 2021. Growth recovered from a contraction of 1.5% in 2020 to 6.0% in 2021, lifted by household consumption and investment. Agriculture was the least affected sector; industry was supported by strong expansion in mining and construction, while manufacturing remained sluggish. Services are returning to pre-COVID-19 trends, driven by public administration and education. Stable prices in 2020 and 2021—with inflation at 2.2% in the latter year—led the central bank to reduce its policy rate from 9% to 6.5% over the two years. Prudent management kept the financial sector stable, with NPLs at 4.8% of gross loans in 2021, that is, under the 5% regulatory threshold.

Public health spending increased for COVID-19 vaccines and recovery loans to keep businesses afloat. However, expenditure reprioritization reduced the fiscal deficit to 7.5% of GDP in 2021 from 9.5% in 2020; it was financed through domestic borrowing. Consequently, public debt increased by 14 percentage points to 49% of GDP in 2021 from 2020, leading to a downgrade of sovereign debt to moderate risk of debt distress. The current account deficit remained high at 9.5% of GDP in 2021 due to loss in tourism revenues and a rising trade deficit. Development funding, remittances, and FDI financed the deficit, while the SDR allocation boosted reserves by 1.3% of GDP.

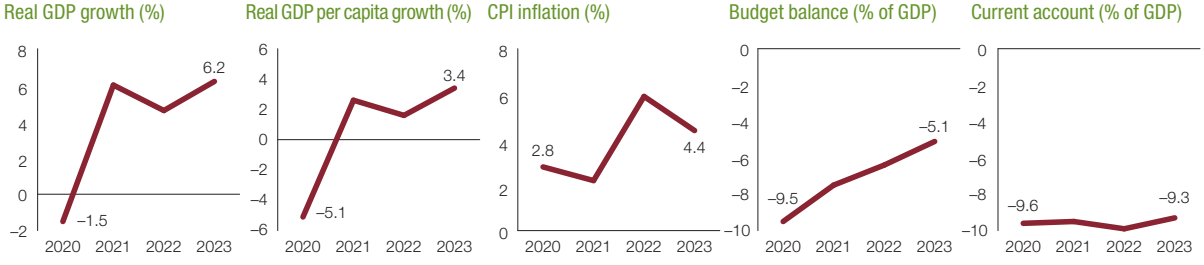
Outlook and risks

The economic recovery is expected to continue, with GDP projected at 4.6% and 6.2% in 2022 and 2023, driven by services, following the reopening of schools in 2022 and recovery in the hospitality sector. As global value chains stabilize and consumer demand rises, manufacturing growth is projected to accelerate. The pandemic has propelled expansion in mobile money transactions, which is projected to continue. With increased economic activity, domestic revenue is expected to strengthen, underpinning further fiscal consolidation. High imports and a muted recovery in tourism will keep the current account deficit wide. External risks emerging from the Russia–Ukraine conflict include inflationary pressures due to higher food and oil prices and continued supply chain disruptions. Domestic risks relate to pressure to ramp up public infrastructure spending amid weak tax revenues and implementation challenges, while poor rain patterns could undermine agriculture. Uganda has the reserves to counter shocks.

Climate change issues and policy options

Uganda is undergoing more extreme weather events such as flooding, as well as prolonged dry and warmer spells. Climate change impacts are felt mainly in agriculture, water, health, and human settlements. These effects are mirrored in the 2021 GCRI on which Uganda is 31. Absent realistic actions to adapt to climate impacts, Uganda could incur annual economic costs of 2.8–4.5% of GDP in 2010–50. Significant economic losses, including severe damage to existing infrastructure in energy and agriculture, are expected given the increased frequency of climate change shocks and limited adaptation.

The National Climate Change Policy (2015) estimated the cost of adaptation and mitigation measures at about 5% of ODA in 2021–25 (about $644 million total). Yet, the government has hardly tapped into international climate funds, receiving only $94 million in 2000–19 from global environmental and climate change financing sources. It will therefore need to mobilize more external resources as it lacks the domestic financing for adaptation and mitigation measures. Still, Uganda is on track to meet SDG 13 on climate action.



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NORTH AFRICA

Algeria

Recent macroeconomic and financial developments

After the adverse shock of the pandemic and the fall in oil prices in 2020, the Algerian economy started to recover in 2021 with growth of 4.0%, from contraction of 4.9% in 2020. Growth was bolstered by renewed external demand, mainly for oil, and its increased production and rising prices. The pickup in oil revenues partly compensated for the increase in capital expenditure. These developments, combined with the consolidation measures in 2021, led to a budget deficit reduction of 4.8 percentage points. Inflation increased in 2021 to 7.0%, due to lower availability of food. The central bank eased monetary policy by reducing the reserve requirement ratio from 10% to 2% and its policy rate from 3.5% to 3% and loosened the banking sector's prudential regulations. Much attention is paid to financial stability given banks' liquidity risks and refinancing needs. Public debt, which is essentially domestic, has increased sharply in the past few years, to the equivalent of 59.2% of GDP in 2021.

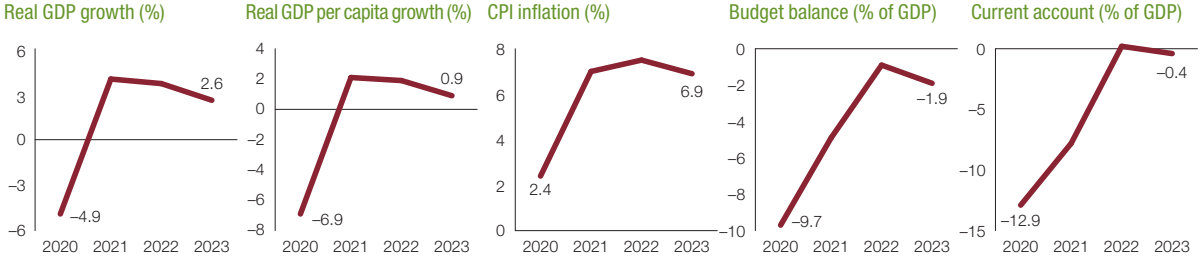
The current account deficit improved by 5.1 percentage points of GDP in 2021, reflecting the increase in volume and price of oil exports, good results for other exports (iron and steel), and import-compression measures. The increase in exports and the IMF's payment of $2.67 billion in 2021, as part of the SDR allocation, slowed the decline in reserves (11.1 months of imports in late 2021 against 12.5 months in late 2020). Unemployment was estimated at 11% in 2021, with higher rates among the young (26.4%) and women (19.5%).

Outlook and risks

Growth is expected to slow in 2022 to 3.7% and in 2023 to 2.6%, due to limited oil output. However, the budget and current account balances show an upward trend in the short term (–0.9% and 0.2% of GDP in 2022). The clear improvements in both public finance and the current account balance are due to the short-term positive impact of the Russia–Ukraine conflict on Algerian exports of hydrocarbons. Nevertheless, this strong dependence on oil prices underlines the need for economic diversification, especially toward petrochemicals, gas and agricultural products that have high export potential. Inflation is expected to increase in 2022, given the upward trend in global prices and a monetary policy that is likely to remain expansionary. The main risks are a worsening health crisis and deteriorating terms of trade.

Climate change issues and policy options

Algeria is 125 on the 2021 GCRI. It faces soil erosion, desertification, water shortages, and drought cycles, exacerbated by climate change. The country has integrated environmental viability into the 2020–24 Economic Recovery Plan and aims to reduce its GHGs by 7% by 2030. It is looking to stem desertification by extending a forest belt of more than 1.7 million ha and to preserve water resources by introducing prospective measures. Algeria ranks 10th among global natural gas producers, with 2.2% of global output. Its export potential is tremendous, with new gas projects in the southwest added to those in the gas-producing region of Illizi in the southeast, but has been hampered by increased domestic demand and insufficient investment. After hitting a peak of 65 billion cubic meters (m3) in 2005, export volumes were 40 billion m3 in 2020. To reduce the country's dependence on natural gas, which accounts for more than 93% of total electricity output, the RE and energy efficiency program was revised in 2020. The Ministry of Energy Transition and Renewable Energy has been entrusted with establishing a capacity of 15,000 MW from renewable sources by 2035. Urgent measures will have to be taken if SDG 13 on climate action is to be reached.



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Egypt

Recent macroeconomic and financial developments

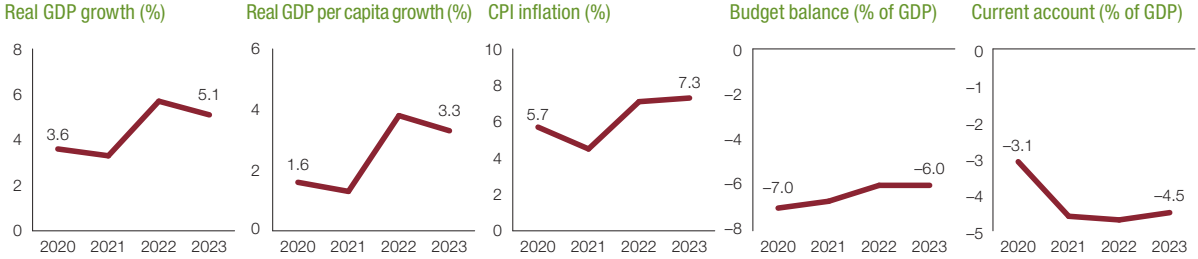
Economic growth decelerated from 3.6% in FY2019/20 to 3.3% in FY2020/21. Growth was driven by sound performance in construction, communications, and agriculture on the supply side, and by private and public consumption and public investment (much on social protection and services projects) on the demand side. However, tourism and manufacturing remained hindered by COVID-19 measures. Inflation stayed below the central bank's target of 7% in FY2021/22, providing scope for monetary policy to support the recovery. The fiscal deficit narrowed to 6.7% of GDP in FY2020/21 from 7% the previous year, due to a decline in interest payments, leading to a primary surplus of 0.9% of GDP. Public debt increased to 92% of GDP in FY2020/21 from 87.9% the previous year, reflecting the fiscal response to the crisis. Egypt has received the third-highest SDR allocation in Africa, of $2.8 billion, which was added to its foreign reserves. They came to $41 billion (equivalent to 6 months of imports) by end-FY2020/21. The current account deficit increased to 4.6% of GDP in 2020/21 from 3.1% in FY2019/20 due to the decline in tourism receipts and lower global trade. Egypt was the largest FDI recipient in Africa in the last three years, with net inflows of $5.2 billion in FY2020/21. The banking system remained liquid, profitable, and well capitalized with the capital-adequacy ratio estimated at 24.7% in September 2021. By June 2021, NPLs were estimated at 3.5% of total loans. Extreme poverty fell marginally from 4.5% in FY2019/20 to 4.4% in FY2020/21, and unemployment was estimated at 7.4% in June 2021.

Outlook and risks

Because Egypt has shown resilience to the crisis since 2020, its economic outlook is favorable with the government's commitment to implement the second phase of structural reforms, announced in May 2021. Growth is expected to rebound to 5.7% in FY2021/22 and 5.1% in FY2022/23. International food prices are expected to increase in 2022 resulting in 7.1% inflation in FY2021/22 and 7.3% in FY2022/23, fueled by the Russia–Ukraine conflict. The fiscal deficit is projected to decline to 6% of GDP in FY2021/22 and in FY2022/23, driven by the authorities' commitment to return to the pre-crisis primary surplus of 2% of GDP. The current account deficit is expected to remain around 4.5–4.7% of GDP in FY2021/22 and in FY2022/23 with the expected high energy and food commodities prices. Egypt should mobilize the necessary resources to protect vulnerable populations' purchasing power and improve targeting of social protection programs. Further, Egypt should accelerate reforms to catalyze private development.

Climate change issues and policy options

As a water-stressed and arid country, Egypt is highly vulnerable to climate change. It is 120 on the 2021 GCRI, but over the past few years has reduced its per capita CO_2 emissions. Its most sensitive sectors are water and agriculture. Improving water resources management is critical because agriculture is a key sector, providing livelihoods for 55% of the population, employing 23.3% of the labor force, and representing 22% of imports of goods in 2019. Energy, transport, waste, and industry are also at the core of the government's mitigation actions and commitment in its national strategy on Green Economy launched in 2016. The government is committed to increasing the share of RE to 42% by 2035. Submitted in 2017, Egypt's NDC is conditional on receiving international funding of $73 billion for 2020–30, and though does not include quantified targets or specific plans for emission reductions, is supported by the National Climate Strategy 2050, launched in November 2021. Egypt should take advantage of its scheduled hosting of COP27 in 2022 to mobilize climate-resilience resources.



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Libya

Recent macroeconomic and financial developments

Libya's economic recovery is gathering momentum, boosted by a large increase in hydrocarbon output in 2021. On the demand side, investment and household consumption drove growth. The economy is estimated to have grown by a huge 177.3% in 2021, after a withering contraction of 59.7% in 2020 when the country experienced multiple shocks, including political instability, a decrease in oil prices, and the rapid spread of COVID-19. The recovery in 2021 reflected the low-base effect but also progress toward political stability and the reopening of major oilfields. Inflation increased to 3.7% in 2021 from 2.8% in 2020, with rises in food prices, mainly imported. In December 2021, an initiative was launched to reconcile the monetary policy of the central bank with its Eastern branch.

In early 2021, the Libyan dinar was significantly devalued to harmonize the official and parallel market rates but prolonged conflict still affects the banking system's operating environment. The fiscal balance recorded a surplus of 13.8% of GDP in 2021, mainly due to the increase in hydrocarbon-related fiscal revenues, after a yawning deficit of 54.5% in 2020. Similarly on the current account, the resumption of oil exports generated a surplus of 21.6% in 2021 against a deficit of 20.7% in 2020. Domestic debt has increased greatly in recent years, reaching 155% of GDP in 2020. Libya received $2.1 billion of the SDR allocation, recorded at the central bank as reserve assets. The country continues to struggle with poverty and food insecurity. According to the 2021 Libyan population Multi-Sector Needs Assessment, 53% of households could not cover their basic expenses.

Outlook and risks

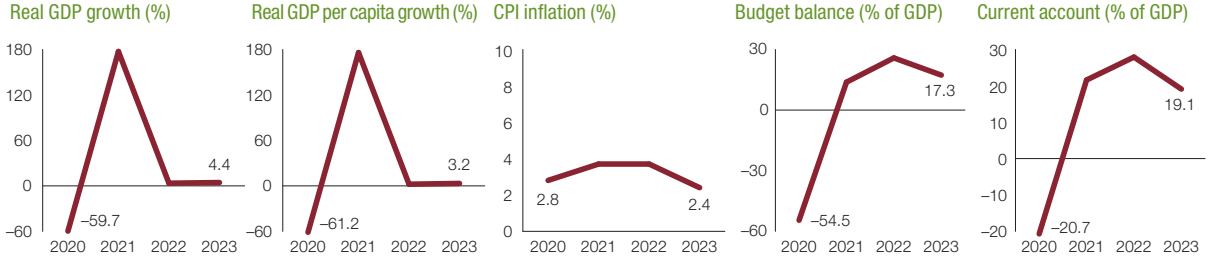
The outlook for economic growth remains positive. The economy is projected to grow by 3.5% in 2022 and 4.4% in 2023, depending on political stabilization, security improvements, and persistence of oil production. Inflation is projected to stay elevated at 3.7% in 2022 before falling a little to 2.4% in 2023, driven by international food prices. The fiscal balance is expected to record a surplus of 25.8% of GDP in 2022 and 17.3% in 2023 due to higher revenues from oil output. The current account surplus is projected to climb to 27.9% of GDP in 2022 on increased oil exports, before edging down to 19.1% in 2023. Downside risks include political instability, an oil blockade, social instability (more than 1.3 million need humanitarian aid), and the spread of a new COVID-19 variant. The authorities should mobilize domestic resources to support economic diversification and a clear reconstruction strategy in public infrastructure.

Climate change issues and policy options

Climate change and water scarcity threaten Libya's economic development and sustainability. Libya is 80 on the 2021 GCRI. The country is 95% desert and only 2% of national territory receives enough rainfall for agriculture. Agricultural productivity is hindered by harsh climatic conditions, poor soil quality, and limited renewable water resources. The country also faces other extreme weather events such as droughts, floods, sandstorms, and dust storms. The Wadi Kaam Dam entirely dried up in 2021 because of a warming climate and vandalism of major supply systems, reducing farm activities. In October 2021, flash floods and valleys runoff caused severe damages to properties and the displacement of families. International agencies, with the Libyan authorities, quickly provided aid to these families.

In 2021, Libya ratified the Paris Agreement; the country is preparing to develop its NDC. The energy-related plans and commitments are governed under the Strategic Plan for Renewable Energies, 2018–30, which targets 22% of electricity generation derived from renewables by 2030.

Libya has the necessary financial resources for climate adoption but needs to strengthen the capacity of its institutions to respond to climate change challenges. Political instability has hindered progress toward achieving SDG 13.



Source: Data are as of April 2022 and are from domestic authorities; figures for 2021 are estimates and figures for 2022 and 2023 are projections by the African Economic Outlook team.

Mauritania

Recent macroeconomic and financial developments

Mauritania's GDP growth rate was estimated at 3.9% in 2021, after a 1.8% contraction in 2020, due to the lifting of emergency COVID-19 measures, assistance of international donors, and increased global demand. Agriculture, fishing, and services registered good performance. Inflation increased to 3.8% in 2021 after a rise in import prices, especially food products. Banks have shown resilience, but NPLs remained high, representing 26% of total loans in 2020. The budget balance registered a deficit of 0.4% of GDP in 2021 compared with a surplus of 2.3% in 2020. The authorities reprioritized current and nonessential investment spending to return to a primary fiscal surplus. The current account deficit remained stable at 7.6% of GDP despite an increase in iron and copper exports after improving global economic conditions and good international commodity prices.

Foreign exchange reserves amounted to $2.3 billion at end-2021. External debt decreased to 48.2% of GDP in 2021, and debt services represented 7% of total exports in 2021 against 9.6% in 2020, due to the Debt Service Suspension Initiative, which allowed Mauritania to suspend $200 million on its debt service payments. According to the survey on Household Living Conditions in 2019–20, 28.2% of Mauritanians lived below the poverty line. Unemployment reached 12.2% and underemployment affected 41.9% of the population, with high rates for women (58.2%) and youth (53.1%). The country received an SDR allocation equivalent to $175 million, which was used to finance the 2021 budget.

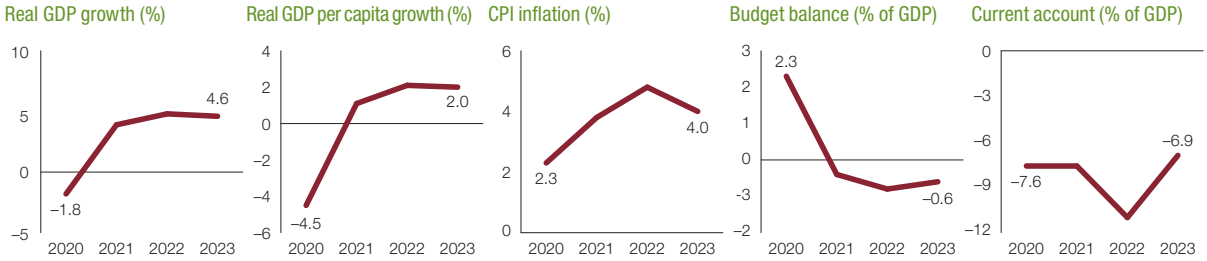
Outlook and risks

Economic growth in the short term is projected to reach 4.8%. Tailwinds include rising commodity prices and global demand as well as improved private investor confidence after debt restructuring agreements with Kuwait in August 2021 and Saudi Arabia in April 2022. Downside risks include high volatile commodity markets, debt distress, new waves of COVID-19 infections, and security threats in the Sahel region.

Inflation is forecast at above the 4% threshold in the short term due to the sharp rise in global food prices following the Russia–Ukraine conflict. The fiscal balance is projected to be in deficit in 2022 and 2023 after increased expenditures to support economic recovery and the social sector. A decline in the current account deficit is expected in 2023 after the start of gas exports. External debt is expected to reach 52.7% of GDP in 2022. Debt distress remains a risk. Enhancing domestic resource mobilization and opting for concessional financing for productive investments in infrastructure with long maturities on reasonable borrowing terms will be important for long-term debt sustainability.

Climate change issues and policy options

Mauritania is one of the most vulnerable countries to climate change, which accentuates the continuing trend of degradation of agricultural, forest, and pastoral ecosystems. The most apparent effect is desertification with its impact on food security and rural populations' livelihoods. Mauritania launched an ambitious national strategy to diversify its energy mix based on the optimal exploitation of its enormous RE potential. The NDC, which represents an 11% reduction in GHG emissions by 2030 for a cost of $34.3 billion, is in line with the Strategy for Accelerated Growth and Shared Prosperity 2016–30. Mauritania aims to reduce its extreme vulnerability by focusing on protecting and conserving ecosystems and developing agriculture and food security. According to the United Nations Development Programme, financing needs for these adaptation measures are about $10.6 billion. Climate finance comes from international institutions involved in building climate resilience in Mauritania and from environmental funds such as the Adaptation Fund, the GCF, and the Global Environment Facility.



Source: Data are as of April 2022 and are from domestic authorities; figures for 2021 are estimates and figures for 2022 and 2023 are projections by the African Economic Outlook team.

Morocco

Recent macroeconomic and financial developments

After Morocco's first recession in 20 years, GDP grew at 7.2% in 2021 aided by the low-base effect, export performance, and an exceptional 2020/21 agricultural season. Consumption and investment rebounded in 2021. Inflation was moderate, at 1.2%, allowing monetary policy to remain accommodative. Nonperforming loans deteriorated in 2020 among households (representing 18.2% of loans) and corporates (12.3%). Fiscal expenditures increased in 2021 with the extension of the medical program. The budget deficit, which had doubled in 2020, narrowed slightly to 6.4% of GDP in 2021. To cover financing needs in 2020, authorities used the IMF precautionary and liquidity line ($3 billion) and issued Eurobonds—€1 billion in September 2020 and $3 billion in December that year. In 2021, they relied mainly on the domestic market. Public debt rose to 76.4% of GDP in 2020 and 76.9% in 2021, including state-owned enterprise debt, which was equivalent to 13.8% of GDP in 2019.

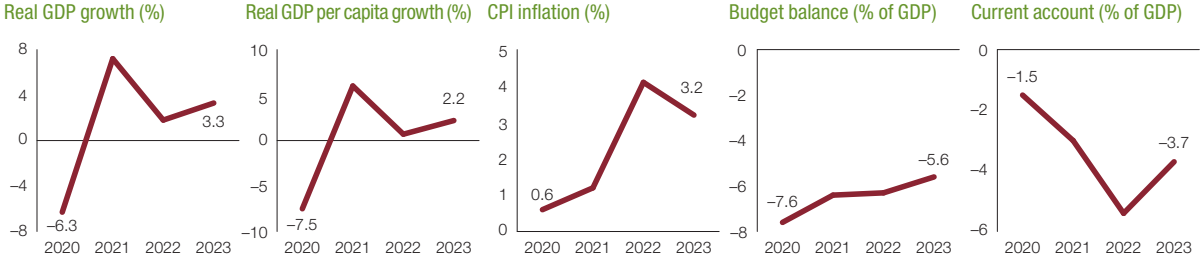
In 2020, the current account deficit was low due to a decline in imports, strong remittances, and grants. In 2021, it is estimated to widen to 3% of GDP, reflecting a stronger rebound for imports than exports. Reserve assets represented more than 7 months of imports at end-2021, or three times the volume of short-term debt maturing in the year, partly due to the $1.2 billion SDR allocation that Morocco used to supplement foreign exchange reserves. Despite the policy actions to mitigate the crisis, small and medium enterprises were hit hard, and unemployment increased from 9.2% in 2019 to 11.8% at end-2021.

Outlook and risks

In 2022, despite the recovery of exports and a partial return of tourists, economic growth is projected at 1.8%, below the 2015–19 average, due to rising commodity prices and delayed rainfalls hampering the 2021/22 agricultural season. Yet, this outlook remains subject to risks due to new COVID-19 variants and the closing of borders, hampering trade and tourism. In 2022, inflation is set to exceed 4% as import prices are on the rise, also affecting the energy bill and the current account deficit. In accordance with the New Model of Development aiming to increase human capital by 2035, social indicators should improve because, by 2025, the country aims to generalize social protection, compensation for job loss, health insurance, and family allowance. The budget deficit is projected at 6.3% of GDP in 2022. Authorities should push the ongoing reforms of state-owned companies to free some fiscal space. Moreover, policies aiming to further develop the private sector through developing small and medium enterprises would enhance growth and its inclusiveness.

Climate change issues and policy options

The effects of climate change are increasing in Morocco, which the IPCC has identified as a highly vulnerable country. The economy depends on sectors—agriculture, fisheries, and tourism—that are highly sensitive to climate change. Morocco is a water-scarce country with agriculture consuming around 80% of its water resources, as most land is in arid and semi-arid areas. The 2020–30 Green Generation strategy aims to increase agricultural resilience to climate change. In 2019, Morocco published its National Climate Plan 2030 confirming its commitment to the Paris Agreement. The Climate Action Tracker indicates that Morocco has achieved its conditional mitigation targets because of its expanded RE capacity. The energy sector still depends on imported hydrocarbons, albeit at a decreasing rate since the country started investing in renewables in 2000. Per the state-owned power utility company, in 2021, thermal production accounted for about 62% of electricity production, and RE 37.2% of the energy mix with the aim of 52% by 2030. Morocco, eight on the 2022 Climate Change Performance Index, is the only non-European country in the top 20.



Source: Data are as of April 2022 and are from domestic authorities; figures for 2021 are estimates and figures for 2022 and 2023 are projections by the African Economic Outlook team.

Tunisia

Recent macroeconomic and financial developments

After the sharp 8.7% contraction in 2020, GDP growth is estimated at 3.4% in 2021 driven, on the supply side, by resumption of manufacturing exports and tourism; on the demand side, by private investment, which increased by 24.5% in 2021 after its contraction of 26.8% in 2020. The recovery, attributable to the base effect, could have been stronger without 2021's political instability. Inflation was slightly higher that year, at 5.7%, due to higher prices of oil and food, and of some administered products and services, including tobacco and transport. The banking sector is facing a structural liquidity deficit. The budget deficit is estimated at 8.1% of GDP in 2021. Despite higher revenue of 13%, the wage bill, fuel subsidies, and debt servicing are a growing part of the government budget. The current account deficit increased to 7.1% of GDP in 2021 on food and energy imports. Foreign exchange reserves amounted to TND 21.5 billion (4.3 months of imports) at end-2021.

The SDR allocation of $740 million—15% of 2021's financing requirements—was all earmarked for financing the budget. Public debt, estimated at 91% of GDP in 2021, is over two-thirds foreign. Tunisia's sovereign debt rating was downgraded by several agencies in 2021. The country is now facing restricted access to international financial markets and has difficulty in mobilizing foreign resources from donors due to the absence of a program with the IMF. Unemployment reached 18.4% in the third quarter of 2021, with a greater rate among women (24.1%) and higher-education graduates (30.1%), and in interior regions.

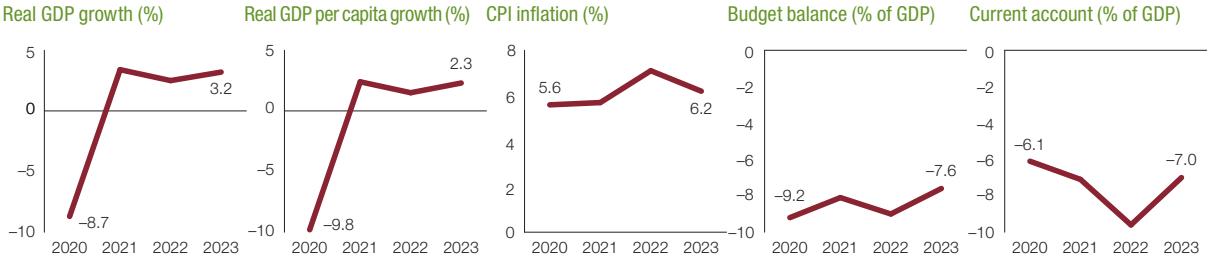
Outlook and risks

GDP growth is projected at 2.5% in 2022 and 3.2% in 2023. Inflation is forecast to be higher in 2022 owing to the Russia–Ukraine conflict, which has caused a surge in oil and food prices in global markets, and then come down in 2023 based on prudent monetary policy and easing of external inflationary tensions. Projections also show a deterioration of the fiscal deficit and current account deficit in 2022, before an improvement in 2023. However, this outlook could worsen owing to the high risk of debt distress, which could have a negative impact on capital inflows and access to external financing. Further, political instability and slow reforms are leading to donor reluctance to support the country financially. The recovery might also be slowed by social tensions caused by rising prices in a difficult economic context for households, by a restrictive fiscal policy penalizing public investments further, by loss of confidence among private investors, or by new COVID-19 variants. Restoration of sustainable public finances, careful debt management, and availability of staple foodstuffs at affordable prices will be necessary to mitigate risks.

Climate change issues and policy options

Tunisia is 130 on the 2021 GCRI. The impact of climate change depletes water resources, and causes loss of biodiversity, coastal degradation, and desertification. Agriculture, which is heavily dependent on erratic rainfall, is particularly vulnerable to water stress. More than 3,000 ha of urban coastal areas are under threat of flooding from rising sea levels.

Still, the country is making progress in reaching SDG 13 on climate action. To initiate its energy transition, it launched the Tunisian Solar Plan, which by 2030 aims to reduce carbon intensity by 41% relative to 2010 and attain a 30% share of RE in the energy mix—although implementation has been delayed. A Water 2050 study is being conducted and has proposed measures for adapting to water shortages. Yet, mobilizing resources for climate funds has been weak because of a lack both of task-specific personnel in ministries and of responsible agencies. Current projects in the National Agency for Energy Management aim to give the country instruments based on market mechanisms to combat climate change, such as a carbon tax, carbon tariffs, and credit lines. The cement and energy sectors would be particularly appropriate for testing these instruments.



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SOUTHERN AFRICA

Angola

Recent macroeconomic and financial developments

Angola's economy grew by 0.7% in 2021 after contracting by 5.4% in 2020. Per capita income contracted by 2.6% in 2021 due to slower GDP growth and high population growth, estimated at 3%. The modest GDP growth was spurred by a sharp increase in the oil price to an annual average of $65.69/barrel, above the $39/barrel used in the national budget. Oil accounts for 95% of Angola's exports, but the sector experienced challenges during the COVID-19 pandemic as the price dropped to $42.40/barrel. The recovery in its price and revenues returned the fiscal balance to a surplus of 2.7% of GDP in 2021 from a deficit of 3.8% in 2020. Higher oil exports took the current account surplus to 11.4% of GDP in 2021 from 1.5% in 2020, while the debt-to-GDP ratio declined to 95.9% from 135% over the same period. Revenues also benefited from fiscal reforms, including implementation of value-added tax and excise tax. Inflation remained high at 25.7% in 2021, driven by supply-side factors. Higher oil exports helped to sustain international reserves at 8.1 months of imports in 2021.

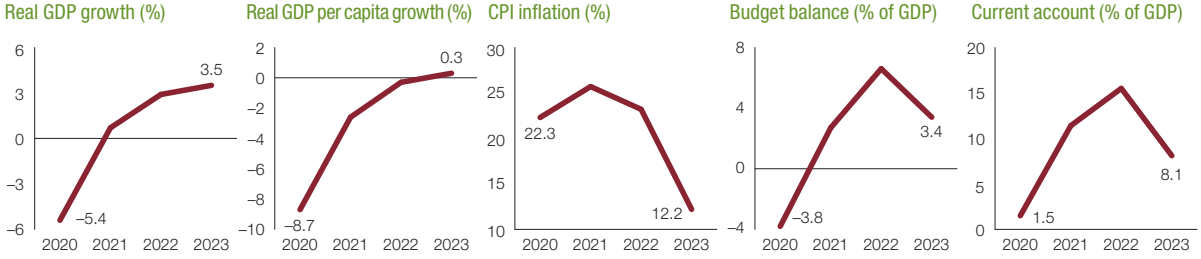
The IMF's 2021 Special Drawing Rights (SDR) allocation to Angola was equivalent to $1.0 billion, half strengthening international reserves and half going to the treasury. Banking sector nonperforming loans (NPLs) stood at 20% of gross loans in October 2021, and the capital-adequacy ratio was at 23.1%, above the regulatory threshold of 10%. The pandemic led to accelerated efforts to implement the cash-transfer program, but high unemployment of 34% has overshadowed efforts to curb poverty, which in 2019 stood at 40.6% of the population and is likely to have increased during the pandemic.

Outlook and risks

The recovery in the crude oil price from about $55/barrel in January 2021 to more than $125 a barrel in March 2022 as a result of tensions between Russia and Ukraine has shored up revenues and improved medium-term growth prospects. GDP is projected to grow by 2.9% in 2022, and inflation to drop slightly to 23.2% in 2022, following a 15% appreciation of the exchange rate against the dollar in 2021 and implementation of tight monetary policy. However, the Russia–Ukraine conflict has put pressure on food commodity prices and inflation. The major risk to the outlook is oil-price volatility; to mitigate that risk, the 2022 National Budget assumes a conservative price of $59.00/barrel. If the oil price remains stable, a budget surplus of at least 1.6% of GDP is expected, with the debt-to-GDP ratio falling further to 78.9% and the current account staying in positive territory, at 15.5% of GDP in 2022. Exchange rate volatility could trigger a buildup in inflationary pressures if the current uptick in the oil price recedes, presenting further risks to the recovery.

Climate change issues and policy options

Angola was 23 out of 180 countries on the Germanwatch 2019 Climate Risk Index, though since that was compiled, droughts have become more frequent and severe. In 2021, the worst drought in 40 years affected agriculture, mainly in the southern provinces. Due to a poor harvest and inflationary pressure, over 1.58 million people were projected to experience high levels of acute food insecurity in March 2022, according to the Integrated Food Security Phase Classification. Angola developed the National Climate Change Strategy (2018–2030) that establishes a vision for tackling climate change, and has enhanced its initiatives for the Paris Agreement commitments. In its intended Nationally Determined Contribution (NDC), Angola committed to reduce its greenhouse gas (GHG) emissions by 24% through 2025 and established a Climate and Environmental Observatory to monitor them. A 2019 IMF study on the Long-Term Macroeconomic Effects of Climate Change indicates that global warming under the unmitigated emission scenario in Angola could lead to a 0.71% loss in GDP per capita by 2030. Angola also continues to invest in renewable energy (RE), especially in the electricity sector, given the prominence of its hydropower plants, which produce over 60% of its supply. Still, it has potential for incipient private investment in green energy to grow, particularly in photovoltaic off-grid projects for rural communities.



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Botswana

Recent macroeconomic and financial developments

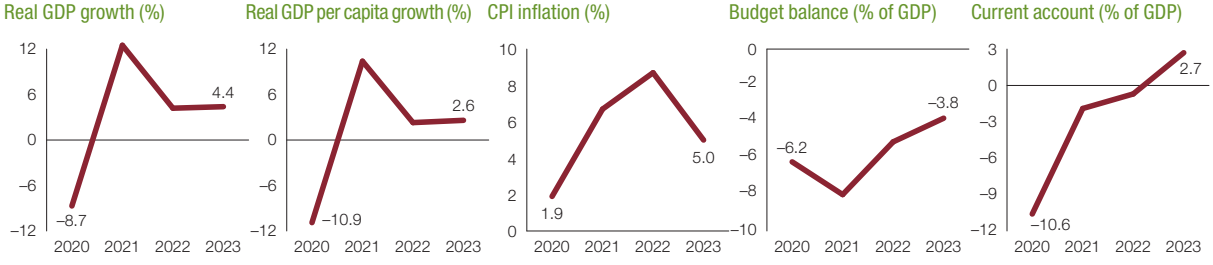
GDP expanded by 12.5% in 2021 as COVID-19 restrictions eased, from a contraction of 8.7% in 2020. Mining output rose with the global diamond market recovery. Non-mining output also expanded, particularly from public administration and defense, construction, and wholesale and retail. Aggregate demand rose in 2021 as the adverse COVID-19 impact on net exports waned, and the public expenditure increase prompted by the pandemic preserved consumption. Per capita GDP growth followed the GDP trend. The fiscal deficit, financed through borrowing and a reserves drawdown, widened to 6.2% of GDP in FY2020/21, with increased pandemic-related net expenditure. Public debt, at 18.6% of GDP in FY2020/21, remains sustainable. The Bank of Botswana's monetary policy stance was accommodative, with its policy rate at 3.75% in 2021. Average annual inflation in 2021 rose above the upper end of the central bank's range of 3–6%, reflecting higher fuel prices, value-added tax, and domestic demand. Botswana's financial sector is well capitalized. The capital-adequacy ratio averaged 19.8% in 2020, and 18.5% in August 2021, above the 12.5% prudential requirement. The NPL ratio fell to 3.7% in August 2021, from 4.5% in August 2020. The current account deficit, largely financed by offshore pension fund investments, narrowed to 1.9% of GDP in 2021, from 10.6% in 2020, as diamond prices and Southern African Customs Union (SACU) revenues rebounded. International reserves stood at $4.6 billion at end-November 2021 (10 months of import cover). Botswana received SDR 189 million in the IMF allocation (about $268.4 million; 1.6% of GDP), which is likely to be used to rebuild reserves or for budget support. Botswana has a relatively low poverty headcount ratio of 16.1% (2019) and high unemployment of 26.0% (quarter to December 2021).

Outlook and risks

GDP growth is projected to moderate at 4.2% in 2022, supported by the continued pickup in economic activity and diamond prices, a successful COVID-19 vaccine rollout, and full implementation of the Government's Economic Recovery and Transformation Plan (ERTP). Headwinds include weaker diamond demand if the global economic recovery loses momentum, COVID-19 variants, persistent drought, and effects of South Africa's weak economic growth on Botswana's exports and SACU revenues. With the economy operating below full capacity up to the medium term, inflation is projected to revert to within the central bank's range in 2023. The fiscal deficit may narrow, as domestic revenues rise with the ERTP growth stimulus. The current account may register a surplus in 2023, with the revival of the diamond and tourism industries. Unemployment may widen post-lockdown but could be mitigated by well-targeted social programs.

Climate change issues and policy options

Botswana is 117 on the 2021 Global Climate Risk Index (GCRI), out of 180 countries. According to the 2019 IMF assessment of the long-term macroeconomic effects of climate change, Botswana could lose 0.13–0.30% of per capita income in 2030–50 if the 2015 Paris Agreement on limiting global warming is not met. According to the 2021 SDG Index, Botswana has achieved 61.9% of the 17 SDGs, and is ranked 115 out of 165 countries. However, the country has stagnated on SDG 13 on climate action. Partly to overcome these challenges, the 2020–2040 Integrated Resource Plan for electricity generation covers RE technologies in solar and wind, and Botswana's 2020 National Adaptation Plan roadmap prioritizes the NDC target of a 15% reduction in GHGs by 2030 (costing an estimated $18.4 billion). The 2021 National Climate Change Response Policy focuses on climate change governance, technological change, and related investment. Botswana has strengthened climate finance resource mobilization through mechanisms such as the 2021 Green Climate Fund (GCF) program on RE, clean technology, and natural capital.



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Lesotho

Recent macroeconomic and financial developments

The economy expanded by 3.0% in 2021 after a 3.1% contraction in 2017, on growth in services (1.9%) and in the secondary sector (7.2%). COVID-19 caused a decline in per capita income of 3.9% in 2017 but rebounded by 0.2% in 2021. Services were boosted by an increase in aggregate demand, particularly consumption spending, while the secondary sector was lifted by a strong rebound in construction. As a response to COVID-19, the Central Bank established a facility offering loans against corporate debt as collateral at 0%. Inflation was 5.8% in 2021, up from 5.3% in 2017, reflecting supply chain disruptions.

Financed by domestic and foreign borrowing, the fiscal deficit widened to 5.8% of GDP in 2021, from 3.8% in 2017, reflecting a fall in SACU revenues. The current account deficit narrowed from 7.9% of GDP in 2017 to 2.8% in 2021, reflecting a decline in imports, and it was financed with capital transfers from South Africa. Public debt was estimated at 50% of GDP in 2021, up from 48% in 2020. NPLs increased from 3.3% in 2020 to 4.2% in 2021, largely because of COVID-19. Poverty increased from 49.7% in 2019 to 50% in 2021, reflecting disruptions in supply chains. Unemployment increased from 23.6% in 2018 to 33% in 2021.

The SDR allocation was 65 million ($95.18 million, M 1.4 billion, or 4.8% of GDP). It has helped the kingdom address its fiscal and liquidity crisis while containing the COVID-19 crisis. Official reserves increased by some $18.96 million (M 287 million) in 2020 to $843.17 million (M 1.28 billion) through September 17, 2021.

Outlook and risks

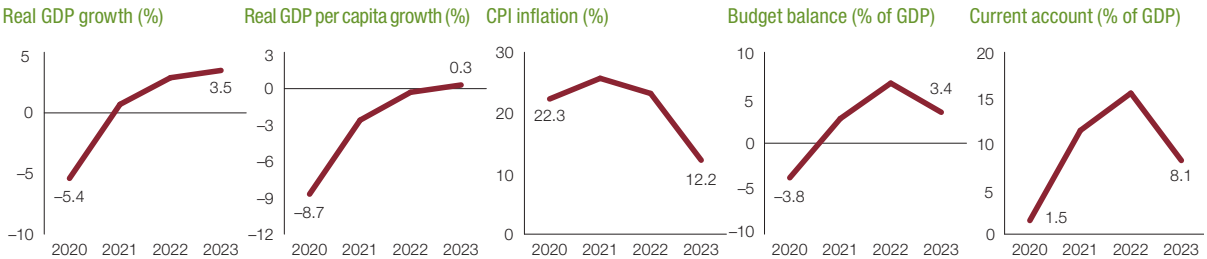
The economy is expected to grow at 2.5% in 2022 and 2.8% in 2023, on the back of services and construction. Inflation is projected at 7.6% in 2022 and 5.9% in 2023 owing to an increase in food price inflation. The fiscal deficit will narrow to 4.6% and 3.7% of GDP in 2022 and 2023, due to a forecast rebound in SACU revenues. The current account is projected to improve from a deficit of 6.8% of GDP in 2022 to 5.4% in 2023 on reduced imports. The projection for total debt is 50.2% and 50.8% in 2022 and 2023.

Construction of the Lesotho Lowlands Water Development Project Phase II will lift the economy a little in a fragile fiscal context. The government has taken some consolidation measures on both the expenditure and revenue sides.

Climate change issues and policy options

Lesotho is 61 on the 2021 GCRI. Frequent droughts have rendered some 500,000 people food insecure and forced down household purchasing power by 37% in 2019. Water shortages and crop failures have left one-fifth of the population requiring emergency food assistance.

The government enacted the National Environment Act in 2001 and introduced the National Adaptation Program of Action in 2007 to reduce GHG emissions by 10% through 2030. The estimated cost of implementing the NDC mitigation measures is about $5.37 billion. The government has received financing from the GCF, and from ADB for the Lowlands Project Phase II. The Institute of Natural Resources has undertaken a USAID-funded project to enhance the capacities of local communities to adapt to climate change impacts.



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Madagascar

Recent macroeconomic and financial developments

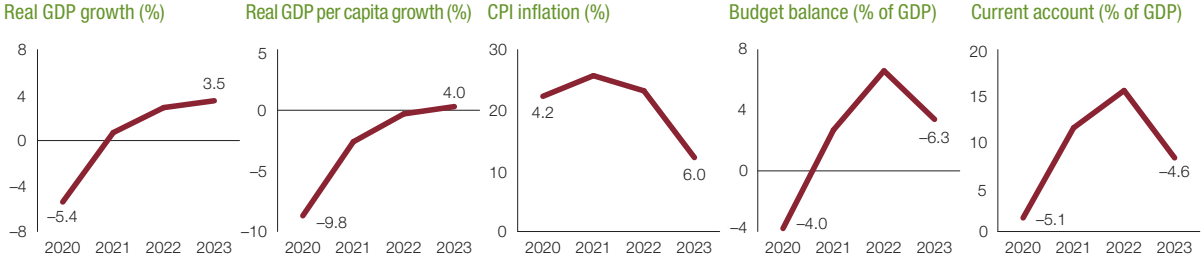
The pandemic plunged Madagascar into a deep recession in 2020: contracting by 7.1% in aggregate, economic output was particularly hard hit in mining (down 56.8%), the hotel industry (down 55.8%), and textiles and clothing (down 15.7%), which are the primary engines of growth. After health crisis management efforts and economic stimulus measures, growth rebounded to 3.3% in 2021, sustained by public and private investment that reached 19.9% of GDP in 2021, up from 13.8% in 2020. Foreign trade also bolstered the recovery, notably in mining. However, the pandemic weighed on the budget deficit, which continued to widen to 5.4% from 4.0% in 2020. The current account deficit also increased slightly, to 5.5% of GDP from 5.1% in 2020, partly reflecting rising prices of petroleum products. Inflation, which had fallen by half since 2018, climbed to 5.9% in 2021. Business closures and job losses caused young people and women especially to lose their livelihoods. The real increase in per capita GDP of almost 10 percentage points in 2020–21 will likely have had a limited effect on poverty, estimated at nearly 77.4% of the population in 2020. Madagascar received $332 million SDR allocation in September 2021, with which it will target infrastructure in transport, energy, and water.

Outlook and risks

Forecasts project continued GDP growth of 5.0% in 2022 and 5.4% in 2023. On the demand side, it will be sustained by public and private infrastructure investment in transport and energy, as well as the resumption of mineral ore and vanilla exports. The extractive and manufacturing industries, as well as public buildings and public works, will remain the primary engines of growth. Major threats to the economy include new waves of COVID-19, climate shocks (particularly drought and cyclones), and the high cost of primary materials linked to the pressure exerted on prices by the Russia–Ukraine conflict. The impact of COVID-19 is expected to continue burdening public finances: the budget deficit is forecast to remain high at 5.1% of GDP in 2022 and 4.9% in 2023. With the high price of essential products in the international market, the current account deficit is also expected to remain high at 5.9% of GDP in 2022, before falling to 4.9% in 2023. Using a policy of inflation targeting, the central bank began increasing some official bank rates from August 2021, but inflationary pressures are expected to continue, with inflation of 8.7% in 2022 and 6.1% in 2023.

Climate change issues and policy options

Madagascar is very vulnerable to climate change—especially drought, flooding, and cyclones. It is 29 on the 2021 GCRI. During the first quarter of 2022, it recorded storms and cyclones that caused nearly 200 deaths and affected 960,000 people. These extreme events have a major impact on infrastructure: losses and damages are estimated at 20% of GDP on average a year—a heavy drain on the economy, particularly in agriculture, which accounted for 24% of GDP and employed 64% of the active population in 2020. The country is also very dependent on fossil fuels yet has large hydropower potential that remains largely underutilized—884 GWh exploited out of a potential 180,000 GWh. Above all, the country lacks sustainable infrastructure to manage and adapt to climate risks, which would require estimated funding of $42 billion over 2017–30. To accelerate the energy transition, public officials should focus on developing low-carbon energy projects and on mobilizing climate funding. They should also fast-track policies addressing water management, the circular economy in agricultural value chains, and green industry technologies, notably industrial waste reclamation.



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Malawi

Recent macroeconomic and financial developments

GDP growth increased to 3.9% in 2021 amid the third wave of COVID-19, from 0.9% in 2020. Growth in 2021 was driven by agriculture (6.3%), wholesale (2%), accommodation (1.3%), financial services (4.8%), and transport services (3.1%). Manufacturing (0.6%), mining (1.1%), electricity (1.1%), and construction (1.1%) all saw contractions. Implementation of the COVID-19 Socio-economic Recovery Plan 2021–2023 is underway. Monetary policy remained relatively easy with the key policy rate at 12% during the year to November 2021. Inflation was 9.3% in 2021, up from 8.8% in 2020 on account of higher fuel prices but lower food inflation. The Malawian kwacha averaged 747 against the dollar in 2020 but depreciated to MWK 821.5 at end-October 2021.

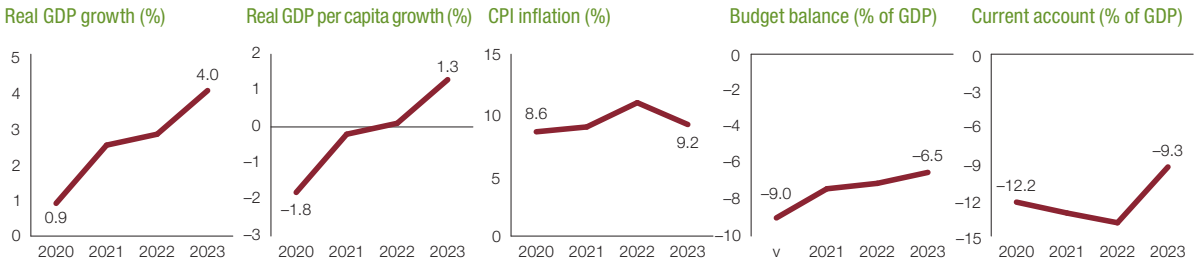
The banking sector remains profitable and well capitalized with core capital and total capital ratios of 17.2% and 20.7% in December 2021, and growth in credit to the private sector doubling to 30.1% in 2021 from 11.7% in 2020. The current account deficit widened from 12.2% to 13.1% of GDP in 2020 and 2021 due to falling exports. Official reserves stood at 1.4 months of imports in December 2021, underpinned by tobacco exports and the SDR allocation of $133 million, which is expected to increase gross reserves to 1.5 months of imports in 2022. The remaining SDR was used for budget support targeting COVID-19 and recurrent expenditure. The fiscal situation remains challenging as revenues dropped to 16.4% of GDP in FY2020/21, from 21.1% the previous year and are projected at 12.4% of GDP the following year. The fiscal deficit stabilized at 7.4% in 2021 from 9% of GDP in 2020, financed by debt and grants.

Outlook and risks

Economic growth is projected at 2.8% in 2022 and 4.0% in 2023. Prospects for improvement are anchored on stronger agriculture growth; COVID-19 containment and a successful vaccination program; and a recovery in tourism, exports, FDI, and public investment. Monetary policy is expected to remain accommodative. The current account deficit is projected to improve from 13.9% of GDP in 2022 to 9.3% of GDP in 2023, on the back of exports. Downside risks relate to persistence of COVID-19, weather shocks, rising public debt, and a worsening fiscal deficit. The public debt-to-GDP ratio will widen from 59.2% in 2021 to 64.3% in 2022, moving to crowd out the private sector. Inflation will remain relatively high at 11% in 2022 due to oil price increases before falling somewhat to 9.2% in 2023. Gross official reserves will improve to 1.5 months of imports in 2022 and 2023. Malawi is diversifying its exports towards minerals to mitigate the external sector shocks.

Climate change issues and policy options

Malawi is five on the 2021 GCRI. Its frequent cyclical weather-related shocks, including droughts, cyclones, and floods, have fed into persistent high public debt. After its 2016 drought, and 2019 floods caused by cyclones Idai and Kenneth, in 2022 cyclone Ana hit the country. The IMF estimates that Malawi could lose 0.29–0.62% of GDP per capita by 2030 and 2050. The 2020 National Adaptation Plan guides climate investment initiatives. The government has prioritized for adaptation action in agriculture, water resources, health, infrastructure, land-use planning, transport, disaster risk management, forestry, wildlife, and energy. Yet, on climate finance, this remains inadequate, while implementation of adaptation measures in the 2021 updated NDC is estimated at around $4.5 billion through 2040. According to the Voluntary National Review Report 2020, Malawi is unlikely to meet global targets on SDG 13 on climate action.



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Mauritius

Recent macroeconomic and financial developments

GDP growth has recovered from 2020, reaching 4% in 2021, below the initial growth forecast of 7.5%. This mixed performance is the consequence of both the partial lockdown after COVID-19 resumed in March–June 2021, which jeopardized the nascent economic recovery, and the low vaccination rate in the second quarter of 2021 (18.9%), which delayed the reopening of borders to foreign tourists. Despite this subdued growth, the public account deficit narrowed to 9% of GDP in 2021 from 15.7% of GDP in 2020, reflecting rising tax revenue and a gradual reduction of public expenditure supporting the economy. The public debt-to-GDP ratio escalated to 89% in 2021 from 73.4% in 2020 because of the large public deficit accumulated since 2019. The current account continued widening to 13.6% of GDP from 9.2% in 2020, driven by a massive external trade deficit and meager tourism revenues. International reserves increased to $7.3 billion, representing 18.2 months of imports in 2021 against 17 months in 2020. The financial sector has proven resilient, with the NPL ratio improving to 5.3% in 2021 from 6.1% in 2020. Inflation remained high at 4%, fueled by higher import prices, especially of oil and food, and an accommodative monetary policy. Average unemployment reached 10.5% in 2021, up from 6.4% in 2019. Poverty remained contained thanks to significant social safety nets.

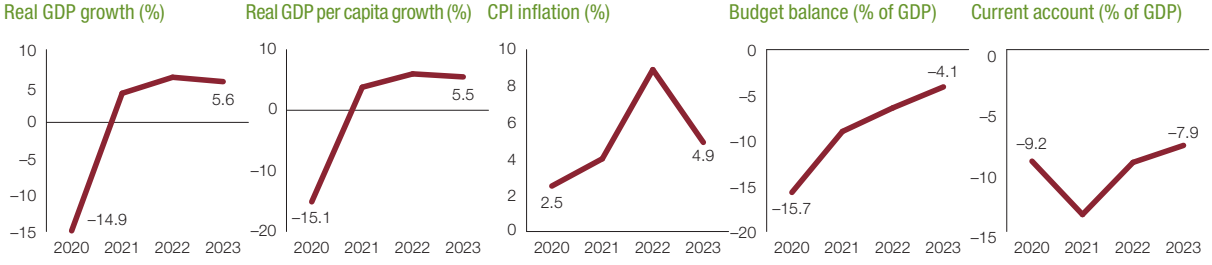
Outlook and risks

The recovery of the Mauritian economy is forecast to continue in 2022–23, with an average GDP growth expected at 5.9%. Continued improvement in the world economy combined with a high COVID-19 vaccination rate in Mauritius should support a tourism sector revitalized by the reopening of borders in October 2021 and should trigger significant effects on the rest of the real economy. The budget and the current account balance are set to benefit from this positive climate and decrease to 4.1% by 2023. Public debt is projected to fall to 87.1% in 2022 and to 82.4% in 2023. After a rise to 8.9%% in 2022 due to inflation is seen decreasing to 4.9%% in 2023 on the back of restrictive monetary policy and stabilization of world prices, though this outlook could be challenged by a worsening pandemic due to new variants and the consequences of the Russa–Ukraine conflict on commodity markets (oil, coal, and wheat).

Climate change issues and policy options

Mauritius is highly vulnerable to climate change, including extreme weather episodes (cyclones, tropical storms, and floods). According to the Global Facility for Disaster Risk Reduction, the country suffers annually over $110 million in combined direct losses from floods and tropical cyclones and $26 million in emergency costs, for an overall 1.24% of GDP in 2020. Tropical cyclones account for 80% of these losses, and 75% concern the residential and commercial sectors.

The country contributes only to 0.01% of global GHG emissions, but its carbon footprint has drastically increased from 789,354 tCO_2eq in 1975 to 4,663,585 tCO_2eq in 2020, with 75% of the footprint coming from power and transport. As part of its intended NDC commitments, Mauritius plans to reduce its GHG emissions by 30% by 2030 and has developed a green agenda focused on modernizing the national electricity grid through expanding into renewable energy using innovative technology piloted by the Mauritius Renewable Energy Agency. Mitigation and adaptation measures will cost about $4.5 billion by 2030.



Source: Data are as of April 2022 and are from domestic authorities; figures for 2021 are estimates and figures for 2022 and 2023 are projections by the African Economic Outlook team.

Mozambique

Recent macroeconomic and financial developments

Mozambique's economy is gradually recovering from the impact of COVID-19 and the Cabo Delgado conflict, which displaced 780,000 people and caused 3,800 deaths. GDP grew by 2.2% in 2021 from a 1.2% contraction in 2020, aided on the supply side by recovery in agriculture and mining, and on the demand side by exports and government expenditure. A higher population growth rate led to 0.8% smaller GDP per capita growth in 2021, and an estimated 600,000 people fell below the poverty line in 2021. Inflation nearly doubled to 5.7% in 2021 from 3.1% in 2020 due to higher food and fuel prices, prompted the central bank to raise the policy rate by 300 basis points in January 2021.

The fiscal deficit narrowed to 6.0% of GDP in 2021 from 7.0% in 2020, aided by increased revenues as activity improved. However, public debt is estimated to have risen to 130% of GDP in 2021 from 122% in 2020, fueled by spending on security and humanitarian needs related to the conflict. The current account deficit narrowed to 20.8% in 2021 of GDP from 25.8% in 2020, aided by an upswing in commodity exports, largely financed by FDI. International reserves remained at 7 months of imports in 2021; the $306 million SDR allocation will expand them by 9%. The banking sector's NPL ratio declined to 9.9% in 2021 from 12.6% in June 2020.

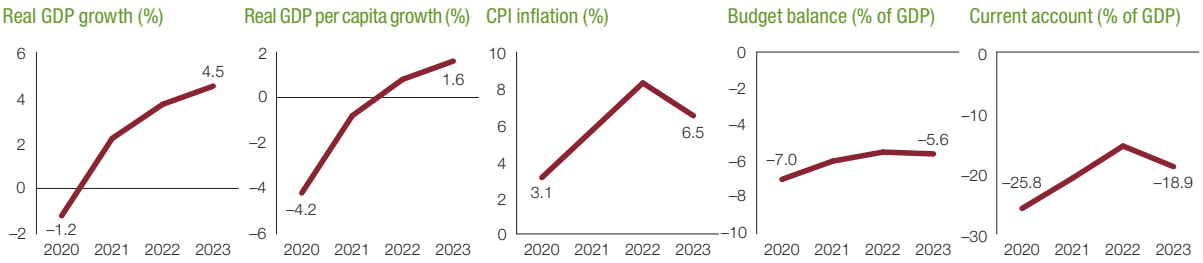
Outlook and risks

GDP growth is projected to surpass pre-pandemic levels by 3.7% in 2022 and 4.5% in 2023, partly reflecting mineral projects. Inflation will peak at 8.3% in 2022 due to the disruptive effects of the Russia–Ukraine conflict before falling to 6.5% in 2023. The fiscal deficit is projected to widen to 5.5% of GDP in 2022 and 5.6% of GDP in 2023 owing to public sector wage increases. The current account deficit is projected to widen to 15.5% and 18.9% in 2022 and 2023 due to related imports from liquefied natural gas (LNG) investments. GDP per capita is projected to grow by 0.8% and 1.6% in 2022 and 2023, reducing poverty to 60.3%, below pre-COVID-19 levels. The pandemic, climate change, and the conflict in the north are major risks as 2022 continues unfolding. The government is seeking a $470 million IMF program to help mitigate financing vulnerabilities from those risks. Economic boosts include completion of LNG projects and the peace settlement with the RENAMO military arm of the opposition, helping unlock agriculture and tourism.

Climate change issues and policy options

The 2021 GCRI classified Mozambique as the country most affected by climate change—for instance, cyclones Idai and Kenneth caused damage in 2019 worth $3.2 billion. As grants only covered 47% of financing needs, Mozambique issued $118 million in sovereign bonds, worsening its fragile debt situation. Cyclones also hit economic activity, food security, and rural livelihoods.

The NDC targets lower emissions of 99 $MtCO_2eq$ between 2020 and 2030. Mozambique is also fast-tracking funding mobilization while implementing the National Climate Change Adaptation and Mitigation Strategy 2013–2025, while aiming to expand energy access and the matrix focusing on renewable energy and natural gas, but a large financing gap remains. The estimated cost of NDC implementation is $53 billion for 2020–30, far above the $3.7 billion mobilized in 2011–20. Mozambique is on track to achieve SDG 13 on climate action by 2030 but faces impediments.



Source: Data are as of April 2022 and are from domestic authorities; figures for 2021 are estimates and figures for 2022 and 2023 are projections by the African Economic Outlook team.

Namibia

Recent macroeconomic and financial developments

The economy underwent a major contraction of 7.9% in 2020, due to the shock of COVID-19, with declining activity mainly in tourism, retail and wholesale trade, financial services, investment, health, and education on the supply side, and in private final consumption expenditure and investment partly offset by higher net exports on the demand side. Subsequently, there was a sharp decline in GDP per capita and rise in unemployment and poverty. The economy reopened in 2021, concurrently with the rollout of the national COVID-19 vaccine program, resulting in a modest recovery in most industries and subdued GDP growth estimated at 2.4% in 2021.

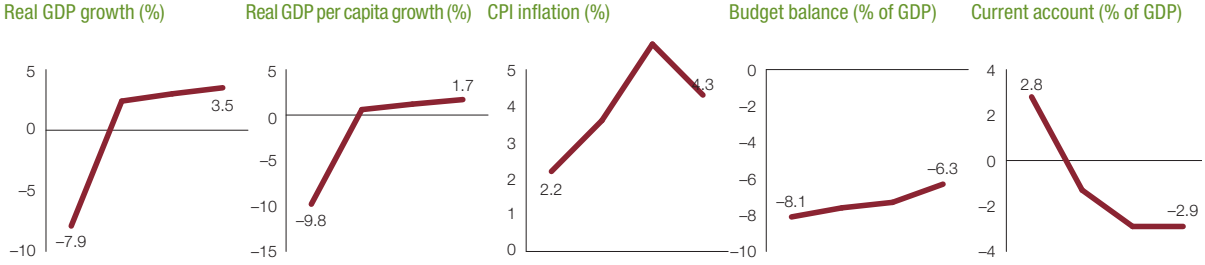
The central bank kept the policy rate at a record low of 3.75% to support the domestic economy amid subdued inflationary pressures. Although the quality of banking assets deteriorated, the ratio of NPLs to gross loans remained well within the bank's threshold. The fiscal deficit averaged 8.1% of GDP in FY2020/21, driven by COVID-19–related spending and lower revenues, taking public debt to 57.8% of GDP. The fiscal deficit was financed by local bond issuance and by development partner financing. The current account balance switched from a 1.8% of GDP deficit in 2019 to a 2.8% of GDP surplus in 2020—mainly on the merchandise trade surplus—back to a deficit of 1.3% of GDP in 2021, funded by foreign capital. International reserves increased to 6.3 months of imports in 2021 from 4.3 months in 2020. Namibia was allocated $300 million (2.9% of GDP and 10.0% of gross international reserves) in SDRs. Portions may be used for the Economic Stimulus and Recovery Program, social protection and services provision, and vaccinations. The allocation would allow the country to build its reserves.

Outlook and risks

The economy is projected to grow by 3.0% and 3.5% in 2022 and 2023 on the assumption of recovery in most domestic sectors and of a rebound in regional and global economic demand. Monetary policy is expected to remain accommodative in 2022, in support of the domestic economy, and the financial services sector is seen picking up, with reserves rising to 7 months of import cover. The economy faces many risks, such as a prolonged pandemic and slow vaccine uptake. Any global economic shocks would weigh on exports and FDI and contribute to widening the current account deficit by a projected 4.1% in 2022. The fiscal deficit is projected at 7.3% in 2022 and public debt expected to remain elevated, at above 70% of GDP. The current account deficit is projected to widen to 2.9% of GDP in 2022 but could be wider if global economic shocks that weigh on exports and FDI materialize. Other risk factors include high unemployment, income disparities, and environmental hazards that may be mitigated by the Economic Stimulus and Recovery Program and reforms in the public and private sectors. Inflation will remain moderate at around 4.3% in 2023.

Climate change issues and policy options

Namibia is highly vulnerable to climate change and is 113 on the 2021 GCRI. It is prone to severe droughts, which have expected pressure on GDP of 1–2 percentage points, and which hurt the livelihoods of low-income households and rural communities dependent on climate-sensitive sectors. The drought of 2019 caused agricultural output to drop by 5.0% and made water scarcity worse. Namibia has developed policies and strategies to foster climate change resilience and adaptation, and promote low carbon and green growth, as in the Climate Change Strategy and Action Plan (2013–20) and NDC (updated 2021). It has identified RE projects, including the first green hydrogen project in Africa, estimated to cost $9.6 billion (89% of GDP). Funding for these projects is to be sourced from bilateral and multilateral partners, as well as through social and green bonds in the country's domestic markets. The extent of successful implementation will determine whether Namibia meets SDG 13 on climate action by 2030.



Source: Data are as of April 2022 and are from domestic authorities; figures for 2021 are estimates and figures for 2022 and 2023 are projections by the African Economic Outlook team. Data for the budget balance as a % of GDP reflect a financial year that begins April 1 and ends March 31 the following year.

São Tomé and Príncipe

Recent macroeconomic and financial developments

GDP grew by 3.1% in 2020, supported by high aid inflows during the pandemic (the weight in the total budget increased by 23.5% in 2020) and accommodative monetary policies in early 2020. Economic growth slowed to 2.2% in 2021 as aid inflows declined and monetary policy measures were reversed at end-2020 to contain excess liquidity. Inflation was largely unchanged at 9.5% in 2021 and 9.4% in 2020, pressured mainly by food products. The government increased the supply of health and social infrastructure and services to contain COVID-19's spread. Palm and coconut oil supply rose five- and twofold, from 2019 to 2020 in response to international demand.

The pegged exchange rate system with the euro has helped maintain a stable exchange rate (24.5 dobras per euro). The fiscal balance stood at 0.9% of GDP in 2021 after a long period of deficits, averaging 4.0% in the past four years. The surplus reflects lower government spending, financed mainly by concessional loans and grants. The current account deficit, which edged down marginally to 10.1% of GDP in 2021 from 11.6% in 2020 due to a 7.6% import decline and a 6% export increase, is primarily financed by international credit. Gross international reserves declined slightly from $91.8 million in 2020 to $88.5 million in 2021 as aid inflows shrunk.

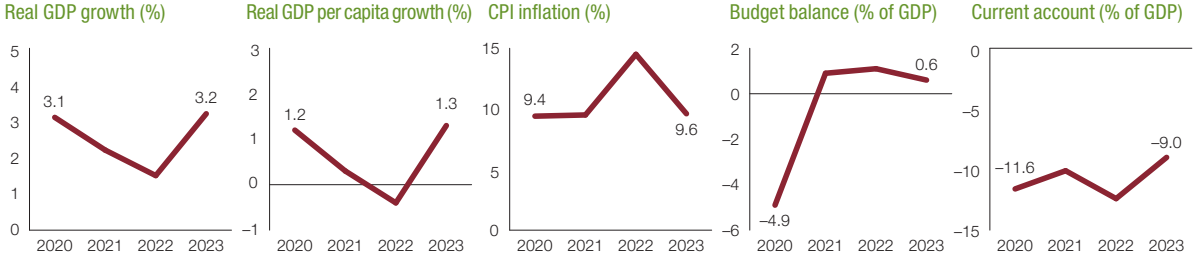
Public debt declined to 87.9% of GDP in 2021 from 99.9% in 2019, because of the government's commitment to borrow concessionally for the most part. Of the allocation of around SDR 12.2 million ($19.6 million) in 2020, half was used for investment projects and the other half for international reserves; the latter rose by 29.7% in 2020. The ratio of NPLs to gross loans declined to 30.2% in September 2021 from 34.2% in the corresponding period in 2020. Banks also returned to profitability with the return on asset ratio of 1% in September 2021.

Outlook and risks

The economy is projected to grow by 1.5% and 3.2% in 2022 and 2023, supported by global demand in commodities, improved trade and tourism, which will benefit from easing of COVID-19 pandemic restrictions. The fiscal balance is projected to remain positive, at 1.1% in 2022 and 0.6% in 2023. Export and tourism earnings will eventually help narrow the current account deficit from 12.4% in 2022 to 9.0% in 2023, while international reserves are forecast to rise slightly to $70.3 million and $72 million over the same period, induced by inflows of private capital and FDI, narrowing the debt-to-GDP ratio to 67.5% of GDP in 2022 and 66.1% in 2023, from 68.8% in 2021. Current macroeconomic reforms will drive growth. The Russia–Ukraine conflict will negatively affect global economic growth, with a huge impact on commodity prices. São Tomé and Príncipe depends heavily on fossil fuel for power generation, and this will greatly distress prices in the country, provoking an increase in the cost of living. COVID-19, poor infrastructure, and climate change might also put a drag on economic recovery, though the government is committed to reforms and is working closely with development partners to ensure continued investment in infrastructure, climate change, and power.

Climate change issues and policy options

Vulnerable to climate change, the country has recorded increasing temperatures, decreasing rainfall, longer dry seasons, decreasing river levels, floods, a rising sea level, and increasing coastal erosion. These impacts greatly affect energy, agriculture, fisheries, forestry, and livestock. In 2021, the government updated its 2015 NDC. One goal is to increase RE generation from 26 MW to 49 MW, for a 27% CO_2 emissions reduction by 2030 at an estimated cost of $150 million. With the Bank, the government is conducting a gap assessment on climate change financing, including capacity building, to enhance the country's capacity on climate financing mobilization. Various activities are concurring to meet the SDG 13 targets by 2030, including a blue economy strategy and related laws.



Source: Data are as of April 2022 and are from domestic authorities; figures for 2021 are estimates and figures for 2022 and 2023 are projections by the African Economic Outlook team.

South Africa

Recent macroeconomic and financial developments

South Africa's GDP contracted by 6.4% in 2020 because of the COVID-19 pandemic, which disrupted trade and travel. The economy grew by an estimated 4.9% in 2021, driven by recovery in finance on the supply side and fixed investment on the demand side. Headline inflation picked up to 4.5% in 2021 from 3.3% in 2020, on the back of higher food and transport prices, and the policy rate was therefore increased, to 3.75% in November 2021 from 3.5% in 2020. The budget deficit reached a record 10% of GDP in 2020 due to additional expenditure to mitigate the impact of COVID-19. The fiscal deficit was estimated to have declined to 5.8% of GDP in 2021, reflecting higher revenue and rationalized expenditure. The current account surplus was estimated at 3.8% of GDP in 2021 from 2% in 2020 attributable to improved export performance and higher commodity prices.

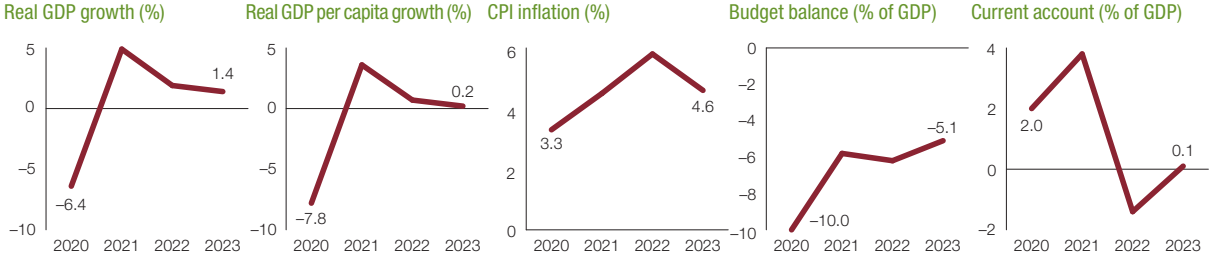
External reserves increased from $54.5 billion in July 2021 to $58.4 billion in August 2021 (about 5 months of import cover) boosted by the SDR allocation. South Africa's total public debt was estimated to have declined marginally to 70% of GDP in 2021 from 71% of GDP in 2020 given the fiscal consolidation. The financial sector is stable with banks holding adequate capital—15.8% in March 2020 and 18.07% in January 2022, compared with 18.04% in December 2021—well above the 10.5% minimum regulatory requirement. Poverty remains high, however, affecting 55.5% of the population in 2015, with unemployment at 35% in September 2021.

Outlook and risks

The economy is projected to grow by 1.9% and 1.4% in 2022 and 2023, lifted by growth in trade, tourism, mining, and manufacturing. Inflation is projected to rise to 5.8% in 2022, due to rising oil prices and likely increases in food prices resulting from the Russia–Ukraine conflict, but to decrease to 4.6% in 2023. The fiscal deficit is also projected to increase to 6.2% of GDP in 2022 before falling to 5.1% of GDP in 2023 due to the consolidation measures, including higher tax revenues and a reduced wage bill. The current account deficit is projected to be 1.4% of GDP in 2022 and to swing to a surplus of 0.1% in 2023 due to the recovery in import demand and expected fall in commodity prices. Downside risks include the uncertainty linked to the COVID-19 pandemic, electricity supply constraints, and weak governance in state-owned enterprises and associated contingent liabilities.

Climate change issues and policy options

South Africa is 12th highest emitter of GHGs in the world and the biggest in Africa. It is also facing significant impacts from climate change. For example, heavy rains caused flooding leading to loss of lives and damage to property and infrastructure in parts of the country in late 2021. The government has adopted climate legislation to support mitigation and adaptation in enhancing its commitment to the Paris Agreement. South Africa has developed a National Climate Change Adaptation Strategy, aligned with the National Development Plan 2030, while on mitigation, through a Carbon Act 2019, the government has introduced a carbon tax of 120 rand per ton of CO_2 equivalent targeting the carbon-intensive sector. The country is also implementing the Just Energy Transition Strategy, for cleaner energy. It updated its NDC in 2021 to include a Low Carbon Emission Development Strategy for the energy, mining, industrial, agriculture, and waste sectors to curb the national carbon footprint to an upper limit of 350–420 $MtCO_2eq$ by 2030. The financing needs for the updated NDC is estimated at $55 billion–$59 billion over 2020–30.



Source: Data are as of April 2022 and are from domestic authorities; figures for 2021 are estimates and figures for 2022 and 2023 are projections by the African Economic Outlook team. Data on the budget balance correspond to South Africa's fiscal year, which runs from April 1 to March 31.

eSwatini

Recent macroeconomic and financial developments

Eswatini's growth rebounded by 6.1% in 2021, from a 1.9% contraction in 2020, propelled by agriculture (on good weather) and industry (resurgent demand). Growth in services remained constrained by COVID-19–related restrictions. Aggregate demand is dominated by consumption (85% of GDP), followed at some distance by investment (12.3%) and net exports (2.7%). Monetary policy was accommodative, and the discount rate was maintained at 3.75% throughout 2021. Inflation averaged 3.8% in 2020 and 2021 as price increases of key drivers, such as food and transport, were marginal. The fiscal deficit widened to an estimated 6.4% of GDP in 2021, as government revenue remained tight against elevated spending needs, while public debt increased slightly to 40.6% of GDP (16.4% external) in December 2021, from 39% in December 2020.

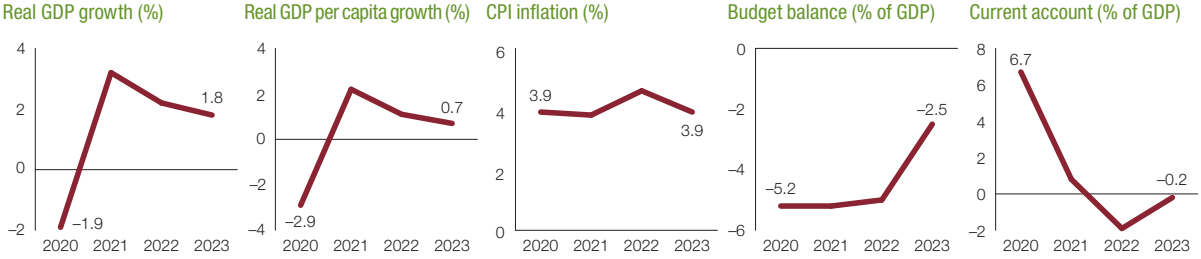
The current account surplus fell to about 0.8% of GDP in 2021 from 6.7% in 2020 as secondary income flows, mainly SACU receipts, declined. International reserves climbed to 3.6 months of import cover in 2021, from 3.2 months in 2020, buoyed by the SDR allocation ($107 million), held as reserves by the central bank. The local currency, pegged at par to the rand, stabilized in early 2022 after a sharp depreciation toward end-2021. NPLs increased as businesses affected by the civil unrest in 2021 struggled to service their loans but declined to 6.5% of total loans by end-2021. Poverty looms large, at 58.9% of the population. Unemployment hit 33.3% in 2021, sharply up from 23.1% in 2020, due to COVID-19.

Outlook and risks

Slower growth of 2.4% is projected in 2022, in all sectors, though is forecast to pick up a little in 2023 as COVID-19 effects wane with increased vaccination. The fiscal deficit is forecast to decline but remain elevated at 4.1% of GDP in 2022, largely reflecting the expected downturn in SACU revenues, but narrow further to 1.3% in 2023, with continued fiscal consolidation. Inflation is projected to nudge up to 4.5% in 2022, on adjustments in administered prices, higher oil prices, and a weaker currency, but subside again to 4.0% in 2023. In 2022, a current account deficit is projected at 0.4% of GDP owing to likely constraints on the secondary income account. Headwinds include volatile SACU receipts, new virus mutations, slow vaccination, and domestic and global political tensions. Major tailwinds include continued fiscal consolidation, vaccination rollout, structural reforms, and national political dialogue.

Climate change issues and policy options

Ranked 130 on the 2021 GCRI, Eswatini is vulnerable to climate shocks, particularly droughts. The 2015/16 El Niño drought caused agricultural output to contract by 8.4%, underscoring the expansion of water harvesting and irrigation infrastructure. Other sectors at risk include water, biodiversity, ecosystems, and human health. The country also experiences natural hazards including epidemic diseases, floods, and forest fires. The government is strongly committed to meet SDG 13 on climate action by 2030, but progress so far is moderate. Eswatini has written a National Drought Mitigation and Adaptation Plan 2016–2022, unveiled a National Climate Change Policy in 2016, and drafted a Climate Change Bill (2016), which seeks to promote climate resilience and inclusive low-carbon green growth, access to climate finance, and capacity building. It submitted its first NDC to the UNFCCC in 2015 and submitted its updated NDC in October 2021, with targets to reduce economy-wide GHG emissions by 5% between 2021 and 2030, at an estimated cost of at least $950 million.



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Zambia

Recent macroeconomic and financial developments

GDP contracted by 3.0% in 2020 due to COVID-19 but showed a muted recovery of 4.0% in 2021. GDP per capita growth was 6.0% and 1.1% in these two years, reflecting pandemic control measures that shut down economic activities such as tourism and hospitality, and supply chain disruptions in key sectors. The impact on GDP per capita was amplified in 2021. General consumption was also dampened. Inflation rose from 15.7% in 2020 to 22.1% in 2021, driven by food inflation and a lower kwacha. The policy rate was lowered from 10.25% in May 2019 to 8.0% in August 2020 and to 9.0% in November 2021, to moderate inflation and support growth. The kwacha depreciated by some 50% against the dollar in 2020 before appreciating by 21% from the last quarter of 2021.

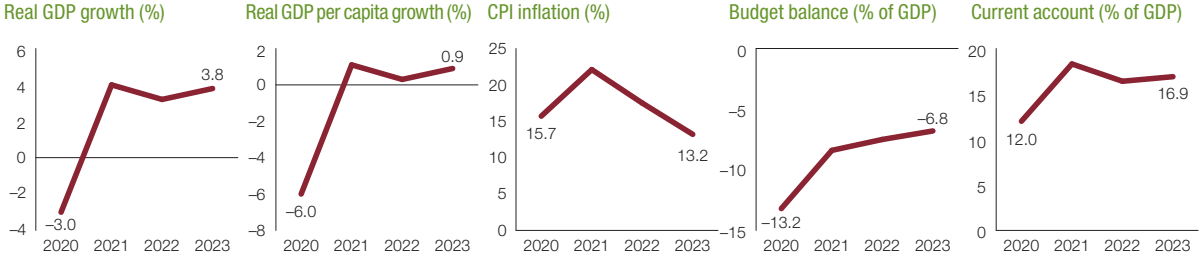
The fiscal deficit narrowed from 13.2% in 2020 to 8.4% in 2021 despite a surge in COVID-19-related spending and revenue shortfalls. The current account surplus was 12.0% and 18.3% in 2020 and 2021, buoyed by high global copper price. The financial performance and condition of the banking sector at end-December 2020 and end-June 2021 remained satisfactory given adequate capital, satisfactory earnings, and liquidity. Although the NPL ratio was high at 11.6% at end-2020, it improved to 9.1% as at end-June 2021. International reserves were at 2.4 months of import cover at end-2020 and 5.5 months at end-2021, reflecting the SDR allocation of $1.33 billion.

Outlook and risks

The economy is projected to grow only by 3.2% and 3.8% in 2022 and 2023, because of weak recovery in mining, tourism, and manufacturing. Inflation is projected to decelerate to 17.5% and 13.2% in 2022 and 2023, but still above the upper bound of the central bank's 6–8% target range. Monetary policy will prioritize inflation and livelihoods. Risks to inflation include the government's removal of fuel and electricity subsidies in December 2021 resulting in increases in fuel pump prices and electricity tariffs. The current account outlook remains positive at 16.4% and 16.9% of GDP in 2022 and 2023. The NPL ratio is expected to fall in 2022 and 2023, and the Bank of Zambia will shore up bank liquidity through its Medium-Term Refinancing Facility. On the plus side are expected growth in ICT given current and expected expansion of mobile payment services and investment in ICT infrastructure. Electricity generation began at Kafue Gorge Lower and Lusiwasi Upper Hydropower Stations in July 2021. Current tax reforms in mining will increase investment.

Climate change issues and policy options

Zambia has experienced perennial climate shocks and is 59 on the 2021 GCRI. A prolonged drought in 2018 and 2019 contributed to cutting GDP growth from 4.0% to 1.4% over the two years. Projections for the climate change impact on economic growth is a $13.8 billion GDP loss, while funding needs are conservatively estimated at $15 billion between 2010 and 2030. A higher estimate is $35 billion, comprising domestic, bilateral, and multilateral sources. Current financing options are bilateral and multilateral sources, alongside limited mitigation financing from the Clean Development Mechanism, Global Climate Fund, Global Environmental Facility, and climate insurance programs in agriculture. Zambia has integrated climate change issues in its policies, programs, and strategies as outlined in its Vision 2030. The government recently created a Ministry of Green Economy and Environment and began mitigation and adaptation policies targeting the country's renewable energy potential, agriculture, and the mainstreaming of climate change in all economic sectors. Zambia expects to achieve SDG 13 on climate action by 2030.



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Zimbabwe

Recent macroeconomic and financial developments

Zimbabwe's economic growth accelerated to an estimated 6.3% in 2021 from a 5.3% contraction in 2020, supported by a bumper harvest, expanding agriculture by 36.2% in 2021, up from 4.2% growth in 2020. Per capita GDP likewise grew, by 4.9% in 2021 from a contraction of 6.7% in 2020. A mix of improved revenue mobilization and expenditure restraint contributed to a positive fiscal balance of 0.6% of GDP in 2021. Inflation slumped to 98.5% in 2021 from 557.3% 2020, reflecting a fall in food price inflation aided by improved food supply. The official exchange rate was Z$108/US$ in December 2021 and was overvalued as reflected in a 67% disparity with the parallel rate of Z$180/US$.

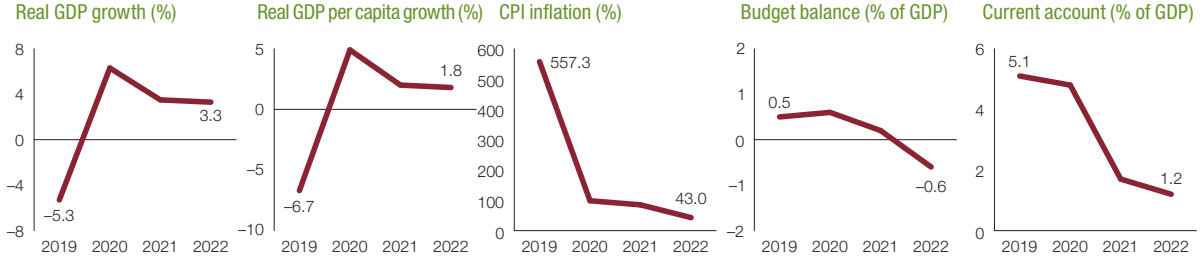
Zimbabwe is classified as being in debt distress with total debt of $13.7 billion, of which $13.2 billion is external. The current account balance remained positive on account of reduced food imports. Financial sector performance was satisfactory in 2021, with NPLs at 3.5% against a benchmark of 5%, while the capital-adequacy ratio was 32%, above the 12% requirement, in June 2021. In August 2021, Zimbabwe received its SDR allocation of 655.6 million ($960 million, 4% of GDP), half of which the government has prioritized for COVID-19 vaccination rollout, agriculture, mining, and infrastructure development; the balance is to build reserves. However, the poverty rate remained high, at 44.0%, in 2021.

Outlook and risks

Growth is projected to average 3.5% in 2022 and 3.2% in 2023, driven by continued favorable agricultural performance and improved macroeconomic stability. In the same period, inflation could drop to 85% and 43% on the back of stability in food prices and exchange rate stability. The fiscal deficit is forecast to narrow to 0.2% of GDP given continued fiscal discipline. The current account balance will remain positive largely because of reduced food imports as domestic production improves, as well as increased export earnings stemming from improved commodity prices. COVID-19 continues to present risks, and emergence of new variants could affect economic activity; the debt overhang and climate change are further risks. In 2021, Zimbabwe developed the Arrears Clearance, Debt Relief and Restructuring Strategy to guide engagement with donors and creditors for clearing its debt and unlocking development financing.

Climate change issues and policy options

Zimbabwe is two on the 2021 GCRI. Climate change has increased the frequency of extreme weather events such as droughts, floods, storms, and heat waves. Cyclone Idai in 2019 caused direct damage of an estimated $622 million to infrastructure, properties, crops, and livestock. Through its National Development Strategy 2021–2025, the government prioritizes mainstreaming climate change and related financing in national programs; strengthening early-warning systems; promoting climate-smart innovation and technology transfer; and strengthening capacity building and awareness on climate change adaptation and mitigation. Zimbabwe requires domestic and international support to push through with mitigation and adaptation measures: mitigation measures alone will cost an estimated $4.83 billion. Finance channeled through the National Climate Change Fund and Climate Finance Facility (under development) should crowd in the private sector through blended finance and results-based approaches for de-risking markets, scaling up impact investments, and increasing participation in climate actions. Zimbabwe is on course to meet SDG 13 on climate action.



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WEST AFRICA

Benin

Recent macroeconomic and financial developments

Benin's growth improved in 2021 to 7.0% from 3.8% in 2020. On the supply side, growth resulted from the good performance, on the one hand, of the primary sector (up 3.9% after 2% growth in 2020), benefiting from the positive effects of the reforms that helped to increase yields and improve governance of the agriculture sector; and, on the other, of the tertiary sector, which grew 7.2% in 2021, up from 4.9% expansion in 2020, due to an increase in port traffic, the opening of Nigeria's borders, and better governance of Cotonou Port. On the demand side, growth stemmed from the 17% increase in investment, with a continued countercyclical fiscal policy. Inflation dropped to 1.7% in 2021 owing to improved food supply.

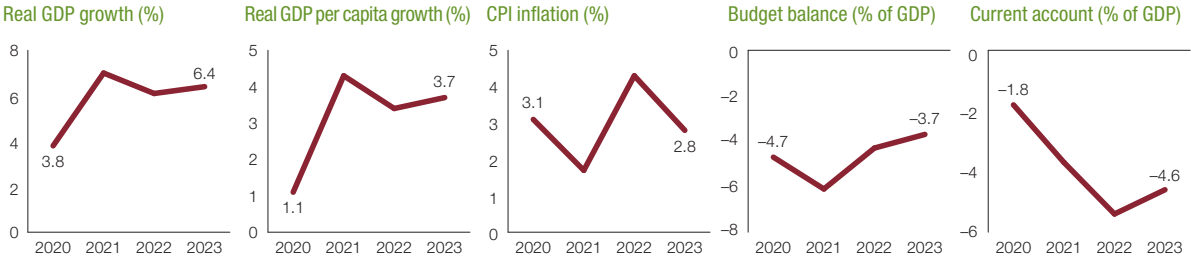
The budget deficit worsened, however, in 2021, to 6.1% of GDP, financed in part by the allocation of 118.6 million in SDR for Benin; the remainder of the amount is to finance the 2022 budget deficit. Public debt was 47.2% of GDP in 2021 against 46.1% in 2020, but the risk of debt distress remains moderate. The current account deficit is estimated to have doubled in 2021, reaching 3.7% of GDP, due to a 64.5% decrease in public transfers; foreign exchange reserves covered 5.9 months of imports in 2021. The solidity of the financial system was strengthened with a fall in the rate of outstanding loans to 14.8% in September 2021, against 17% in September 2020. The poverty rate was estimated at 38.5% in 2019 and unemployment 2.4%, with a high level of underemployment (72.9%).

Outlook and risks

Growth is expected to reach 6.1% in 2022 and 6.4% in 2023. These forecasts rely on reforms in agriculture sector governance, and improvements in public financial management and the business climate. The food supply increase should allow inflation to continue to decrease to roughly 2.8% by 2023. The budget deficit is projected to narrow to 4.3% of GDP in 2022 and 3.7% in 2023, but these are still wider than the WAEMU criterion of 3% of GDP. After rising to 48.9% of GDP in 2022, public debt is projected to decrease to 46.3% in 2023, helped by robust growth and better debt structuring during this period. The current account deficit is expected to widen to 5.4% of GDP in 2022 before narrowing to 4.6% in 2023, in the latter year due to a narrowing trade balance. Foreign exchange reserves are forecast to increase to 6 months of import cover on average in 2022–23. The main risks are the resurgence of the health crisis, fluctuations in cotton and oil prices, the impacts of the Russia–Ukraine conflict, adverse weather, and deteriorating security in northern areas.

Climate change issues and policy options

Benin is vulnerable to climate change, which is seen in drought, deforestation, soil degradation, and flooding. The Bank's 2021 Country Policy and Institutional Assessment puts Benin's Environmental Policies and Regulations score at 4 in 2021. The socioeconomic effects of climate change could, by 2030 and 2050, decrease corn yields by 21.6% and 28.8%, and cotton's by 0.9% and 6.3%. GHGs were estimated at 17.3 $MtCO_2eq$, or 1.5 tCO_2eq per capita, in 2018. Benin adopted a National Climate Change Management Policy 2020–2030 and prepared its NDC for 2030. It has implemented a National Renewable Energy Policy 2020–2030. A 25 MW PV solar plant, expandable to 50 MW, should become operational in April 2022 and produce 35 GWh of electricity, reducing the country's CO_2 emissions by 23,000 tons over 25 years. Finally, Benin has created the National Fund for the Environment and Climate, for FCFA 1.2 billion.



Source: Data are as of April 2022 and are from domestic authorities; figures for 2021 are estimates and figures for 2022 and 2023 are projections by the African Economic Outlook team.

Burkina Faso

Recent macroeconomic and financial developments

Despite a difficult security situation, economic growth recovered to 6.7% in 2021 from 1.9% in 2020. On the supply side, it was bolstered by the secondary sector (up 8.2% in 2021 from 5.8% expansion in 2020), especially manufacturing and mining, and by the tertiary sector (up 12.7% in 2021 against a contraction of 2.7% in 2020), largely on improved accommodation–restaurant activities and commerce. The primary sector contracted by 6.4% in 2021, after 6.5% growth in 2020, due to poor rainfall and crop areas reduced by the security situation. On the demand side, growth was driven by final consumption and net exports. Inflation was 3.9% in 2021, reflecting increased food prices.

NPLs accounted for 7.8% of all loans in 2020. The budget deficit widened to 5.6% of GDP in 2021, reflecting increased expenditure (25.3% of GDP in 2021 against 24.3% in 2020), especially for payroll and capital expenditure, while tax revenues (13.5% of GDP in 2020 and 15.5% in 2021) remain low. With a public debt ratio of 51.4% of GDP in 2021, Burkina Faso faces moderate risk of debt distress. The current account, which is usually in deficit, was in surplus at 3.8% of GDP in 2020 and 5.2% in 2021, owing to the increased value of gold and cotton exports. COVID-19 increased the poverty rate to 37.1% in 2020, from 36.0% in 2019. The SDR allocation of $163 million was used primarily to strengthen the health system and support vulnerable households.

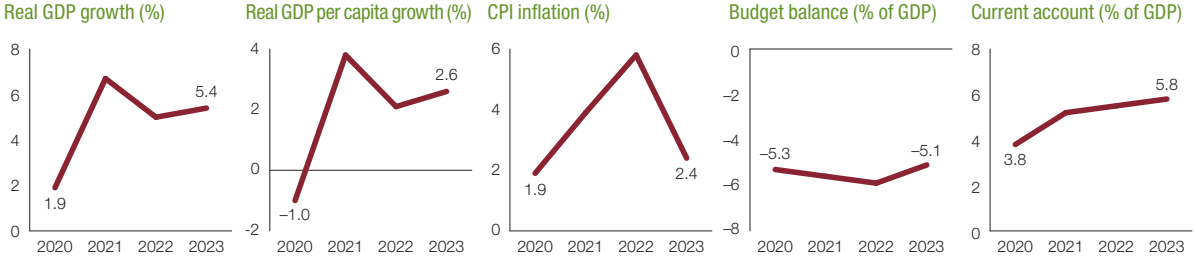
Outlook and risks

Prospects for economic growth are expected to be undermined by sociopolitical instability, after the coup d'état of January 24, 2022, and the worsening of the security situation. Economic activity is forecast to slow, to 5.0% in 2022 and 5.4% in 2023. The main growth drivers—trade and gold mining—should support growth in the short term. Inflation is expected to rise to 5.8% in 2022, due to higher cereal prices and the impact of the Russia–Ukraine conflict on the prices of imported goods. The budget deficit is projected to remain high, at 5.9% of GDP in 2022 and at 5.1% in 2023, reflecting increased expenditure in order to respond to security and humanitarian challenges. The debt ratio is projected to rise to 52.2% on average over the two years (2022–23), due to the increased use of government securities (Treasury bonds). The current account balance should remain in surplus, owing to the rising value of gold and cotton exports. These forecasts are exposed to major risks, particularly delayed reestablishment of the constitutional order, a pronounced worsening in security, inflationary pressure, a drop in gold and cotton prices, slowing of global economic growth owing to the Russia–Ukraine conflict, and a COVID-19 resurgence.

Climate change issues and policy options

Burkina Faso is 130 on the 2021 GCRI and remains very vulnerable to climate variations. Socioeconomic costs stem from the loss of crops, decreases in agricultural yields and water resources, and land degradation. The government implemented its 2015–2020 National Climate Change Adaptation Plan and 2015–2020 NDC. The amount of sequestered carbon increased from 1.52 million tons (Mt) in 2018 to 3.9 Mt in 2020, and 149,295 ha of degraded land was rehabilitated from 2016 to 2020. The country initiated an energy transition with the development of solar power plants as part of its Desert-to-Power initiative.

Climate funding remains low, however. Financial needs for the 2021–2025 NDC amount to $4.12 billion, and only 39% of this has been acquired. The country is on track to achieve SDG 13 on climate action by 2030 as it has already accomplished about 90% of that goal. More widely, medium-term options involve increasing the amount of sequestered carbon to 10 Mt in 2023, monitoring and assessing the reduction of GHGs, increasing the share of RE to 50% of the energy mix by 2025, and mobilizing green climate funds.



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Cabo Verde

Recent macroeconomic and financial developments

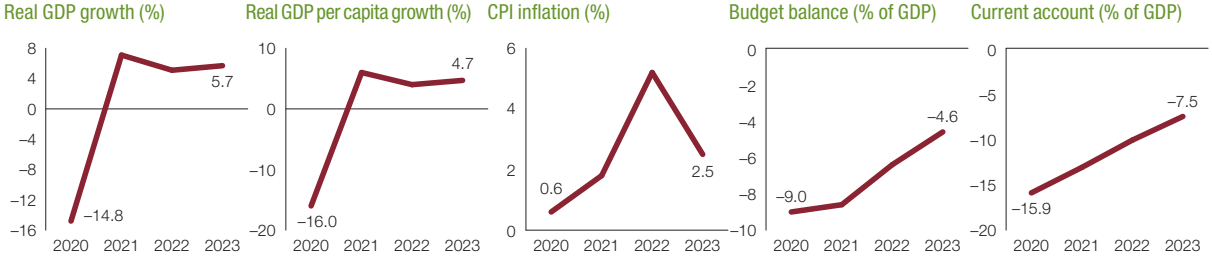
Cabo Verde's economic growth was estimated at 7.1% in 2021, after a 14.8% contraction in 2020, for a 6% gain in per capita income, yet is insufficient to offset the 16% loss in 2020. On the supply side, growth was supported by transport and construction, amid weak tourism activity. Public expenditure increased by 11.7% in 2021, bolstering growth on the demand side. Inflation rose to 1.8% in 2021 from 0.6% in 2020, driven by high energy prices, rising domestic demand, accommodative monetary policy, and a COVID-19 credit line of €400 million, which boosted liquidity. The overall fiscal deficit declined from 9% of GDP in 2020 to 8.6% in 2021, owing to tax and administration reforms and COVID-19-related expenditure restraint. Concessional loans, domestic borrowing, and use of the $32.2 million SDR allocation covered the fiscal deficit. Public debt increased from 155% of GDP in 2020 to 156.7% in 2021, driven by high interest payments on domestic debt, and the risk of debt distress remains high. Despite narrowing from 15.9% of GDP in 2020 to 13.1% in 2021, the current account deficit prompted a drawdown in reserves from 7.2 months of imports in 2020 to 6.7 months in 2021. Foreign direct investment (FDI), portfolio inflows, and remittances financed the current account deficit. Liquidity and capital ratios in the banking system are adequate, but exposure to NPLs remained high. The pandemic reversed progress in social conditions and raised poverty from 26% in 2019 to 31.6% in 2020, and unemployment from 11.3% to 14.5% in the same period.

Outlook and risks

The outlook remains uncertain due to the COVID-19 pandemic, prolonged drought, and the Russia–Ukraine conflict because Cabo Verde imports an estimated 11% of its oil and 8.6% of its cereals from Russia. Growth is projected to remain below pre-COVID-19 levels, at 5.1% in 2022 and 5.7% in 2023, driven by services and renewable energy. Public investment and credit growth are projected to help reduce poverty and unemployment to 29.1% and 12.4% in 2022. Inflation will reach 5.2% in 2022, affected by rising fuel and food prices due to the Russia–Ukraine conflict, before normalizing at 2.5% in 2023 as global supply chains improve. The fiscal deficit is projected to narrow from 6.4% of GDP in 2022 to 4.6% in 2023 on fiscal consolidation. The current account deficit is projected at 10.1% of GDP in 2022 and 7.5% in 2023, supported by tourism and remittances, while foreign reserves will stabilize at 5 months of imports. The NPL ratio is projected to be above 12.5% in 2022 and 2023, contained somewhat by loan resolution and provision for loan losses.

Climate change issues and policy options

Cabo Verde is 130 on the 2021 GCRI. Erratic rainfall leads to $2 million losses of income in agricultural crops annually. Losses from volcanic eruption of 2014–15 in Fogo Island reached $30.5 million (1.7% of GDP). In September 2020, floods affected 150,000 people and damaged houses, land, and crops. Overall, Cabo Verde could lose between 0.1% and 0.27% of per capita GDP by 2030 and 2050 if the Paris Agreement is not met. The government is addressing climate change and building resilience through investments in blue economy, reforestation, and restoration of environmental ecosystems. Government is also promoting a just energy transition through renewable energy investments, notably a 10 MW wind farm in Santiago in 2022, and an additional 150 MW of photovoltaic energy by 2030, increasing the renewable energy share from 18.4% in 2020 to 30% in 2025 and to 50% by 2030. The country is on track to meet SDG 13 on climate action, but climate financing needs are huge (€2 billion). Adoption of blue bonds and debt swaps for environmental protection, domestic resource mobilization, and coherent tax policies are recommended to scale up climate finance.



Source: Data are as of April 2022 and are from domestic authorities; figures for 2021 are estimates and figures for 2022 and 2023 are projections by the African Economic Outlook team.

Côte d'Ivoire

Recent macroeconomic and financial developments

After a slowdown in 2020 associated with COVID-19, the economy is once again strengthening with 6% GDP growth in 2021, led on the supply side by agricultural exports, extractive and manufacturing industries, buildings and public works, transport, and commerce and on the demand side by investment and consumption. Inflation climbed from 2.4% in 2020 to 4.2% in 2021, caused by increases in prices of food products, owing to an insufficient local production. Credit to the economy recorded a 12.5% rise from 2020 to 2021, stimulated by measures to support the banking system.

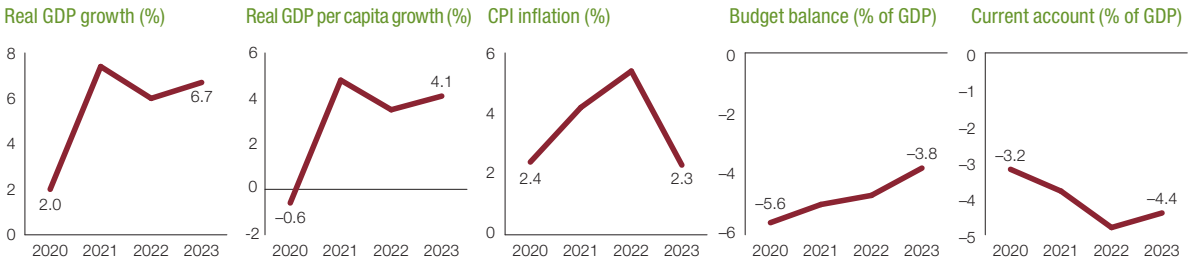
The budget deficit is estimated at 5.0% of GDP in 2021, down from 5.6% in 2020, linked to an improved mobilization of tax and nontax revenues. It is financed by project and program loans, the regional financial market, and other foreign currency financing. The $925.6 million received from the SDR allocation was used to finance the budget deficit. Public debt, which shows a moderate risk of debt distress, is expected to have climbed to 51.4% of GDP in 2021, arising from the increase in COVID-19-related spending. The current account deficit is expected to have widened from 3.2% in 2020 to 3.8% of GDP in 2021, due to lower services and primary sector revenues. The COVID-19 pandemic exacerbated poverty in 2021, with 20.2% of the population living on less than $1.90 per day, up from 18.3% in 2020, according to the United Nations Sustainable Development Goals Report 2021.

Outlook and risks

The outlook for 2022–23 could be negatively impacted by the Russia–Ukraine conflict. However, it will benefit from investments and reforms in the Côte d'Ivoire 2030 Strategic Plan and the National Development Plan 2021–2025 (NDP), and from a more stable sociopolitical environment. Accordingly, growth should slow to 6.0% in 2022 before rebounding to 6.7% in 2023, driven essentially by agriculture, industrial activity, buildings and public works, transport, commerce, telecommunications, as well as investment and consumption. Inflation should increase to 5.4% in 2022, owing to inflationary tension generated by the Russia–Ukraine conflict, and will then be contained at 2.3% in 2023. The budget deficit should be progressively contained at 4.7% of GDP in 2022, then at 3.8% of GDP in 2023, with stronger tax reforms. The deficit on the current account is forecast to degrade to 4.8% of GDP in 2022 and to 4.4% in 2023, owing to the deterioration of terms of exchange. Public debt is projected to be maintained at an average of 51.6% of GDP over 2022–23. However, the prolongation of the Russia–Ukraine conflict, a new outbreak of the pandemic, a decline in agricultural commodity prices, and weak resource mobilization could jeopardize this outlook.

Climate change issues and policy options

Côte d'Ivoire is 130 on the 2021 GCRI. More than two-thirds of its coastline is affected by coastal erosion. Its economy is dependent on climate-sensitive sectors—agriculture, livestock, aquaculture, and energy. In July 2018, the World Bank evaluated the losses to GDP associated with climate change at between $681 million and $1.4 billion in constant 2017 $ between now and 2040. To counter the threat, the government is conducting several programs. During COP26, it committed to reduce its GHGs by 30.4% between then and 2030 (versus an initial target of 28.2% in 2015). The financing of the updated NDC, at a cost of about $22 billion, requires resources from climate funds and the private sector, because the government allocates only an average of $400 billion a year to environmental protection. To reinforce resilience and accompany the energy transition, the NDP 2021–2025 aims to increase contributions to RE in the energy mix from 39.5% to 42% between 2019 and 2025, accelerate development of the low-carbon strategy, and reduce damages and losses linked to natural disasters.



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The Gambia

Recent macroeconomic and financial developments

After a contraction of 0.2% in 2020 due to COVID-19, economic growth rebounded to 5.5% in 2021, on the supply side, supported by construction, trade, and tourism. On the demand side, household consumption and public investment reinforced growth. Monetary policy remained accommodative during 2020 and 2021. Inflation increased to 7.5% in 2021 from 5.9% in 2020 due to high energy prices and freight charges. The fiscal deficit increased to 4.0% of GDP in 2021 from 2.2% in 2020, reflecting higher health sector spending and subsidies to households and public enterprises to mitigate the COVID-19 shock. Public debt declined from 85.0% of GDP in 2020 to 82.9% in 2021, yet the risk of debt distress remains high.

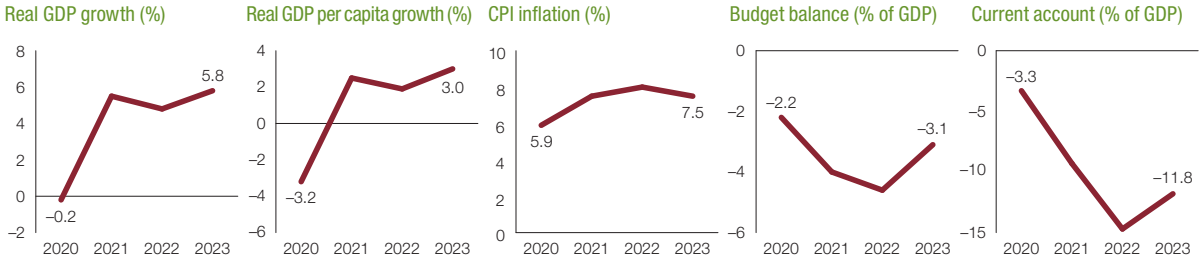
With a fall in exports and rise in imports, the current account deficit widened from 3.3% of GDP in 2020 to 9.3% in 2021, mainly financed by FDI and capital transfers, which also helped stabilize the dalasi. Gross official reserves increased from $352.1 million in 2020 to $496.5 million in 2021, boosted by the $85 million SDR allocation, which was used in part to finance pandemic-related spending. The financial sector remained liquid, profitable, and well capitalized, though the shock from COVID-19 weakened asset quality. The ratio of NPLs to gross loans deteriorated to 5.6% by mid-2021 from 4.5% in June in 2020. The poverty rate, measured by the World Bank's $3.20-a-day 2011 PPP line, stayed high at 35.5% in 2020 and 35.1% in 2021, due to COVID-19.

Outlook and risks

The outlook remains challenging and dependent on the global economic recovery through the tourism and trade channels. Growth is projected at 4.8% in 2022 and 5.8% in 2023, on the back of agriculture, transport, energy, tourism, finance, and the digital economy. Inflation is projected at 8.0% in 2022, driven by higher energy and food prices due to the Russia–Ukraine conflict, but it could fall to 7.5% in 2023 as global supply chains normalize. The fiscal deficit is projected to increase to 4.6% of GDP in 2022, due to higher subsidies and debt service, and then to narrow to 3.1% in 2023, owing to improved tax administration and rationalized spending. The current account deficit is forecast to widen to 14.7% of GDP in 2022, driven by infrastructure-related imports and a rising oil and food import bill due to the Russia–Ukraine conflict, then moderate to 11.8% in 2023 as reexports pick up. Downside risks could stem from new COVID-19 variants, low vaccine rollout, climate disasters, and debt vulnerabilities. Rationalizing subsidies on state-owned enterprises, strengthening health sector, and frontloading growth-friendly structural reforms could mitigate growth risks.

Climate change issues and policy options

The country is 41 on the 2021 GCRI. Investments in climate adaptation and mitigation are vital. Windstorms in 2021 affected nearly 17,000 people in 100 communities, destroyed social infrastructure, and left 100 people injured and 10 dead. The Gambia lags on green energy, with it constituting less than 2% of total energy production. However, the $86 million, 56 MW project by the Organization for the Development of the Gambia River—a solar project targeting 1,100 schools and hospitals, constructing a 20 MW photovoltaic plant, and a 150 MW solar park—will accelerate progress to the 40% green energy target and contribute to 2021's updated NDC target of 49.7%, both by 2030. The Gambia is on track to meet SDG 13 on climate action. Although $66 million has been mobilized, a further $1.35 billion will be required to achieve the climate targets—$420.6 million for adaptation and $925.74 million for mitigation. To leverage private finance, the government should introduce feed-in tariffs, carbon trading, clean energy subsidies, and risk management instruments to mitigate risk in low-emission and climate-resilient investments.



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Ghana

Recent macroeconomic and financial developments

GDP growth is estimated at 5.0% in 2021, up from 0.4% in 2020, supported by increased household consumption and commodity exports on the demand side and a rebound in services on the supply side. Inflation slowed from 9.9% in 2020 to 10.0% in 2021 given low food inflation, which was 47.7% of total inflation. The fiscal deficit is expected to narrow from 15.2% of GDP in 2020 to 12.1% in 2021 due to increased revenue collection. The country remains at high risk of debt distress with a debt-to-GDP ratio of 77.5% in September 2021, against 76.1% in December 2020.

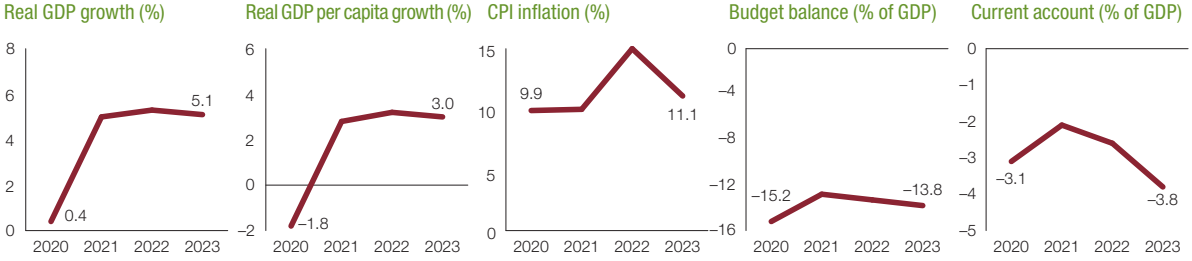
The current account deficit is estimated to have narrowed to 2.1% of GDP in 2021 from 3.1% of GDP in 2020, given the merchandise trade surplus. Foreign exchange reserves increased from $8.6 billion in December 2020 to $9.7 billion in December 2021 (4 months of imports). The Ghana cedi depreciated further against the dollar in 2021, by 4.1% after 3.9% in 2020, both years due to foreign exchange demand–supply mismatches. The banking sector remained strong in 2021 with a capital-adequacy ratio of 20.8% at end-June 2021, nearly double the regulatory minimum of 11.5%. Poverty declined from 12% in 2020 to 11% in 2021, given GDP per capita growth of 2.3%, from a contraction of 1.7% in 2020. However, unemployment increased by 2.3 percentage points to 13.4% in 2015–21. The country has committed the SDR allocation of $1 billion to finance the 2022 budget deficit.

Outlook and risks

The outlook remains positive, with projected GDP growth of 5.3% and 5.1% in 2022 and 2023 supported by the Ghana COVID-19 Alleviation and Revitalization of Enterprises Support Program. Potential inflationary pressure exists due to increased energy and food prices associated with the impact of the Russia–Ukraine. Inflation is projected to surge to 15% in 2022 before falling to 9.1% in 2023. The Bank of Ghana is expected to adopt a tight monetary policy stance. The fiscal deficit is projected to narrow further to 12.8% of GDP in 2022 and to 10.3% in 2023, spurred by revenue-enhancing reforms. The current account deficit is projected to narrow to 1.6% of GDP in 2022 and 3.3% in 2023, on increased exports.

Climate change issues and policy options

Climate change—stemming from erratic rainfall, rising temperatures, drought, floods, a rising sea level, and tidal waves—presents significant threats to agriculture and energy, as well as climate-induced migration. Agriculture and energy (given its large dependence on hydropower) both depend heavily on rainfall and are thus highly susceptible to fluctuating rainfall. Drought-like conditions in the Northern Savannah Ecological Zone have prompted migration to the south. Ghana is 42 on the 2021 GCRI. At COP26, Ghana launched its updated NDC. It is a member of the Vulnerable Twenty Group of Ministers of Finance committed to supporting carbon pricing and the Coalition of Finance Ministers for Climate Action to facilitate engagement in accelerating resilience to climate change. The government requires $9.3 billion to finance updating the NDCs in 2021–30. Recognizing limited fiscal space, the government is exploring more results-based climate financing options, including carbon markets, climate impact bonds and leveraged private participation. Ghana is making progress in achieving SDG 13 on climate action by 2030.



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Guinea

Recent macroeconomic and financial developments

Since 2020, the economy has demonstrated resilience to COVID-19. GDP growth was estimated at 4.3% in 2021, slower than 2020's 6.4%, despite new bauxite mines and gold-mining activities stimulated by favorable prices and private consumption. Inflation was 12.5% in 2021 due to increases in freight and fuel costs, and in imported inflation on consumer goods. Public finances improved with a budget deficit of 2.3% of GDP in 2021 against 2.9% in 2020, stemming from an increase in tax revenue derived from the effect of digitizing the financial system. Fiscal performance also benefited from budget consolidation and rationalization of operational and investment expenditures during the last trimester of 2021. Public debt stabilized at 43.3% of GDP in 2021 (43.4% in 2020), but Guinea is still at moderate risk of debt distress.

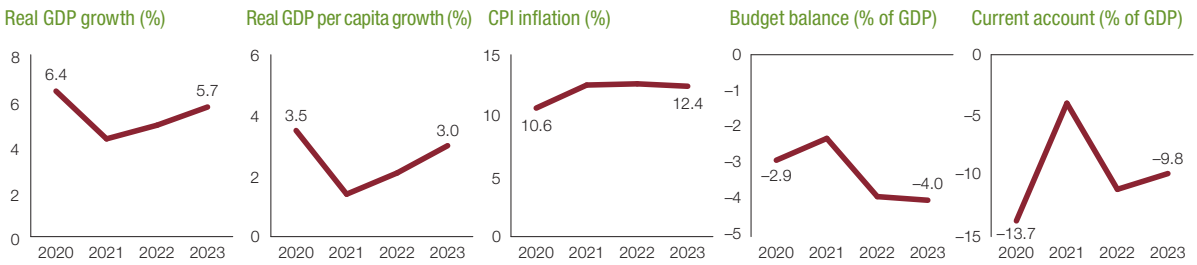
The current account deficit saw a huge narrowing in 2021 to 4% of GDP from 13.7% in 2020, due to a substantial reduction in the trade deficit. The current account deficit is funded by mining FDI. Foreign exchange reserves covered 2.4 months of imports in 2021, a slight increase from 2.2 months in 2020. The banking sector is stable, and NPLs are decreasing. The poverty rate dropped from 55.2% in 2012 to 43.7% in 2019, while unemployment described a bell curve from 3.8% in 2012 to 5.2% in 2014 and to 4.8% in 2018.

Outlook and risks

GDP growth is forecast to reach 4.9% in 2022 and 5.7% in 2023, stimulated by mining projects, energy availability, and infrastructure investments. Inflation should remain above 10%, peaking at 12.6% in 2022 before falling to 12.5% in 2023, as supply chain disruptions subside. The upturn in COVID-19 cases in 2022 may lower household activity and incomes in the informal sector, causing a rise in poverty and unemployment. The budget deficit is expected to widen to 3.9% of GDP in 2022 and 4.0% in 2023, attributable to additional costs associated with the upcoming elections. The current account deficit is expected to grow to 11.1% of GDP in 2022 before declining to 9.8% in 2023, when debt service payments resume after payment freezes by the G20, the Paris Club, and the IMF in response to COVID-19. This deficit is expected to be financed by mining FDI as well as loans and grants. The SDR allocation worth about $290 million should promote a slight increase in foreign exchange reserves, to 2.5 months of imports in 2022–23 versus 2.4 months in 2021.

Climate change issues and policy options

Guinea has poor climate adaptation and resilience capacities and is 115 on the 2021 GCRI. Agropastoral and fishing activities, which employ 66% of the active population, are vulnerable to climate variations. Despite its large water resources, it is subject to spatial and temporal variability in annual rainfall, now fewer than 6 to 9 months in the regions of Upper, Middle, and Lower Guinea compared with 9 to 10 months in Forested Guinea. In 2016, the government approved an NDC and is implementing projects with support from partners and climate funds. Revising the NDC to comply with the Paris Agreement will help translate Guinea's ambitions into low-carbon climate-resilient development policies. The cost to fund the NDC by 2030 is estimated at $33 billion, $23 billion from Guinea's own resources, with funding of $10 billion needed. Slow implementation of climate change reforms has delayed the likely achievement of SDG 13 on climate action. Guinea should build its capacity for climate adaptation and resilience by integrating environmental priorities into its strategic and budget planning.



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Guinea-Bissau

Recent macroeconomic and financial developments

Growth is estimated to have reached 3.8% in 2021, a recovery from a negative 1.4% in 2020, reflecting trade resumption and increased cashew nut production. The agriculture-based economy suffered from lockdowns and closure of borders in 2020, recovering in 2021. On the supply side, the primary sector accounted for 48% of GDP in 2021, contributing to growth. On the demand side, investment was the main contributor to growth, increasing 6.4% from 2020. Inflation is estimated to have picked up to 3.3% in 2021 from 1.5% in 2020, driven by higher pandemic-related food and fuel prices. The fiscal deficit is estimated to have narrowed to 5.6% of GDP in 2021 from 9.8% in 2020 on the back of higher tax revenue from the cashew trade and rationalized expenditure. The budget deficit was financed by grants and loans from international financial institutions and regional commercial banks. The current account deficit was estimated to have reached 3.3% of GDP in 2021, up from 2.6% in 2020. Although the debt-to-GDP ratio improved to 78.4% in 2021 from 79.3% in 2020, the IMF downgraded the risk of external debt distress from moderate in 2018 to high in 2021.

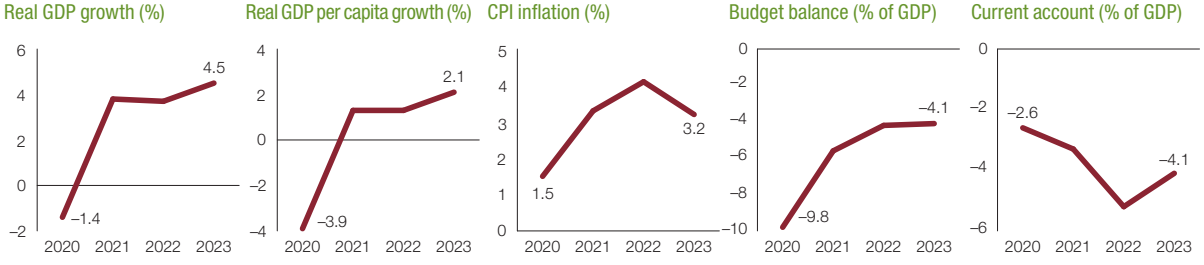
Poverty was estimated at 65% in 2020/21 and unemployment stood at 11.5%, but this figure masks huge informality. Some estimates put youth unemployment at 50% of the labor force. All five banks are foreign owned and relatively sound. The NPL ratio decreased to 6.3% in 2021 from 10.3% in 2020, when the capital to risk-weighted asset ratio decreased to 21.4% from 25.6%; both were within regulatory thresholds. As part of the SDR allocation, Guinea-Bissau received SDR 22.7 million ($31.8 million).

Outlook and risks

GDP growth in 2022 and 2023 is projected at 3.7% and 4.5%, driven by recovery in trade. Inflation is expected to soar to 4.1% in 2022 and to decrease to 3.2% in 2023, reflecting rising oil and food prices as a consequence of the Russia–Ukraine conflict. The budget deficit is projected to narrow to 4.2% and 4.1% of GDP in 2022 and 2023 due to improved fiscal management. The country has improved debt sustainability, fiscal space for priority spending, and governance. The current account deficit is projected to be 5.2% of GDP in 2022 and 4.1% in 2023, attributed to higher import prices. Headwinds include risks from higher-than-expected oil prices and adverse weather. Political stability is crucial to attract investment and stimulate private engagement, but political tensions are still creating uncertainties, threatening reforms.

Climate change issues and policy options

Guinea-Bissau is 130 on the 2021 GCRI—ranked first as more exposed to extreme events—but data issues may muddy the picture. The climate change impact is widespread, and resources are being fast depleted, with fires destroying more than 120 ha of forest every year. Despite an overall decrease in rainfall, rain events are growing increasingly intense, often paired with strong winds, causing huge agricultural losses. In 2020, severe floods hit the rice-producing region in the south. The government has started to adopt climate-resilient measures, such as introducing drought-resistant crop varieties, diversifying agricultural production, and financing projects to adapt the energy transition to cleaner alternatives. The NDC identifies two primary sources of GHG emissions—change in the use of land and forests, and the energy sector—and aims to reduce GHG emissions by 30% by 2030. At the current pace of wood decline and given energy needs, emissions are expected to surge to 150,000 Gg of CO_2 equivalent by 2050, from roughly 10,000 Gg today. The main mitigation measures will target reforestation and electric power generation. Financing needs are estimated at $694 million for 2021–30. Political and institutional instability has shifted the country off track to achieve the SDGs, while the lack of statistical resources makes it hard to follow progress specifically on SDG 13 on climate action.



Source: Data are as of April 2022 and are from domestic authorities; figures for 2021 are estimates and figures for 2022 and 2023 are projections by the African Economic Outlook team.

Liberia

Recent macroeconomic and financial developments

The Liberian economy recovered in 2021 from COVID-19. GDP is estimated to have recovered to grow by 3.3% from a decline of 3.0% in 2020, largely driven by growth in mining and construction on the supply side and public spending on the demand side, as the economy reopened. Inflation eased from 17% in 2020 to 8.0% in 2021 on a steady decline in food prices. The fiscal deficit is estimated to have narrowed to 3.3% of GDP in 2021 from 3.6% in 2020 due to increased revenue collection. As of October 2021, public debt had increased to 54.7% of GDP from 47.9% in 2020, reflecting increased borrowing. The current account deficit widened to 17.4% of GDP in 2021 from 16.1% in 2020 because of a widening trade deficit, as imports increased.

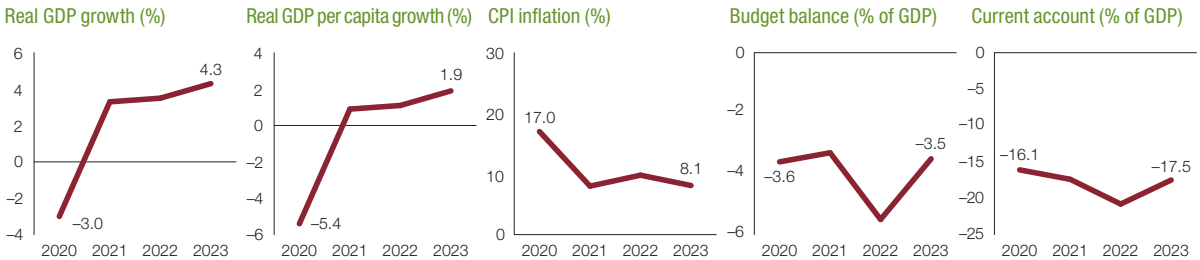
International reserves stood at $716 million in December 2021 (4.4 months of import cover), mainly because of the SDR 247.7 million allocation (48% of gross reserves) used to strengthen the international reserves position and help finance the vaccination program and public investment. The exchange rate appreciated 9.8% year on year from LRD162.34/$ in December 2020 to LRD146.27/$ in December 2021. The financial sector remained sound with a capital-adequacy ratio of 32.9% in June 2021 compared with 35.1% in June 2020, although the NPL ratio remained high at 22.5%. Extreme poverty also remained high, at 43.0% in 2021, marking just a 1.0% decline from 2020. Unemployment was estimated at 3.3% in 2020.

Outlook and risks

The outlook is positive, with risks titled to the downside due to the Russia–Ukraine conflict. Growth is projected at 3.5% in 2022 and 4.3% in 2023, driven by expansion in mining, services, manufacturing, and agriculture. Inflation is projected to surge to 9.8% in 2022 and 8.1% in 2023, driven by food and energy inflation. The fiscal deficit is forecast to widen to 5.5% in 2022 and to 3.5% in 2023 due to lower grants and higher subsidies. The current account deficit is forecast to widen to 20.8% of GDP in 2022 and to 17.5% in 2023 due to a higher import bill, as fuel and food constitute about 50% of total imports. Downside risks include a prolonged pandemic and slow vaccine rollout; a prolonged Russia–Ukraine conflict; deterioration of the terms of trade on the main exports, especially gold and rubber; and non-adherence to prudent macroeconomic policies.

Climate change issues and policy options

Liberia is 101 on the 2021 GCRI. It is faced with high climate change risks including cyclones, floods, and a rising sea level because of its location in a tropical rain forest climate belt. Projections on climate change point to average annual rainfall 3.0% greater by 2050, annual temperatures 2.6°C higher by the 2060s, and a rising sea level of 0.56 meters by 2100. These impacts would lead to massive biodiversity loss, widening inequalities, and rising food insecurity and hunger. The country's Pro-poor Agenda for Prosperity and Development (2018–23) has integrated green growth, environmental adaptation, and climate change. The 2017 National Policy and Response Strategy on Climate Change guides implementation of mitigation actions. Liberia's GHG emissions were estimated at 3.5 Mt in 2014. In 2021, the country submitted a revised NDC report demonstrating its commitment to tackling climate change challenges. An estimated $490 million would be needed to finance the country's mitigation and adaptation activities and actions in 2021–30. The GCF in 2021 approved $10 million for climate information systems to enhance population and infrastructure resilience to climate change. Liberia is on track to meeting SDG 13 on climate action.



Source: Data are as of April 2022 and are from domestic authorities; figures for 2021 are estimates and figures for 2022 and 2023 are projections by the African Economic Outlook team. Data on the budget balance correspond to Liberia's fiscal year, which runs from July 1 to June 30.

Mali

Recent macroeconomic and financial developments

With no economic sanctions in 2021 after the coup d'état in May that year, Mali saw an economic recovery with growth of 3.2% after a contraction of 1.2% in 2020, caused by COVID-19 and a previous coup d'état in August 2020. On the supply side, expansion in 2021 was based on agriculture (growing by 2.4%) and services (5.3%). On the demand side, private (up 5.2%) and public (up 4.0%) investment, with household consumption (up 3.0%) enabled this outcome. The continuing rise in prices (4.1% in 2021 versus 0.5% in 2020) can be attributed to high food product prices, propelled by surging fuel and transport costs and a 10.5% drop in national grain production. The Central Bank of West African States (BCEAO) has maintained an accommodating stance on monetary policy.

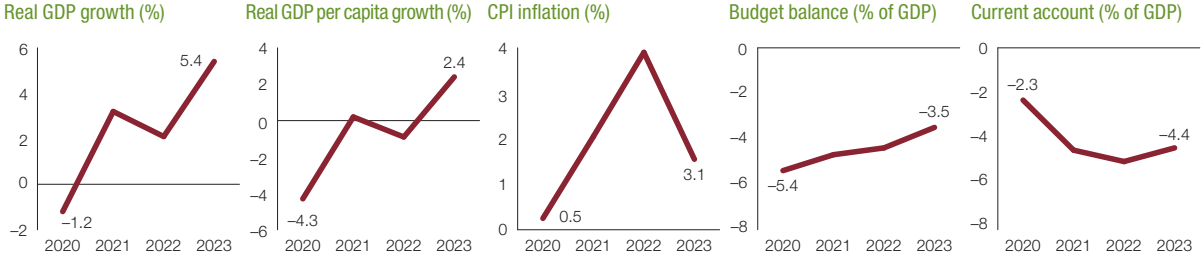
The banking system NPL ratio was 4.8% in September 2021. The budget deficit improved to 4.7% of GDP in 2021. The financing gap (11.2% of GDP in 2021) is covered mainly by domestic financing—77.6% of total financing. Public debt, however, is still buoyed primarily by foreign debt, which was 30.6% of GDP versus 21.44% for domestic debt. Although public debt increased to 52.0% of GDP in 2021 from 47.3% in 2020, the risk of debt distress remains moderate. The current account deficit widened to 4.5% of GDP in 2021 from 2.3% in 2020 owing to high domestic demand and declining terms of trade. The recovery in economic activity in 2021 translated into a slight drop in the poverty rate—44.2%, versus 44.9% in 2020. Unemployment was 7.4% in 2021.

Outlook and risks

GDP growth is expected to fall to 2.1% in 2022 due to the effects of the West African Economic and Monetary Union (WAEMU) and the Economic Community of West African States (ECOWAS) sanctions in association with the impact of Russia–Ukraine conflict, which would reduce services and interior demand by 4.2% (3.4% versus 4.5% in 2021). However, growth should bounce back to 5.4% in 2023, sustained by recoveries in cotton output (25.5%), in cereals (5.5%) and in gold (5.6%), combined with favorable global prices. A strong pickup in the industrial sector (6.1% versus 2.3% in 2022) and services (5.5%) and increased domestic demand of 5.5% will also support strong economic performance in 2023. Inflation is expected to strongly rise to 7.8% in 2022 due to the embargo and the Russia–Ukraine conflict but should fall to 3.1% in 2023, alongside an increase in cereal production, a fall in petroleum-product prices, a drop in the taxable base of 50% on imported foodstuffs, and the setting of maximum price limits. Budget consolidation will allow for a decline in the deficit to 4.4% of GDP in 2022 and 3.5% in 2023, driven by tax reforms and spending rationalization. Public debt is expected to slightly grow to 52.9% of GDP in 2022 and 53.0% in 2023. From 2023, domestic debt is expected to surpass foreign debt, raising concerns about sustainability and a potential crowding-out effect on business access to credit. The embargo imposed on the country, political instability, worsening security, the Russia–Ukraine conflict, and pandemic surges are major risks to the outlook.

Climate change issues and policy options

Mali is the country eighth most susceptible to climate risks. The rainfall shortage brought about a 10.5% drop in grain production in 2021. Drought caused the loss of 225,000 acres of crops, affecting 3 million Malians. Given these and earlier events, Mali has established climate resilience as one of its focuses in its Strategic Framework for Economic Recovery and Sustainable Development (2019–2023) and prepared its NDC committing to reduce GHGs by 2030 —31% in energy, 29% in agriculture, and 21% in land and forest use changes. Public policy options should first be focused on strengthening climate resilience via optimal water management and hydro-agricultural development. Second, Mali should modify its public investment program to prioritize RE to transition to green energy growth by 2030 in compliance with the Desert to Power initiative of the African Development Bank. Mali is endowed with one of the largest potential solar sources in the world: electricity supply was underpinned by an energy mix of 61.5% thermal power stations and 38.5% RE in 2020. Finally, Mali should increase its funding for environmental protection, which was just 1.9% of the budget in 2021.



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Niger

Recent macroeconomic and financial developments

Economic growth in Niger was weaker in 2021 than in 2020, owing mainly to lower agricultural production due to poor rainfall. Economic growth in 2021 was led by secondary and tertiary sectors as well as by the modest rise in household consumption and investment. Inflationary pressures were reduced, inflation fell from 4.4% in 2020 to 3.19% in 2021, but the inflation rate remains higher than the WAEMU's 3% standard. The budget deficit stabilized at 5.2% in 2021, with public revenues and expenditures having evolved in nearly the same proportions. Some 85% of the budget deficit was financed by external resources, primarily grants.

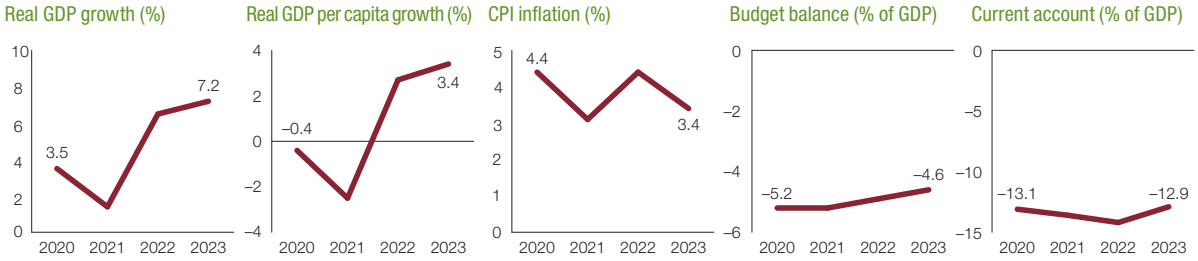
Public debt grew to 50.9% of GDP in 2021 from 43.6% in 2020 but remains below the ECOWAS threshold of 70% of GDP, with a moderate risk of debt distress according to the 2021 IMF debt sustainability analysis. The SDR 26 million allocation in 2021 amounted to $179 million and was used to clear payment arrears and to finance the 2021 agricultural campaign. The chronic current account deficit slightly deteriorated to 13.6% of GDP in 2021 from 13.1% in 2020, while foreign exchange reserves increased to cover 6.1 months of imports, from 5.5 months in 2020. The financial sector, which is neither well developed nor diversified, remains stable despite NPLs to total loans rising to 13.9% in 2021 from 12.6% in 2020. The poverty rate rose to about 42% in 2020, after it had fallen from 45.4% in 2014 to 40.8% in 2019. Access to employment remains problematic—a cause of inequality—with an official unemployment rate of about 16% of the active population.

Outlook and risks

Economic growth is projected to accelerate in 2022 and 2023 to 6.5% and 7.2%, led by agriculture and supported by the new "3N" agricultural initiative—Les Nigériens nourrissent les Nigériens—continued public investment in infrastructure, and increased FDI in the extractive sector. Growth in oil, which has been negative in the last two years, should reach 20.6% and 86.2% in 2022 and 2023. Macroeconomic recovery efforts should be pursued, specifically through a new expanded facility program agreed with the IMF in December 2021. But for 2022 and 2023, this will not enable Niger to respect the debt distress standard in regard to the WAEMU's primary convergence criteria, notably public debt of about 60% of GDP. The chronic current account deficit should begin to fall by 2023 with the start of crude oil exports. However, these good economic prospects remain subject to substantial risks arising from the security situation, international conditions (in particular the impacts of the Russia–Ukraine conflict), and climate change. Niger should increase its mobilization of financial resources to mitigate these risks.

Climate change issues and policy options

Faced with an austere natural environment, Niger is extremely vulnerable to climate change (including flooding, drought, sand and/or dust storms, extreme temperatures, high winds, locust attacks, and bush fires). Because the economy depends heavily on the agro-pastoral sector and the country is landlocked, climate change can often cause up to an annual 3% loss of GDP growth. Niger has recently strengthened its institutional and strategic framework for fighting environmental degradation and the effects of climate change, specifically by adopting the new NDC relative to the Paris Agreement and, in 2019, transforming the National Environmental Assessment Office into a directorate-general. In 2021, steps taken improved the country scores for SDG 13 on climate change and the Bank's Country Policy and Institutional Assessment on Environmental Policies and Regulation. National priorities for mitigating GHG emissions also reflect Niger's dependence on biomass and the government's commitment to overcoming it, which means, for example, highlighting conservation, substituting and saving on energy from wood, and promoting solar/thermal hybridization in the energy sector.



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Nigeria

Recent macroeconomic and financial developments

Nigeria's economy grew by 3.6% in 2021 from a 1.8% contraction in 2020, underpinned on the supply side by 4.4% expansion in the non-oil sector against 8.3% contraction in the oil sector; non-oil growth was driven by agriculture (2.1%) and services (5.6%). On the demand side, public and private consumption were contributors to GDP growth. Per capita income grew by 1.0% in 2021. The fiscal deficit narrowed to 4.8% of GDP in 2021 from 5.4% in 2020, due to a modest uptick in revenues, and was financed by borrowing. Public debt stood at $95.8 billion in 2021, or about 22.5% of GDP.

Annual average inflation stood at 17.0% in 2021 against 13.2% the previous year and above the central bank's 6–9% target. Inflation was fueled by food price rises at the start of the year and exchange rate pass-through. The central bank kept the policy rate unchanged at 11.5% in 2021 to support economic recovery. The current account deficit narrowed to 2.9% of GDP in 2021 from 4% the preceding year, supported by recovery in oil receipts. Improved oil exports and disbursement of the SDR allocation of $3.4 billion (0.8% of GDP), pending decision on its use, helped to boost gross reserves to $40.1 billion in 2021. The ratio of NPLs to gross loans was 4.9% in December 2021 (regulatory requirement 5%), while the capital-adequacy ratio was 14.5% (regulatory benchmark 10%). Poverty and unemployment remained high, broadly unchanged from 40% and 33.3%, respectively, in 2020.

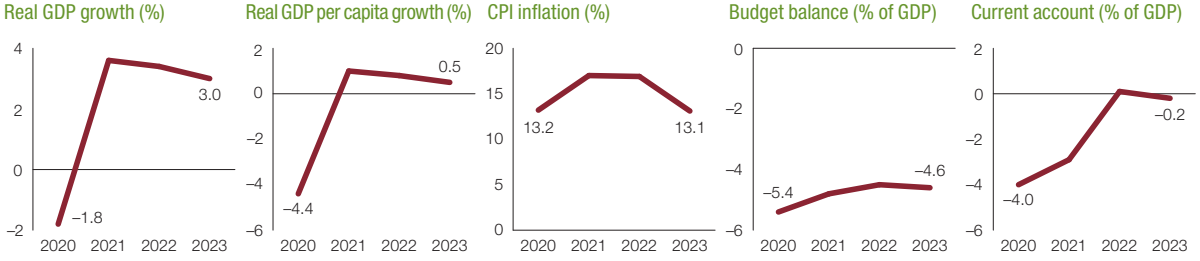
Outlook and risks

Growth will decelerate, averaging 3.2% during 2022–23, due to persistent low oil production and rising insecurity. Inflation is projected to remain elevated at 16.9% in 2022 and to stay above pre-pandemic levels in 2023, fueled mainly by rising food, diesel, and gas prices and persistent supply disruptions amplified by the Russia–Ukraine conflict. Capital inflows are projected to recovery, while oil exports are projected to increase slightly. The benefit of a forecast positive oil price shock on exports may, however, be partly offset by a weak output effect due to lower oil production, stoked by infrastructure deficiencies and rising insecurity. The projected marginal current account surplus of 0.1% of GDP in 2022 could turn into deficit of 0.2% in 2023. Improved revenue collection will help narrow the fiscal deficit to an average of 4.5% of GDP. Public debt targeted to reach 40% of GDP by 2024 on fresh borrowing. The headwinds to the outlook may be exacerbated by rising insecurity and policy uncertainty underpinned by reversal of initially planned removal of subsidies on premium motor spirit a year before the 2023 elections.

Climate change issues and policy options

Climate change's impact is seen in crop yields declining by 7% in the short term (2006–35) and by 25% in the long term (by 2050). Projected increases in annual maximum temperature of 3–4°C between 2050 and 2070 could further undermine agricultural productivity and cause greater water stress. Already, shortages of water and grazing land are generating communal conflicts. Nigeria is 73 on the 2021 GCRI.

Transition to low carbon highlights the plight facing Nigeria's oil sector and energy infrastructure. Oil and gas account for more than 85% of exports and about half of revenues. Eliminating fossil fuels will act as a drag on the transition to higher income but provides a chance for inclusive and green development. The revised NDC 2021–30 and National Adaptation Plan 2021 set emission targets for 2030 at 453 $MtCO_2eq$, around half the level forecast in 2015. This is a 2.6% annual increase, with total financing estimated at $177 billion. The Climate Change Act (2021), aligned with the Medium-term National Development Plan, provides the legal framework. Investing in clean energy, smart agriculture, and climate-proofing technology are vital for the economic transformation's resilience and export-led diversification. Nigeria's policy efforts bode well for meeting SDG 13 on climate action by 2030, but risks abound.



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Senegal

Recent macroeconomic and financial developments

In 2021, the economy began its recovery, in part due to the Adjusted and Accelerated Priority Action Plan, with 6.1% growth against 1.3% in 2020. It was led by the resumption of the extractive sector, construction, and commercial activity connected to strong demand, as well as transport services. Agriculture slowed to 4.6% growth in 2021, after a soaring rise of 23.4% in 2020. On the demand side, growth was sustained by final consumption and resumption of investment. Inflation settled at 2.1% in 2021. The NPL ratio fell from 13.3% in December 2020 to 12.9% in June 2021. Despite expenditure related to the recovery, the fiscal deficit narrowed in 2021 owing to increased tax revenue—a higher 17.6% of GDP in 2021 than 16.7% in 2020. The fiscal deficit of 5.9% of GDP in 2021 was financed by an accumulation of debt drawn down on project/program loans and government securities. Thus, public debt increased to 73% of GDP in 2021 from 68.8% in 2020, though the risk of debt distress remains moderate.

Improved global demand helped to nudge down the current account deficit, to 10.4% of GDP in 2021 from 10.9% in 2020; it remains wide because of imports related to oil investments. With the pandemic, the rate of poverty at the $1.90-a-day threshold rose from 35.9% in 2019 to 36.9% in 2021. The 2020 unemployment rate was 16.7%, affecting women (26.3%) more than men (9.3%). The SDR allocation of $460.5 million was used to strengthen the health system, support households, and stabilize prices of basic staple foodstuffs.

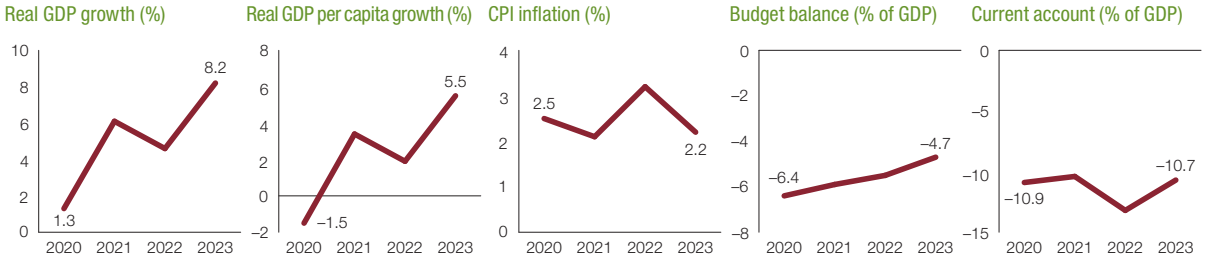
Outlook and risks

With the effects of the Russia–Ukraine conflict, the recovery is forecast to decelerate in 2022 to 4.6% and accelerate in 2023 to 8.2%, the latter due to public and private investments and oil and gas exploitation that year. The rising prices of oil and food products will cause inflation to increase to 3.2% in 2022 then to fall to 2.2% in 2023. Despite expected improved domestic revenue mobilization, the budgetary measures to curb the ongoing crisis would maintain fiscal deficit at the high level of 5.5% of GDP in 2022 before an expected decrease to 4.7% in 2023. With the increase in import invoicing for oil and food products, the current account deficit is forecast to widen in 2022 to 13.2% of GDP, then to ebb in 2023, to 10.7% of GDP, with the start of hydrocarbon exports and the reduction of imports linked to hydrocarbon investments. However, prolongation of the effects of the Russia–Ukraine conflict, deteriorated terms of trade, or delayed oil output could further undermine recovery and lead to a fall in demand and a rise in vulnerabilities linked to public debt.

Climate change issues and policy options

Senegal is 70 on the 2021 GCRI and remains highly vulnerable to climate change. Agriculture, fishing, and tourism are the sectors most affected. Because of lower rainfall and higher temperatures, the risks of drought could increase by 20–40% in the long term. Moreover, with exploitation of hydrocarbons, emissions will likely rise sharply. Annually, the country emits about 30.8 Mt of CO_2, with about 49% from the energy sector. Carbon projects have enabled the sequestration of 305,768 tons of CO_2 in 2020 compared with 252,000 tons in 2019. The Emerging Senegal Plan (2014–2035) has identified priorities to promote green growth.

The Green Climate Fund mobilized $153.4 million for Senegal in 2020 to support flood prevention, promotion of RE, sustainable management of land, and ecosystem resilience. Medium-term strategic choices deal with raising RE to 30% of the country's total energy capacity; reducing GHGs through adaptation and mitigation; and strengthening environmental governance frameworks. Prospects for reaching SDG 13 on climate action remain difficult despite government efforts because the implementation rate is expected to be low (13.6% in 2023) under the recovery plan.



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Sierra Leone

Recent macroeconomic and financial developments

The economy is estimated to have grown by 3.2% in 2021 after a contraction of 2% in 2020. Growth was driven on the demand side by higher exports from mining and agribusiness, and on the supply side by resumption of iron ore production alongside recovery in other key sectors. From 2020 to 2021, inflation is estimated to have declined to 11% from 13.4% (due mainly to improved production and trade), the fiscal deficit to have widened to 7.1% of GDP from 5.6% (due to the impact of the Russia–Ukraine conflict), public debt to have edged up to 75% of GDP from 74%; and the current account deficit to have narrowed to 13.9% of GDP from 16.7% (due to higher demand for commodities). The current account deficit is financed mainly by the financial account, notably FDI.

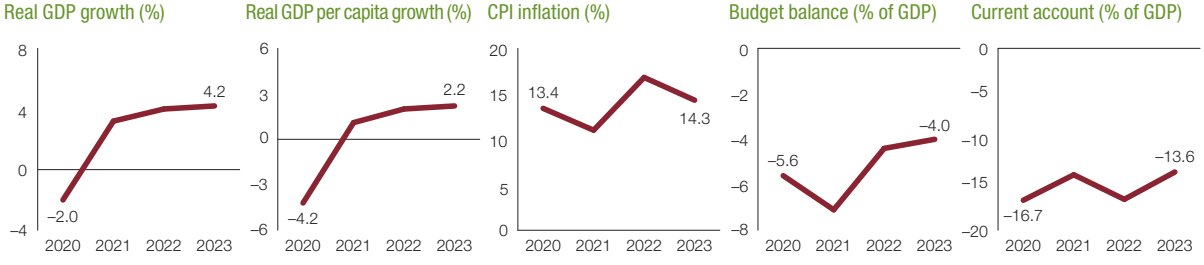
Gross foreign reserves increased to $695.0 million as at end-June 2021 from $653.8 million a year earlier (4.6 months of imports), reflecting disbursement of balance-of-payments support and the SDR allocation of $283 million (6.5% of GDP); of the latter, the majority will be used to boost reserves, $39 million will be spent on poverty-related areas, and $9 million on payment arrears. The exchange rate remained relatively stable. Sierra Leone's financial sector is underdeveloped but generally sound with a capital-adequacy ratio of 41.8% against a regulatory minimum of 15%. The country has high levels of poverty (56.8% in 2018), of income inequality, and of youth unemployment (70%) attributable to slow growth and lack of economic diversification.

Outlook and risks

Growth is projected to accelerate to 4% in 2022—driven by mining and the recovery of agriculture, manufacturing, construction, and tourism—and then to marginally improve to 4.2% in 2023. Inflation is projected to increase to 16.8% in 2022 due to the Russia–Ukraine conflict but to decline to 14.3% in 2023. The fiscal deficit is projected to narrow to 4.4% of GDP in 2022 and to 4% in 2023, due to higher tax revenue supported by improved economic activity and expenditure rationalization. The current account deficit is projected to widen to 16.6% of GDP in 2022 due to the Russia–Ukraine conflict but to decline to 13.6% in 2023, as the resumption of iron ore production boosts export revenues. Downside risks include the Russia–Ukraine conflict, an unexpected surge in COVID-19 cases, a more than forecast rise in international fuel and food prices and freight costs, and a fall in iron ore prices. The government aims to boost vaccination outreach, as well as accelerate reforms to diversify and transform the economy to withstand recurring external shocks.

Climate change issues and policy options

Sierra Leone is highly vulnerable to climate change, particularly extreme events including high temperatures, inconsistent weather patterns, recurrent storms, floods, mudslides, and a rising sea level. It was 86 on the 2019 Climate Risk Index. Sierra Leone has adopted a National Climate Change Policy, while its Medium-Term National Development Plan 2019–23 underscores the need for aligning environmental, climate, and economic development plans to mitigate the causes of global warming and help citizens adapt. Sierra Leone's NDC underscores that climate change mitigation is particularly crucial, as the country is ranked one of the least able to adapt to climate change. The NDC envisions achieving a reduction in the country's GHG emissions by 10% in 2030 from 74,655 Gg of CO_2 equivalent in 2020. The NDC's financing needs are estimated at $2.76 billion for 2020–30, to be mobilized from public and private sources and international support under the Global Environment Facility and GCF, technology transfer, and technical assistance. Sierra Leone is likely to meet SDG 13 by 2030.



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Togo

Recent macroeconomic and financial developments

The economy made a good recovery in 2021, with GDP growth estimated at 4.8% and up from 1.8% in 2020, driven primarily by extractive industries and manufacturing on the supply side, and by private consumption and investment on the demand side. Higher tax revenues of 0.7% led to a drop of 1 percentage point in the budget deficit, despite 0.4% greater expenditure, though it remains far worse than the pre-COVID-19 surplus and requires heavy financing. Public debt grew to 61% of GDP in 2021 from 58.6% in 2020. Inflation rose from 1.8% to 2.6% between 2020 and 2021, primarily because of rising food prices due to pandemic-related supply constraints. The quality of the bank loan portfolio improved with a slight fall in overdue credit from 6.0% to 5.6% between 2019 and 2020.

The SDR 140.7 million allocation came to about $200.3 million, which could help to revitalize the economy. The current account deficit is estimated higher in 2021, at 2.6% of GDP, than in 2020 (1.4%), due to the trade deficit, which widened to 9.7% from 8.6%. Gross international reserves mutualized in ECOWAS averaged 5.25 months of imports in 2020–21. The national poverty rate was estimated at 45.5% in the 2018–2019 Household Survey.

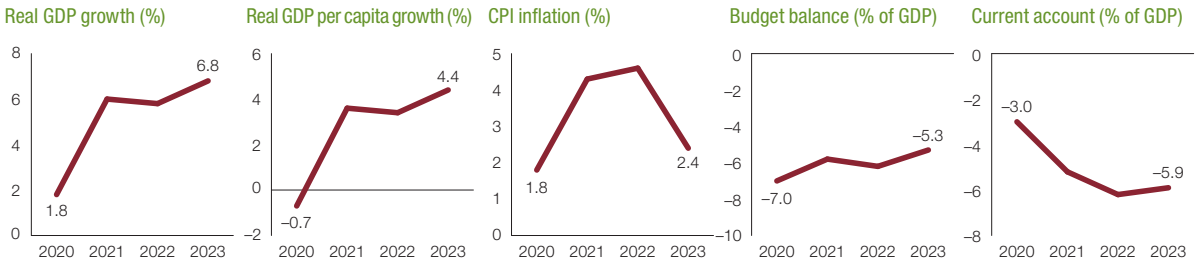
Outlook and risks

For 2022, the outlook for the economy seemed favorable. However, Russia's invasion of Ukraine could slow the recovery Togo initiated in 2021 (6% versus 1.8% in 2020), with GDP growth expected at 5.8% versus an initial forecast of 6.2% at the beginning of February 2022. Inflation should be at 4.6% versus an initial estimate of 2.4%. Togo could be affected because of its trade relationships with both Russia and Ukraine. About 40% of Togo's wheat imports in 2020 were from Russia, which suggests a strong probability of a negative effect on the cereal's availability and price. The country could also be affected by the conflict's negative effects on partner countries, such as those in the Euro zone and Asia. In addition, there is the COVID-19 health crisis, and new variants in particular. Realizing the above risks would make it necessary to amplify stimulus measures such as the NOVISSI Program in order to alleviate the burden of soaring prices on households already hard hit by the effects of the health crisis.

Climate change issues and policy options

The effect of climate change on Togo is conspicuous in agriculture, contributing to the sector's share of GDP contracting from 37.3% in 2008 to 24.7% in 2021. Temperatures could rise by 2.15–2.75°C in 2100 from 2020 (RCP 6.0), but could be lower, at 1.53–1.96°C, in 2100 if GHGs were contained. In 2021, the outlook for achieving SDG 13 on climate action was favorable, linked to control of CO_2 emissions. In 2021, Togo strengthened its institutional mechanism by adopting the REDD+ strategy, and the Coastal Law. Further, the Blitta 50 MW solar power plant is set to help take national access to electricity to 60% in 2022, from 45% in 2018.

According to 2021's revised NDC, the financial resources required to achieve the GHG emissions reduction goals are about $5.5 billion, 78% of which is for conditional measures. The country intends to mobilize public and private domestic funds and foreign support to finance planned actions.



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ABBREVIATIONS

ACCF	Africa Climate Change Fund
AEO	African Economic Outlook
AfCFTA	African Continental Free Trade Area
AfDB	African Development Bank
AFT	Agriculture Fast Track
AFTF	Agriculture Fast Track Fund
AWF	African Water Facility
AF	Adaptation Fund
ASAP	Adaptation for Smallholder Agriculture Programme
AU	African Union
AUC	African Union Commission
BNEF	Bloomberg New Energy Finance
CAFI	Central African Forest Initiative
CBFF	Congo Basin Forest Fund
CDC	Centers for Disease Control and Prevention
CDM	Clean Development Mechanism
CEMAC	Central African Economic and Monetary Community
ClimDev	Climate for Development
ClimDev-Africa	Climate for Development in Africa
CIFs	Climate Investment Funds
CO_2	Carbon dioxide
CO_2eq	Carbon dioxide equivalent
COVID-19	Coronavirus disease
CPI	Climate Policy Initiative
CPI	Consumer price index
CRI	Climate Resilience Index
CTF	Clean Technology Fund
DAC	Development Assistance Committee
DSSI	Debt Service Suspension Initiative
EJ	Exajoule
EU	European Union
FAOSTAT	Statistics Division of the Food and Agriculture Organization of the United Nations
FDI	Foreign direct investment
FIP	Forest Investment Program
FY	Fiscal year
GCCA	Global Climate Change Alliance
GCF	Green Climate Fund
GCPF	Global Climate Partnership Fund
GDP	Gross domestic product
GEEREF	Global Energy Efficiency and Renewable Energy Fund
GEF	Global Environment Facility
Gg	Gigagram
GHGs	Greenhouse gases
GJ	Gigajoule
GNI	Gross national income
GW	Gigawatt
GWh	Gigawatt-hour
ha	Hectare
HDI	Human Development Index
HIPC	Heavily Indebted Poor Countries
ICT	Information and communications technology
IEA	International Energy Agency
ILO	International Labour Organization
IMF	International Monetary Fund
IPCC	Intergovernmental Panel on Climate Change
IPP	Independent power producer
IQR	Interquartile range
IRENA	International Renewable Energy Agency
ISFL	Initiative for Sustainable Forest Landscapes
IUCN	International Union for Conservation of Nature
Ktoe	Kiloton of oil equivalent
kWh	Kilowatt-hour
LDCF	Least Developed Countries Fund
MDB	Multilateral Development Bank
MDG	Millennium Development Goal
MW	Megawatt
NAMA	Nationally Appropriate Mitigation Action
NASA	National Aeronautics and Space Administration
NDC	Nationally Determined Contribution
NICFI	Norway's International Climate Forest Initiative
NPL	Nonperforming loan
ODA	Official development assistance
OECD	Organisation for Economic Co-operation and Development
PM	Particulate matter
PMI	Purchasing Managers' Index
PPCR	Pilot Program for Climate Resilience
PPP	Purchasing power parity
PV	Photovoltaic

RCP	Representative Concentration Pathway
REC	Regional economic community
RES4Africa	Renewable Energy Solutions for Africa
RWSSI	Rural Water Supply and Sanitation Fund
SACU	Southern Africa Customs Union
SCCF	Special Climate Change Fund
SDG	Sustainable Development Goal
SDRs	Special Drawing Rights
SEFA	Sustainable Energy Fund for Africa
SREP	Scaling Up Renewable Energy Program for Low-Income Countries
TJ	Terajoule
TWh	Terawatt-hour
UK	United Kingdom
UN	United Nations
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
UNECA	United Nations Economic Commission for Africa
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
UN-REDD	United Nations Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation
US	United States
USAID	United States Agency for International Development
WEO	World Economic Outlook

Africa's real GDP growth is projected to decelerate to 4.1 percent in 2022, from 6.9 percent in 2021, due largely to the adverse effects from the lingering COVID-19 pandemic and the outbreak of the Russia–Ukraine conflict. These shocks notwithstanding, private consumption and investment are projected to remain the main anchors of growth on the demand side, while the services sector is projected to drive growth on the supply side, supported by industry, especially in mining, as metal prices soar. If the pandemic and the Russia–Ukraine conflict persist, Africa's growth is projected to stabilize at around 4 percent in 2023.

A policy mix to speed up vaccine access and rollout, stabilize domestic energy and food prices, address debt vulnerabilities, and support vulnerable households and firms will be critical to boosting post-COVID-19 economic recovery and cushioning the economic impact of the Russia–Ukraine conflict.

The theme of this year's report, *Supporting Climate Resilience and a Just Energy Transition in Africa*, aims to raise awareness on the devastating effects of climate change on the continent and the urgency to identify and leverage, without further delay, innovative financing instruments to address climate vulnerabilities and transition toward net-zero by 2050.

The Bank's new research on carbon debt and credits estimates that the total climate finance needed to compensate Africa for historical and future emissions until 2050 is $4.76–$4.84 trillion—or $163.4–$173 billion a year between 2022 and 2050, almost 10 times as much as the continent received each year from 2016 to 2019. The resulting climate finance gap is unlikely to be filled by traditional financing instruments, which calls for innovative instruments and strong regional and global cooperation.

A key policy recommendation to address the climate finance gap is to leverage innovative financing instruments such as green bonds and loans, sustainability or sustainability-linked bonds and loans, debt-for-climate swaps, and more efficient and better-priced carbon markets. In addition, the global community—and developed countries in particular—should consider scaling up their climate financing commitment to more than $100 billion. The additional financing should reflect the true opportunity cost of climate change in Africa and other developing regions.

Finally, as the report outlines, African countries have a role to play. They need to create conducive business, macroeconomic, and financial environments—a vital prerequisite to mobilize and attract more climate finance. The necessary reforms should be broad-based and concern public financial management and other domestic financial systems, effective management of climate-funded projects, internal capacity building, and innovative domestic resource mobilization instruments.

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