

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

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

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.

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

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
<i>Other needs (not estimated)</i>	
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).

climate financing needs for adaptation and mitigation, given the disproportionate impact of climate change on women (box 3.1).

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.)

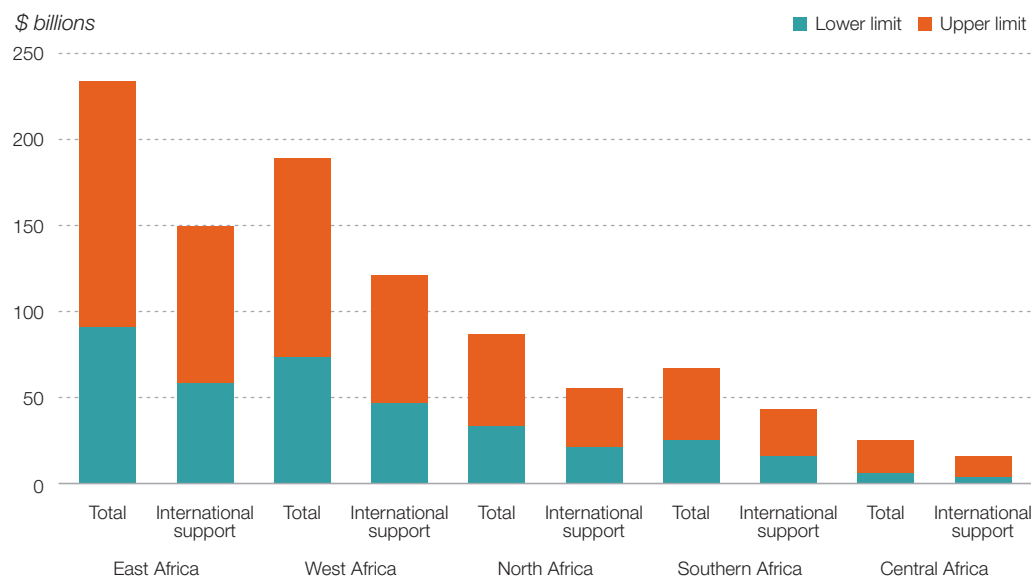
Climate finance mobilized globally falls short of African countries’ needs, creating a climate financing gap of \$99.9–\$127.2 billion a year in 2020–30

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

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



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.

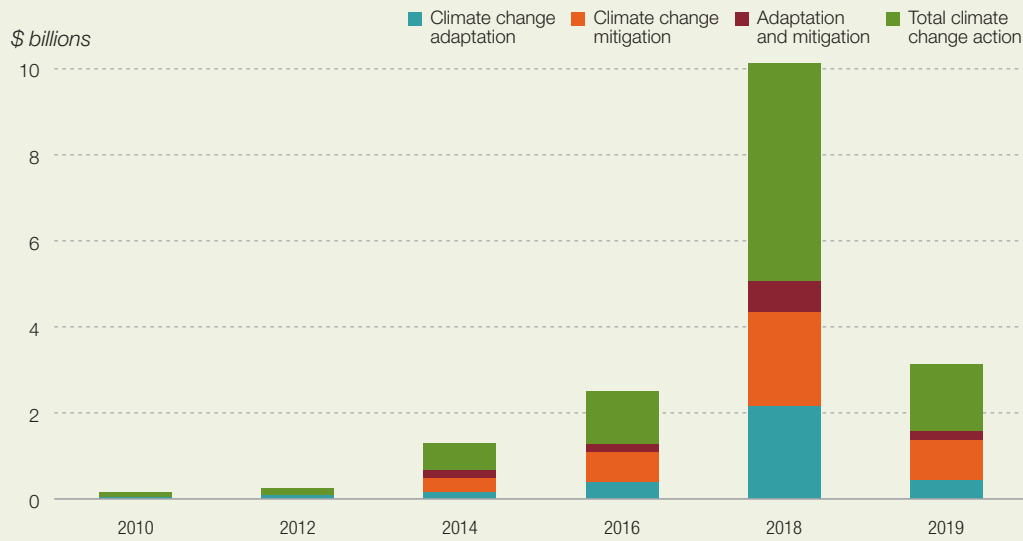
Recognition is growing of the importance of factoring in gender perspectives in climate finance in developing countries, which has led to the emergence of gender-responsive climate finance, which targets gender inequalities in Africa. Such finance, which comes from different sources, increased from an 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

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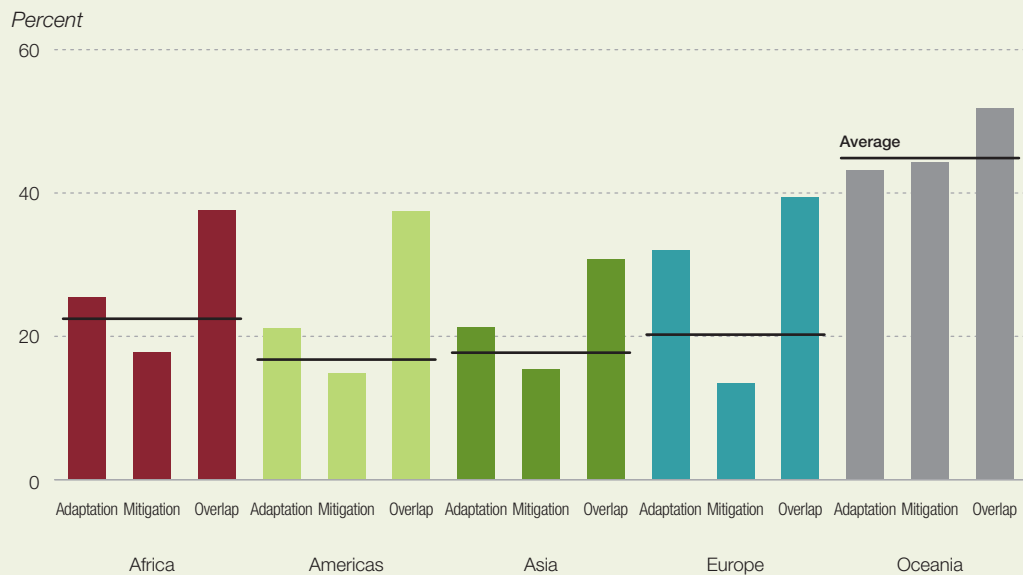
BOX FIGURE 3.1.1 Trends in gender-responsive climate finance in Africa, by type of climate change action, 2010–19



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

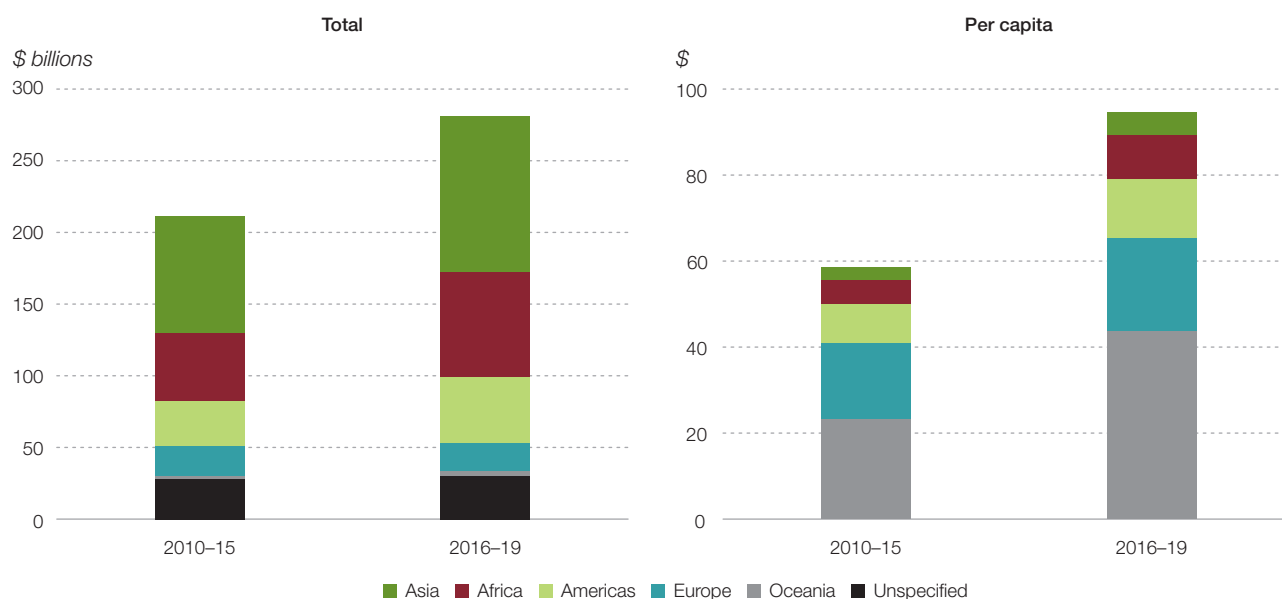
each year in climate-related development finance up to 2030, the resulting financing gap would be \$99.9–\$127.2 billion a year in 2020–30, averaging \$108 billion, greatly limiting countries' ability to build climate resilience. Per capita, average annual climate finance to Africa in 2016–19 was among 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



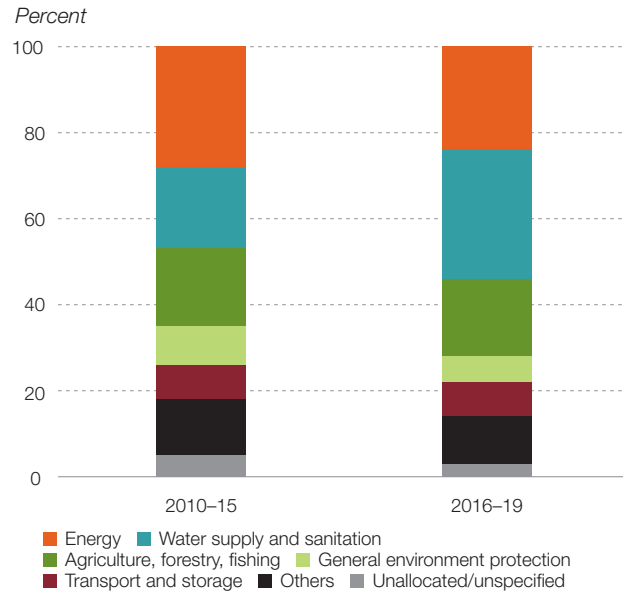
Source: Staff calculations based on OECD (n.d.a) and Africa NDC Hub (2021).

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.

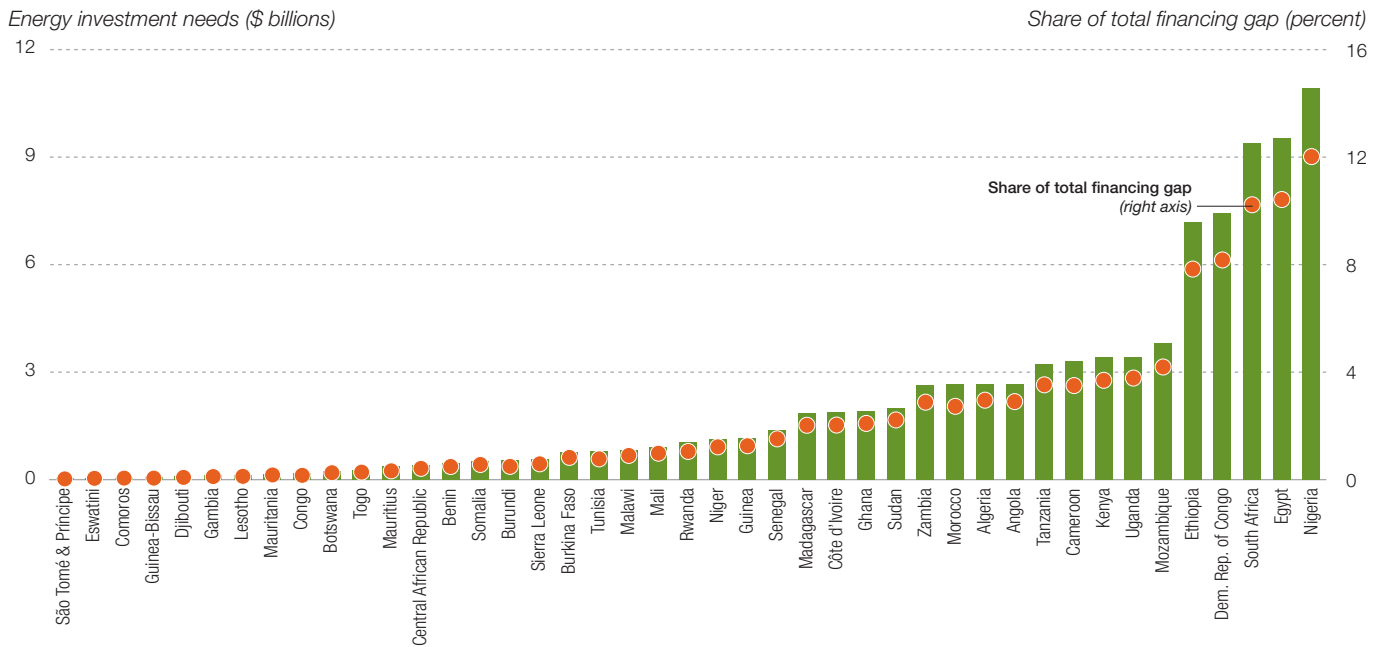
FIGURE 3.3 The energy sector received about 26 percent of Africa’s climate finance inflows in 2010–19



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

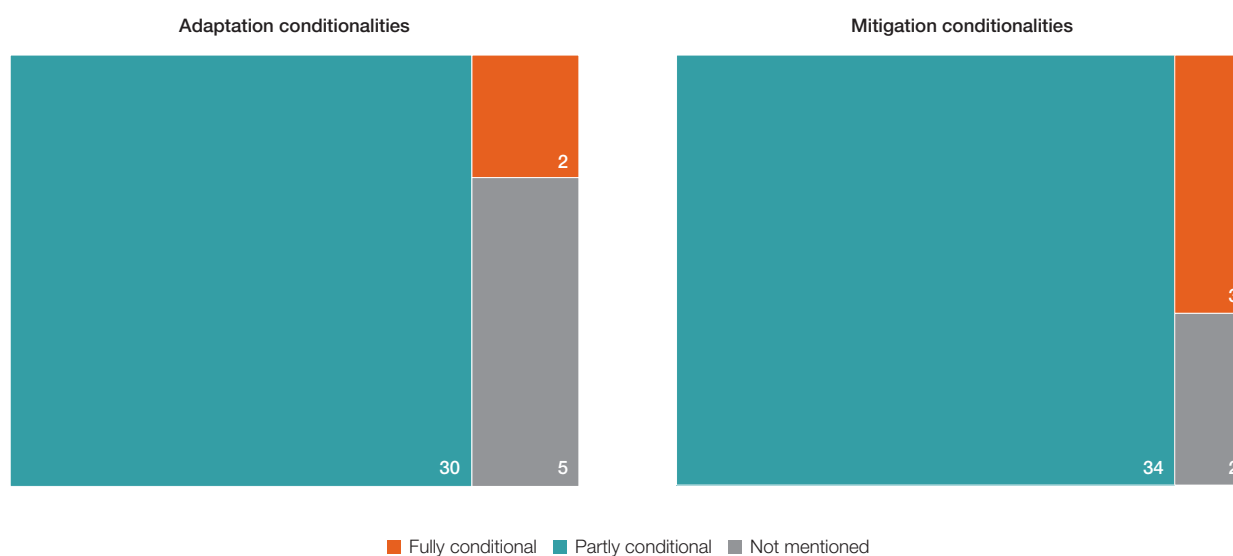
Country	Finance required, \$ billions (unless shown otherwise)	
	Unconditional	Conditional
Benin	2.1	3.9
Burkina Faso	1.1	0.8
Central African Republic	0.3	2.0
Chad	0.5	6.5
Djibouti	70 percent of total costs	1.7
Eritrea	0.4	0.7
Guinea	..	6.5
Guinea-Bissau	..	0.2 by 2020 and 0.5 in 2020–30
Lesotho	1.2	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.

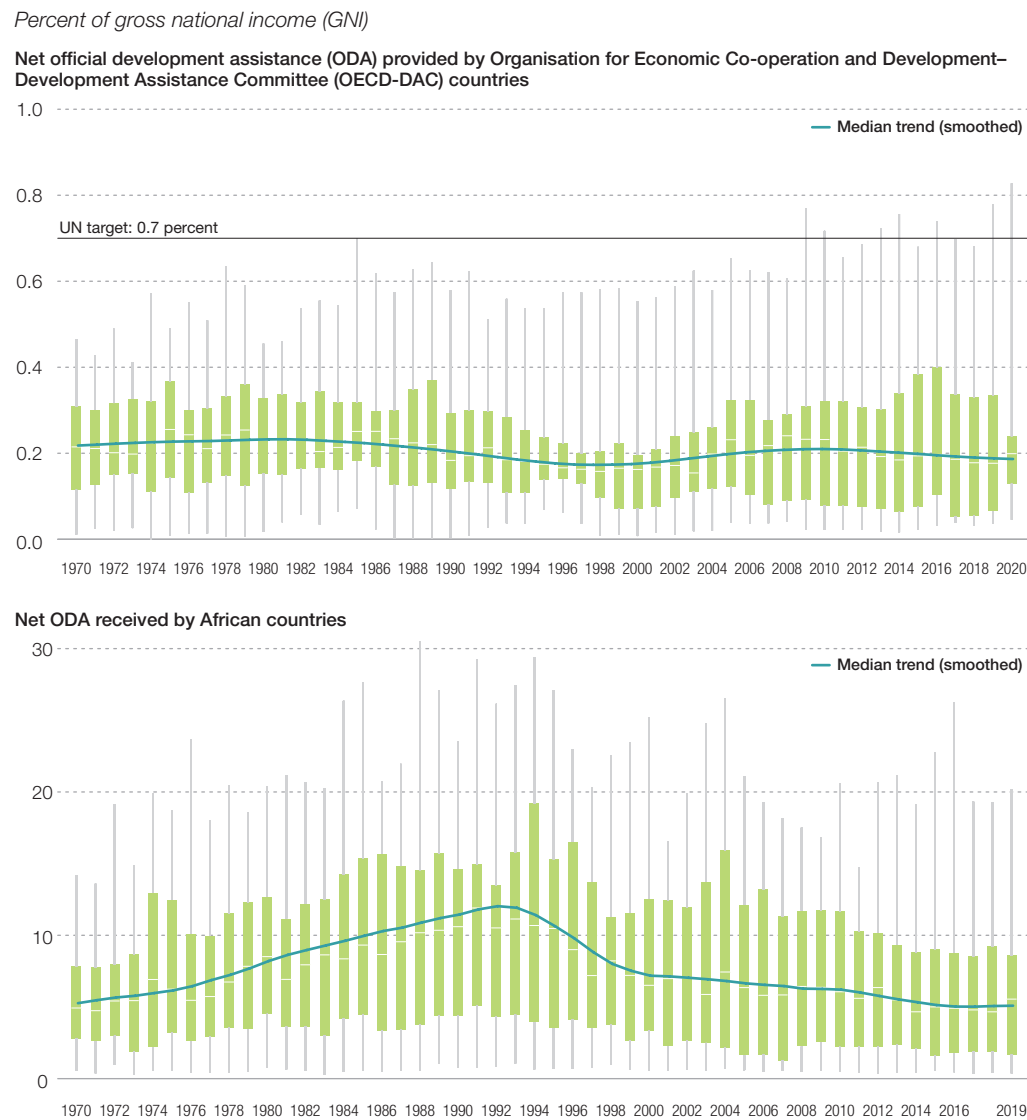
Source: Staff calculations based on data from Pauw, Beck, and Valverde (2022).

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



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

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 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

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

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,

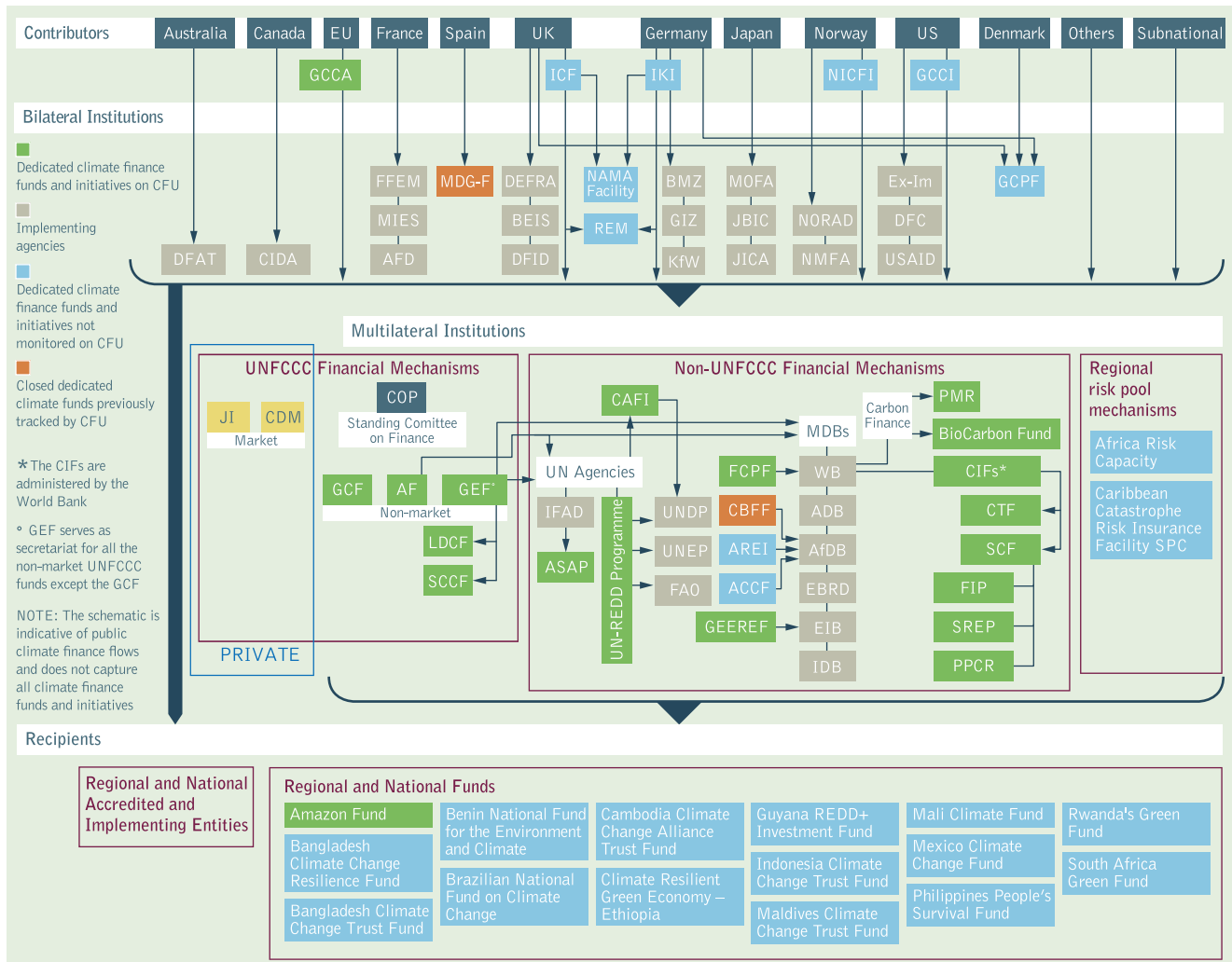
the GEF had approved more than 2,188 projects worldwide, including 1,219 national projects in Africa worth \$3.1 billion.¹⁰ GEF resources are allocated according to the impact of dollars spent on environmental outcomes and ensure a fair share for all developing countries. In addition, the GEF administers 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 Schalteck (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 economies¹⁸ had no such access.

An underdeveloped financial sector in Africa

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

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



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

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.

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

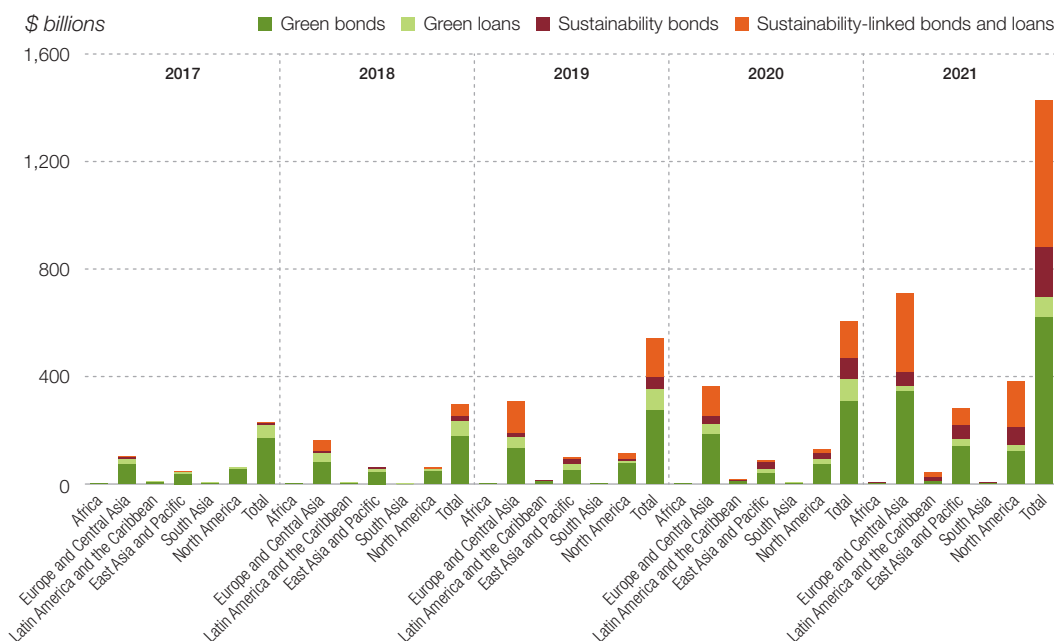
The framing of climate action around net-zero emissions has renewed interest in green finance. Diverse sets of actors have rallied around the global goal of net-zero emissions to achieve the Paris Agreement. At COP26 in Glasgow, United Kingdom, in November 2021, more than 450 financial institutions representing \$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).

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

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).

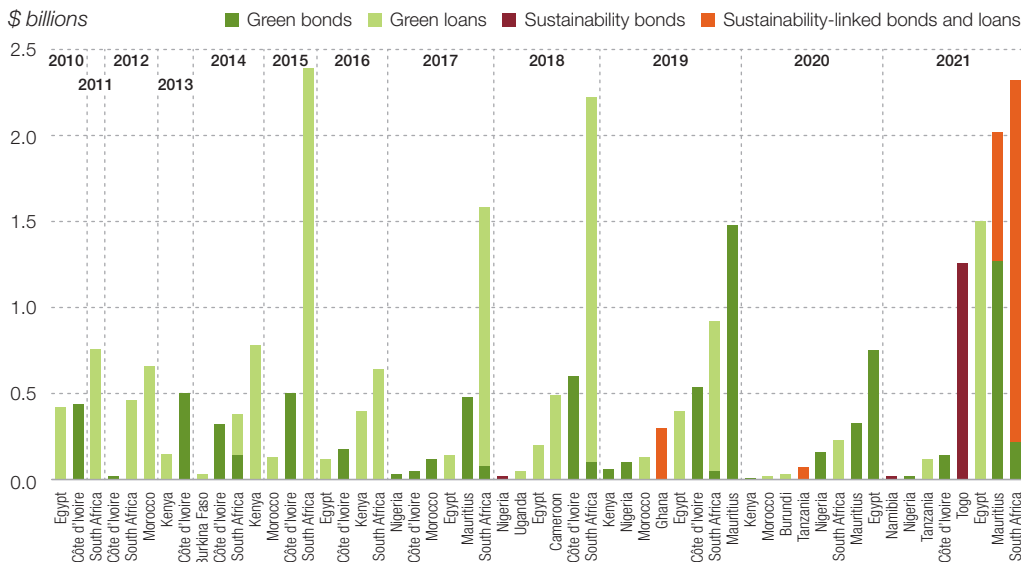
South Africa accounted for 73.8 percent of all cumulative bond issuance in Africa in 2010–21 (figure 3.9). The number of green finance issuers in Africa is small, dominated by corporates.³¹ Proceeds from these issues are allocated mainly to energy development, although recent allocations have also gone 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 markets³⁷ 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 offsets³⁸ 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).

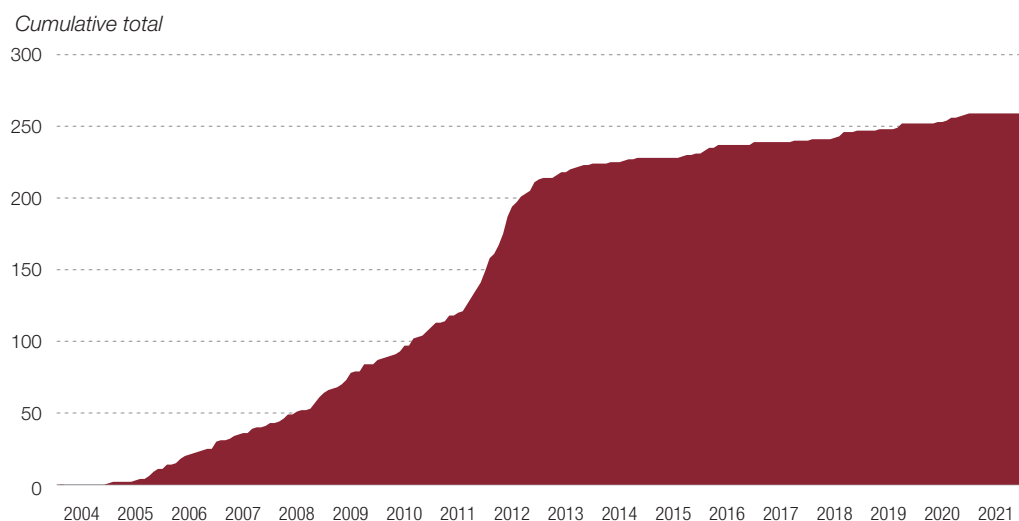
Africa has previously been successfully linked to compliance of emission-trading carbon markets of major industrialized countries through the CDM or voluntary carbon markets. Its number of CDM projects has increased (figure 3.10) but needs to be scaled up far more if carbon markets are to help mobilize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

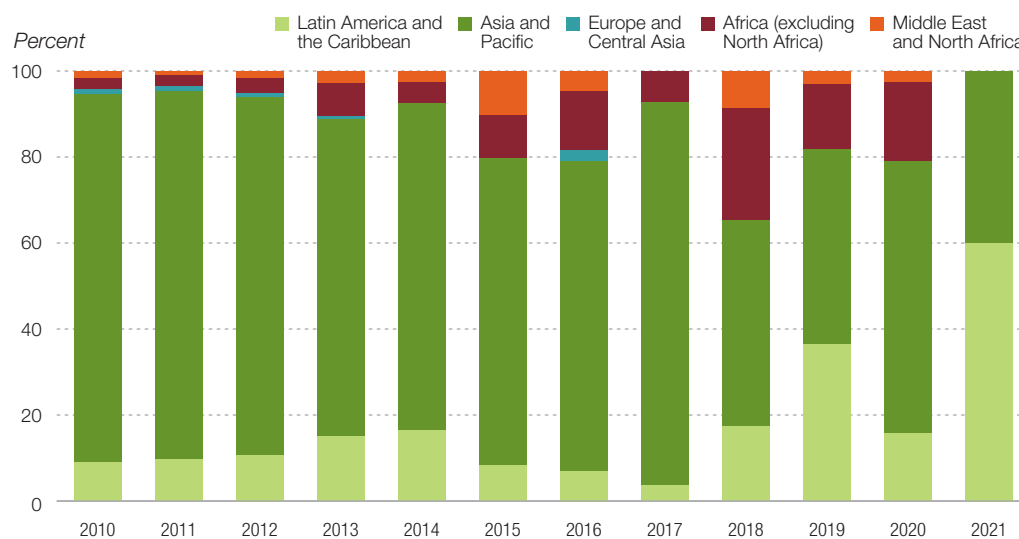


FIGURE 3.10 The number of projects under the Clean Development Mechanism in Africa has increased since 2004



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).

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

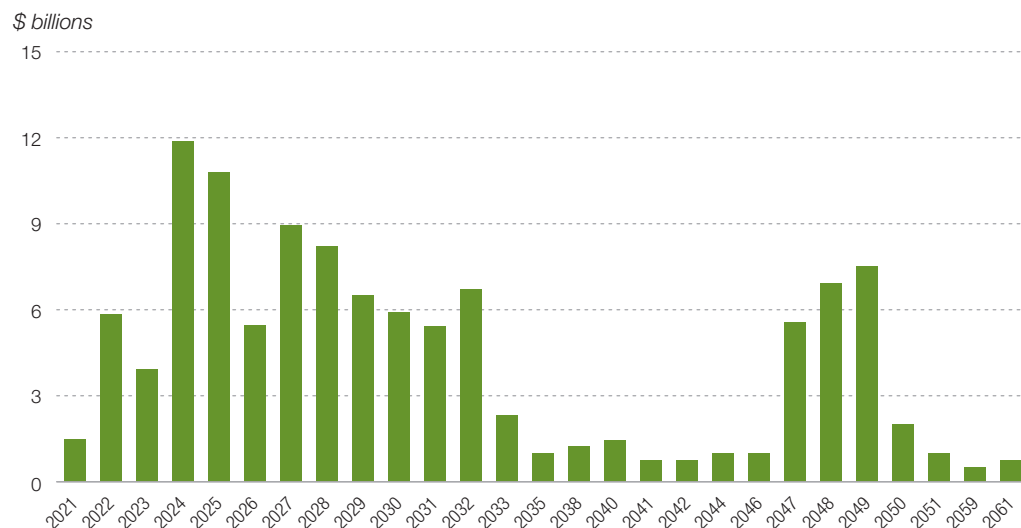
African countries and institutions should continue advocating for these swaps, directly with international financial institutions and indirectly through development partners. The Paris Club of creditor countries is better placed to offer debt-for-climate swaps because direct negotiations between creditors 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.

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

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.

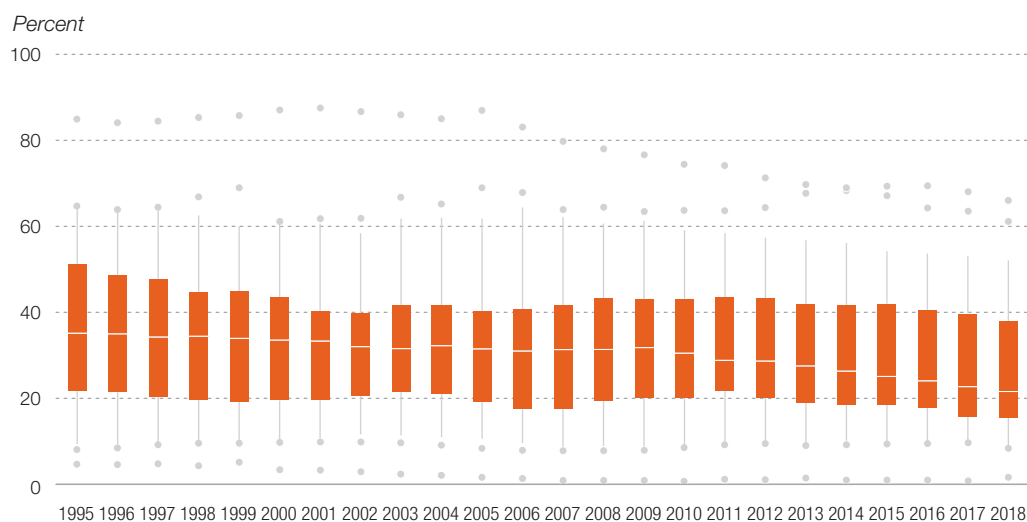
Natural capital accounting

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.

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

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

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

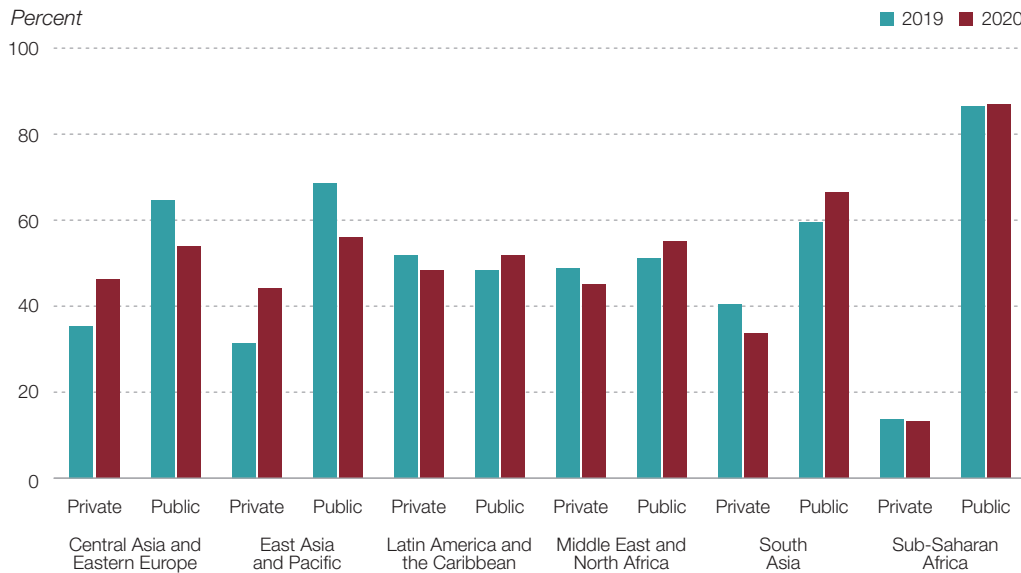
Greater involvement of the private sector in climate finance requires removing many barriers and maintaining safeguards

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

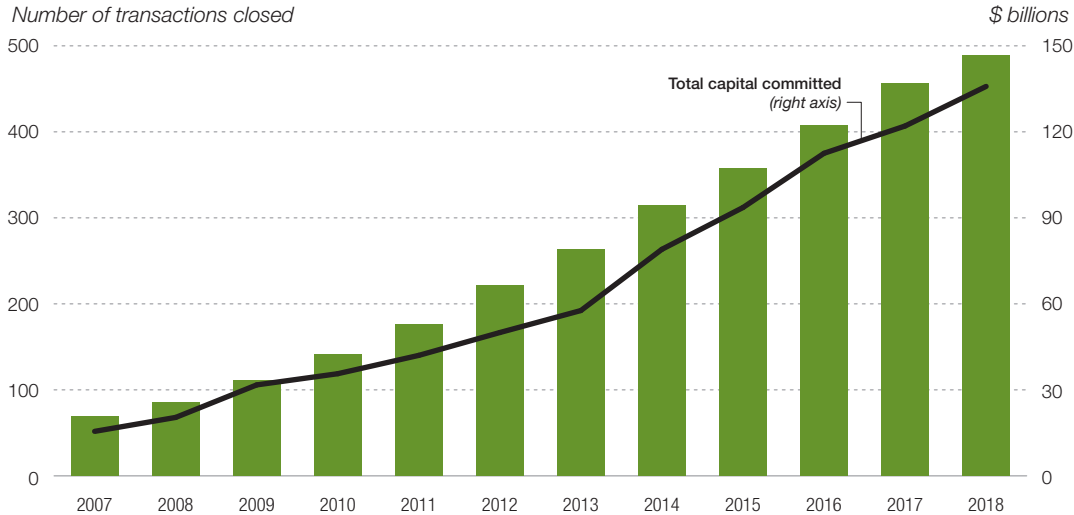
Blended finance—the use of catalytic capital from public or philanthropic sources to increase private investment—can help African countries leverage the private sector and close the climate finance gap. It accounted for about \$136 billion in capital for sustainable development in developing countries 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

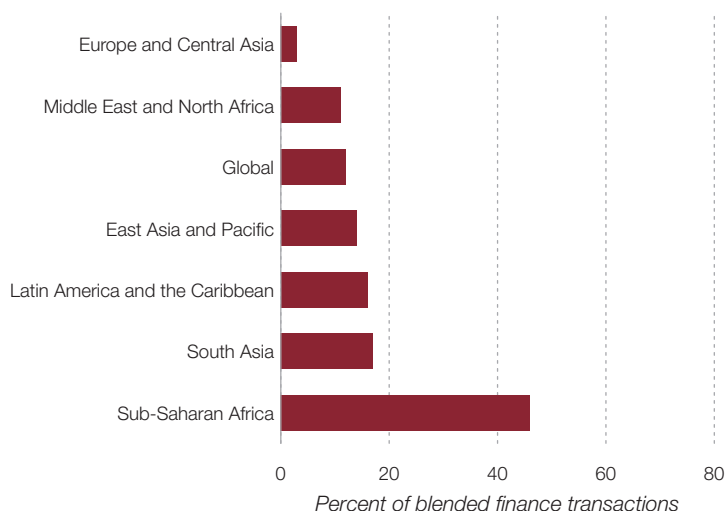


Source: Staff calculations using Convergence Finance data (<https://www.convergence.finance/blended-finance>).

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.

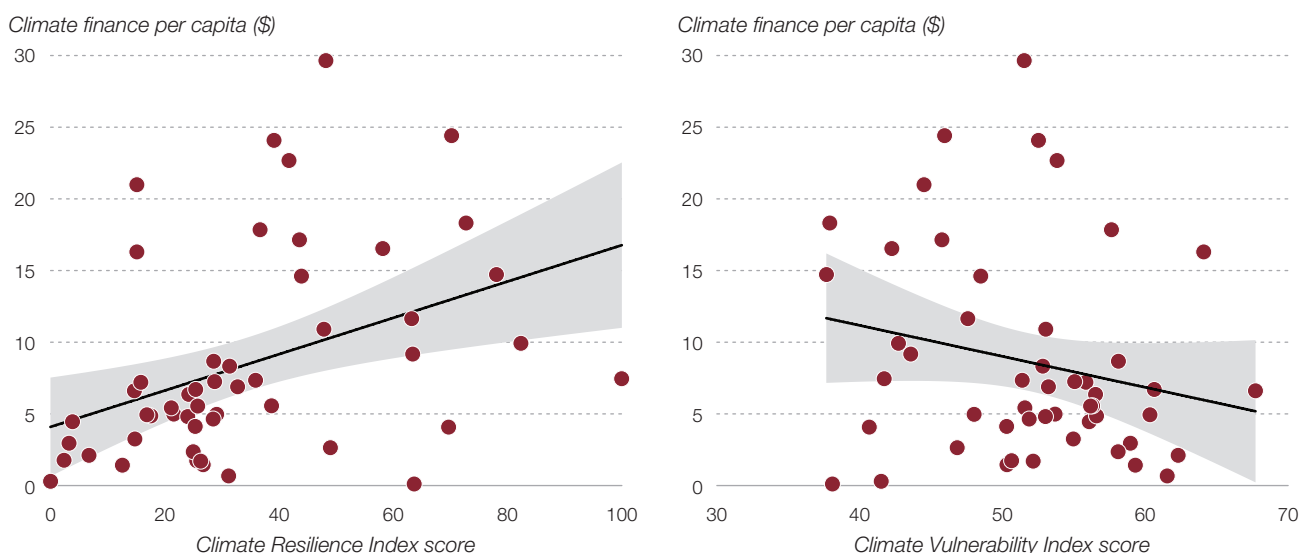
Beyond factors such as economic and political stability, the quality of regulatory and investment environments, return on investment requirements, and perceived credit risks of some countries, which might explain the relative attractiveness of climate finance to some countries, this perverse association 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

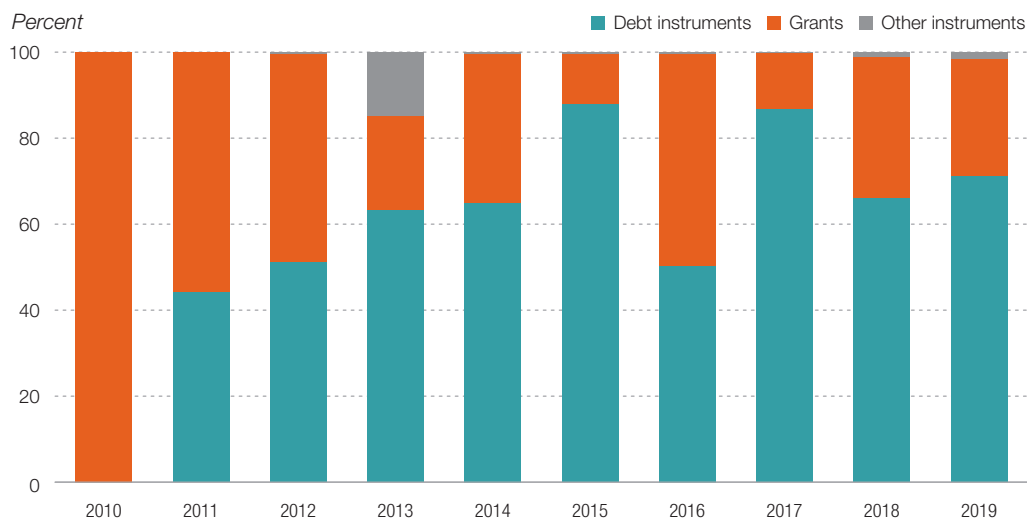
FIGURE 3.17 Paradoxically, African countries more resilient and less vulnerable to climate shocks have received more climate finance than others



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

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

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



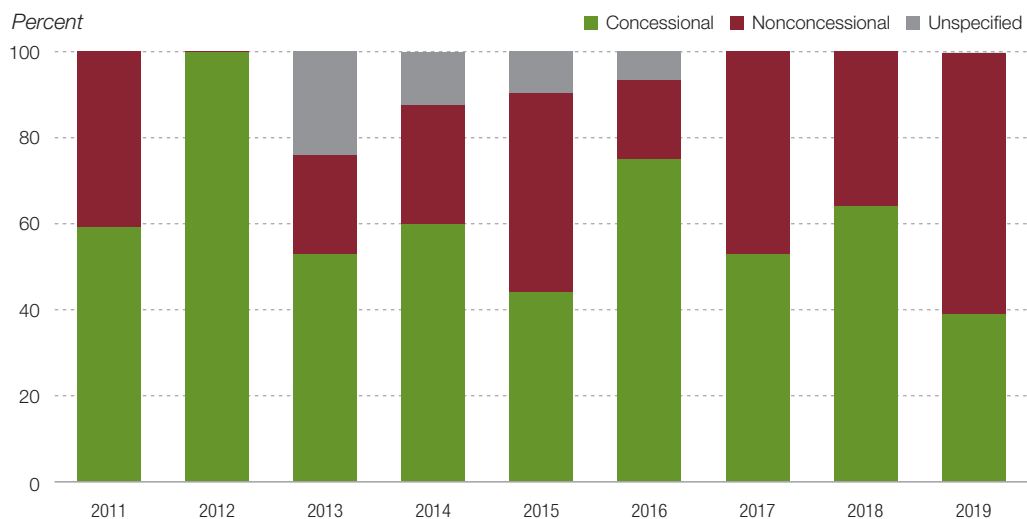
Note: Debt instruments include loans and debt relief. Other instruments encompass equity and shares in collective investment vehicles, mezzanine finance instruments, and other unspecified instruments.

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

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 indebtedness of 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

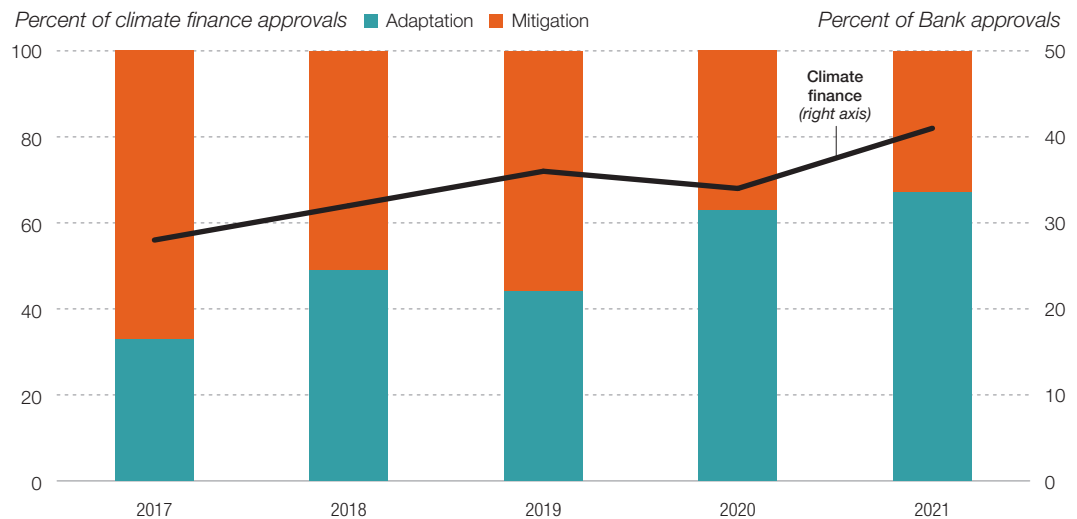
Trade under the African Continental Free Trade Area (AfCFTA) officially began on 1 January 2021. As African countries are seeking to emerge from the damage caused by the COVID-19 pandemic, they have major expectations that AfCFTA could bring vast economic benefits to the continent through boosting exports; 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.

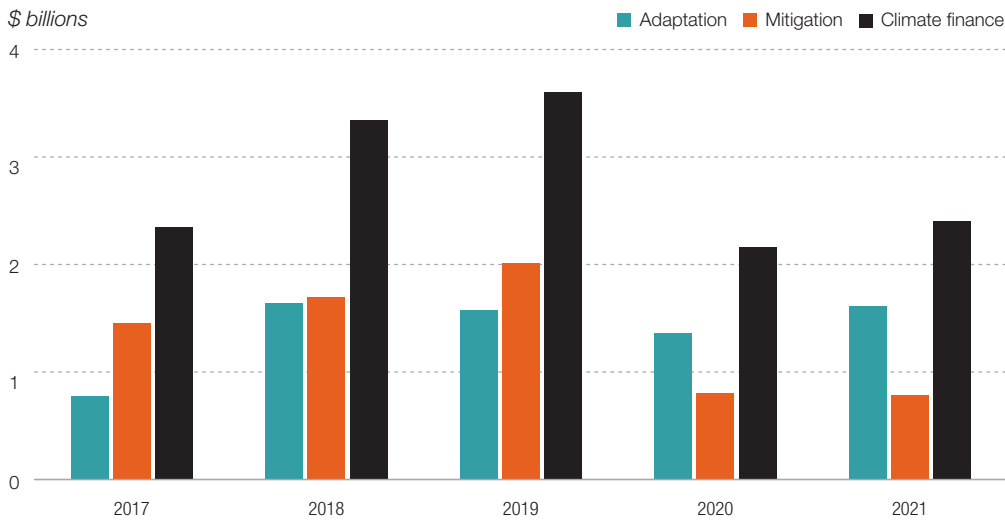
Source: Based on Van der Ven and Signé (2021).

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 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

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

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.

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		Multilateral funds and initiatives	
AfDB	African Development Bank (“the Bank”)	AF	Adaptation Fund (GEF acts as secretariat, and WB as trustee)
AFD	Agence Française de Développement (French Development Agency)	ACCF	Africa Climate Change Fund
ADB	Asian Development Bank	AREI	African Renewable Energy Initiative
BEIS	Department for Business, Energy & Industrial Strategy (UK)	ASAP	Adaptation for Smallholder Agriculture Programme
BMZ	Bundesministerium für Wirtschaftliche Zusammenarbeit und Entwicklung (Federal Ministry of Economic Cooperation and Development, Germany)	CAFI	Central African Forest Initiative
CFU	Climate Funds Update	CBFF	Congo Basin Forest Fund (hosted by the Bank)
CIDA	Canadian International Development Agency	CDM	Clean Development Mechanism (implemented under the Kyoto Protocol)
DEFRA	Department for Environment, Food and Rural Affairs (UK)	CIFs	Climate Investment Funds (implemented through WB, ADB, the Bank, EBRD, and IDB)
DFAT	Department of Foreign Affairs and Trade (Australia)	CTF	Clean Technology Fund (implemented through WB, ADB, the Bank, EBRD, and IDB)
DFC	United States International Development Finance Corporation	FCPF	Forest Carbon Partnership Facility
EBRD	European Bank for Reconstruction and Development	FIP	Forest Investment Program (implemented through WB, ADB, the Bank, EBRD, and IDB)
EIB	European Investment Bank	GCCA	Global Climate Change Alliance
Ex-Im	Export-Import Bank of the United States	GCF	Green Climate Fund
FAO	Food and Agriculture Organization of the United Nations	GEF	Global Environment Facility
FCDO	Foreign, Commonwealth and Development Office (UK)	GEEREF	Global Energy Efficiency and Renewable Energy Fund (hosted by EIB)
FFEM	Fonds Français pour l’Environnement Mondial (French Global Environment Facility)	Jl	Joint Implementation (implemented under the Kyoto Protocol)
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH (German Technical Cooperation)	LDCF	Least Developed Countries Fund (hosted by the GEF)
IDB	Inter-American Development Bank	PMR	Partnership for Market Readiness
IFAD	International Fund for Agricultural Development	PPCR	Pilot Program for Climate Resilience (implemented through WB, ADB, the Bank, EBRD, and IDB)
JBIC	Japan Bank of International Cooperation	SCCF	Special Climate Change Fund (hosted by the GEF)
JICA	Japan International Cooperation Agency	SCF	Strategic Climate Fund (implemented through WB, ADB, the Bank, EBRD, and IDB)
KfW	Kreditanstalt für Wiederaufbau (German Development Bank)	SREP	Scaling Up Renewable Energy Program for Low-Income Countries (implemented through WB, ADB, the Bank, EBRD, and IDB)
MIES	Mission Interministérielle de l’Effet de Serre (Inter-ministerial Taskforce on Climate Change, France)	UN-REDD Programme	United Nations Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation
MOFA	Ministry of Foreign Affairs (Japan)	Bilateral funds and initiatives	
NMFA	Norwegian Ministry of Foreign Affairs	GCCI	Global Climate Change Initiative (US)
NORAD	Norwegian Agency for Development Cooperation	GCPF	Global Climate Partnership Fund (Germany, UK, and Denmark)
SPC	Segregated Portfolio Company	ICF	International Climate Finance (UK)
UNDP	United Nations Development Programme	IKI	Internationale Klimaschutzinitiative (International Climate Initiative, Germany)
UNEP	United Nations Environment Programme	MDG-F	MDG Achievement Fund (implemented by UNDP)
USAID	United States Agency for International Development	NAMA Facility	Nationally Appropriate Mitigation Action facility (UK, Germany, Denmark, and the EC)
WB	World Bank	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
<i>Internal funds</i>	
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: <ul style="list-style-type: none"> • 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.
<i>External funds</i>	
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. Muganyizi, 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.

REFERENCES

African Development Bank. 2016. “African Natural Resources Center: Catalyzing Growth and Development through Effective Natural Resources Management.” Abidjan, Côte d’Ivoire: African Development Bank. https://www.afdb.org/fileadmin/uploads/afdb/Documents/Publications/anrc/AfDB_ANRC_BROCHURE_en.pdf.

- African Development Bank. 2019. *Climate Finance Matters 2019*. Abidjan, Côte d'Ivoire: African Development Bank.
- African Development Bank. 2021a. *African Economic Outlook 2021*. Abidjan, Côte d'Ivoire: African Development Bank.
- African Development Bank. 2021b. *Potential for Green Banks & National Climate Change Funds in Africa: Scoping Report*. Abidjan, Côte d'Ivoire: African Development Bank.
- Africa NDC Hub. 2021. *Africa's NDC Journey and the Imperative for Climate Finance Innovation: A Report by the Africa NDC Hub for COP26*. https://africandchub.org/sites/default/files/2021-11/211103_ANDC%20Hub_Africa%E2%80%99s%20NDC%20journey%20and%20climate%20finance_.pdf.
- Benali, N., I. Abdelkafi, and R. Feki. 2018. "Natural-disaster Shocks and Government's Behavior: Evidence from Middle-income Countries." *International Journal of Disaster Risk Reduction* 27: 1–6.
- Bennett, V. 2021. "MDBs' Climate Finance Rose to US\$ 66 Billion in 2020, Joint Report Shows." Press release, European Bank for Reconstruction and Development, 30 June. <https://www.ebrd.com/news/2021/mdbs-climate-finance-rose-to-us-66-billion-in-2020-joint-report-shows.html>.
- BNEF (Bloomberg New Energy Finance). 2021. "Sustainable Finance Database." Accessed 1 April 2022.
- Cherif, R., and F. Hasanov. 2018. "The Volatility Trap: Precautionary Saving, Investment, and Aggregate Risk." *International Journal of Financial Economics* 23: 174–185.
- CPI (Climate Policy Initiative). 2021. *Global Landscape of Climate Finance 2021*. <https://www.climatepolicyinitiative.org/wp-content/uploads/2021/10/Full-report-Global-Landscape-of-Climate-Finance-2021.pdf>.
- CPLC (Carbon Pricing Leadership Coalition). 2017. "Report of the High-Level Commission on Carbon Prices: Interview with Co-Chairs of the High-Level Commission on Carbon Prices." Washington, DC: World Bank.
- Dafermos, Y., M. Nikolaidi, and G. Galanis. 2018. "Climate Change, Financial Stability and Monetary Policy." *Ecological Economics* 152: 219–234.
- EIB (European Investment Bank). 2021. *Finance in Africa: For Green, Smart and Inclusive Private Sector Development*. Luxembourg: European Investment Bank.
- FSD Kenya and South Pole. 2021. "Green Finance Ecosystem in Kenya." *Race to Zero*, 2 November. <https://racetozero.unfccc.int/africa-green-finance-coalition-seizing-the-opportunity-that-green-investment-provides/>. Accessed 15 March 2022.
- Garschagen, M., and D. Doshi. 2022. "Does Funds-based Adaptation Finance Reach the Most Vulnerable Countries?" *Global Environmental Change* 73 (March): 102450.
- GFANZ (Glasgow Financial Alliance for Net Zero). 2021. *The Glasgow Financial Alliance for Net Zero: Our Progress and Plan towards a Global Economy*. <https://assets.bbhub.io/company/sites/63/2021/11/GFANZ-Progress-Report.pdf>.
- Henze, V. 2022. "Carbon Offset Prices Could Increase Fifty-Fold by 2050." BloombergNEF, 10 January. <https://about.bnef.com/blog/carbon-offset-prices-could-increase-fifty-fold-by-2050/>. Accessed 15 March 2022.
- Integral Consult. 2021. "Needs of African Countries Related to Implementing the UN Framework Convention on Climate Change and the Paris Agreement, January 2021." https://unfccc.int/sites/default/files/resource/Needs%20Report_African%20countries_Bank_FINAL.pdf.
- IRENA (International Renewable Energy Agency). 2020. *The Renewable Energy Transition in Africa Country Studies for Côte d'Ivoire, Ghana, South Africa, Morocco and Rwanda*. Abu Dhabi, United Arab Emirates: IRENA. https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2021/March/Renewable-Energy-Transition-Africa_Country_Studies_2021.pdf.
- IUCN (International Union for the Conservation of Nature). 2020. "Women in Mozambique Engage in Climate Change Action." Press release, 9 March. Gland, Switzerland: IUCN. <https://www.iucn.org/news/eastern-and-southern-africa/202003/women-mozambique-engage-climate-change-action>.
- Jordà, Ò., M. Schularick, A. M. Taylor, and F. Ward. 2019. "Global Financial Cycles and Risk Premiums." *IMF Economics Review* 67: 109–150.
- Kahn, M., K. Mohaddes, R. N. C. Ng, M. H. Pesaran, M. Raissi, and J. C. Yang. 2019. "Long-Term Macroeconomic Effects of Climate Change: A Cross-Country Analysis." Working Paper WP19-215, International Monetary Fund, Washington, DC.
- Kling, G., Y. Lo, V. Murinde, and U. Volz. 2018. "Climate Vulnerability and the Cost of Debt." SOAS University of London and German Development Institute.
- Koh, L. P., Y. Zeng, T. V. Sarira, and K. Siman. 2021. "Carbon Prospecting in Tropical Forests for Climate Change Mitigation." *Nature Communications* 12 (1): 1–9.



- Marbuah, G. 2020. "Scoping the Sustainable Finance Landscape in Africa: The Case of Green Bonds." Stockholm: Stockholm Sustainable Finance Centre. https://www.stockholmsustainablefinance.com/wp-content/uploads/2018/06/SSFC_greenbonds_africa_report.pdf. Accessed 15 March 2022.
- Marsh, A. 2021. "Investors in Fossil Fuels Announce Plans to Divest \$39.2 Trillion." *Business Standard*, 26 October. https://www.business-standard.com/article/markets/investors-in-fossil-fuels-announce-plans-to-divest-39-2-trillion-121102600666_1.html.
- Masood, E., and J. Tollefson. 2021. "'COP26 Hasn't Solved the Problem': Scientists React to UN Climate Deal." *Nature* 599: 355–356. <https://www.nature.com/articles/d41586-021-03431-4>.
- McKinsey. 2021. *Africa's Green Manufacturing Crossroads: Choices for a Low-carbon Industrial Future*. McKinsey & Company.
- Muganyi, T., L. Yan, and H. P. Sun. 2021. "Green Finance, Fintech and Environmental Protection: Evidence from China." *Environmental Science and Ecotechnology* 7: 100107.
- Napier, M. 2021. "Africa Green Finance Coalition: Seizing the Opportunity that Green Investment Provides." *Race to Zero*, 2 November. <https://racetozero.unfccc.int/africa-green-finance-coalition-seizing-the-opportunity-that-green-investment-provides/>.
- OECD (Organisation for Economic Co-operation and Development). 2021. "Climate Finance Provided and Mobilised by Developed Countries Aggregate Trends Updated with 2019 data. Climate Finance and the USD 100 Billion Goal." Paris: OECD Publishing.
- OECD (Organisation for Economic Co-operation and Development). n.d.a. "Climate Change: OECD DAC External Development Finance Statistics." Paris: OECD Publishing.
- OECD (Organisation for Economic Co-operation and Development). n.d.b. *OECD DAC Rio Markers for Climate Change Handbook*. Paris: OECD Publishing.
- Pauw, P., T. Beck, and M. J. Valverde. 2022. "NDC Explorer." German Development Institute, African Centre for Technology Studies, Stockholm Environment Institute, and Frankfurt School–UNEP Collaborating Centre for Climate & Sustainable Energy Finance.
- Scottish Government. 2021. "Scotland to Boost Climate Funding." Press release, 11 November. <https://www.gov.scot/news/scotland-to-boost-climate-funding/>.
- Shalal, A. 2021. "IMF, World Bank to Unveil 'Green Debt Swaps' Option by November, Georgieva Says." *Reuters*, 8 April. <https://www.reuters.com/article/us-imf-world-bank-climate-swaps-idUSKBN2BV2NU>. Accessed March 7, 2022.
- Soumaré, I., D. Kanga, J. Tyson, and S. Raga. 2021. "Capital Market Development in Sub-Saharan Africa: Progress, Challenges and Innovations." ODI Research Series for Financial Development in Africa WP 2, Overseas Development Institute, London.
- Spinaci, S. 2021. "Green and Sustainable Finance." [https://www.europarl.europa.eu/RegData/etudes/BRIE/2021/679081/EPRS_BRI\(2021\)679081_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/BRIE/2021/679081/EPRS_BRI(2021)679081_EN.pdf).
- Thwaites, J., and N. Amerasinghe. 2017. *The Climate Finance Architecture the World Needs*. Washington, DC: World Resources Institute.
- Thwaites, J., N. Amerasinghe, G. Larsen, and A. Ballesteros. 2017. *The Future of the Funds: Exploring the Architecture of Multilateral Climate Finance*. Washington, DC: World Resources Institute.
- UNEP (United Nations Environment Programme). 2016. "Is Africa's Natural Capital the Gateway to Finance Its Development?" News story, 21 September. <https://www.unep.org/news-and-stories/story/africas-natural-capital-gateway-finance-its-development>.
- UNFCCC (United Nations Framework Convention on Climate Change). 2011. "Report of the Conference of the Parties on its Sixteenth Session, Held in Cancun from 29 November to 10 December 2010." <http://unfccc.int/resource/docs/2010/cop16/eng/07a01.pdf>.
- UNFCCC (United Nations Framework Convention on Climate Change). 2012. "Benefits of the Clean Development Mechanism 2012." https://unfccc.int/resource/docs/publications/abc_2012.pdf.
- UNFCCC (United Nations Framework Convention on Climate Change). 2021. "Nationally Determined Contributions under the Paris Agreement." Revised Synthesis Report by the Secretariat. https://unfccc.int/sites/default/files/resource/cma2021_08r01_E.pdf.
- UNFCCC (United Nations Framework Convention on Climate Change). n.d. "Decision -/CP.26, Glasgow Climate Pact." Advance unedited version. https://unfccc.int/sites/default/files/resource/cop26_auv_2f_cover_decision.pdf.
- Van der Ven, C., and L. Signé. 2021. "Greening the AfCFTA: It Is Not Too Late." Policy Brief, Africa Growth Initiative at Brookings, Washington, DC. <https://www.brookings.edu/wp-content/uploads/2021/09/21.09.15-Greening-the-AfCFTA.pdf>.
- Watson, C., and Schalatek, L., 2022. "The Global Climate Finance Architecture." *Climate Finance Fundamentals*

2, Climate Funds Update, Overseas Development Institute and Heinrich Böll Stiftung, London and Washington, DC. https://climatefundsupdate.org/wp-content/uploads/2022/03/CFF2-Global-CF-Architecture_ENG-2021.pdf.

World Bank. 2020. "Mobilising Private Finance for Nature." Washington, DC: World Bank. <https://the docs.worldbank.org/en/doc/916781601304630850-0120022020/original/FinanceforNature28Sepweb version.pdf>.

World Bank. 2021. "What You Need to Know about Green Loans." Feature story, 4 October. <https://www.worldbank.org/en/news/feature/2021/10/04/what-you-need-to-know-about-green-loans>.

Yu S., J. Edmonds, C. Munnings, J. Hoekstra, J. Steponaviciute, and E. Lochner. 2021. "The Potential Role of Article 6 Compatible Carbon Markets in Reaching Net-Zero." Working Paper, University of Maryland School of Public Policy, College Park, MD. https://www.ieta.org/resources/Resources/Net-Zero/Final_Net-zero_A6_working_paper.pdf.



