

Growing Green: Catalyzing Climate Finance in African Markets

Emilie Bel



This report is part of a partnership between the Africa Center and the Eastern and Southern African Trade and Development Bank (TDB).



The mission of the Atlantic Council's Africa Center is to promote dynamic geopolitical partnerships with African states and to redirect US and European policy priorities toward strengthening security and bolstering growth and prosperity on the continent.



Established in 1985, the Eastern and Southern African Trade and Development Bank (TDB) is a multilateral, treaty-based, investment-grade development finance institution, with forty-one sovereign and institutional shareholders and assets of USD 7.2 billion. TDB serves twenty-two economies in its region, with the mandate to finance and foster trade, regional economic integration, and sustainable development.

TDB is part of the TDB Group, which also comprises TDF (the Trade and Development Fund), ESATF (the Eastern and Southern African Trade Fund), TCI (TDB Captive Insurance), and the TDB Academy.

Growing Green: Catalyzing Climate Finance in African Markets

Emilie Bel

ISBN-13: 978-1-61977-177-2

Cover: The Agahozo-Shalom Youth Village outside of Kigali, Rwanda hosts an 8.5 megawatt solar field, created as part of Power Africa's Solar Africa project. With this new project, Rwanda's generating capacity increased by six percent. *Photo credit:* Flickr/USAID/Power Africa. (<https://creativecommons.org/licenses/by-nc/2.0/>)

This report is written and published in accordance with the Atlantic Council Policy on Intellectual Independence. The author is solely responsible for its analysis and recommendations. The Atlantic Council and its donors do not determine, nor do they necessarily endorse or advocate for, any of this report's conclusions.

May 2021

Table of Contents

Foreword	1
Introduction: What is at Stake?	2
I. Assessing the Financing Needed for Green Growth in African Markets	4
What is Green Growth?	4
<i>Box 1. Great Green Wall in the Sahel</i>	4
Africa’s Infrastructure Gap Is an Opportunity for Green and Resilient Growth	4
Africa’s Energy Potential	5
II. Key Stakeholders in Financing Green Growth	8
African Governments Provide Key Funding but Cannot Be the Only Source	8
<i>Box 2. Kenya Proves a Green Agenda Is an Asset for Economic Growth</i>	8
Additional Funding for Green Projects from International Institutions	9
Bilateral Funding from Donor Countries Is Increasingly Turning Towards Climate Finance	9
Private Capital Has Yet to Be Fully Tapped for Green Projects in African Markets	10
Private Sector Involvement Remains Limited, but There is Growing Appetite	10
Private Sector Investment Is Still Nascent and Concentrated in Large Markets	11
Overcoming Challenges to Scaling-Up Private Sector Investment	11
<i>Box 3. Focus on Two Funds Financing Green Projects in Africa</i>	12
<i>Box 4. Decentralized Tech-Enabled Green Solutions</i>	12
III. Financial Instruments to Foster Greater Private Sector Involvement in Green Growth	14
Guarantees for Development	14
<i>Box 5. African Guarantee Fund’s Green Guarantee Facility</i>	14
Blended Finance	14
Green Capital Mobilization Instruments	15
<i>Box 6. Green Bonds in Nigeria</i>	16
<i>Box 7. Green Capital Products from the Eastern and Southern African Trade and Development Bank</i>	17
Public-Private Partnerships: More than a Financial Instrument	17
Carbon Pricing	17
IV. Recommendations	18
African Governments	18
International Organizations and DFIs	18
Bilateral Donors	18
Private Investors	20
V. Conclusion	21
About the Author	22
Acknowledgements	22

Foreword

While home to 15 percent of the world's population, Africa is responsible for only 4 percent of global carbon emissions. Meanwhile, African countries suffer the most from climate change, facing droughts, floods, declining agricultural productivity, deforestation, difficult access to water, rising seas, advancing deserts, and a rural exodus. In the coming decades, the rising, unmitigated effects of climate change could push millions of people into poverty in African economies already weakened by the COVID-19 pandemic.

Global climate change will not be resolved without Africa. African countries today face a challenge that is both environmental and economic in nature. They have a great potential to meet it, with some of the fastest rates of economic growth in the world, as well as a dynamic, young, and innovative population. Africa's renewable energy potential remains unmatched. It is the continent most likely to combine industrialization and decarbonized growth.

To transform such potential into reality, mobilizing billions in investment for infrastructure will be necessary. By assessing the financing needed for green growth in African markets, mapping the key stakeholders and financial instruments as well as Africa's energy potential, this report highlights that Africa's infrastructure gap is an opportunity for green and resilient growth. Beyond public funding from African governments and the international community, private sector investors have a key role to play in meeting the continent's significant financing needs. Investing in African green finance is an opportunity for them. The report makes recommendations to scale up the financing of green growth by using both proven and innovative financial instruments while lifting remaining roadblocks to attracting green finance. Tackling climate change in Africa and tapping into Africa's economic potential starts with getting the financing right.

*Ambassador Rama Yade, director of the Africa Center,
former French deputy foreign minister*

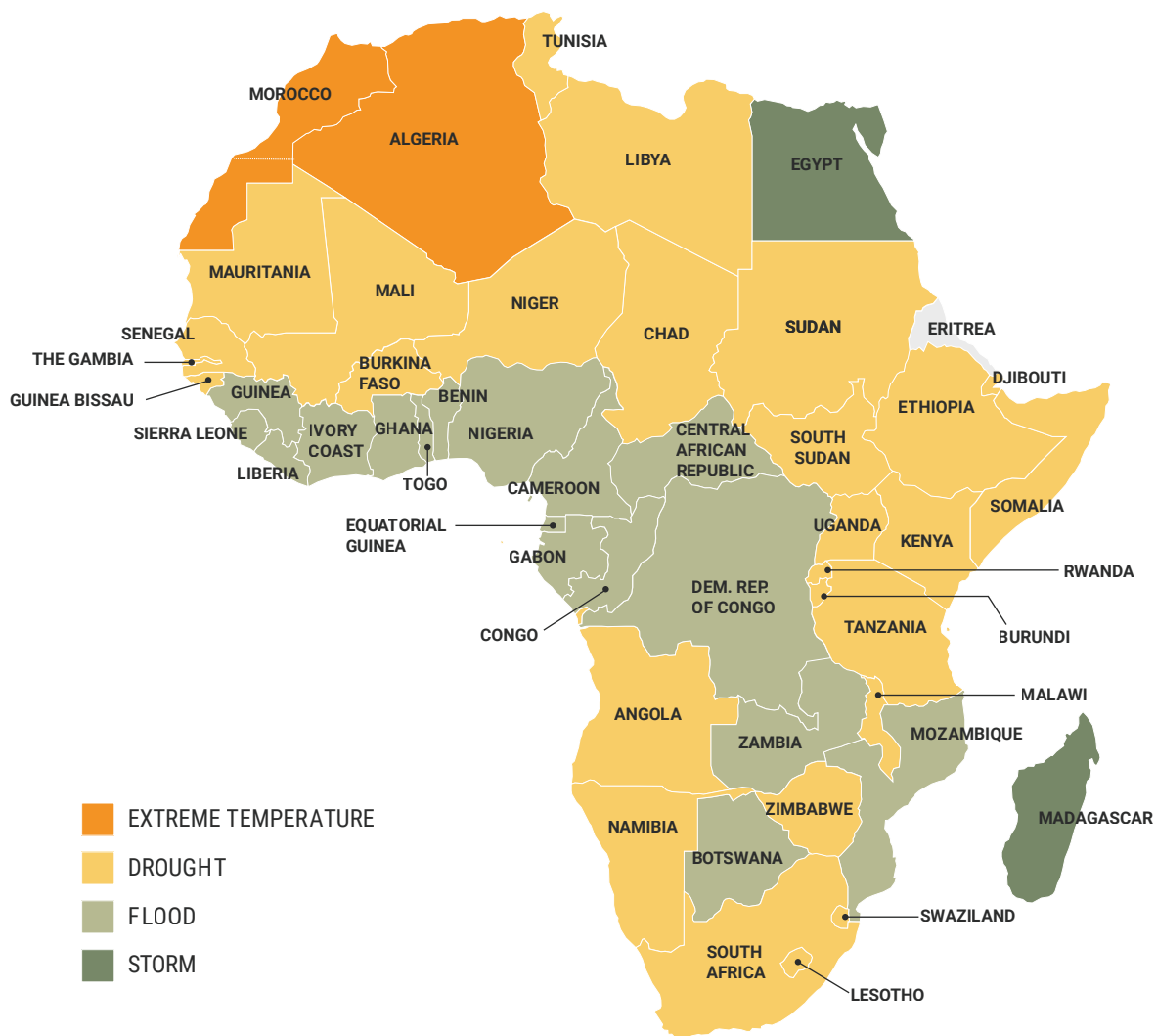
Introduction: What Is at Stake?

African countries suffer the most from climate change while having contributed the least to global warming.¹ This troubling trend is expected to intensify in the coming decades, and millions of people are at risk of falling into poverty due to unmitigated climate change impacts.² Moreover, given the economic fallout from the COVID-19 pandemic, fostering

economic development in African markets is more critical than ever: sub-Saharan Africa is experiencing its first recession in twenty-five years with an estimated -3.3 percent growth rate in 2020.³

Yet Africa is home to untapped potential: the continent possesses an abundance of natural resources, notably

Figure 1. Natural Disaster Type Affecting Highest Number of People by Country (2000-2019)



Source: Centre for Research on the Epidemiology of Disasters

1 World Bank, *The Next Generation Africa Climate Business Plan: Ramping Up Development-Centered Climate Action*, September 15, 2020, <https://openknowledge.worldbank.org/handle/10986/34098?locale-attribute=es>.
 2 Stéphane Hallegatte, Jun Rentschler, and Julie Rozenberg, *Lifelines: The Resilient Infrastructure Opportunity*, World Bank, June 17, 2019, <https://openknowledge.worldbank.org/handle/10986/31805?locale-attribute=en>.
 3 “The World Bank in Africa,” World Bank, last updated October 22, 2020, <https://www.worldbank.org/en/region/afri/overview#1>.



The Katse Dam on the Malibatso River in Lesotho. *Photo credit: Shutterstock/Catchlight Lens.*

renewables, a dynamic demography, and vibrant economic prospects. In recent years, Africa has, on average, grown faster than the rest of the world with a 4.6 percent annual regional growth rate between 2000 and 2018.⁴ Six of the ten fastest-growing economies in the world, despite COVID-19, are in Africa.⁵

To face the climate emergency, overcome the economic shock of COVID-19, and ensure that African economic development is sustainable, growth can only be green. African countries—90 percent of which have ratified the Paris Agreement—and the rest of the international community—strengthened by the United States rejoining the Paris Agreement—are keenly aware of this.⁶ However,

capitalizing on this political will remains a challenge due to the persistent financing gap.

Fostering growth will require mobilizing billions in investment for infrastructure. Leapfrogging carbon-dependent infrastructure by building green and resilient is an opportunity to reconcile economic development with climate change mitigation and adaptation in African markets. Beyond the public funding currently being invested by African governments, international organizations, bilateral donors, and private sector investors all have key roles to play in meeting the significant financing needs. However, tapping into this potential will require using both proven and innovative financial instruments, while lifting remaining roadblocks to attracting green finance.

4 African Union Commission and Organization for Economic Co-operation and Development, *Africa's Development Dynamics 2019: Achieving Productive Transformation*, November 5, 2019, <http://www.oecd.org/dev/africa/Africa-Development-Dynamics-Competitive-firms-committed-governments-catalysts-continent-economic-transformation.htm>.

5 Landry Signé and Ameenah Gurib-Fakim, "Six of the World's 10 Fastest-Growing Economies Are in Africa," World Economic Forum, August 6, 2019, <https://www.weforum.org/agenda/2019/08/afcta-proof-that-africa-heading-for-substantial-growth/>.

6 African Development Bank Group, "Building Partnerships to Deliver Africa's Paris Agreement Commitments," December 26, 2018, <https://www.afdb.org/fr/news-and-events/building-partnerships-to-deliver-africas-paris-agreement-commitments-18900>.

I. Assessing the Financing Needed for Green Growth in African Markets

What Is Green Growth?

Green growth, as defined by the World Bank, can be understood as “growth that is efficient in its use of natural resources, clean in that it minimizes pollution and environmental impacts, and resilient in that it accounts for natural hazards and the role of environmental management and natural capital in preventing physical disasters.”⁷ This definition, consistent with those used by the Organization for Economic Co-operation and Development (OECD) and United Nations (UN), highlights the necessity to reconcile the economic and environmental pillars of development. Focusing on both adaptation and mitigation to combat climate change will be key, especially through green infrastructure, improved management of natural resources, sustainable agriculture, and better food security.

Measuring green growth is a challenge as no agreed-upon framework exists at the global level. However, progress has to be evaluated against countries’ nationally determined contributions (NDCs) defined under the Paris Agreement. NDCs are plans drawn up by each country,

in which the country details its efforts to reduce national emissions and adapt to climate change, especially featuring greenhouse gas (GHG) emissions reduction targets, mitigation measures, and adaptation policies.⁸ Greening the energy mix and investing in green and resilient infrastructure are central features in most countries’ plans, alongside fighting deforestation, land degradation, and poor agricultural practices, as well as preserving biodiversity.

Africa’s Infrastructure Gap Is an Opportunity for Green and Resilient Growth

To meet their NDCs, developed and middle-income countries, especially those in Asia, are adapting their existing infrastructure to lower their emissions. African countries face a different challenge: closing the infrastructure gap by building new infrastructure in a climate-resilient way. According to the African Development Bank (AfDB), the continent’s need for infrastructure amounts to between \$130 billion and \$170 billion a year, with a financing gap of between \$68 billion and \$108 billion.⁹

Box 1. Great Green Wall in the Sahel

The Great Green Wall is an African initiative imagined in the 1980s and launched in 2007 to address desertification in the Sahel. The objective is to plant an 8,000 km-long band of trees and vegetation across the width of Africa, from Senegal to Djibouti, to fight climate change and its adverse impacts such as desertification.

At the January 2021 One Planet Summit for Biodiversity co-organized by France, the UN, and the World Bank, development banks, governments, and private actors pledged an additional \$14.3 billion by 2025 across

the eleven Sahelian countries selected as intervention zones.¹ While only 15 percent of the project has been completed, this additional funding will scale up efforts to reach the 2030 goal of capturing two hundred and fifty million tons of carbon, rehabilitating one hundred million hectares of degraded land, and creating ten million green jobs, while protecting biodiversity, notably through irrigation projects and investment in resilient infrastructure such as for solar energy.² A dedicated secretariat, attached to the United Nations Convention to Combat Desertification (UNCCD), was set up to oversee progress.

1 “One Planet Summit Biodiversity: Action Commitments for Biodiversity,” One Planet Summit, January 15, 2021, <https://www.oneplanetsummit.fr/en/news-17>.

2 “The Great Green Wall Initiative,” United Nations Convention to Combat Desertification, accessed March 24, 2021, <https://www.unccd.int/actions/great-green-wall-initiative>.

7 World Bank, *Inclusive Green Growth: The Pathway to Sustainable Development*, 2012, <https://openknowledge.worldbank.org/handle/10986/6058>.

8 “Nationally Determined Contributions Spotlight: Introduction,” United Nations Framework Convention on Climate Change, accessed March 24, 2021, <https://unfccc.int/process/the-paris-agreement/nationally-determined-contributions/ndc-spotlight>.

9 *African Economic Outlook 2018*, African Development Bank Group, January 24, 2018, <https://www.afdb.org/en/documents/document/african-economic-outlook-aoe-2018-99877>.



Wind turbines on the Eastern Cape of South Africa. *Photo credit:* Flickr/jbdodane. (<https://creativecommons.org/licenses/by-nc/2.0/>)

Infrastructure is key to fostering productivity and economic growth as it underpins agriculture, industry, and services. Modernizing agriculture, which accounts for 15 percent of the continent's gross domestic product (GDP), despite significant regional variations, will remain a major driver of development.¹⁰ Growth will also require industrializing beyond the existing extractive sector, notably to create jobs for the ten to twelve million young Africans that enter into the labor force each year.¹¹ Yet these sectors are hampered by a lack of energy, transport, housing, communication systems, and sanitation, a situation worsened by population growth, urbanization, and the economic fallout of COVID-19.

Infrastructure should not just be green, it should also be resilient. Disruptions due to poor maintenance or natural

disasters have a significant cost (at least \$390 billion annually) for low- and middle-income countries, mainly in Africa and South Asia.¹² The extra cost of building resilience in the system, for example ensuring infrastructure resists floods and hurricanes, yields significant benefits in the long run, saving four dollars for each dollar invested.¹³

Africa's Energy Potential

Energy infrastructure is the central part of the story. Nearly six hundred million people, or half of the population of sub-Saharan Africa, lack electricity, a stark contrast to the global electrification rate of about 90 percent.¹⁴ This is why, for instance, Light Up and Power Africa has been one of the AfDB's top priorities since 2015.¹⁵

¹⁰ World Bank, *The Next Generation*.

¹¹ African Development Bank Group, "Jobs for Youth in Africa: Catalyzing Youth Opportunity Across Africa," March 2016, https://afdb-org.kr/wp-content/uploads/2018/02/Bottom_3_English.pdf.

¹² Hallegatte, Rentschler, and Rozenberg, *Lifelines*.

¹³ *Ibid.*

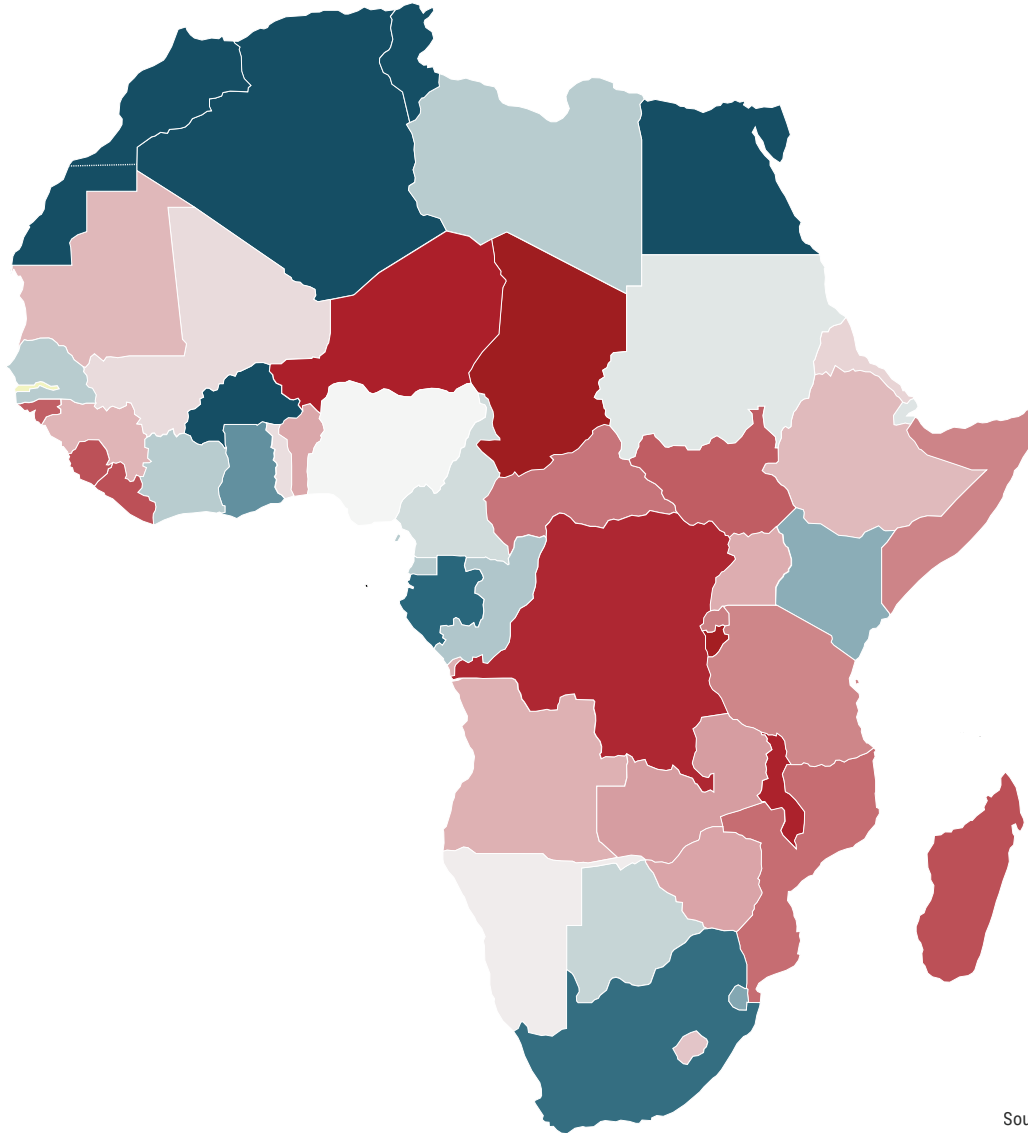
¹⁴ Jan Corfee-Morlot, Paul Parks, James Ogunleye, and Famous Ayeni, "Achieving Clean Energy Access in Sub-Saharan Africa," Organization for Economic Co-operation and Development, January 31, 2019, <https://www.oecd.org/environment/cc/climate-futures/Achieving-clean-energy-access-Sub-Saharan-Africa.pdf>.

¹⁵ "Light Up and Power Africa – A New Deal on Energy for Africa," African Development Bank Group, accessed March 24, 2021, <https://www.afdb.org/en/the-high-5/light-up-and-power-africa-%E2%80%93-a-new-deal-on-energy-for-africa>.

Figure 2. Access to Electricity in Africa in 2018

Access to electricity % of population (2018)

No data 11% 55% 100%

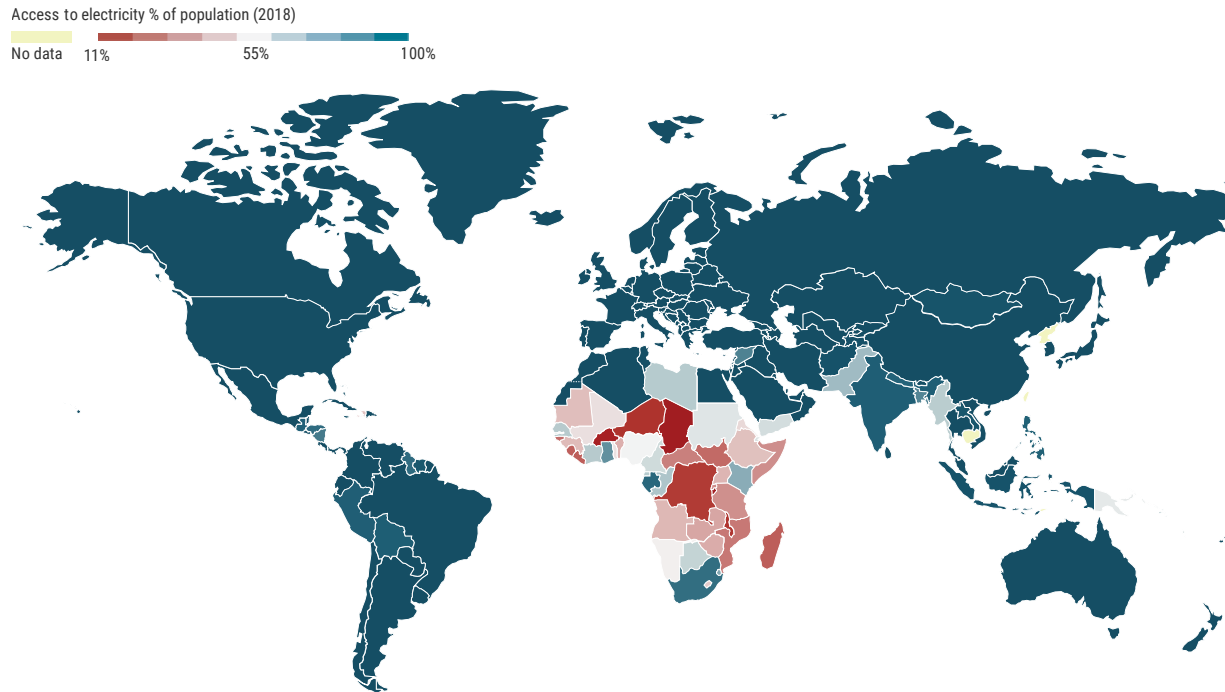


Numerous large projects are being developed to address these energy needs with a clean energy mix, such as the Noor Ouarzazate Solar Complex in Morocco, six geothermal power stations in Olkaria in Kenya, and the Nachtigal hydropower project in Cameroon, to name a few. Yet to meet their significant electricity needs, African countries need to tap into all of their abundant green resources to drastically increase both centralized and decentralized

production capabilities. North Africa, the Sahel, and some parts of Southern and East Africa possess an exceptional solar capacity, while wind energy potential is concentrated in South Africa, Morocco, Egypt, Kenya, and Ethiopia. Central Africa has around 40 percent of the continent’s hydro resources, especially thanks to the Congo River. There is significant potential for geothermal energy along the Rift Valley, from Mozambique to Djibouti.¹⁶

¹⁶ International Renewable Energy Agency, *Africa 2030: Roadmap for a Renewable Energy Future*, October 2015, <https://irena.org/publications/2015/Oct/Africa-2030-Roadmap-for-a-Renewable-Energy-Future>.

Figure 3. Worldwide Access to Electricity in 2018



Source: World Bank

The diverse mix of renewable potential requires regional solutions for generation, distribution, and transmission; one-size-fits-all approaches will not work. What is needed is a change of energy strategy as a whole, an adaptation of the energy mix, as well as an efficient and resilient power grid. In 2015, fossil fuels benefited from \$325 billion in subsidies compared to \$150 billion for

renewables.¹⁷ Reducing public fuel subsidies will be essential to make green energy economically viable. A good example is the Moroccan Agency for Sustainable Energy (Masen), which was tasked by the government to lead its clean energy programs, with a target of 52 percent of the country's energy mix coming from renewable sources by 2030.¹⁸

¹⁷ World Bank, *The Next Generation*.

¹⁸ "Masen In Brief," Masen, accessed March 24, 2021, <https://www.masen.ma/en/presentation>.

II. Key Stakeholders in Financing Green Growth

Given the size of African countries’ infrastructure gap, mobilizing all sources of funding will be essential. This section maps out the actors that are currently financing green growth in African countries and details their roles. Beyond public funding by African governments and international institutions, increasing private sector involvement is key.

African Governments Provide Key Funding but Cannot Be the Only Source

African governments are the primary financiers of infrastructure, but they cannot shoulder the entire burden alone. According to the Infrastructure Consortium for Africa (ICA), in 2018, African governments were the leading source of infrastructure financing (\$37.5 billion, or 37 percent of total commitments), followed by China (\$25.7 billion, or 25

percent); ICA members, i.e., Group of Seven (G7) countries, the World Bank, and AfDB (\$20.2 billion, or 20 percent); and the private sector (\$11.8 billion, or 12 percent). The infrastructure financing tracked by the ICA focused on energy (43.5 percent) and transport (32.2 percent).¹⁹

Overreliance on public funding runs the risk of increasing the debt burden of African countries. Sustainability of borrowing has to be balanced with the green growth agenda. Moreover, public funding will not be sufficient to provide the \$68 billion to \$108 billion a year needed to close the infrastructure financing gap, and is stretched even more thin due to the economic crisis created by the COVID-19 pandemic.²⁰

Finding new financial resources will, therefore, be more critical than ever. McKinsey & Company estimates that

Box 2. Kenya Proves a Green Agenda Is an Asset for Economic Growth

Kenya stands out today as Africa’s green champion. Thanks to strong political will and a clear green agenda, Kenya made significant progress in a decade to become a regional leader in renewables. Building on two previous plans (2008-2012) and (2013-2017), as well as the current Green Economy Strategy and Implementation Plan 2016-2030, the country took decisions and actions in favor of a rapid transition toward a greener economy. These included a government system dedicated to green economy rollout and prioritization; structural governance reforms (e.g., public resources management, fighting corruption); building green infrastructure by leveraging capital markets, notably by diversifying the mix of financial instruments (e.g., green bonds, eco-taxes); shaping energy market incentives to increase off-grid production; development of green jobs; lifting

administrative hurdles (e.g., business taxation, environmental approvals, registration); creation of a framework for extractive industries; and development of new trade opportunities related to green energy.¹

As a result, Kenya’s electricity access rate increased from 28 percent in 2013 to 75 percent in 2018, one of the highest in Africa, with the objective of universal access to electricity by 2022.² At the same time, renewables now represent 80 percent of its current energy mix, buoyed by Kenya’s status as the largest producer of geothermal energy on the continent.³ Kenya’s experience is an excellent example for other countries that government commitment, changes in regulation, and fiscal incentives can help leverage a green agenda to further economic growth.

1 Kenya Green Economy Strategy and Implementation Plan 2016-2030, Ministry of Environment, Government of Kenya, August 2016, <https://www.greengrowthknowledge.org/national-documents/kenya-green-economy-strategy-and-implementation-plan-2016-2030>.

2 World Bank, “Kenya Charts Path to Achieving Universal Access to Electricity,” December 6, 2018, <https://www.worldbank.org/en/news/feature/2018/12/06/kenya-charts-path-to-achieving-universal-access-to-electricity>.

3 African Development Bank Group, “Kenya Goes All Out for Renewable Energy,” October 10, 2018, <https://www.afdb.org/en/news-and-events/kenya-goes-all-out-for-renewable-energy-18559>.

19 Infrastructure Consortium for Africa, *Infrastructure Financing Trends in Africa - 2018*, 2018, https://www.icafrica.org/fileadmin/documents/IFT_2018/ICA_Infrastructure_Financing_in_Africa_Report_2018_En.pdf.

20 “The World Bank in Africa,” World Bank.

international investors with an appetite for Africa have the potential to invest \$550 billion in infrastructure on the continent. Among these international investors are government agencies, investment companies, and private pension funds, mainly from the United States, the United Arab Emirates, China, the United Kingdom, and France.²¹

African governments can encourage capital flows by adopting best-in-class regulatory frameworks for green finance. For example, in numerous countries there are no legal frameworks for public-private partnerships (PPPs) or green bonds. Moreover, many pension funds in African countries are still not allowed to invest in infrastructure projects.²² Fiscal incentives are also a good option to foster the development of green finance. For example, to foster green bonds issuance, policy makers can put in place tax credit bonds or tax-exempt bonds for bond investors or direct subsidy bonds for bond issuers.

Additional Funding for Green Projects from International Institutions

International organizations and development finance institutions (DFIs) are deeply involved in helping African countries achieve their NDCs, while fostering economic development. Multilateral development banks support African countries with advisory services and technical assistance, grants, loans, equity, bonds, guarantees, and lines of credit.

Established in 2010 within the framework of the United Nations Framework Convention on Climate Change (UNFCCC), the Green Climate Fund (GCF), based in South Korea, is the world's largest climate finance fund supporting developing countries to respond to climate change. More than \$10 billion in pledges, mainly from developed nations, was raised in the initial resource mobilization in 2014, while the first replenishment process in 2019 raised \$9.9 billion for the 2020-2023 period.²³ As of November 2020, the GCF had committed \$2.7 billion to projects in Africa or to multicountry projects that include African countries.²⁴

The World Bank, which is the largest multilateral source of climate investments in developing countries, is also

increasing its climate action. In September 2020, it released the Next Generation Africa Climate Business Plan, a six-year plan building on the 346 projects already financed by the World Bank since 2015 for a total of \$33 billion.²⁵ In April 2021, just before the opening of the World Bank-International Monetary Fund Spring Meetings, World Bank President David Malpass presented a new Climate Change Action Plan. He especially confirmed an increased target of 35 percent of the World Bank's financing to have climate cobenefits over the next five years, against a current target of 28 percent. He also announced a stronger focus on assessing impact through new metrics to measure GHG emissions reduction, adaptation, and resilience goals (notably resilient infrastructure), and the introduction of new Country Climate and Development Reports to support preparation and implementation of NDCs.²⁶ Given the size of the World Bank's commitments in sub-Saharan Africa (\$25.4 billion in fiscal year 2020), this seven-point increase could unlock significant extra funding for green projects.²⁷

As the continent's first development bank, the AfDB is deeply committed to financing climate change adaptation and mitigation projects, especially in the energy, agriculture, and transport sectors. In 2019, climate funding accounted for 35 percent of AfDB's \$10.2 billion project approvals.²⁸ The AfDB, with African governments, launched Africa50, which is an investment platform to help close the infrastructure financing gap on the continent, especially by leveraging private and public funding, assisting project development, and investing in infrastructure.²⁹ Other multilateral development banks, such as the European Bank for Reconstruction and Development (EBRD), the European Investment Bank (EIB), the Islamic Development Bank (IsDB), and the Trade and Development Bank (TDB), are also actively supporting economic growth in African countries aligned with low-carbon targets.

Bilateral Funding from Donor Countries Is Increasingly Turning Toward Climate Finance

Donor countries, especially Japan, Germany, France, the UK, and the United States, are increasing their focus on providing climate finance to help reduce emissions and

21 Kannan Lakmeharan, Zaizer Manji, Ronald Nyairo, and Harald Poeltner, "Solving Africa's Infrastructure Paradox," McKinsey & Company, March 6, 2020, <https://www.mckinsey.com/business-functions/operations/our-insights/solving-africas-infrastructure-paradox>.

22 *African Economic Outlook 2018*, African Development Bank Group.

23 "Resource Mobilisation: GCF-1," Green Climate Fund, accessed March 24, 2021, <https://www.greenclimate.fund/about/resource-mobilisation/gcf-1>.

24 Green Climate Fund, "GCF Spotlight: Africa," November 13, 2020, <https://www.greenclimate.fund/document/gcf-africa-factsheet>.

25 World Bank, World Bank Sets Ambitious Targets for Green and Resilient Economic Growth in Africa, press release, September 15, 2020, <https://www.worldbank.org/en/news/press-release/2020/09/15/world-bank-sets-ambitious-targets-for-green-and-resilient-economic-growth-in-africa>.

26 World Bank, World Bank Group President's Statement on Climate Change Action Plan, statement, April 2, 2021, https://www.worldbank.org/en/news/statement/2021/04/02/world-bank-group-president-statement-on-climate-change-action-plan?cid=ECR_TT_worldbank_EN_EXT.

27 World Bank, *World Bank Annual Report 2020*, 2020, <https://www.worldbank.org/en/about/annual-report#anchor-annual>.

28 African Development Bank Group, Climate Financing by Leading Multilateral Development Banks Tops \$61.6 Billion, press release, August 6, 2020, <https://www.afdb.org/en/news-and-events/press-releases/climate-financing-leading-multilateral-development-banks-tops-616-billion-37197>.

29 "About Africa50," Africa50, accessed March 24, 2021, <https://www.africa50.com/our-company/>.

increase resilience in emerging countries, notably in Africa.³⁰ France is particularly involved. Accounting for \$6.5 billion in investment, Africa represented 46 percent of the French Development Agency's (AFD's) commitments in 2019.³¹ Its financing is 100 percent compatible with the Paris Agreement, and 55 percent of its projects have climate cobenefits. The United States, through the US Agency for International Development (USAID), is also very involved in increasing electricity access in sub-Saharan Africa with its Power Africa program, which aims to give electricity access to sixty million new homes and businesses by producing more than thirty thousand megawatts of cleaner and more efficient electricity.³² In addition to rejoining the Paris Agreement, the "Executive Order on Tackling the Climate Crisis at Home and Abroad" signed by U.S. President Joseph R. Biden, Jr. on January 27, 2021, also comprises climate assistance to developing countries, which should benefit Africa.³³

Private Capital Has Yet to Be Fully Tapped for Green Projects in African Markets

Private Sector Involvement Remains Limited, but There Is Growing Appetite

To achieve their NDCs and bridge the investment gap, African countries need to explore multiple financing sources, beyond international assistance. Building on the skills and financing capacity of the private sector represents an opportunity for African countries to scale up their climate action, notably in green and resilient energy production and distribution infrastructure, waste management, and low-carbon transport. For private investors, green projects in African markets could deliver attractive financial and impact returns.

Institutional investors, i.e., pension funds, insurance companies, and sovereign wealth funds, could play a greater role. Institutional investors and commercial banks at the

global level jointly have about \$120 trillion in assets under management. If a mere fraction were to be invested in African markets, it would cover the entire annual infrastructure gap on the continent.³⁴

Since the 2008 financial crisis, institutional investors have been looking to diversify their asset allocation by moving toward new asset classes and regions, especially in emerging countries.³⁵ This "search for yield" strategy is accelerated by historic low interest rates in the United States and Europe. Since institutional investors are looking for long-term investments that meet their long-term horizons and payout obligations, they are particularly well-suited to invest in infrastructure. McKinsey & Company notes as a consequence that global and local institutional investors have a growing appetite for infrastructure projects, notably in Africa.³⁶

Yet, at this stage, private sector involvement remains limited: in 2018, the private sector financed only 12 percent (\$11.8 billion) of infrastructure in Africa, usually participating in green projects alongside DFI investment and risk mitigation.³⁷ Overall, investment is currently limited by global regulatory changes that resulted from the 2008 financial crisis, local currency risk, and persistent education gaps among investors.³⁸

Institutional investors can invest through a variety of structures, through debt or equity, through direct or indirect channels (through funds), and rely on a range of instruments (detailed in Section III of this issue brief). Global insurers are also very involved in climate change adaptation, especially through natural disaster and crop insurance products. The financing and investment options are presented on the following page.³⁹

Indirect channels often rely on investment funds, which play a key role in mobilizing private sector funding for infrastructure. These infrastructure funds raise additional

30 Jocelyn Timperley, "How Climate Finance 'Flows' Around the World," CarbonBrief, December 6, 2018, <https://www.carbonbrief.org/interactive-how-climate-finance-flows-around-the-world>.

31 Agence Française de Développement, website homepage accessed March 24, 2021, <https://www.afd.fr/en>.

32 "Power Africa," US Agency for International Development, accessed March 24, 2021, <https://www.usaid.gov/powerafrica>.

33 The White House, "Executive Order on Tackling the Climate Crisis at Home and Abroad," January 27, 2021, <https://www.whitehouse.gov/briefing-room/presidential-actions/2021/01/27/executive-order-on-tackling-the-climate-crisis-at-home-and-abroad/>.

34 Katja Juvonen, Arun Kumar, Hassen Ben Ayed, and Antonio Ocaña Marin, *Unleashing the Potential of Institutional Investors in Africa*, African Development Bank Group Working Paper Series No. 325, November 2019, https://www.afdb.org/sites/default/files/documents/publications/wps_no_325_unleashing_the_potential_of_institutional_investors_in_africa_c_rv1.pdf.

35 Ibid.

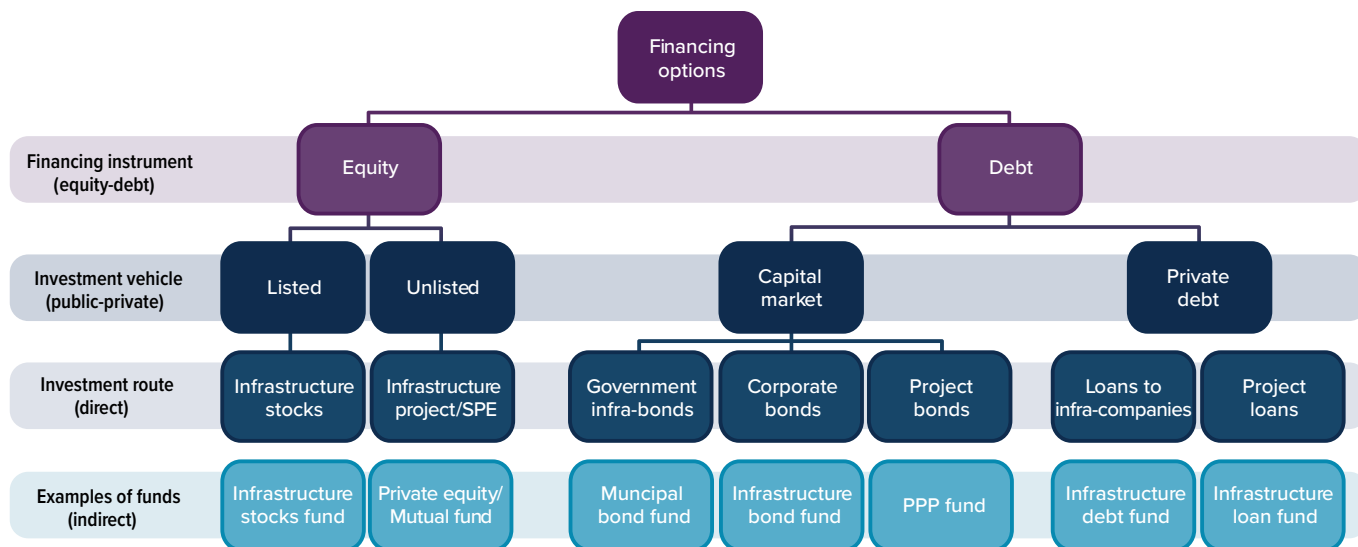
36 Lakmeharan, Manji, Nyairo, and Poeltner, "Solving Africa's."

37 Infrastructure Consortium for Africa, *Infrastructure Financing Trends*.

38 Juvonen, Kumar, Ben Ayed, and Ocaña Marin, *Unleashing the Potential*.

39 Georg Inderst and Fiona Stewart, *Institutional Investment in Infrastructure in Emerging Markets and Developing Economies*, World Bank Group, March 2014, <https://ppiaf.org/documents/1918/download>.

Figure 4. Infrastructure Financing and Investment Options



Source: Georg Inderst and Fiona Stewart, *Institutional Investment in Infrastructure in Emerging Markets and Developing Economies*, World Bank Group, March 2014, <https://ppiaf.org/documents/1918/download>.

funds from DFIs, foundations, and institutional investors to finance infrastructure projects in African markets, especially in renewables, distribution infrastructure, and waste management. From large funds with a catalytic effect, such as Actis, African Infrastructure Investment Managers (AIIM), Harith, Helios, Emerging Capital Partners (ECP), or Amethis, to specialized boutique ones, the diversity of the landscape illustrates the role investment funds play in financing green growth.

African institutional investors are also structuring their action. In March 2021, the African Sovereign Wealth and Pension Fund Leaders Forum outlined its Pan African Green Infrastructure Investment Bank (AGIIB) initiative with the goal of raising between \$3 billion and \$5 billion from African institutional investors and governments to invest, alongside G7 and G20 partners, in green infrastructure.⁴⁰

Private Sector Investment Is Still Nascent and Concentrated in Large Markets

African capital markets are at different stages of maturity when it comes to attracting investment in green infrastructure. Where there are dynamic and deep financial markets and a proximity to economic centers with entrepreneurship, innovation, and start-up talent, the environment is

the most favorable for green finance. Investors tend to look more at East Africa (Kenya, Tanzania, Rwanda, and Uganda), South Africa, as well as Morocco and Egypt, which are considered attractive destinations for green energy investment due to the dynamism of their financial markets, lower debt ratio, and the existence of green finance precedents. There is also a growing interest in West Africa—beyond Nigeria, which is already attractive—notably in Côte d’Ivoire, Ghana, Senegal, and Benin, where financial markets are expanding and regional integration offers scaling-up opportunities. DFI support is critical for expanding into the smaller or riskier markets.

Overcoming Challenges to Scaling Up Private Sector Investment

Outside of South Africa and Kenya, African markets are still less familiar to green finance investors, who have to deploy significant efforts to build market knowledge and establish benchmarks. This makes investors more wary and projects more costly. However, once transactions have been realized, it becomes easier to invest again. For example, in Nigeria, after a successful green bond program by the government in 2017, the second issuance in 2019 outperformed its 15 billion naira (\$41.2 million) target and raised 33 billion naira (\$90.7 million).⁴¹

40 The African Sovereign Wealth And Pension Fund Forum, website homepage accessed March 24, 2021, <https://aiswpff.com/>.

41 Jean Marie Takoueu, “NIGERIA: To Launch 3rd Green Bond to Fund Several Eco-Friendly Projects,” Afrik21, February 11, 2020, <https://www.afrik21.africa/en/nigeria-to-launch-3rd-green-bond-to-fund-several-eco-friendly-projects/>.

Box 3. Focus on Two Funds Financing Green Projects in Africa

Meridiam Infrastructure Africa Fund (MIAF) is a €546 million fund launched by Meridiam in 2015 dedicated to greenfield and resilient infrastructure projects in African markets. Nearly half of the projects focus on renewable energy. MIAF has already financed and developed fourteen projects worth more than €4 billion, including four solar power plants in Senegal, the Tulu Moyo geothermal power plant in Ethiopia, the Kinguélé Aval hydro-power plant in Gabon, and the Biokala biomass power plant in Côte d'Ivoire. MIAF gathers a blend of private and public backers: 70 percent of the funding comes from private investors, notably pension funds and insurers, while the remaining 30 percent is provided by DFIs.¹ In 2017, Meridiam also founded NEEOT Offgrid Africa (NOA) with France's electric utility (EDF) and Mitsubishi Corporation. NOA is an investment platform dedicated

to the development of distributed renewable energy projects on the continent, especially solar home equipment and mini-grids.²

The Facility for Energy Inclusion's Off-Grid Energy Access Fund (OGEF) is managed by Lion's Head and sponsored by the AfDB, Nordic Development Fund, the Global Environment Facility (GEF), European Commission, KfW, and All On. OGEF is a \$100 million debt fund that lends to companies based in African markets targeting off-the-grid communities to provide them with affordable solar energy. OGEF focuses on fostering local ownership and capital market development, encouraging local banks to lend using local currencies. To date, almost \$33 million has been deployed through seven transactions spanning operations in twelve African countries.³

- 1 Meridiam, Meridiam announces the closing of the reopening of its Africa fund at €546 million, 2.5 times its initial size, press release, March 28, 2019, <https://www.meridiam.com/en/news/article/meridiam-announces-the-closing-of-the-reopening-of-its-africa-fund-at-eur546-million-2-5-times-its-initial-size>.
- 2 NEEOT, "NEEOT Offgrid Africa Launches the First Receivables Securitization Program in the Financing of Renewable Energy Projects in Africa," March 2, 2020, <https://www.neotcapital.com/en/neot-offgrid-africa-launches-the-first-receivables-securitization-program-in-the-financing-of-renewable-energy-projects-in-africa/>.
- 3 "The Off-Grid Energy Access Fund," FEI OGEF, accessed March 24, 2021, <https://www.ogefafira.com/>.

Box 4. Decentralized Tech-Enabled Green Solutions

KOKO Networks is a venture-backed climate-tech company founded in 2014 and operating in East Africa and India that invents, builds, and deploys technologies that deliver real climate outcomes in fast-growing emerging markets.

KOKO, with a seven hundred-strong team, retails a sustainable bioethanol cooking fuel solution in Kenya, undercutting demand for deforestation-based charcoal. Charcoal markets in Africa drive two million hectares of deforestation, one billion tons of GHG emissions, and hundreds of thousands of deaths from indoor air pollution

each year. KOKO operates a dense network of smart fuel ATMs hosted inside local shops, and a fleet of smart micro-tankers to refill the ATMs. The fuel supply chain is operated in partnership with Vivo Energy Kenya, the Shell licensee. KOKO's Network Operations Centre manages the flow of payments, fuel, appliances, and safety data.

The charcoal-to-ethanol switch delivers material emissions reductions and enables KOKO to produce compliance-grade carbon credits, which are monetized in partnership with global traders in order to lower consumer prices and accelerate uptake of its solutions.

Beyond the need for data and precedents to build investor comfort, the core challenge is bankability. There are more funds available than quality projects due to the long, expensive project development period common in African

markets. Eighty percent of infrastructure projects in African markets fail to progress beyond feasibility studies and only 10 percent reach financial close.⁴² This also means that only highly structured and risk-mitigated projects end

⁴² Lakmeeharan, Manji, Nyairo, and Poeltner, "Solving Africa's."



Geothermal power plants spot the landscape of Hell's Gate National Park in Kenya. *Photo credit:* Flickr/orientalizing. (<https://creativecommons.org/licenses/by-nc/2.0/>)

up being launched, notably thanks to DFI assistance and structuring, resulting in a lower default rate, as has been noted by Moody's, than, for instance, in Latin America.⁴³ To address the pipeline bankability challenge, organizations such as the Africa Finance Corporation (AFC) and Africa50 have set aside resources for project development, aiming to get more projects to financial close.

Investors tend to perceive higher political and regulatory risks in African markets than in other developing markets,

such as in Asia, favoring predictability and a stable environment. This risk perception is especially reflected in the higher premiums on infrastructure debt in African markets.⁴⁴ Investors also note that African governments' expertise constraints in designing projects, slow bureaucracy, and lack of transparency in processes increase uncertainty.⁴⁵ As a result, investors tend to prefer to invest in African infrastructure projects in which DFIs' guarantees mitigate political, regulatory, and currency risks, making the project less risky.⁴⁶

43 Max Messervy, "Don't Let Fear Keep Africa Off Limits," Top 1000 Funds, November 7, 2018, <https://www.top1000funds.com/2018/11/dont-let-fear-keep-africa-off-limits/#:~:text=A%20Moody's%20report%20on%20global,per%20cent%20of%20the%20time>.

44 Marsh & McLennan Companies, *Investment in African Infrastructure: Challenges and Opportunities*, September 2018, <https://www.mmc.com/content/dam/mmc-web/insights/publications/2018/dec/innovations-in-infrastructure/Investment-in-African-Infrastructure/gi-2018-wealth-investment-opportunities-in-african-infrastructure-full-report-mercator.pdf>.

45 Juvonen, Kumar, Ben Ayed, and Ocaña Marin, *Unleashing the Potential*.

46 Lakmecharan, Manji, Nyairo, and Poeltner, "Solving Africa's."

III. Financial Instruments to Foster Greater Private Sector Involvement in Green Growth

Given private investors’ increasing appetite, there is significant room to scale up investor involvement. It will require relying on a blend of existing instruments and financial innovation that is laid out in this section.⁴⁷ Most of these instruments rely on DFI involvement to foster private sector participation.

Guarantees for Development

The World Bank, AfDB, and other DFIs regularly use guarantees to mobilize private investment and commercial capital by reducing investor risk exposure.⁴⁸ The OECD defines guarantees for development as “a type of insurance policy protecting banks and investors from the risks of non-payment” on a loan or loss of value on equity.⁴⁹ Guarantees are used to cover against different types of

risks, such as contractual risk (e.g., project underperformance), regulatory risk (e.g., regulation change), currency risk (e.g., convertibility difficulties), and political risk (e.g., expropriation or civil unrest).⁵⁰

Guarantees play an important role in financing green infrastructure projects in African countries, especially for PPPs or blended finance projects. For example, in December 2019, AfDB provided a \$100 million partial risk guarantee (PRG) to bolster the Sahofika hydro power project in Madagascar producing 1,570 gigawatt hours of renewable power annually for two million people.⁵¹ In May 2019, the World Bank approved a Renewable Energy Guarantee Program of \$200 million to support Ethiopia’s power sector reforms, while leveraging private sector investment (more than \$1.5 billion expected), demonstrating the considerable

Box 5. African Guarantee Fund’s Green Guarantee Facility

Created in 2011 by the AfDB, Denmark, and Spain, and now with additional shareholders such as the French Development Agency (AFD) and the Nordic Development Fund (NDF), the African Guarantee Fund (AGF) provides partial guarantees to financial institutions that lend to small and medium-sized enterprises (SMEs) in forty African countries. In 2016, with the support of the Nordic Development Fund, AGF launched a Green Guarantee Facility (GGF) to ease access to finance for SMEs that invest in renewable energy, waste management, and climate-smart agriculture.

Under the GGF, the guarantee provided by AGF can cover up to 75 percent of the financing received by the SME while offering more favorable terms to the financier.¹

As green finance is an increasing priority for AGF, the share of green projects in its portfolio is set to rise from 11 percent to 20 percent within the next five years. So far, the \$200 million green energy portfolio has helped nineteen million people in Africa to get access to cleaner and more affordable energy.

1 “Green Guarantee,” African Guarantee Fund, accessed March 24, 2021, <https://africanguaranteefund.com/product/loan-guarantees/green-guarantee/>.

47 United Nations Environment Programme, *African Green Stimulus Program*, January 8, 2021, <https://wedocs.unep.org/bitstream/handle/20.500.11822/34409/AGSP.pdf?sequence=3>.

48 “Guarantees Program,” World Bank, accessed March 24, 2021, <https://www.worldbank.org/en/programs/guarantees-program#1>.

49 Raundi Halvorson-Quevedo and Mariana Mirabile, “Guarantees for Development,” Organization for Economic Co-operation and Development, March 2014, [https://www.oecd.org/dac/financing-sustainable-development/GURANTEES percent20report percent20FOUR percent20PAGER percent20Final percent2010 percent20Mar percent2014.pdf](https://www.oecd.org/dac/financing-sustainable-development/GURANTEES%20report%20FOUR%20PAGER%20Final%2010%20Mar%2014.pdf).

50 “Guarantees Program,” World Bank, accessed March 24, 2021, <https://www.worldbank.org/en/programs/guarantees-program>.

51 African Development Bank Group, Madagascar: African Development Bank approves guarantee of \$100 million to hydro-power project, to benefit over 2 million people, press release, December 17, 2019, <https://www.afdb.org/en/news-and-events/press-releases/madagascar-african-development-bank-approves-guarantee-100-million-hydro-power-project-benefit-over-2-million-people-33292>.



An engineer works among wind turbines. *Photo credit: Shutterstock/arrowsmith2.*

leverage effect of DFIs' guarantees.⁵² Different types of guarantees can be used in combination. For instance, the World Bank's mitigation package for the Nachtigal hydro-power project in Cameroon included a €171 million loan guarantee to mobilize local bank lending and a €86 million payment guarantee to cover payments by Cameroon's energy distribution company.⁵³

Blended Finance

Blended finance, according to the International Finance Corporation (IFC), is "the use of relatively small amounts of concessional donor funds to mitigate specific investment risks and help rebalance risk-reward profiles of pioneering

investments that are unable to proceed on strictly commercial terms."⁵⁴ Blended finance has become increasingly popular as donors seek to catalyze private sector financing for sustainable development in developing countries, and notably in energy which attracts most of the transactions.⁵⁵ Blended finance involves the concessional financing acting as debt, equity, guarantee, or risk-sharing.

To date, sub-Saharan Africa has been the most dynamic region for blended finance in the world, accounting for 33 percent of global transactions between 2017 and 2019 and 43 percent historically, even if the average transaction tends to be smaller. Convergence, the global network for blended finance, has tracked more than 216 blended

⁵² Ibid.

⁵³ World Bank, "How World Bank Group Collaboration is Bringing Power to Cameroon," February 26, 2019, <https://www.worldbank.org/en/news/feature/2019/02/26/how-world-bank-group-collaboration-bringing-power-cameroon>.

⁵⁴ "Blended Concessional Finance," International Finance Corporation, accessed March 24, 2021, https://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/bf.

⁵⁵ "Blended Finance," Organization for Economic Co-operation and Development, accessed March 24, 2021, <https://www.oecd.org/dac/financing-sustainable-development/blended-finance-principles/>.

Box 6. Green Bonds in Nigeria

To achieve its NDC commitment to reduce its GHG emissions by 45 percent by 2030, the Federal Government of Nigeria launched a green bond program in 2017, starting with a first issuance of 10 billion naira (\$27.3 million). Following the success of the second round in 2019, which outperformed its 15 billion naira (\$41.2 million) target and raised 33 billion naira (\$90.7 million), the government plans a third green bond issuance for projects in the 2021 budget.¹

To carry out these issuances, Nigeria created a dedicated secretariat, hosted by the Ministry of Environ-

ment's Department of Climate Change, and relied on a Green Bond Advisory Group, gathering DFIs, capital market operators, and regulators. The green bonds were listed on the Nigerian Stock Exchange (NSE).²

These funds are used to finance projects related to renewables (especially solar energy), waste management, reforestation, and smart agriculture. The government plans to rely again on green bonds to finance projects in its 2021 budget, making them a regular tool.

1 Tope Alake, "Nigeria to Convert \$25 Billion CBN Financing to 30-Year Debt," Bloomberg, February, 16, 2021, <https://www.bloomberg.com/news/articles/2021-02-16/nigeria-to-convert-25-billion-of-cbn-financing-to-30-year-debt>; Takoueu, "NIGERIA: To Launch 3rd Green Bond."

2 "NSE Green Bonds Market," Nigerian Stock Exchange, accessed March 25, 2021, <http://www.nse.com.ng/products/debt-instruments/green-bonds>.

finance transactions that have led to \$45 billion being invested totally or partly in African markets.⁵⁶

In particular, Kenya, Uganda, Tanzania, Niger, Ghana, and Nigeria have attracted the most transactions, while energy, particularly renewables, is the most attractive sector, accounting for 30 percent of all transactions. Sponsors based outside Africa, notably in the United States, the UK, and the Netherlands, have led the majority (67 percent) of transactions. While commercial banks have been more active, other institutional investors such as insurers—for example, Allianz and AXA—have also taken part in blended finance transactions.⁵⁷

Green Capital Mobilization Instruments

Under the Paris Agreement, green bonds have been the most prevalent and accessible option to finance climate change mitigation and adaptation projects. Green bonds are "fixed-income instruments with proceeds earmarked exclusively for new and existing projects that have environmental benefits."⁵⁸

Since the first €600 million issuance by the EIB and the World Bank in 2007, the green bond market has grown steadily. By the end of 2020, the cumulative global green bond issuance had surpassed the \$1 trillion milestone with emerging markets accounting for 19 percent. Globally, corporates are the largest issuing sector (21 percent), followed by nonfinancial corporates (20 percent), and development banks (16 percent).⁵⁹

The Moroccan regulator was the first African authority to release guidelines in 2016 to foster greater use of green bonds. It allowed the Bank of Africa to issue €380 million in green bonds in November 2016, during the 22nd Conference of the Parties (COP 22) to the UNFCCC, to finance the Khalladi wind farm.

However, Africa represents only 1 percent of global issuance of green bonds. In 2019, only South Africa (\$724 million), Nigeria (\$106 million), and Kenya (\$42 million) used this instrument.⁶⁰ Yet there is a considerable appetite from investors for green bonds, given the well-understood framework and growing secondary market.

56 Convergence, *Blended Finance in Sub-Saharan Africa*, February 11, 2020, <https://www.convergence.finance/resource/57783cb9-05e7-4b17-9ff2-308c8053327d/view>; Convergence, *The State of Blended Finance 2020*, October 28, 2020, <https://www.convergence.finance/resource/1qEM02yBQxLftPVs4bWmMX/view>.

57 Ibid.

58 Amundi and International Finance Corporation, *Emerging Market Green Bonds Report 2019: Momentum Builds as Nascent Markets Grow*, Spring 2020, https://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/climate+business/resources/em-gb-report-2019.

59 Liam Jones, "\$1 Trillion Mark Reached in Global Cumulative Green Issuance: Climate Bonds Data Intelligence Reports: Latest Figures," Climate Bonds Initiative, December 15, 2020, <https://www.climatebonds.net/2020/12/trillion-mark-reached-global-cumulative-green-issuance-climate-bonds-data-intelligence>.

60 Amundi and International Finance Corporation, *Emerging Market Green Bonds*.

Box 7. Green Capital Products from the Eastern and Southern African Trade and Development Bank

The Eastern and Southern African Trade and Development Bank (TDB) is a fast-growing investment-grade DFI with assets worth \$7 billion and a hybrid capital structure comprising both sovereign and institutional investors in its shareholding and governance structure.

In 2020 alone, TDB mobilized more than \$500 million in green debt facilities from policy banks, including the

World Bank, EIB, and AFD, for on-lending to finance sustainable infrastructure and climate action.

TDB is currently exploring new instruments, including equity capital products, aimed at creating innovative pathways for global institutional and impact investors to realize commercial returns while catalyzing climate action and Sustainable Development Goal impact in the twenty-two countries served by the bank.¹

¹ Eastern and Southern African Trade and Development Bank, website homepage accessed March 25, 2021, <https://www.tdbgroup.org/>.

Green bonds are the most developed pathway for mobilizing capital for climate action but not the only option available to financial institutions with an appetite for innovation.

Public-Private Partnerships: More Than a Financial Instrument

PPPs marry the skills and resources of the public and private sectors, while sharing the associated risks.⁶¹ From 2008 to 2018, five African countries accounted for more than half of all successful PPPs: Morocco, South Africa, Egypt, Nigeria, and Ghana. Seventy-eight percent of these PPPs were concentrated in the energy sector (mostly renewables).⁶² Successful PPPs on the continent include the Kigali Bulk Water project in Rwanda, a large-scale \$60.8 million water treatment plant growing Kigali's existing water capacity by one-third; the Noor Ouarzazate Solar Complex in Morocco, one of the largest concentrated solar power plants in the world; and the \$1.4 billion Nachtigal hydropower project currently being developed in Cameroon.⁶³ However, PPPs remain a complex instrument; quite a few countries have had unsatisfactory experiences with unbalanced PPPs in the past due to ill-prepared projects or lack of expertise of project sponsors.⁶⁴ Starting small and

learning lessons from successful projects can help those countries that have not succeeded in the past, or have not tried PPPs.

Carbon Pricing

Carbon pricing instruments are an excellent option to limit GHG emissions. Emissions trading systems (ETS) and carbon taxes are the two main types of carbon pricing. An ETS, or cap-and-trade system, establishes a yearly emissions allowance so that large emitters have to buy allowances from low-emission industries, thereby creating a market. A carbon tax directly establishes a price on carbon, and companies pay according to the tons of emissions they produce.⁶⁵ While more complex to implement, this instrument is also useful to change broader market incentives.

Most African governments listed the international carbon market in their NDCs as a way to help finance their mitigation efforts. However, carbon markets remain underdeveloped in Africa. Only South Africa has implemented a carbon tax, starting in 2019. Burkina Faso, Côte d'Ivoire, Rwanda, Senegal, and Nigeria are exploring the option.⁶⁶

⁶¹ "About Public-Private Partnerships," World Bank, accessed March 25, 2021, <https://ppp.worldbank.org/public-private-partnership/about-public-private-partnerships>.

⁶² African Development Bank, Supporting Public Private Partnerships in Africa: African Development Bank ready to scale up, press release, September 10, 2020, <https://www.afdb.org/en/news-and-events/press-releases/supporting-public-private-partnerships-africa-african-development-bank-ready-scale-37804>.

⁶³ "Rwanda - Kigali Bulk Water Supply Project," African Development Bank Group, accessed March 25, 2021, <https://projectsportal.afdb.org/dataportal/VProject/show/P-RW-E00-008?lang=en>; European Investment Bank, Cameroon: EIB support to Nachtigal hydropower plant, press release, November 22, 2018, <https://www.eib.org/en/press/all/2018-295-strong-eib-support-to-nachtigal-hydropower-plant-in-cameroon#>.

⁶⁴ Fida Rana and Chidi Izuwah, "Infrastructure & Africa's Development—the PPP imperative," *Getting Infrastructure Finance Right* (World Bank Blogs), January 23, 2018, <https://blogs.worldbank.org/ppps/infrastructure-africa-s-development-ppp-imperative>.

⁶⁵ "Pricing Carbon," World Bank, accessed March 25, 2021, <https://www.worldbank.org/en/programs/pricing-carbon>.

⁶⁶ Konrad-Adenauer-Stiftung, *Carbon Pricing in Sub-Saharan Africa*, February 2020, <https://www.kas.de/documents/282730/282779/Carbone+Pricing+in+sub-Saharan+Africa+anglais.pdf/afbff20e-0b1a-61e8-24d6-38ae056c0c81?t=1594785554783>.

IV. Recommendations

By working together and relying on the right mix of instruments, African governments, international organizations and DFIs, bilateral donors, and private investors can scale up the financing of green growth.

African Governments

Develop low-carbon national strategies consistent with NDCs and work to create an environment that makes renewables economically viable. African governments should align market incentives to attract private investment, notably by shifting subsidies away from fuel consumption and by investing in distribution and transmission infrastructure. Kenya, whose energy mix now comprises 80 percent of renewables, is a good example of the successful implementation of such a strategy.

Update national regulations to unlock green financial investment from the private sector. Depending on the country, this ranges from creating a framework that allows the use of instruments such as green bonds or PPPs to adapting capital requirements for local investors interested in green projects, or even having national regulators provide guidelines to facilitate green investment. South Africa, Nigeria, Morocco, and Kenya are good examples of regulatory framework adaptation, notably to make PPPs more robust and allow green bond issuance, which could serve as inspiration.

Capitalize on all instruments that have shown their efficiency across African countries (green bonds, blended finance, PPPs, etc.). Given the size, persistence, and growth-impeding nature of the infrastructure financing gap and the complementarity of green financing instruments, all of them should be used. For the most advanced countries, such as Kenya, Nigeria, Morocco, or South Africa, now is the time to scale up and continue innovating beyond debt instruments. For the rest of the continent, adopting the instruments that have worked elsewhere should be the priority.

International Organizations and DFIs

Move toward a “transformational project” approach. DFIs should approach projects not as an end in themselves,

but also embrace the market signal and demonstration effect of successful investments. Through their investments, DFIs can help foreign investors better understand the markets, local financial institutions build capacities, and governments acquire deeper expertise in project development, management, and oversight. In this way, DFIs can encourage a positive feedback loop by making the experience replicable and sustainable (with less DFI involvement), while presenting an attractive risk/return profile to private investors. DFIs must, therefore, ensure two things: first, that projects feature a significant expertise-building dimension and, second, that projects underpin and reinforce strong political and regulatory reforms in African countries. The World Bank’s West Africa Regional Energy Trade Development Policy Financing Program is a good example of a project helping countries interconnect their national grids while removing regulatory barriers to cross-border energy trade.⁶⁷

Share expertise. Considering that green finance is unevenly spread out on the continent, capitalizing on the experience of countries that have been successful at leveraging private sector investment will be key. Thanks to their involvement in many projects across countries, DFIs have acquired an overarching view of project success factors. They are, therefore, uniquely positioned to facilitate lessons-learned sharing and support ministries of finance, environment, energy, and infrastructure in building in-house competence in green finance. Cross-border projects could also help this transfer of expertise. The World Bank’s Cameroon-Chad Interconnection Project is a good example of a cross-border project facilitating lessons-learned processes as well as driving clean electricity regional integration in Central Africa.⁶⁸

Bilateral Donors

Sustain bilateral development assistance and prioritize financial innovation in green investing. As green finance is taking off in African markets, now is not the time to scale back. Despite their own COVID-19-related financial constraints, bilateral donors in Europe and North America should continue expanding their pipeline of projects, through their development agencies and contributions to multilateral banks, that leverage private sector participation.

67 World Bank, Electricity Trade to Unlock Affordable and Reliable Electricity in West Africa, press release, July 28, 2020, <https://www.worldbank.org/en/news/press-release/2020/07/28/electricity-trade-to-unlock-affordable-and-reliable-electricity-in-west-africa>.

68 World Bank, Promoting Regional Power Interconnection in Central Africa, press release, June 16, 2020, <https://www.worldbank.org/en/news/press-release/2020/06/16/promoting-regional-power-interconnection-in-central-africa>.



A hydro power plant in Ghana. *Photo credit:* Flickr/Arne Hoel/The World Bank. (<https://creativecommons.org/licenses/by-nc/2.0/>)

Draft international green finance frameworks in a way that accounts for the diversity of African countries' capabilities. Work conducted by international supervisors (e.g., the Basel Committee on Banking Supervision; the International Association of Insurance Supervisors, IAIS; and the International Association of Securities Commissions, IOSCO) and regulators as well as the Sustainable Finance Taxonomy developed by EU institutions can be useful tools to set up a shared regulatory framework for green finance in Africa. However, African countries have different abilities when it comes to implementing complex regulation. Given the need for investment, the priority is to ensure that additional regulation does not hinder growth through added complexity.

The United States must meet its climate obligations. The United States initially pledged \$3 billion to the GCF

in 2014, more than any other country; however, the Trump administration withheld \$2 billion of this funding.⁶⁹ While other countries have doubled their contributions since, the Biden administration must at least meet the initial obligation of \$3 billion. The \$1.2 billion in the 2022 budget request by the Biden administration is an encouraging sign of its will to recommit to the GCF; however, more still needs to be done to meet the initial obligation and then to go beyond.⁷⁰ The United States should also consider contributions to other climate funds that prioritize investments in African markets, namely the Adaptation Fund's Direct Access Entity or the GEF.

Initiatives such as the IFC-Milken Capital Markets training program should be expanded to include building expertise in green finance. Since 2016, the IFC, Milken Institute, and George Washington University have offered

69 Sophie Yeo, "Green Climate Fund attracts record US\$9.8 billion for developing nations," *Nature*, November 1, 2019, <https://www.nature.com/articles/d41586-019-03330-9>.

70 Megan Rowling, "John Kerry puts U.S. weight behind Green Climate Fund," Reuters, April 20, 2021, <https://www.reuters.com/article/climate-change-usa-finance-idUKL8N2MD6IE>.



Mounted solar power in South Sudan. *Photo credit: Shutterstock/Sebastian Noethlich.*

an accredited graduate-level certificate program for financial professionals from emerging markets that provides coursework and hands-on experience in senior roles in the US financial industry, where they engage with regulators and investors. The vast majority of the 105 alumni come from African nations.⁷¹ Given that green finance will define the rest of this century, it is critical that the program is expanded to include training in the best practices of climate finance. USAID and other bilateral donor development agencies should support the program to add a major green finance focus.

Private Investors

Better apportion the risk between the private sector and DFIs. While DFIs' involvement is key in de-risking projects, it is also important, as profitability increases with African countries' growing experience, that DFIs are not crowding out private investors. DFIs can ensure that their investments are necessary and catalytic and that they are

good stewards of limited public resources by exploring the more frequent use of competitive bidding between private investors for DFI support. This could mean, for instance, assessing which investor provides the greatest development and environmental benefits for a given public guarantee or which investor requires the lowest level of public funding.⁷²

Continue financial innovation. Green bonds have become a known conduit of capital into climate projects but only begin to scratch the surface of potential financial innovation. As the quantum of global capital seeking exposure to green, impact, and environmental, social, and corporate governance (ESG) instruments and developing economies increases, financial institutions in Africa have an opportunity to expand and diversify green product offerings. Given the dynamism of African financial markets, there is plenty of room for further innovation and balance sheet optimization, including moving beyond conventional debt instruments, to help meet the continent's climate finance needs.

71 IFC-Milken Institute Capital Markets Program, website homepage accessed March 25, 2021, <https://ifcmilkencomp.org/>.

72 Organization for Economic Co-operation and Development, *Blended Finance Principle 4: Focus on Effective Partnering for Blended Finance*, Guidance Note and Detailed Background Guidance, 2020, https://www.oecd.org/dac/financing-sustainable-development/blended-finance-principles/principle-4/Principle_4_Guidance_Note_and_Background.pdf.

V. Conclusion

With numerous natural resources, especially renewables, a young population, and dynamic economic prospects, the African continent has an untapped potential. Given the climate change threat, the continent's growth must be green if it is to be sustainable. The size of the infrastructure gap means that all forms of support must be mobilized, from African govern-

ments to international organizations, DFIs, bilateral donors, and private sector investors. In particular, scaling up private sector involvement can be a game changer. It will require, notably, using a blend of regulatory reforms, proven instruments, and financial innovation. Given the economic impact of the COVID-19 pandemic, now is, more than ever, the time to unleash African countries' full green growth potential.

About the Author



Emilie Bel is an international affairs expert with a financial background and a decade-long experience working in Brussels and Paris.

As a consultant for the World Bank, she works on financial inclusion and microinsurance, notably in Africa. Before moving to Washington, DC, she was head of international affairs at the French Insurance Federation (FFA), in charge of managing institutional engagement on financial topics with European institutions, international organizations (UN, WB, IMF, OECD, IAIS), and multilateral fora (G20/B20, G7/B7). In this context, she handled close relationships with partner insurance federations in Africa and MENA.

Acknowledgements

The author would like to thank all those who contributed to this report and notably the numerous international organizations and private sector representatives who took the time to share their insights, as well as Africa Center Senior

Fellow Aubrey Hruby for her close reading and helpful feedback. Thank you to the Eastern and Southern African Trade and Development Bank (TDB) for their partnership and generous sponsorship of this report.



CHAIRMAN

*John F.W. Rogers

EXECUTIVE CHAIRMAN EMERITUS

*James L. Jones

PRESIDENT AND CEO

*Frederick Kempe

EXECUTIVE VICE CHAIRS

*Adrienne Arsht

*Stephen J. Hadley

VICE CHAIRS

*Robert J. Abernethy

*Richard W. Edelman

*C. Boyden Gray

*Alexander V. Mirtchev

*John J. Studzinski

TREASURER

*George Lund

DIRECTORS

Stéphane Abrial

Todd Achilles

*Peter Ackerman

Timothy D. Adams

*Michael Andersson

David D. Aufhauser

Barbara Barrett

Colleen Bell

Stephen Biegun

*Rafic A. Bizri

*Linden P. Blue

Adam Boehler

Philip M. Breedlove

Myron Brilliant

*Esther Brimmer

R. Nicholas Burns

*Richard R. Burt

Michael Calvey

Teresa Carlson

James E. Cartwright

John E. Chapoton

Ahmed Charai

Melanie Chen

Michael Chertoff

*George Chopivsky

Wesley K. Clark

Beth Connaughty

*Helima Croft

Ralph D. Crosby, Jr.

*Ankit N. Desai

Dario Deste

*Paula J. Dobriansky

Joseph F. Dunford, Jr.

Thomas J. Egan, Jr.

Stuart E. Eizenstat

Thomas R. Eldridge

Mark T. Esper

*Alan H. Fleischmann

Jendayi E. Frazer

Courtney Geduldig

Meg Gentle

Thomas H. Glocer

John B. Goodman

*Sherri W. Goodman

Murathan Günal

Amir A. Handjani

Frank Haun

Michael V. Hayden

Amos Hochstein

Tim Holt

*Karl V. Hopkins

Andrew Hove

Mary L. Howell

Ian Ihnatowycz

Wolfgang F. Ischinger

Deborah Lee James

Joia M. Johnson

*Maria Pica Karp

Andre Kelleners

Henry A. Kissinger

*C. Jeffrey Knittel

Franklin D. Kramer

Laura Lane

Jan M. Lodal

Douglas Lute

Jane Holl Lute

William J. Lynn

Mark Machin

Mian M. Mansha

Marco Margheri

Chris Marlin

William Marron

Gerardo Mato

Timothy McBride

Erin McGrain

John M. McHugh

Eric D.K. Melby

*Judith A. Miller

Dariusz Mioduski

*Michael J. Morell

*Richard Morningstar

Georgette Mosbacher

Dambisa F. Moyo

Virginia A. Mulberger

Mary Claire Murphy

Edward J. Newberry

Thomas R. Nides

Franco Nuschese

Joseph S. Nye

Ahmet M. Ören

Sally A. Painter

Ana I. Palacio

*Kostas Pantazopoulos

Alan Pellegrini

David H. Petraeus

W. DeVier Pierson

Lisa Pollina

Daniel B. Poneman

*Dina H. Powell McCormick

Robert Rangel

Thomas J. Ridge

Lawrence Di Rita

Michael J. Rogers

Charles O. Rossotti

Harry Sachinis

C. Michael Scaparrotti

Ivan A. Schlager

Rajiv Shah

Kris Singh

Walter Slocombe

Christopher Smith

Clifford M. Sobel

James G. Stavridis

Michael S. Steele

Richard J.A. Steele

Mary Streett

*Frances M. Townsend

Clyde C. Tuggle

Melanne Vermeer

Charles F. Wald

Michael F. Walsh

Gine Wang-Reese

Ronald Weiser

Olin Wethington

Maciej Witucki

Neal S. Wolin

*Jenny Wood

Guang Yang

Mary C. Yates

Dov S. Zakheim

HONORARY DIRECTORS

James A. Baker, III

Ashton B. Carter

Robert M. Gates

James N. Mattis

Michael G. Mullen

Leon E. Panetta

William J. Perry

Colin L. Powell

Condoleezza Rice

Horst Teltschik

John W. Warner

William H. Webster

*Executive Committee
Members

List as of May 12, 2021



The Atlantic Council is a nonpartisan organization that promotes constructive US leadership and engagement in international affairs based on the central role of the Atlantic community in meeting today's global challenges.

© 2021 The Atlantic Council of the United States. All rights reserved. No part of this publication may be reproduced or transmitted in any form or by any means without permission in writing from the Atlantic Council, except in the case of brief quotations in news articles, critical articles, or reviews. Please direct inquiries to:

Atlantic Council

1030 15th Street, NW, 12th Floor, Washington, DC 20005

(202) 463-7226, www.AtlanticCouncil.org