



COUNTRY FOCUS REPORT 2022

THE GAMBIA

SUPPORTING CLIMATE RESILIENCE AND A JUST ENERGY TRANSITION

Country Economics Department (ECCE)

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THE GAMBIA

The Gambia is vulnerable to the impacts of climate change from increases in temperature, decreases in rainfall, and a rise in the sea level, which affect millions of people and make adaptation more urgent. Rapid changes in climate tend to have severe effects on a country's key economic sectors such as agriculture, tourism, and health. They also erode the productivity of local water and food systems, decrease soil quality, and undermine sustainable development.

This paper discusses recent trends in climate change and developments in the just energy transition in The Gambia. Following this introduction, section 1 of the paper reviews recent economic developments and prospects; section 2 addresses climate resilience and a just energy transition; section 3 looks at financing climate resilience and a just energy transition; and section 4 presents conclusions and recommendations.

1. RECENT MACROECONOMIC DEVELOPMENTS AND OUTLOOK

The repercussions of the Russia-Ukraine war have intensified inflationary pressures, exacerbated uncertainties related to the COVID-19 pandemic, dampened tourism prospects, and disrupted The Gambia's supply of food and agricultural inputs. This combination of crises will affect the country's economic recovery. Section 1 of this paper analyzes recent macroeconomic developments as well as prospects and risks.

1.1 Recent Macroeconomic Developments

The successive waves of the COVID-19 pandemic weighed on economic activity in 2020, but some signs of recovery started to emerge (Table 1). GDP contracted by 0.2% in 2020 due to COVID-19 containment measures and disruptions in global supply chains, which hit the tourism and trade sectors hard (48% of businesses reported losses of income). Economic growth expanded by 5.5% in 2021, induced by monetary policy, a fiscal stimulus package, and the normalization of activities in agriculture, mining and quarrying, construction, electricity and water, and

information and communications technology (ICT). This recovery made it possible to improve the growth rate of real GDP per capita by 2.5% in 2021 after a contraction of 3.2% in 2020. On the demand side, growth was supported by household consumption and public investment projects.

The Central Bank of The Gambia adopted an accommodative monetary policy stance to support economic recovery, and in May 2020, it reduced its monetary policy rate by 200 basis point to 10% to boost liquidity in the context of the pandemic. Consumer price inflation, which had been on a downward trend since 2017, started to rise again: driven by rising energy prices, non-fuel commodity prices, and freight charges, it settled at 7.5% in 2021 against 5.9% in 2020. As inflationary pressures built up in late 2021, the Central Bank of The Gambia reduced foreign exchange purchases and carried out reverse repurchase agreements by selling central bank bills, which helped reduce excess liquidity and moderate money supply growth at 19.5% in 2021 against 22.0% in 2020. The combination of record-high remittance inflows and the allocation of special drawing rights (SDRs) contributed to the domestic currency, the dalasi, appreciating by 2.0%, closing 2021 at 1 dalasi/US \$51.84. This helped mitigate further inflationary pressures. Private sector credit expanded by 20.7% year-on-year in 2021, owing to the country's expansionary monetary policy and the accumulation of net foreign assets.

Fiscal outturns in 2021 were weaker than programmed, owing to shortfalls in tax collection and budget support, as well as some excess in spending. The fiscal deficit increased from 2.2% of GDP in 2020 to 4.0% of GDP in 2021 and surpassed the government's fiscal deficit target of 2.6% of GDP. This was due to an increase in health sector spending and subsidies to households and public enterprises to mitigate the impacts of the COVID-19 shock. The fiscal deficit was financed through budget support grants, project loans, and treasury bill issuances. Fiscal consolidation and debt restructuring helped reduce debt vulnerabilities. Public debt declined from 85.9% of GDP in 2020 to 84.2% in 2021, yet the risk of debt distress remains high. The current

account deficit worsened from 3.3% of GDP in 2020 to 9.3% in 2021, due to declining exports and rising imports linked to major infrastructure projects. The current account deficit was financed by foreign direct investment and capital transfers. Net migrant remittances increased from US \$590 million in 2020 to a record high of US \$777 million in 2021. This, combined with International Monetary Fund's Extended Credit Facility disbursements and the SDR allocation, helped boost gross international reserves from US \$352.1 million in 2020 (5.3 months of imports) to US \$530.4 million in 2021 (6.0 months of imports). To benefit fully from the African Continental Free Trade Area Agreement, The Gambia is increasing its focus on agricultural, livestock, and fisheries products and on investments in ports and waterway infrastructure.

The financial sector has weathered the COVID-19 shock well. The capital adequacy ratio (29.0%) and liquidity ratio (91.5%) were above the minimum statutory ratios of 10.0% and 30.0%, respectively, by end-2021. Non-performing loans as a percentage of gross loans narrowed to 5.1% by end-2021, after some deterioration in December 2020 (7.8%) and March 2021 (8.9%). On profitability, returns on assets and returns on equity declined to 1.6% and 14.5% by September 2021 compared to 1.8% and 16.8% in the same period in 2020 as the liquidity injection narrowed the interest rate spread, thereby reducing profit margins amid rising inflation. The Central Bank of The Gambia strengthened oversight and risk-based supervision to safeguard the stability of the financial sector.

Table 1.1: Macroeconomic Indicators

	2017	2018	2019	2020(e)	2021(p)	2022(p)	2023(p)
Real GDP Growth	4.8	7.2	6.2	-0.2	5.5	4.8	5.8
Real GDP Growth per Capita	1.8	4.2	3.2	-3.2	2.5	1.9	3.0
Inflation	8.0	6.5	7.1	5.9	7.5	8.0	7.5
Overall Fiscal Balance, Including Grants (% GDP)	-4.3	-5.7	-2.5	-2.2	-4.0	-4.6	-3.1
Current Account (% GDP)	-7.4	-9.5	-6.1	-3.3	-9.3	-14.7	-11.8

Source: Data from Domestic authorities; estimates (e) and prediction (p) based on authors' calculations. AfDB Statistics Department, April 2022.

Accelerated economic growth from 2017 to 2019 helped reduce income inequality, poverty, and unemployment. The pandemic halted this progress, however, as the poverty rate—measured using the World Bank's purchasing power parity value of US \$3.2 in 2011—increased from 33.3% in 2019 to 35.1% in 2021. An estimated 20,000 jobs were lost and unemployment is thought to have increased from 29.4% in 2020 to 40.0% in 2021. Unem-

ployment is worst among youth (41.5%) and women (57.1%). Among the factors that explain the country's non-inclusive growth are weak structural change, rapid population growth, and dependence on agriculture, a sector in which productivity is low. Reforms to improve the business environment and expand social safety programs are critical to creating jobs and reducing poverty and inequality.

Box 1: The Gambia's allocation of special drawing rights

The International Monetary Fund allocated US \$650 billion in general special drawing rights (SDRs) to member countries: of this amount, Africa received US \$32 billion (5% of the total allocation) in August 2021, of which The Gambia was allocated US \$85 million. Recorded in the books of the Central Bank of The Gambia, this amount corresponds to 18.0% of the country's gross international reserves in 2022 and provided much-needed liquidity, given the country's limited external buffers. Additionally, the allocation is expected to boost gross reserves and strengthen The Gambia's external position ahead of the expiration of the debt service deferral period in 2024. The 2022 budget used \$20 million from the allocation to address critical pandemic-related needs (increasing the capacity of the health system, expanding social protections). The central bank lent the amount to the government under a memorandum of agreement that stipulates the terms and conditions of the loan and ensures the bank's financial autonomy. On 24 November 2021, the International Monetary Fund completed the third review of the 39-month Extended Credit Facility approved in March 2020. Total disbursements under the arrangement amount to US \$55.75 million of an envelope of US \$76.7 million.

1.2 Outlook and Risks

The outlook remains challenging and depends on global economic recovery. Growth is projected to reach 4.8% in 2022 and 5.8% in 2023, driven by agriculture, transport, energy, tourism, finance, and ICT on the supply side, and by public infrastructure spending on ports and roads projects on the demand side.

Monetary policy is expected to remain accommodative, given the projected negative output gap, which is estimated to average 4% in 2022–2023. Inflation is projected at 8.0% in 2022, driven by food and energy prices that the Russia-Ukraine war is causing to rise. Inflation could fall to 7.5% in 2023 as global supply chains normalize. The Central Bank of The Gambia could tighten monetary policy by issuing bills complemented with foreign exchange sales and an increase in the special deposit facility rate to curb the inflationary pressures exacerbated by the Russia-Ukraine war. In the medium term, the dalasi is projected to remain stable, supported by higher inflows of remittances and more trade in re-exports.

The impact of the Russia-Ukraine conflict could contribute to the deterioration of fiscal accounts. The fiscal deficit is projected to increase to 4.6% of GDP in 2022, as total expenditures are projected to rise to 24% of GDP against 21% in 2021 to cope with the conflict's effects. Meanwhile, domestic revenues are projected to increase slightly to 14.7% of GDP in 2022 compared to 14.3% of GDP in 2021, depending on the improvement in the accounts of companies affected by the crisis. Under the Debt Service Suspension Initiative, The Gambia benefited from \$4 million in debt service suspension from creditors and \$129 million (7% of GDP) in total debt service relief from negotiations with bilateral creditors in 2019. The Gambia also received SDR 7.9 million in debt service relief under the Catastrophe Containment and Relief Trust. The Debt Service Suspension Initiative ended in December 2021 and the Catastrophe Containment and Relief Trust covered debt until April 2022: this, combined with increasing global interest rates, is expected to raise total debt service commitments from 6.0% of GDP in 2022 to 6.8% of GDP in 2023, putting further pressure on fiscal accounts. The fiscal deficit is projected to narrow to 3.1% of GDP in 2023, owing to improved tax administration and rationalized spending.

In the next two years, exports are projected to rebound, but continued weakness in tourism and some pickup in the import of goods and services (reflecting commodity price increases) will affect the trade balance significantly. The current account deficit is forecast to widen to 14.7% of GDP in 2022, driven by infrastructure-related imports, and moderate to 11.8% in 2023, supported by revitalized reexports and remittances. Gross official reserves are projected to average US \$464 million (4.6 months of imports in 2022–2023).

The financial sector is expected to stabilize and domestic credit market conditions to improve, owing to strengthened risk-based supervision and a reduction in the government's borrowing from the Central Bank of The Gambia. However, the underdeveloped capital market and inadequate enforcement of the anti-money-laundering framework could trigger capital flight, last estimated at 14%¹ of GDP in 2018.

The poverty rate is projected to drop from 33.1% in 2022 to 31.2% in 2023, supported by the implementation of the Programme for Accelerated Community Development, which seeks to reduce disparities between rural and urban communities. The initiative has expanded and now covers 80 communities and reinforces service delivery by constructing boreholes, providing access to electricity in local communities, providing exotic animal breeds, and developing a geographical information system to support sustainable digital solutions and improve access to basic services in rural communities.

Risks to the outlook emanate from the eventual emergence of new COVID-19 variants, low vaccine rollout, climate disasters, and debt vulnerabilities. Furthermore, the Russia-Ukraine crisis has increased fuel and food prices, which constitute 34% of the total import bill. This could dampen the growth outlook, increase inflationary pressure, and widen the fiscal and current account deficit. If the effect of higher international prices cannot be cushioned, the number of people living below poverty line could increase. Risk mitigation measures could include rationalizing subsidies to state-owned enterprises, improving access to credit, frontloading growth-friendly structural reforms, and strengthening the health sector.

¹ Source: African Union/Economic Commission for Africa, Illicit Financial Flows: Report of the High Level Panel on Illicit Financial Flows from Africa (2018).

2. CLIMATE RESILIENCE AND A JUST ENERGY TRANSITION

Climate change has a considerable socioeconomic impact in The Gambia. This section presents climate resilience in The Gambia, the socioeconomic impacts of climate change in the country, the energy transition as an opportunity to strengthen climate resilience, the carbon credits needed to move towards a just energy transition, and a national framework to strengthen climate resilience and accelerate the energy transition.

2.1 Climate Resilience, Readiness and Vulnerability

The Gambia is a small, fragile country in West Africa. Stretching 450 km along the Gambia River, all 10,689 km² of the country is surrounded by Senegal except for a 60 km strip along the Atlantic Ocean. The country had a population of 2.4 million in 2020. With 176 people per km², it is one of the most densely populated countries in Africa. Some 57% of the population is concentrated around urban and peri-urban centers. The country's economy is concentrated around four sectors: agriculture, industry, services, and tourism. The Gambia is vulnerable to the impacts of climate change from increases in temperature, decreases in rainfall, and a rise in the sea level. According to documentation on the country's second nationally determined contribution (2021), annual average temperatures are projected to increase by 1.7°C to 2.1°C from 2000 to 2050, and by 3.1°C to 3.9°C by 2100. The sea level is expected to rise by 19 cm to 43 cm by 2050.

Floods constituted 60% of weather/climate-related hazards in The Gambia between 1990 and 2014 and storms accounted for

27%². Floods caused 96% of the average annual monetary loss from all hazards. Around 20% of the country is covered by wetlands and swamps, and flood-prone areas are hit by floods each year after heavy rains, subjecting local populations to life-threatening situations and property damage. Potentially life-threatening river floods are expected to occur at least once in The Gambia in the next 10 years. The hazard of water scarcity is classified as high and droughts are expected to occur on average every 5 years. In 2011–2012, for example, the Sahel drought crisis impacted The Gambia's agricultural sector and food and nutrition security. Droughts accounted for 13% of climate-related hazards between 1990 and 2014 and affect rain-fed agriculture, water resources, soil quality, food security, public health, and environmental degradation. According to the 2021 Global Climate Risk Index, The Gambia is the 41st most climate-vulnerable and climate-change-sensitive country in the world.

The country's climate change situation is amplified by the country's weak capacity to maintain the ecological balance necessary for sustainable economic growth. Some 4,750 km² (47.5% of the land area) is covered by forests, but weak governance has led to a loss of 8.09 hectares of tree cover, equivalent to 498 tons of CO₂ emissions. Furthermore, ThinkHazard³ classifies the hazard of coastal flooding as high, meaning that potentially damaging waves are expected to flood the coast at least once in the next 10 years. The hazard level is high across the western coastal regions and inland up The Gambia River. An estimated 20% of The Gambia is flooded annually and the mangrove ecosystems are already affected by saline intrusion as well as flooding. Table 2.1 lists the main risks to which The Gambia is exposed.

² Source: World Bank, Climate Change Knowledge Portal <https://climateknowledgeportal.worldbank.org/country/gambia/vulnerability>.

³ Source: World Bank, Global Facility for Disaster Reduction and Recovery. <https://thinkhazard.org/en/report/90-gambia>

Table 2.1: Main sources of climate hazards in The Gambia

Risk	Hazard Level
River Flood	High
Urban Flood	High
Coastal Flood	High
Water scarcity	High
Extreme heat	High
Wildfire	High
Tsunami	Low
Earthquake	Very Low
Landslide	Very Low
Volcano	Medium
Cyclone	Medium

Source : Think Hazard.

Overall, Africa is warming faster than the global average over land and oceans and The Gambia is no exception (see African Economic Outlook 2022). According to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change (2021), critical global warming levels will likely be reached earlier than mid-century in Africa.

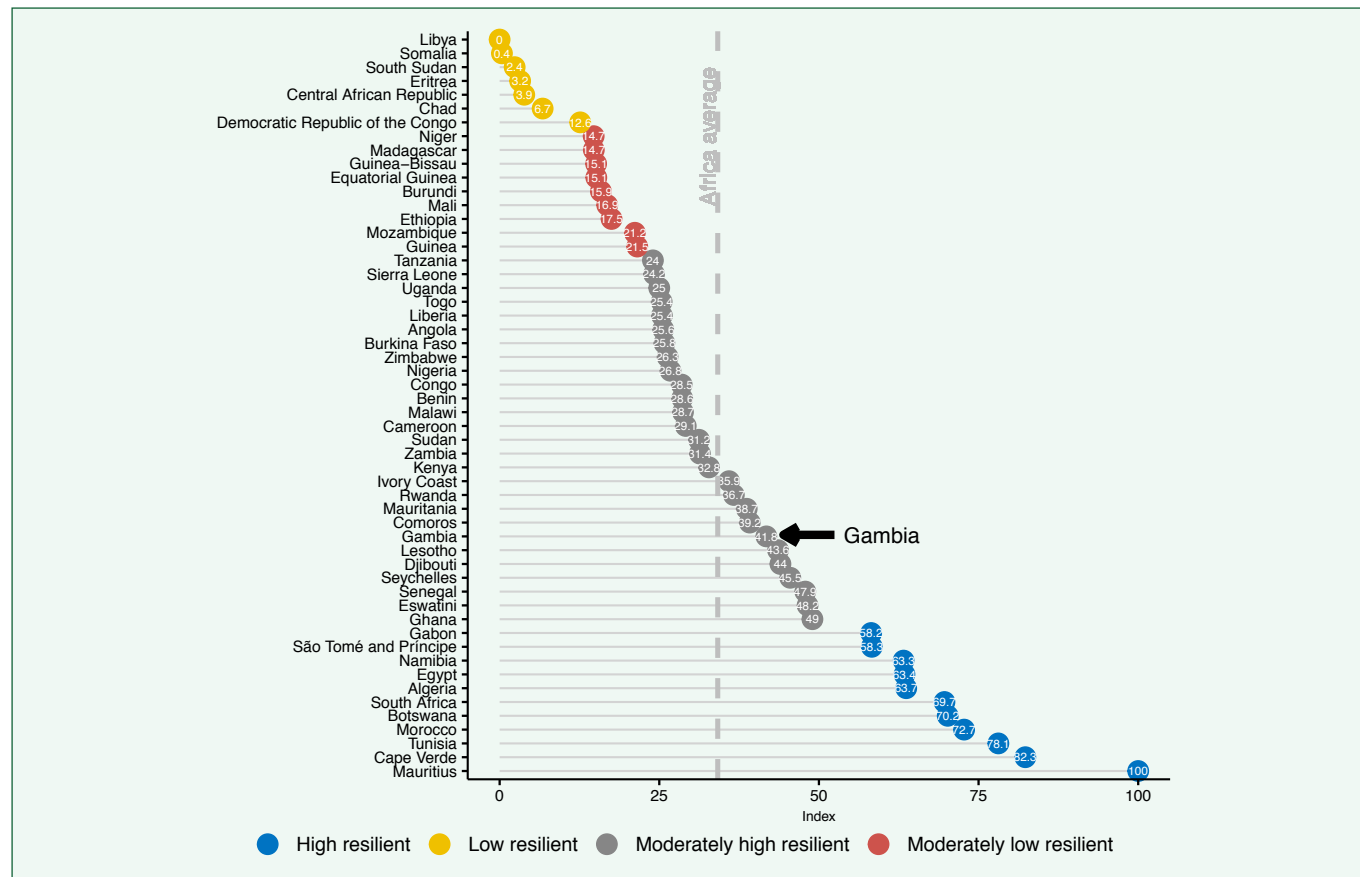
African Economic Outlook 2022 estimates The Gambia's climate resilience index score over 2010–2019 as moderately high (score of 41.8; Figure 2.1). At the country level, The Gambia ranks 37th,

making it one of the continent's the least resilient countries.

The Notre-Dame Global Adaptation Initiative takes into account both vulnerability and level of preparedness and ranked The Gambia 144th of 182 countries in 2020, with an index score of 39.2. The Gambia ranked 155th on vulnerability and 139th on preparedness. The country is thus classified in the category of high vulnerability, low readiness. The country is particularly vulnerable in five sectors: ecosystem services, food systems, human habitat, health, and water.



Figure 2.1: Climate resilience scores of African countries (average for 2010–2019)



Source: AfDB Staff calculations.

Despite contributing less than 0.01%⁴ to global greenhouse gas emissions, The Gambia bears a disproportionately high burden as one of the countries in the world most vulnerable to the adverse effects of climate change. By 2016, about 70% of community forests and 95% of forest parks were destroyed, depriving communities of forest products, exposing them to food insecurity, and limiting ecosystem services. It is therefore imperative that countries like The Gambia develop responses by identifying and assessing disaster risks and strengthening collaboration and coordination. Gambian authorities are increasingly aware of the challenges posed by climate change to inclusive growth and have developed integrated projects targeting critical sectors such as agriculture, forestry, and fisheries. In February 2021, The Gambia launched the Resilience of

Organizations for Transformative Smallholder Agriculture Project, a multi-donor-funded US \$80 million project in the agriculture sector that will enhance food security, nutrition, and smallholder farmers' resilience to climate change. The restoration of 10,000 hectares of forests, mangroves, and savanna was initiated to reduce climate vulnerability.

2.2 Climate change and socioeconomic impacts

The Gambia relies heavily on the rain-fed agricultural sector, which accounts for 17.8% of GDP and employs more than 50% of the workforce. For that reason, climate change is the country's biggest threat to growth and inclusiveness. The economy is undiversified and depends heavily on the tourism and services

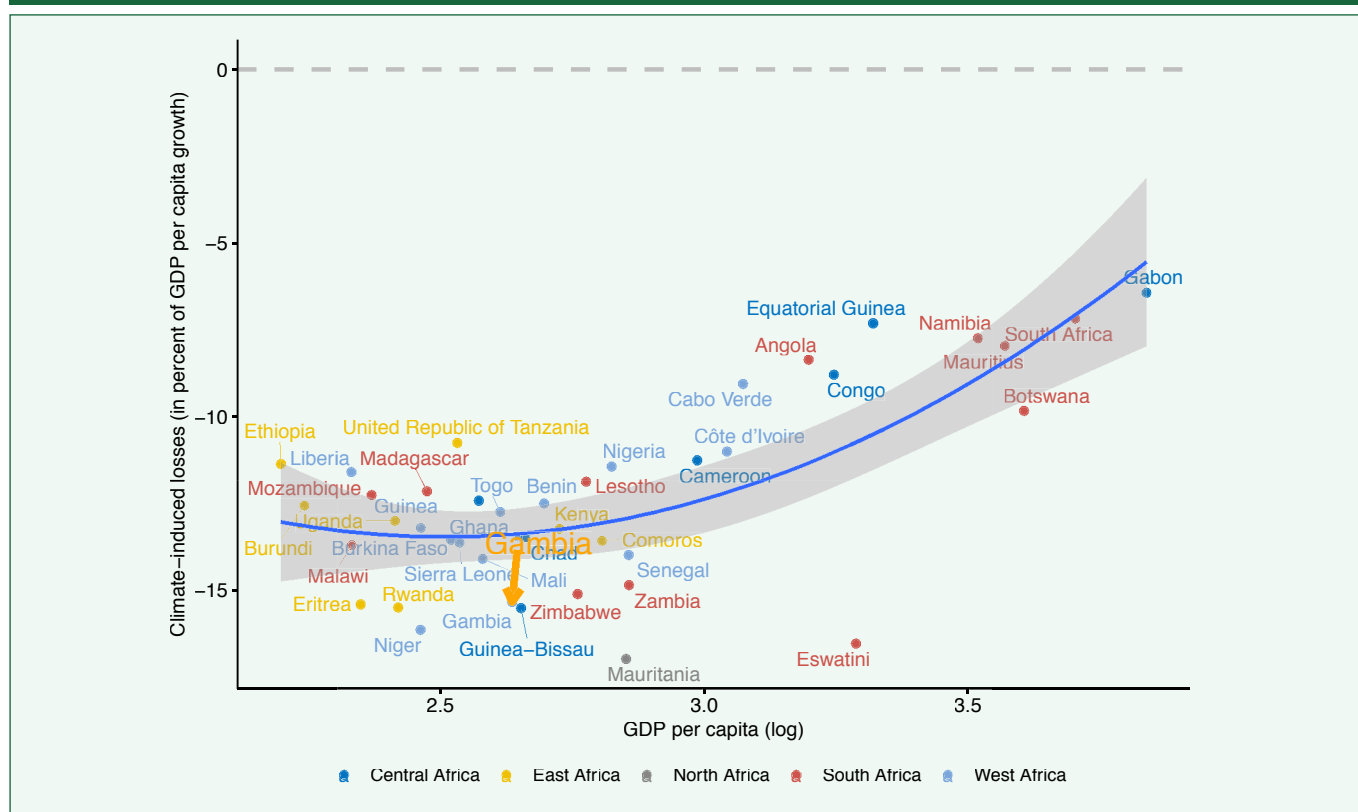
⁴ Source: The Gambia's Long Term Climate Neutral Development Strategy 2050.

sectors (68.8% of GDP): this increases its vulnerability to exogenous shocks. Agriculture accounts for 17.8% of GDP, while industry accounts for 13.4%.

As shown in Figure 2.2, climate change has significant negative impacts on GDP per capita growth in Africa with more severe

losses experienced in countries with lower GDP per capita (typically more climate vulnerable countries). In addition to macroeconomic impacts, climate change has significant impacts on socioeconomic outcomes. These include the increased risk of mortality and morbidity and a high risk of resource-related conflicts, internal displacement, and migration.

Figure 2.2: Average annual climate-induced losses as a share of GDP per capita growth in Africa, 1986–2015



Source: Staff calculations.

Climate change is expected to exert a considerable impact on vulnerable economic sectors and industries. With respect to agriculture, several studies⁵ indicate that climate change will decrease the yields of major crops. By 2050, yields of millet are expected to decrease by as much as 17%, sorghum by between 15% and 25%, maize by as much as 22%, and groundnuts by 18%.

Losses may be amplified by nitrogen stress. This is particularly concerning for a country where more than two-thirds of the population that reside in rural areas derive their livelihood mainly from agriculture and agriculture-related activities. To mitigate climate hazards in agriculture, it is critical to improve drought resilience by planting more drought-resistant and tolerant crop

⁵ Source: Second Nationally Determined Contribution of The Gambia (2021).



species and building capacity to deal with long-term water stress. Investing in early warning systems and flood-tolerant crop varieties is necessary to ensure agricultural productivity and food security.

Climate change has progressive impacts on the productivity of floristic biodiversity, and its net effects are amplified and accelerated by land use change. In The Gambia, cropland expansion and logging are expected to be the major driving force behind the loss of forest cover. According to The Gambia's Third National Communication (2020), forests' productive capacity is projected to shrink by 30.0% to 46.7% of land area by 2030 and to decrease by another 20.0% to 42.7% by 2050. This will create uncertainty for the wood processing industry, lead to a fall in wood exports (wood exports currently account for around 7% of production), and widen the deficit of roundwood and fuelwood to 61% and 74%, respectively, within the next three decades. A drier climate is equally likely to decrease the production of wild honey because of the fragmentation of the forest.

The tourism sector, which supplies 42,000 direct jobs (7% of all employment) and 20% of GDP, is highly vulnerable to the impacts of climate change, such as the rise in sea level, which will make the shoreline less attractive and degrade amenities. Global warming will also cause mean winter temperatures to rise in source countries in Northern Europe. These elements represent a formidable obstacle to Gambian tourism authorities' plans to boost winter tourist arrivals and the number of summer visitors. Climate change thus poses serious challenges to The Gambia's competitiveness as a destination, exposes tour operators to greater financial risk, and is likely to increase the costs of running tourism establishments. This will trigger fundamental changes to an industry that already lost US \$108 million⁷ in 2020 and another US \$57.9 million in tax revenue after businesses and hotels closed on account of the pandemic.

Construction and real estate could also be significantly impacted, as they are exposed to the risks and costs of climate-induced damage to infrastructure. Extreme weather is projected to put considerable pressure on The Gambia's road system. The damage and accelerated ageing of roads caused by climate change will require increased maintenance and more frequent

rehabilitation, in a country whose budget allocations only cover 30%⁸ of road maintenance needs. Aside from higher maintenance and rehabilitation costs, climate-related damage to road and bridge infrastructure will also more frequently disrupt the movement of people and goods, with direct consequences for economic productivity.

Decades of fishing pressure, coupled with climate impacts, are highly likely to force changes in the diversity and geographical distribution of marine species and in inter-species relationships. This could impact the fisheries sector. Higher pollutant loads in wetlands and higher water temperatures in a wetter climate are likely to depress harvests of shellfish and reduce fish landings below the current 60,000 tons/annum. This will compromise food security and nutrition.

Beyond its macroeconomic impacts, climate change has important effects on socioeconomic conditions. As mentioned above, these include the increased risk of mortality and morbidity and a high risk of resource-related conflicts and internal displacement. By way of illustration, in 2021, windstorms affected over 16,849 people in 100 communities in The Gambia, destroying homes, schools, seed storage facilities, and hospitals, injuring 100 people and killing 10 more. These effects of climate change are also at the origin of a resurgence of national poverty, which is likely to have reached 50% in 2020⁹. The informal economy is a major part of the Gambia's total economy. According to the International Labor Organization, as of 2018 over 80% of adult Gambian women were employed in the informal sector, as were over 75% of Gambian men. Climate change could decrease the labor incomes of informal workers in agriculture, fisheries, and trade, and exacerbate poverty and inequality due to inadequate access to social safety nets. Investing in climate change adaptation, including social protections, can be an effective way to support economic growth, reduce income inequality, and decrease poverty.

The impact of climate change also manifests in the health sector in terms of under-nutrition, particularly stunting, which irreversibly impedes a child's physical development and cognitive abilities. This is still a challenge in The Gambia. Despite stunting having

⁷ Source: The Gambia Tourism Board (2020).

⁸ The Gambia's National Road Authority spent over 735 million dalasi (US \$13.4 million) on road maintenance in 2020, equivalent to 0.6% of GDP.

⁹ Source: World Bank, The Gambia - Economic Update: Coming Back Stronger (June 2022).

dropped from 23.4% in 2010 to 17.5% in 2019/2020, childhood under-nutrition still threatens the lives of Gambian children. Malaria is another concern: deforestation can cause dense forest to stand close to human habitations, which expands the habitat of mosquitoes. Cholera is another important threat to public health in The Gambia. It usually emerges in the wake of natural disasters (cyclones, floods) and the massive expansion of water-borne pathogens and toxins.

In general, women are disproportionately affected by extreme weather events like drought, floods, and cyclones. Women are often responsible for fetching water, collecting firewood, producing food, farming, and taking care of livestock. These activities are highly exposed to the effects of climate change. In a disaster situation, women's vulnerability increases and their capacity for adaptation and resilience falls. Women also find it difficult to access quality health services, owing to the high cost of treatment.

Climate change bears significant socio-economic impacts in The Gambia. Therefore, the country needs to build climate resilience, and such reforms involve synergies with considerable mitigation co-benefits. As discussed in African Economic Outlook 2022, examples of building climate resilience include adopting climate-smart agricultural practices; low-cost but effective technologies such as water harvesting and small-scale irrigation techniques; land and water conservation and management strategies; and complementary technologies, such as drought-resistant seeds, the latter as part of the Technologies for African Agricultural Transformation program. Building resilience also requires transformative changes supported by the public sector. Moreover, energy is vital in building resilience in key productive sectors of African economies, including agriculture, where changing patterns in rainfall and temperature threaten output and productivity. In general, Africa's low level of access to modern energy presents a significant challenge to the quest to build climate resilience. The Gambia is no different.

2.3 Energy transition: An opportunity to strengthen climate resilience

In addition to playing a critical role in building climate resilience, access to modern energy is vital for The Gambia to industrialize

and meet the development aspirations of its people, generating high-quality jobs and prosperity for all. In a wide range of countries, GDP per capita is strongly correlated to consuming modern energy in the form of electricity. Emerging economies such as China and more recently India have driven most energy growth in the last 15 years; indeed, in some high-income countries, per capita demand and even total energy demand seem to have already peaked. Africa is the world's least industrialized region: its low access to modern energy is inhibiting the speed and degree of structural transformation. Per-capita electricity consumption in The Gambia was 137.8 kwh in 2019, one of the lowest in Africa and the world. This level of consumption is associated with low GDP per capita, which in 2019 was only US \$2,224.90 (adjusted for purchasing power parity).

Around half of Africa's 600 million people are without access to electricity. Africa has the lowest electricity access rate of all global regions, a rate that drops from 57% to less than 30% on average in rural areas. In The Gambia, about 60% of the population has access to electricity (Figure 2.3); in outlying rural areas, the figure drops to 16%. About 98% of the power generated and distributed is sourced from fossil fuels: this increases carbon emissions and air pollution and has serious long-term health effects, in particular in terms of respiratory diseases⁹. The Gambia's average electricity tariffs (US \$0.20 per kWh in 2019)¹¹ were above those in Togo (US \$0.176 per kWh) and Senegal (US \$0.182 per kWh). The high cost of electricity is due to the use of expensive heavy fuel.

The Gambia is confronted with an energy crisis. Electricity supply is insufficient, erratic, and amongst the most expensive on the continent. The grid relies on heavy fuel oil; its installed capacity of the grid is 112 MW, of which 88 MW is in the Greater Banjul Area. However, even with the current rental of 30 MW in power, the gap between peak demand and supply stands at 11 MW (not counting suppressed demand) in the Greater Banjul Area. This produces widespread blackouts, with some parts of the area reporting only two to three hours of power per day.

The inadequate electricity supply is a binding constraint on inclusive growth and competitiveness. Businesses in general, especially

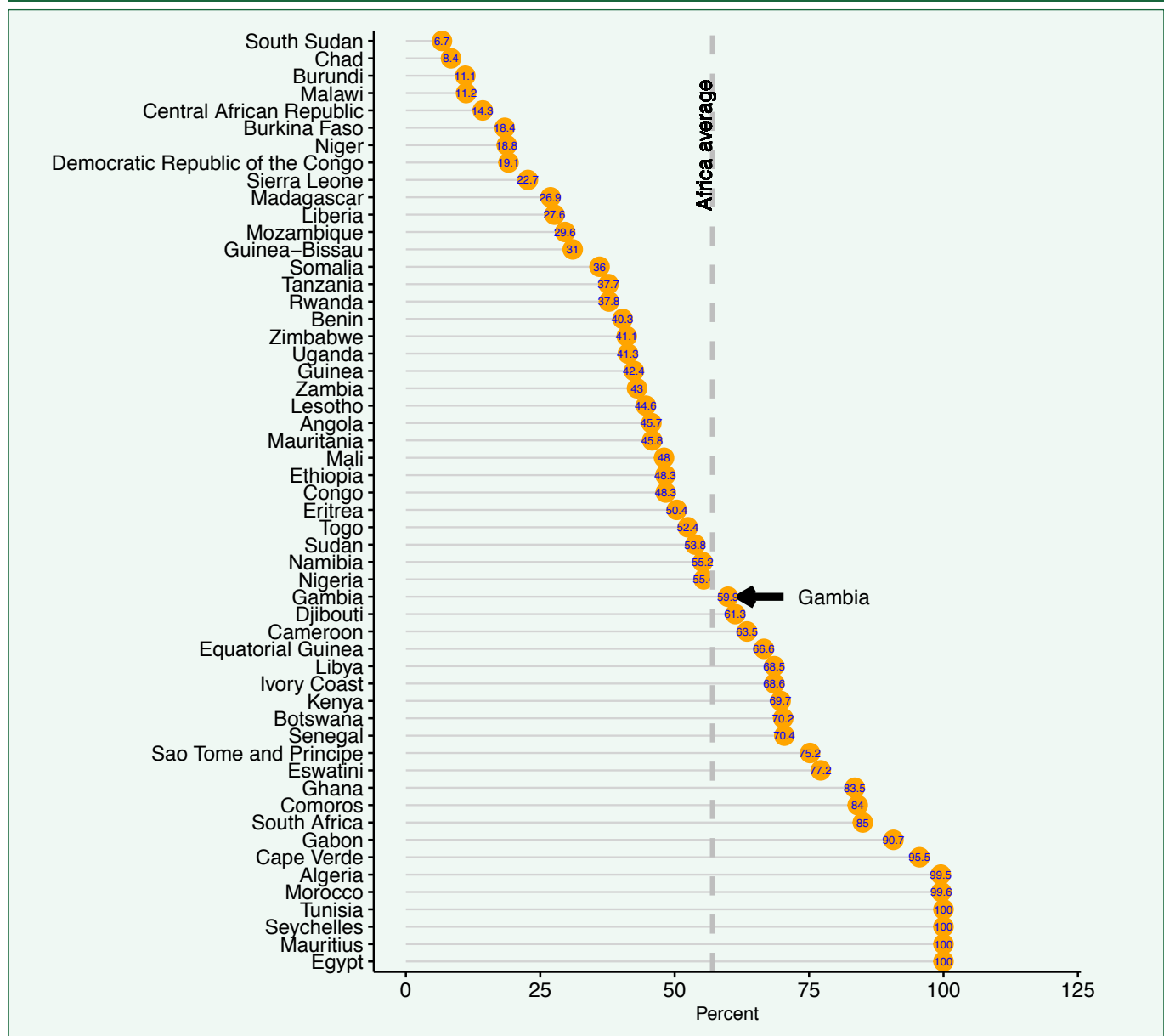
¹⁰ According to the latest World Health Organization data, published in 2020, lung disease deaths in The Gambia reached 206 or 1.6% of total deaths in the country. See <https://www.worldlifeexpectancy.com/gambia-lung-disease>.

¹¹ Source: World Bank, Doing Business database (2019).

hotels, often cite unreliable and expensive electricity as one of their major constraints to growth. About 70% of the firms in The Gambia are forced to depend on expensive backup generators. The ageing power supply infrastructure breaks down frequently because of decades of underinvestment, and about 10% of firms

report losing sales because of power outages¹². In recent years, network distribution losses have fallen from 27% to 22%, but the grid still has serious bottlenecks. Technical and commercial losses remain well above international norms, especially for a small system.

Figure 2.3: Electricity access in Africa by country, 2019



Source: World Bank 2021.

¹² World Bank, ECREEE, Off-Grid Solar Market Assessment and Private Sector Support Facility Design (July 2019).

The Gambia has no hydroelectricity generating potential, and renewable energy accounts for just 2% of all electricity produced. However, the country is working with Guinea, Guinea-Bissau, and Senegal through the Gambia River Basin Development Organization (OMVG) to improve energy supply and security in the OMVG's member states. The Gambia receives 2,500 sunshine hours per annum, which translates to solar irradiance of over 4.5 kW/m²/day. Solar energy is already being harvested for traditional uses: lighting, refrigeration, the heating and pumping of water, electricity for communication equipment, and more. The ongoing development of the OMVG's electrical network could boost the development of large solar power plants near major substations. Investments under The Gambia's Electricity Sector Roadmap (2019–2025) will help scale up electricity generation to a peak capacity of 200 MW in 2025: of this, 14 MW is expected to come from the OMVG's project with Guinea and Senegal, 50 MW from the Souapiti project, and the remainder from independent power producers. The roadmap also prioritizes investing in transmission and distribution to reduce power losses from 22% in 2020 to 17% by 2025, lowering electricity tariffs from US \$0.26/kWh in 2020 to US \$0.18/kWh by 2025, and generating 40% of all energy from renewable energy by 2030 by extending grids and mini-grids and implementing the OMVG's hydropower project.

2.4 Towards a just energy transition: The estimated carbon credit

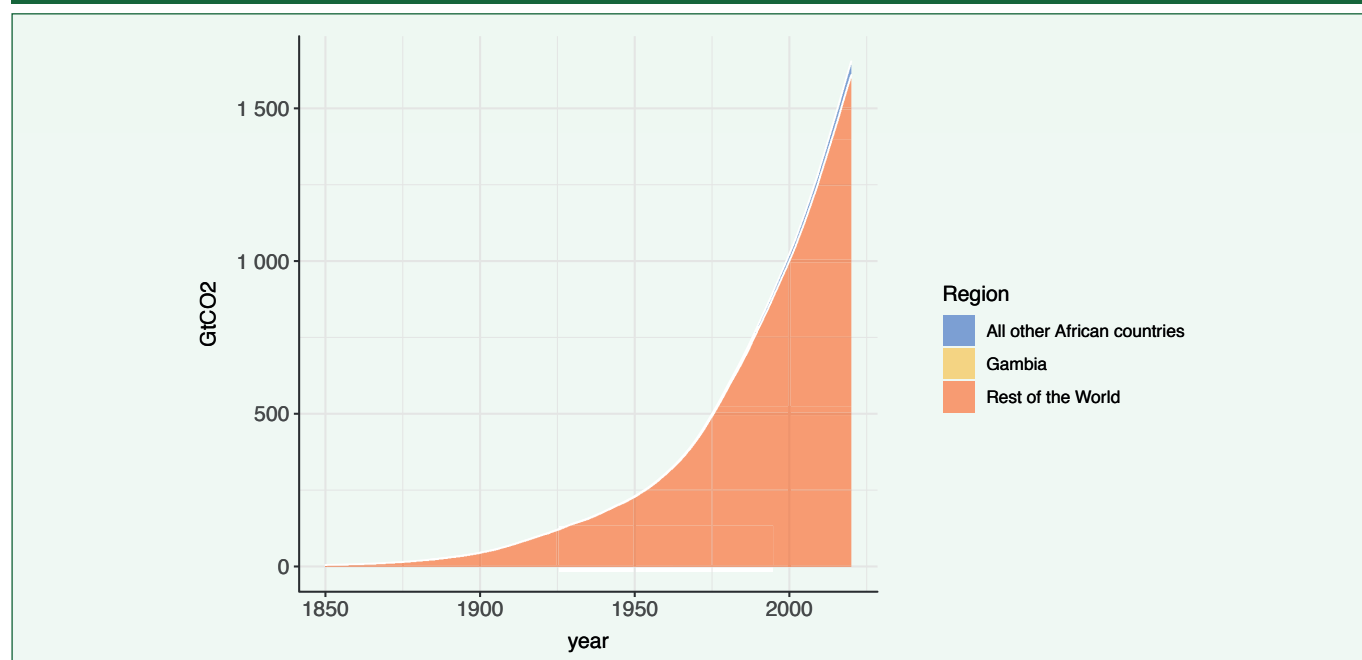
The section on green finance in chapter 3 of African Economic Outlook 2022 stresses the importance of allocating the remaining carbon budget identified by the Intergovernmental Panel on

Climate Change in a way that meets the equitable and fair global commitment to net-zero emissions by 2050. However, no universally agreed carbon allocation framework presents a just balance between some countries' historical responsibilities and other countries' development needs. African Economic Outlook 2022 adopted the pragmatic "contraction and convergence" framework (Meyer, 1999). This framework proposes a two-phased allocation of future emission rights that balances environmental effectiveness, equity, national capacity and ability, political feasibility, economic efficiency, and technical requirements.

One of the most important issues in climate finance negotiations and global commitments to limit temperature increases to 1.5°C is the attribution of the carbon that countries emitted in the past and the remaining carbon budget. The global consensus seems to be that by limiting future emissions and distributing commitments equitably, including commitments for finance, actors can quantify countries' "common but differentiated responsibilities" for historical climate damage. This country focus report refers to this monetary amount as the carbon debt or credit. As discussed in African Economic Outlook 2022, the Intergovernmental Panel on Climate Change sets cumulative carbon dioxide (CO₂) emissions at around 2,400 gigatons of carbon dioxide equivalent (GtCO₂eq); the estimated remaining carbon budget from the start of 2020, with a 67% chance of limiting temperature increases to the 1.5°C target by 2050, is only 400 GtCO₂eq. As Figure 2.4 shows, almost all carbon emissions have come from industrialized countries. The carbon footprint of The Gambia on a per capita basis was only 0.21 tCO₂ in 2020; meanwhile, developed nations like the United States and China had a carbon footprint of 14.34 tCO₂ and 7.41 tCO₂, respectively.



Figure 2.4: Cumulative carbon emissions 1850–2020



Source: Intergovernmental Panel on Climate Change.

Box 2: The methodology used to estimate the carbon credit

Starting from 2035 as the year of convergence, with emissions per capita for all countries of about 2 tCO_2eq falling to zero by 2050, there are two methods of quantifying the average carbon price: the international price and the average social cost.

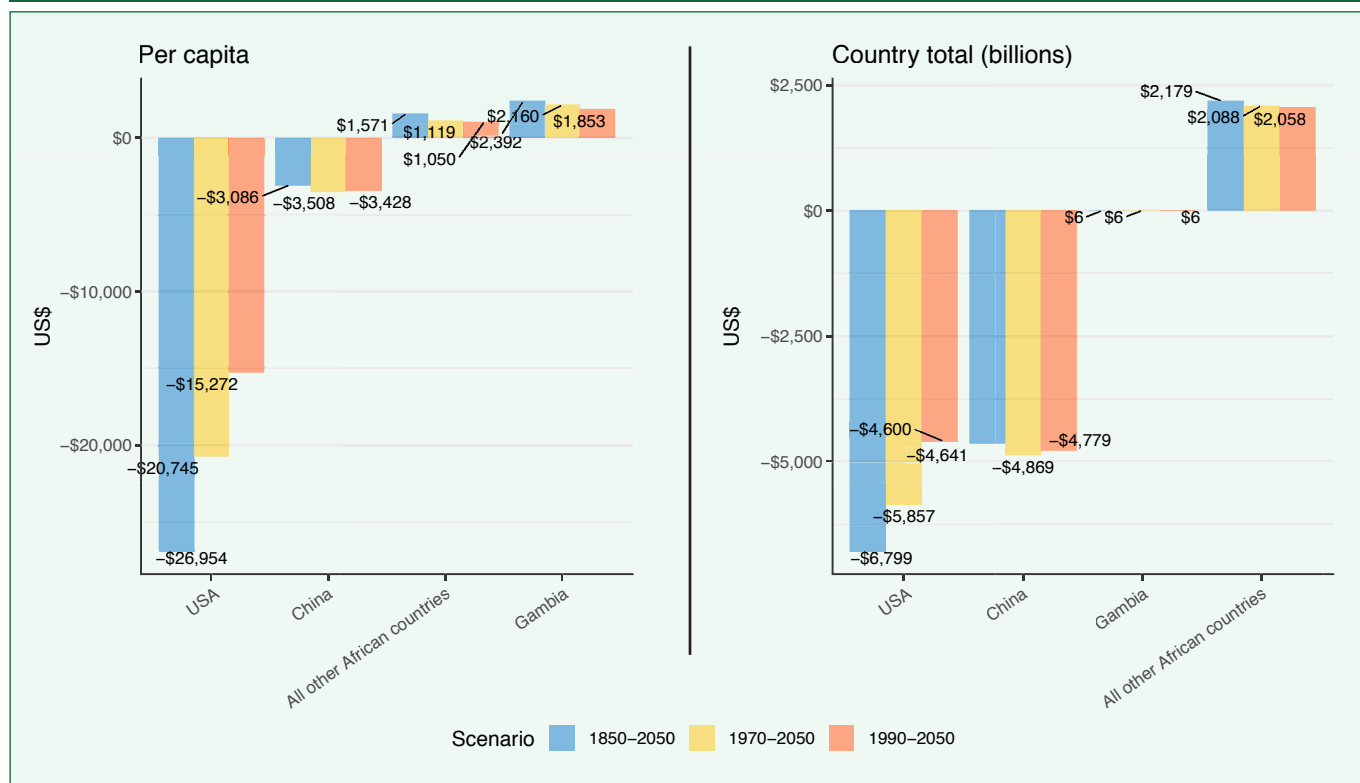
To quantify carbon debts and credits, this report used the 2020 average international energy market carbon price of US \$31 a ton and the average social cost of carbon of US \$70 per ton suggested by the High-Level Commission on Carbon Prices. The report also used the 2% per year discount rate suggested for historical and future emissions. Finally, the report deducted the equal share of 2 tCO_2eq per capita per year from actual annual per capita emissions.

Market prices are, however, distorted on a global scale, as are carbon emissions, due to inherent market failures. To measure the true extent of the cumulative damage caused to the climate, the report used the updated average social cost of carbon.

Figure 2.5 estimates the Gambia's discounted cumulative per capita carbon debts and credits at a discounted international average carbon price of US \$31 per ton for three cut-off years: 1850, 1970, and 1990. The results vary widely, depending on historical per capita emission levels. Emerging and developing regions have carbon credits, but almost all the developed regions, including China, have large carbon debts. Africa's estimated

per capita carbon credits are US \$1,050–\$1,571: these figures represent the amounts owed to an average person in this region. The Gambia's estimated carbon credit is US \$5.74 billion (the lower bound is US \$5.54 billion and the upper bound is US \$5.82 billion). On a per capita basis, the estimated carbon credit averages US \$2,160 (the lower bound is US \$1,853 and the upper bound is US \$2,392).

Figure 2.5: The Gambia's cumulative carbon emission debts and credits at the international average carbon price of US \$31 per tCO₂



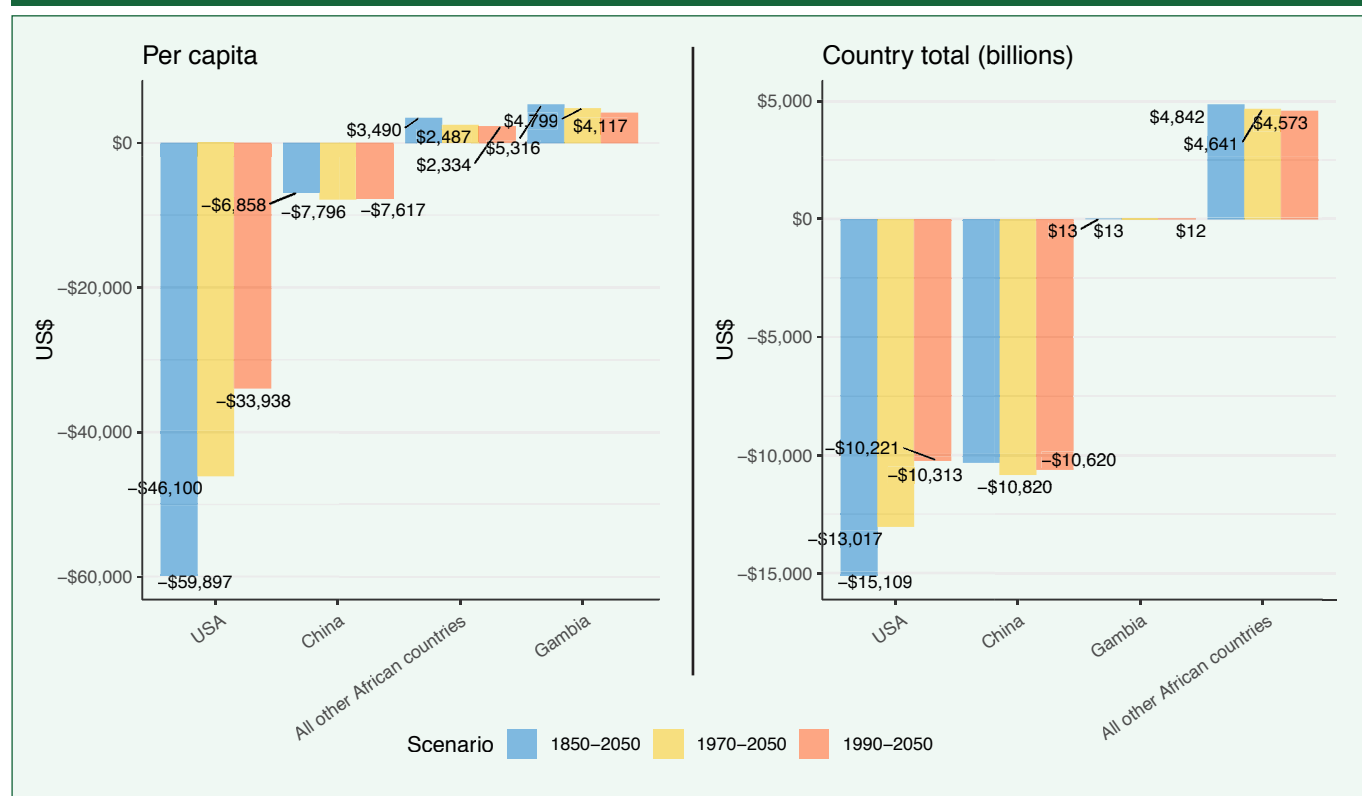
Source: AfDB Staff calculations.

Using the updated average social cost of carbon, The Gambia's accumulated debts and social carbon credits per capita are more than twice the market price (Figure 2.6). The estimate shows that Africa has a total carbon credit of US \$4.58–US \$4.80 trillion, averaging US \$4.64 trillion. This credit considers historical, current, and future shares of carbon emissions. Paid annually over 2022–2050, this comes to about US \$165.8 billion per year, with lower and upper amounts of US \$163.4 billion and US \$173 billion. The amount of carbon credit that the continent is owed is, therefore, almost 10 times as much as the global climate finance that it receives, which was around \$18.3 billion annually

in 2016–2019. Regional estimates are shown in Figures A.1 and A.2 in the appendix.

At the country level, The Gambia's estimated carbon debt at the discounted social cost of carbon is US \$4,799 per capita. This implies that the country is owed US \$12.75 billion. Compensated over 2022–2050, The Gambia should receive an estimated US \$0.46 billion per year in climate change compensation under the “common but differentiated responsibilities” for historical climate damage.

Figure 2.6: The Gambia's cumulative carbon emission debts and credits at a social cost of carbon of US \$70 per tCO₂



Source: AfDB Staff calculations.

Policy priorities for a just energy transition in The Gambia

The assessment of The Gambia's efforts to achieve a just energy transition have distilled several policy priorities:

- (i) The Gambia is a net importer of energy, and 98% of its electricity is generated by fossil fuels. Diversifying the energy mix and investing more in renewable energy would improve the country's economy and climate resilience. It also would increase energy security. Currently, 2% of electricity is generated by renewable sources, compared to 0.8% a decade ago: this is slow progress.
- (ii) Electricity in The Gambia is more expensive than elsewhere in the region. A lack of affordable and reliable modern energy is among the fundamental factors that hinder The Gambia's competitiveness in the global economy and the country's economic transformation. The Gambia must design policies that ensure a just and equitable energy transition: an affordable,

sustainable energy system is critical to pulling millions out of poverty, building climate resilience, strengthening climate readiness, and minimizing climate vulnerability.

- (iii) At the same time, as a high vulnerability-high readiness country, The Gambia must pursue innovative adaptation and mitigation measures. This may include policy instruments that incentivize adaptation.

2.5 National framework to strengthen climate resilience and accelerate the energy transition

The Gambia's development objectives and priorities are spelled out in the National Development Plan 2018–2021 and driven by the 2030 sustainable development goals. The National Development Plan 2018–2021 is to be extended until end-2022 to run alongside the COVID-19 recovery plan. The National Development Plan 2018–2021 is anchored on nine priorities: governance; macro-economic stability; agriculture and fisheries; environment and

climate change; human capital; infrastructure; tourism; youth empowerment; and private sector and trade. The plan's long-term goal is to "deliver good governance and accountability, social cohesion, and national reconciliation and a revitalized and transformed economy for the wellbeing of all Gambians." Priority 9 of the plan takes climate change into account, "promoting environmental sustainability, climate resilient communities and appropriate land use."

Dating from 2016, The Gambia's National Climate Change Policy represents The Gambia's determined, systematic response to interlinked climate threats to the country's sustainable development, wellbeing, and ecological integrity. In 2022, The Gambia developed an ambitious plan for achieving net-zero greenhouse gas emissions by 2050: the Long-Term Climate Neutral Development Strategy 2050. This strategy's mitigation actions include meeting 56% of the country's energy needs by hydropower. The remaining 44%, which is equivalent to 161 GWh, can be provided by wind and solar power. This will cause the country to achieve net zero greenhouse gas emissions in this sector by 2050.

The Gambia began developing a comprehensive National Adaptation Plan in 2015 with funding from the United Nations Development Programme. A roadmap for the plan is intended to facilitate the transition from project-based adaptation planning and implementation to an integrated approach to adaptation across all the country's vulnerable economic sectors. In 2018, The Gambia launched the Integrating Agriculture in National Adaptation Plans. The project is consistent with the National Agricultural Investment Plan (2019–2026) and includes building capacity to facilitate gender-responsive adaptation planning at the sub-regional and community levels. The country has also formulated the Electricity Sector Roadmap (2019–2025), which will contribute to a just energy transition and climate resilience by scaling electricity generation up to a peak capacity of 200 MW in 2025 and increasing the contribution of renewable energy to 40% by 2030.

The main challenges to these ambitious goals are a lack of funding, the slow pace at which sector reforms are implemented, and institutions' weak capacity to implement projects quickly.

To adapt to climate change, the government is focussing on strengthening resilience through an integrated multisectoral approach intended to provoke structural changes while continuing to implement emergency responses. Adaptation efforts include technology transfer in agriculture (e.g., conservation agriculture, tidal irrigation, and aquaculture); water resources (e.g., water conservation, the relocation of water points, and aquifer recharge); and coastal resources (e.g., sustainable sand management and breakwater systems). These measures have been identified under the Strategic Program for Climate Resilience in 2017, whose integrated adaptation framework is the most comprehensive developed to date. The second nationally determined contribution, which was developed in 2021, aims to reduce The Gambia's emissions by 2.7% below business-as-usual by 2030; conditional on international financial support, it targets a 45.4% reduction by 2030. The financing needs in this scenario are costed at US \$420.6 million for adaptation and US \$925.7 million for mitigation.

3. FINANCING CLIMATE RESILIENCE AND A JUST ENERGY TRANSITION

3.1 Climate Finance Needs

Achieving The Gambia's nationally determined contribution targets by 2030 will require huge financial resources and strong institutional capacity. The cumulative financing that The Gambia needs to respond adequately to climate change are estimated to range from about US \$1.55 billion to US \$1.71 billion (Table 3.1) for an average of US \$1.6 billion in 2020–2030¹³ (Figure 3.1). Annually, this comes to about US \$163.8 million, or 8% of GDP in 2022, with lower and upper amounts of US \$157.4 million and US \$170.2 million, respectively.

Adaptation costs are estimated at US \$399.5 million to US \$421.0 million or 24.7% to 25.7% of The Gambia's total needs. These costs are likely to be underestimated because of a lack of data and technical expertise, among other things as regards the uncertainty of future carbon emissions and how these will influence adaptation needs¹⁴. Other social, economic, and political elements such as the volume of future emissions might influence the need for adaptation likewise.

¹³ The country's climate finance needs, inflows, and gap estimates were computed by the African Development Bank's Macroeconomic Policy, Forecasting and Research Department in July 2022.

¹⁴ Source: <https://www.climatepolicyinitiative.org/publication/climate-finance-needs-of-african-countries/>

Mitigation accounts for 57% of estimated needs over 2020–2030, equating to US \$925.7 million. Loss and damages due to climate change are projected to cost from US \$227 million

under the low-warming scenario to US \$356 million under the high-warming scenario.

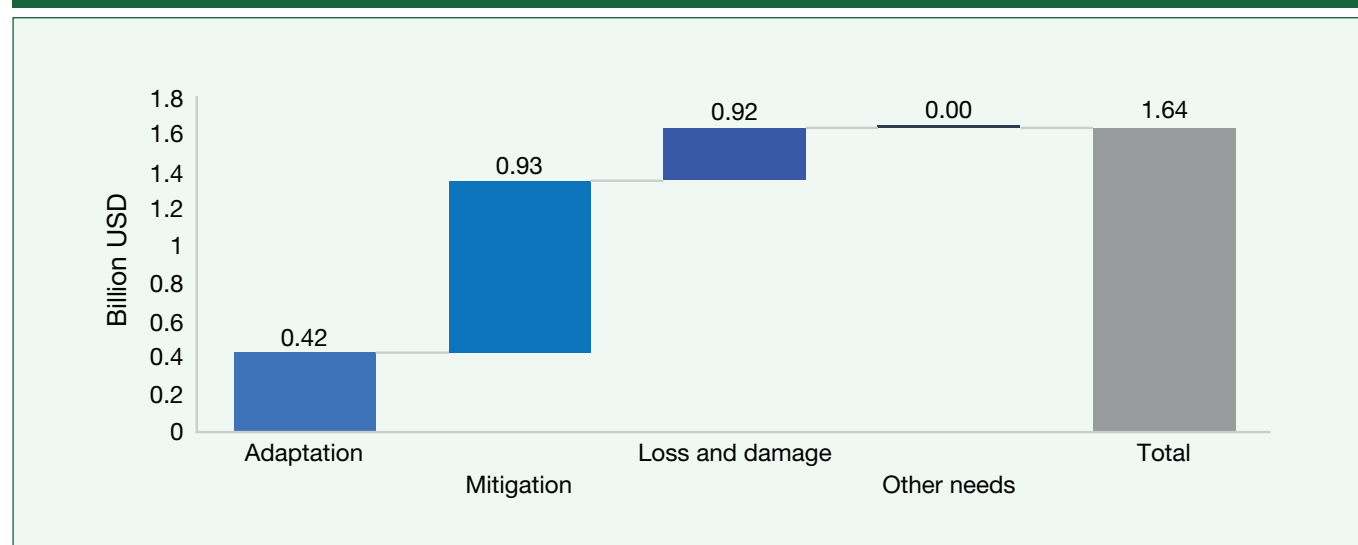
Table 3.1: The Gambia's estimated climate finance needs, 2020–2030

Type of need	Amount (lower bound) US\$ billion	Amount (upper bound) US\$ billion
Adaptation	0.39	0.42
Mitigation	0.93	
Loss and damage	0.23	0.36
Other needs	0	0
Total climate finance needs	1.55	1.71

Source: African Development Bank staff computations based on AEO (2022), Africa NDC Hub, and Integral Consult data.

Note: Other needs include technical expertise, technology, and monitoring, reporting, and verification.

Figure 3.1: The Gambia's cumulative climate finance needs, 2020–2030



Source: African Development Bank staff computations.

3.2 Climate Finance Inflows

Over 2010–2020, The Gambia received US \$0.95 billion in climate finance from developed countries, averaging US \$87 million per year. Climate finance inflows increased on average by 18.2% per year over the same period, ranging from US

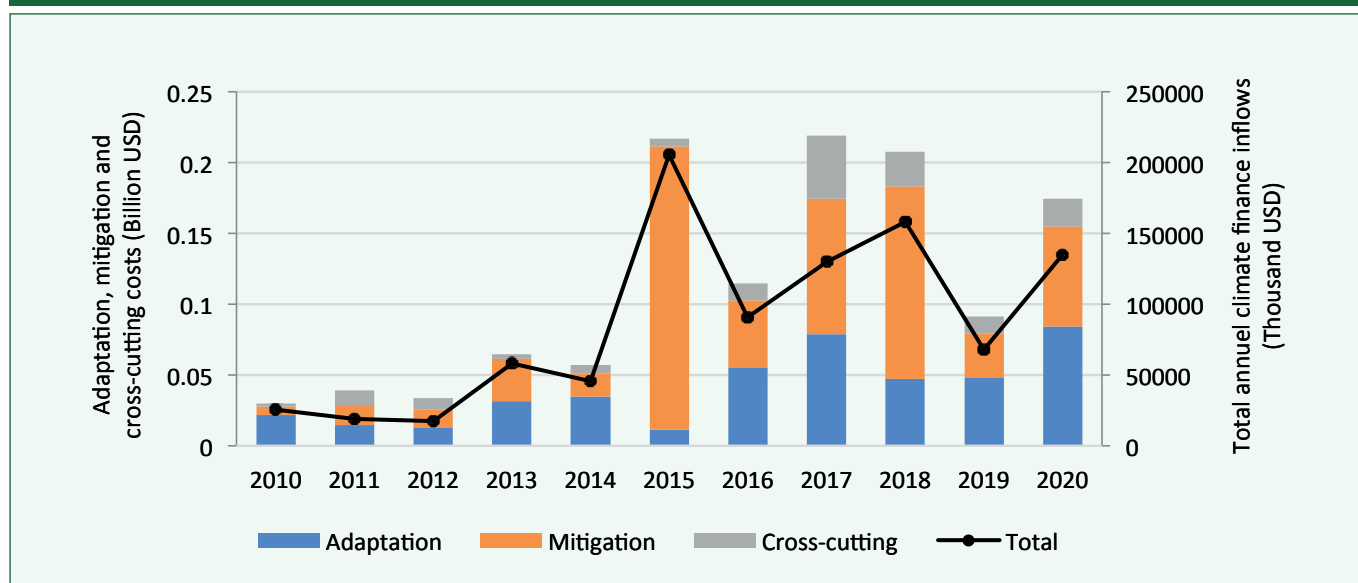
\$25.2 million in 2010 to US \$134.9 million in 2020 and peaking at US \$205.3 million in 2015 (Figure 3.2).

The consolidation of the democratic transition that began in 2016 opened new sources of development finance that have been instrumental to financing the country's climate agenda.

During 2010–2015, the country received US \$371 million of climate finance, or US \$62 million annually. The trend shifted upwards during 2016–2020, with climate finance flows increasing to US \$581 million, or US \$116 million per year. About US

\$0.44 billion out of US \$0.95 billion was allocated to adaptation finance and mitigation actions received US \$0.66 billion. Cross-cutting finance, which covered both climate adaptation and mitigation actions, contributed US \$0.15 billion over 2010–2020.

Figure 3.2: The Gambia’s climate finance inflows



Source: Staff computations based on AEO (2022), Africa NDC Hub, Integral Consult data, OECD data and the Updated NDC of Morocco.
 Note: The total amount of climate finance inflows corresponds to the sum of the values of mitigation and of adaptation, minus the cross-cutting value.

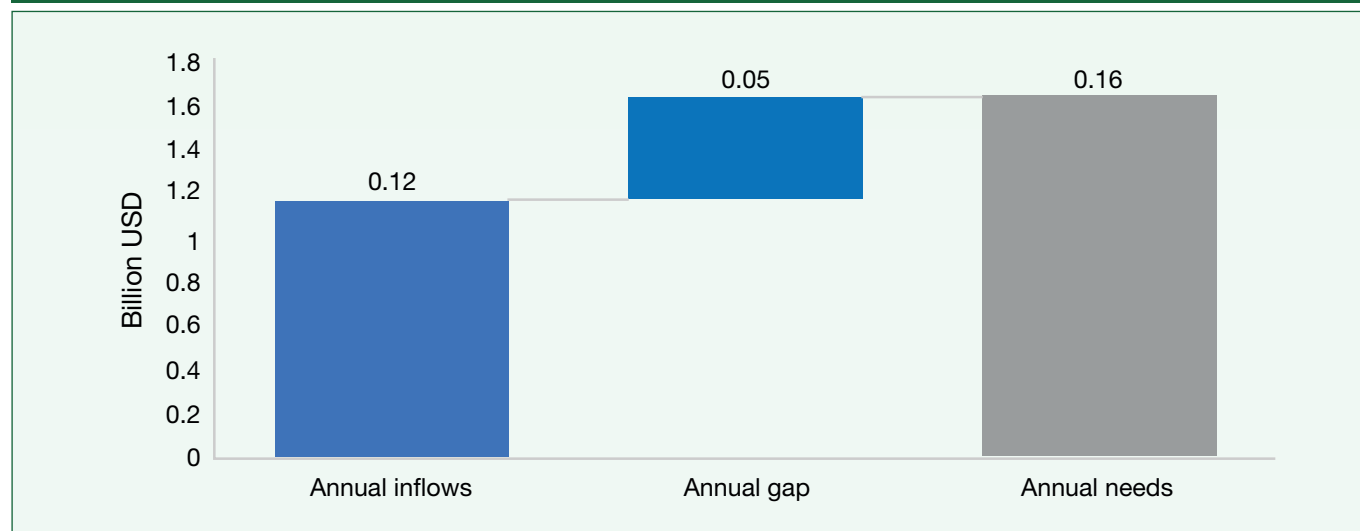
3.3 Climate finance gap

Despite the strong increase in climate finance in The Gambia over 2016–2020, the financing gap for the next few years remains enormous. If The Gambia continues receiving the same

annual amount of climate finance as over 2016–2020 (US \$116 million per year), the financing gap will be between US \$41.1 and US \$53.9 million per year in 2020–2030,¹⁵ averaging US \$47.5 million. This would greatly limit the country’s ability to build resilience (Figure 3.3).

¹⁵ Source: African Development Bank, African Economic Outlook 2022.

Figure 3.3: The Gambia's annual climate finance gap



Source: African Development Bank staff computations.

3.4 Climate Finance Architecture: Initiatives and Instruments

The cost of mitigating and adapting to climate change in The Gambia is enormous. Yet the cost of doing nothing could be even higher. This is because of the extent to which climate change could harm agriculture, livestock, water resources, health, infrastructure, transport, human settlements, physical planning, coastal zone management, energy, tourism, environment, forestry, fisheries, and biodiversity, including wildlife.

The initiatives and financing instruments that the country uses at the national level are based on international and subregional sources of climate finance, mainly the European Union's Global Climate Change Alliance; the World Bank's carbon funds and facilities; the Least Developed Countries Fund of the Global Environmental Facility; the United Nations Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries; the Climate Investment Funds; the Special Climate Change Fund; the Adaptation Fund of the Kyoto Protocol; the Green Climate Fund; and the Scaling-up Renewable Energy in Low Income Countries program. Regional development banks, such as the African Development Bank, have served as alternative climate change funding channels for long-term investment in The Gambia. However, The Gambia has not been able to engage national financial institutions on climate change matters to the extent required.

New sources of financing to be promoted for The Gambia to achieve a just energy transition are green finance, the carbon market, debt-climate exchanges, accounting for natural capital, the national fund, and the private sector.

Green finance: Investments in green projects are limited in The Gambia. They are mainly constrained by the inadequate environment for green financing. Enacting the capital market bill would enable the government to introduce green financing instruments such as green bonds, which can steer investments towards renewable energy, sustainable agriculture, clean transportation, and other priority areas. Options to explore in the short-to-medium term and the long term include green central banks, green fiscal policy, and community-based green funds. These tools and instruments could significantly increase investments in these critical sectors of the economy.

The carbon market: The Gambia's participation in global carbon markets is limited. In February 2022, the Ministry of Environment, Climate Change and Natural Resources signed a memorandum of understanding with David Salma Associates SA, a Swiss consultancy, to assess the potential volume of carbon credits and assist the country to look for potential buyers. Some private sector-driven carbon finance initiatives aim to generate funds for clean water (e.g., co2balance) and reforestation by planting 10,000 trees over the next 10 years (e.g., Project Wild Gambia). The lack of a regulatory framework and architecture for carbon

market credits constrains the emergence of this sustainable financing instrument.

Debt-climate exchanges: Debt-climate exchanges allow governments to swap unsustainable public and private debt for climate protection. This provides countries with timely relief from sovereign debt distress, creates local green jobs, stimulates investment in clean technologies, and makes economic recovery more resilient. Evidence of The Gambia's access to debt-for-nature swaps is undocumented. The International Institute for Environmental Development is currently working with governments and civil society organizations in Cabo Verde, Guinea-Bissau, Mauritania, and Senegal as well as with public and private international creditors to design a scope for debt swaps and agree on debt reduction or relief in exchange for a commitment to positive nature and climate targets.

Accounting for natural capital: With a continental shelf area of about 4,000 km² and approximately 10,500 km² of exclusive economic zone, The Gambia counts over 500 marine fish species. If managed sustainably, this rich resource base has great potential to make a substantial contribution to The Gambia's socioeconomic development. About 47.5% of the country's entire land area (505,000 hectares) is forest cover; woodland makes up 10%. The Gambia has a range of mineral resources, including liquefied gas, clay, silica, sand, titanium tin, and zircon. This wealth of natural resources is threatened by climate change and poor governance. Moreover, it contributes little to the country's development. In 2020, the extractive sector accounted for 1% of GDP. The Gambia is also losing considerable amounts of natural resources to illegal mining and forestry, wildlife trade, poorly regulated fishing, and environmental degradation. Public policies should rely on The Gambia's natural capital to stimulate development, using technologies to minimize damage.

The national fund: The National Climate Change Policy of 2016 provides for establishing the National Climate Change Fund, to be funded with initial contributions from the national budget. In 2019, the National Climate Change Committee initiated the process. Once operational, the fund could change the country's climate finance landscape by mobilizing and disbursing resources more efficiently with a broader range of instruments and by prioritizing the creation of risk reduction and transfer tools and social safety nets for the most vulnerable sections of society. As per the National Climate Change Policy, the fund should channel

at least 50% of climate finance received from national and international sources to local communities.

The private sector: Domestic and international private sector players can invest mainly in the energy and forestry sectors, as well as in industry, manufacturing, and transport. Private sector sources may be supplemented by public-private partnerships and grants or soft loans from multilateral financial institutions.

4. CONCLUSION AND POLICY RECOMMENDATIONS

Climate change is Africa's greatest risk factor, especially in sub-Saharan Africa, which is suffering the brunt of this problem. Gambian authorities are increasingly aware of climate change's threats to inclusive growth: its impact on such critical sectors as agriculture, forestry, fisheries, and infrastructure could reduce GDP growth per capita by 15.3% per year.

The Gambia is the only country in the world that has submitted plans that the Climate Action Tracker deems compatible with the goals of the Paris climate agreement. Nevertheless, the country lags most of its peers on a just energy transition: its green energy sources account for less than 2% of all energy produced. At 59.9%, The Gambia's low access to electricity and its low electricity consumption (137.8 kwh per capita—one of the lowest rates in Africa) are among the principal impediments to industrialization.

Although it contributes marginally to the world's carbon footprint (only 0.21 tCO₂ in 2020 compared to developed nations such as the United States and China, whose carbon footprints were 14.34 tCO₂ and 7.41 tCO₂, respectively), The Gambia bears a disproportionately high burden and is highly vulnerable to the adverse effects of climate change. African Economic Outlook 2022 estimates that The Gambia's carbon credit—calculated at the international average carbon market price of US \$31 per ton—averages US \$5.74 billion. On a per capita basis, this equates to each Gambian being owed US \$2,159.57. Were the world to commit to equitable and fair carbon debts and credits, the resources for The Gambia would cover the country's climate finance gap, which averages US \$47.5 million per year over 2020–2030.

Because of The Gambia's heavy reliance on rain-fed agriculture, climate change is the country's biggest threat to growth and

inclusiveness. Reforms to build climate resilience and make a just energy transition are therefore paramount. Among other things, they would require adopting three recommendations:

- **Reducing the country's vulnerability to climate change:**

The Gambia's vulnerability stems from generally low socioeconomic development and a lack of resources. It is therefore imperative that the country develop responses by identifying and assessing disaster risks and strengthening collaboration and coordination.

- **Building climate resilience:** To reduce its climate vulnerability, The Gambia should adopt climate-smart agricultural practices; low-cost but effective technologies for wastewater use; small-scale irrigation techniques; land conservation; and

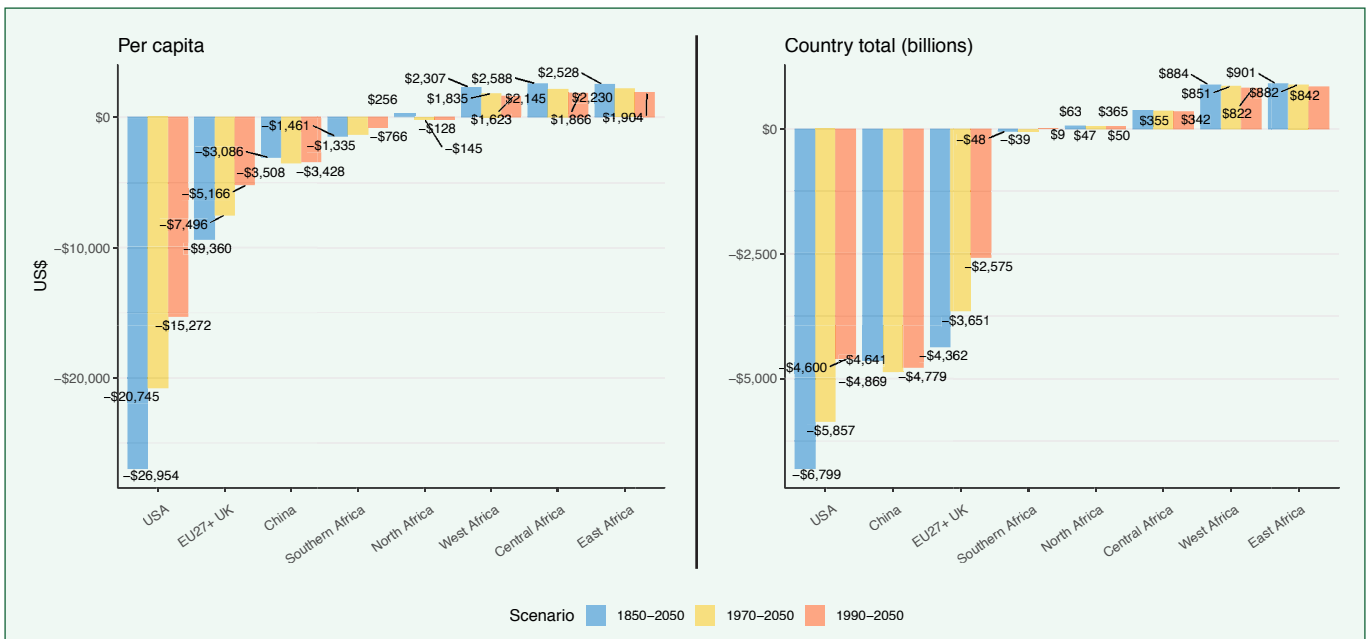
the restoration of forests, mangroves, and the savanna belts. The country should also adopt complementary technologies, such as seeds that resist drought, as part of the Technologies for African Agricultural Transformation program.

- **Closing the climate finance gap:** To close the climate finance gap, Gambian authorities are urged to leverage private sector finance, consider introducing feed-in tariffs and clean energy subsidies, and negotiate carbon trading schemes. Developing risk management instruments is also critical to mitigating risk in low-emitting, climate-resilient investments. The Gambia also needs to mobilize additional climate finance through green finance mechanisms, which will require policy and regulatory reforms. Finally, the country needs to generate more domestic finance through ambitious tax reforms.



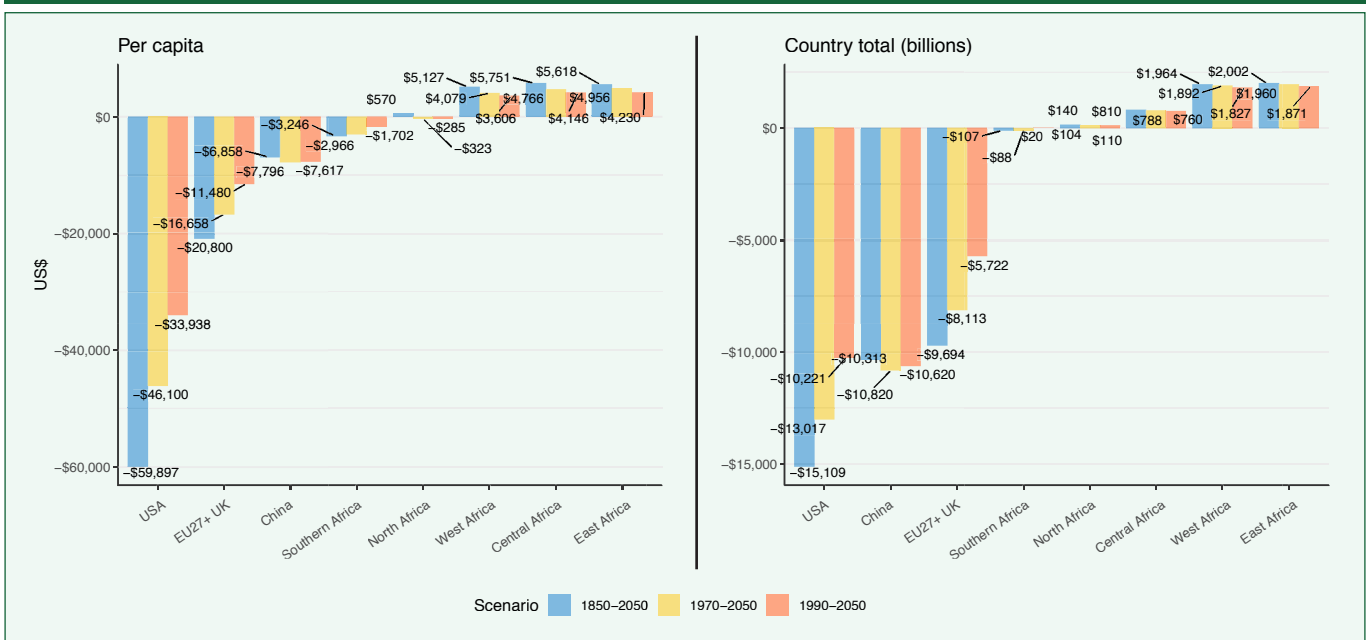
Appendix

Figure A.1: Cumulative carbon emission debit at international average carbon price of US\$31 per tCO₂, Africa regions



Source: AfDB staff computations.

Figure A.2: Cumulative carbon emission debit at social cost of carbon of US\$70 per tCO₂, Africa regions



Source: AfDB staff computations.

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