COUNTRY FOCUS REPORT 2022

LIBERIA

SUPPORTING CLIMATE RESILIENCE AND A JUST ENERGY TRANSITION

Country Economics Department (ECCE)

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Liberia, due to its location on the west coast of Africa, within the tropical rain forest climate belt with heavy rain, is faced with high climate change risks, including cyclones, floods and rising sea levels. Its vulnerability to climate variability and climate change is affecting millions of people thus making adaptation efforts more pressing as rapid changes in weather patterns erode the productivity of local water and food systems and generate unintended consequences for sustainable development.

This note discusses recent trends on climate change and a just energy transition in Liberia. The note is structured in four sections as follows: section 1 discusses recent economic developments and prospects; section 2 climate resilience and a just energy transition; section 3 assesses financing climate resilience and a just energy transition; and section 4 presents the conclusions and recommendations.

1. RECENT MACROECONOMIC DEVELOPMENTS AND OUTLOOK

As in other countries in the region, shocks to the economy coming from the prolonged Ukraine-Russia crisis, coupled with the slow pace in rolling out COVID-19 vaccines and limited policy spaces could dampen Liberia's growth recovery efforts. In this section, a discussion is initiated around recent macroeconomic developments as well as the prospects and risks.

1.1. Recent macroeconomic and financial developments

Real GDP Growth: The Liberian economy showed signs of recovery in 2021 from the impact of COVID-19 in 2020. Real GDP growth was estimated at 3.3 percent in 2021, from a decline of 3.0 percent in 2020. This growth was driven by agriculture, which was estimated to grow by 3.2 percent in 2021 against a decline of 4.5 percent in 2020, by mining with a 3.6 percent growth up from 3.1 percent in 2020, and construction with 8.1 percent growth up from 7.1 percent in 2020. Growth was also supported by good macroeconomic policy and the reopening of the economy.

Monetary policy and inflation: In 2021, the Central Bank of Liberia (CBL) focused on managing Liberian dollar liquidity to maintain low inflation and exchange rate stability. Inflation eased from 17 percent in 2020 to 8 percent in 2021, driven by a 15.9 percent decline in food inflation from 30.0 percent in 2020 to 14.1 percent in 2021. The CBL cut the policy rate to 20.0 percent in August 2021 from 25.0 percent in 2020 in order to stimulate economic activities.

Fiscal and current account balances: Fiscal deficit was estimated to narrow to 3.3 percent of GDP in 2021 against 3.6 percent of GDP in 2020, mainly due to good revenue performance. Revenue increased to 17.8 percent of GDP in 2021, up from 13.8 percent of GDP in 2020, on account of improved tax collection and a pickup in economic activities. Fiscal deficit was financed by borrowing from the CBL, as grants declined to 12.9 percent of GDP in 2021 from 15.3 percent of GDP in 2020. As of October 2021, public debt stock amounted to USD 1.68 billion, equivalent to 54.7 percent of GDP, of which external debt was 32.3 percent and domestic debt was at 21.4 percent of GDP. Total public debt increased by 6.8 percent from the October 2020 level. The current account deficit widened to 17.4 percent of GDP in 2021 from 16.1 percent of GDP in 2020 on account of widening trade deficits as imports increased. The current account deficit was financed by a surplus in financial and capital accounts. The financial account balance was in surplus at 1.1 percent of GDP in 2021 against a deficit of 2.2 percent of GDP in 2020, mainly on account of increased holding of foreign currency by commercial banks. The capital account balance also improved to 3.3 percent of GDP in 2021 from 3.1 percent of GDP in 2020, mainly reflecting increased investment grant receipts. International reserves stood at USD 716 million as of December 2021, on account of the Special Drawing Rights allocation of SDR 247.7 million (USD 349.5 million or 48 percent of international reserves). Import cover increased to 4.4 months

of imports in December 2021 from 2.3 months of imports during the same period in 2020. The exchange rate appreciated by 9.8 percent from Liberian dollar (LRD) 162.34 per USD in December 2020, to LRD 146.27 per USD in December 2021, attributable to increased foreign exchange inflows.

Financial sector: In 2021, the financial sector remained sound despite high Non-Performing Loans (NPLs) of 22.5 percent as at June 2021, well above the 10 percent regulatory threshold, a marginal increase from 21.2 percent in June 2020. During the same period, the CBL reported a 2.2 percent increase in capital adequacy ratio to 32.9 percent above the 10 percent regulatory threshold, total assets expanded by 2.1 percent while liquid assets grew by 21.9 percent. Average interest rates remained at the same level of 12.4 percent as in 2020 and the average spread between lending and deposit rates stood at 10.3 percent.

Table 1 - Macroeconomic Indicators

Macroeconomic indicators	2017	2018	2019	2020	2021 (e)	2022 (p)	2023 (p)
Real GDP Growth (%)	2.5	1.2	-1.4	-3.0	3.3	3.5	4.3
Real GDP Growth per Capita (%)	-0.1	-1.3	-3.9	-5.4	0.9	1.1	1.9
Inflation (%)	12.4	23.5	27.0	17.0	8.0	9.8	8.1
Overall Fiscal Balance, including Grants (% GDP)	-5.3	-5.2	-6.2	-3.6	-3.3	-5.5	-3.5
Current Account (% GDP)	-24.5	-22.6	-22.5	-16.1	-17.4	-20.8	-17.5

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

Poverty and social indicators: Recent economic growth has not led to inclusive growth in Liberia, mainly due to high income inequality and the slow pace of structural change. According to the World Poverty Clock, the number of people living in extreme poverty is estimated to have declined from 44 percent in 2020, to 43.0 percent in 2021. Unemployment is estimated at 3.3 percent in 2020, but this is considered an underestimation given the increased job losses due to the COVID-19 pandemic. To address these challenges, the government has prioritized poverty reduction through investment in the enablers for economic transformation including infrastructure and skills development.

1.2. Outlook and risks

The outlook is positive with risks titled to the downside due to the Ukraine-Russia crisis. Growth is revised downward to 3.5 percent and 4.3 percent in 2022 and 2023 respectively due to the crisis. On the supply side, the crisis is anticipated to cause reduction in activity by increasing cost of production. And on the demand side, it is anticipated to reduce consumption due to increase in cost of living.

Monetary policy and inflation: The CBL is expected to pursue contractionary monetary policy in 2022 and 2023 to curb inflation growth. inflation is projected to surge to 9.8 percent and 8.1 percent in 2022 and 2023 respectively driven by food and energy inflation.

Fiscal and current account balance: The fiscal deficit is forecast to widen to 5.5 percent in 2022 and 3.5 percent in 2023 caused by lower grants and increase in subsidy. The current account deficit is forecast to widen to 20.8 percent and 17.5 percent of GDP in 2022 and 2023, due to an increase in the import bill, as fuel and food constitute about 50 percent of total imports.

The financial sector is expected to remain stable and profitable but is still vulnerable to economic shocks. NPLs are expected to reduce towards the statutory requirement of 10 percent as the economy continues to recover. The CBL is making efforts to modernize the financial sector to reduce transaction costs and enhance financial inclusion and deepening.

The poverty rate is projected to decline to 41 percent in 2022 and 40 percent in 2023, due to anticipated rollout of key priority development activities in line with the Accelerated Community Development Program. Improved private sector development, governance, human capital development and social safety nets remain key to poverty reduction.

Box 1: Allocation of Special Drawing Rights

In August 2021, in the context of the COVID-19 recovery program, the International Monetary Fund (IMF) allocated USD 650 billion to member countries, with USD 32.5 billion (5 percent of total) allocated to Africa. Liberia received USD 349.5 million equivalent in Special Drawing Rights (SDR) (11 percent of GDP and 48 percent of international reserves). The Central Bank of Liberia (CBL) has recorded the SDR allocation as foreign reserves. The SDR allocation has also been included in the 2022 national budget. A budget provision for debt repayment amounting to USD 115.2 million has been made in the 2022 budget to be paid from the SDR allocation. The Government of Liberia plans to deploy these resources to four main areas: (i) scaling up vaccination for COVID-19; (ii) build foreign reserves; (iii) finance the implementation of priority infrastructure projects; and (iv) retire expensive private debt. Rural infrastructure has been specifically targeted through the Government's Accelerated Community Development Programme (ACDP) that aims to address rural-urban inequalities through infrastructure investment. Specifically, the ACDP intends to build a rural road infrastructure, improve access to electricity, to economically empower rural farmers and women and create jobs, especially for the youth.

Risks to the outlook could include slow vaccine rollout; non-adherence to prudent macroeconomic policies; and the Ukraine-Russia crisis. The crisis could increase food, energy, and fertilizer prices in the international market. GDP could grow lower than projected; inflation could increase, driven by food and energy inflation; fiscal deficit could widen caused by lower grants and increase in subsidy; current account deficit could widen due to an increase in the import bill, as fuel and food constitute about 50 percent of total imports. The crisis could also push many below the poverty-line. Risk mitigating measures could include creating fiscal space by reprioritizing spending to finance subsidies and continued structural reform drive to entrench macroeconomic stability.

2.CLIMATE RESILIENCE AND JUST ENERGY TRANSITION

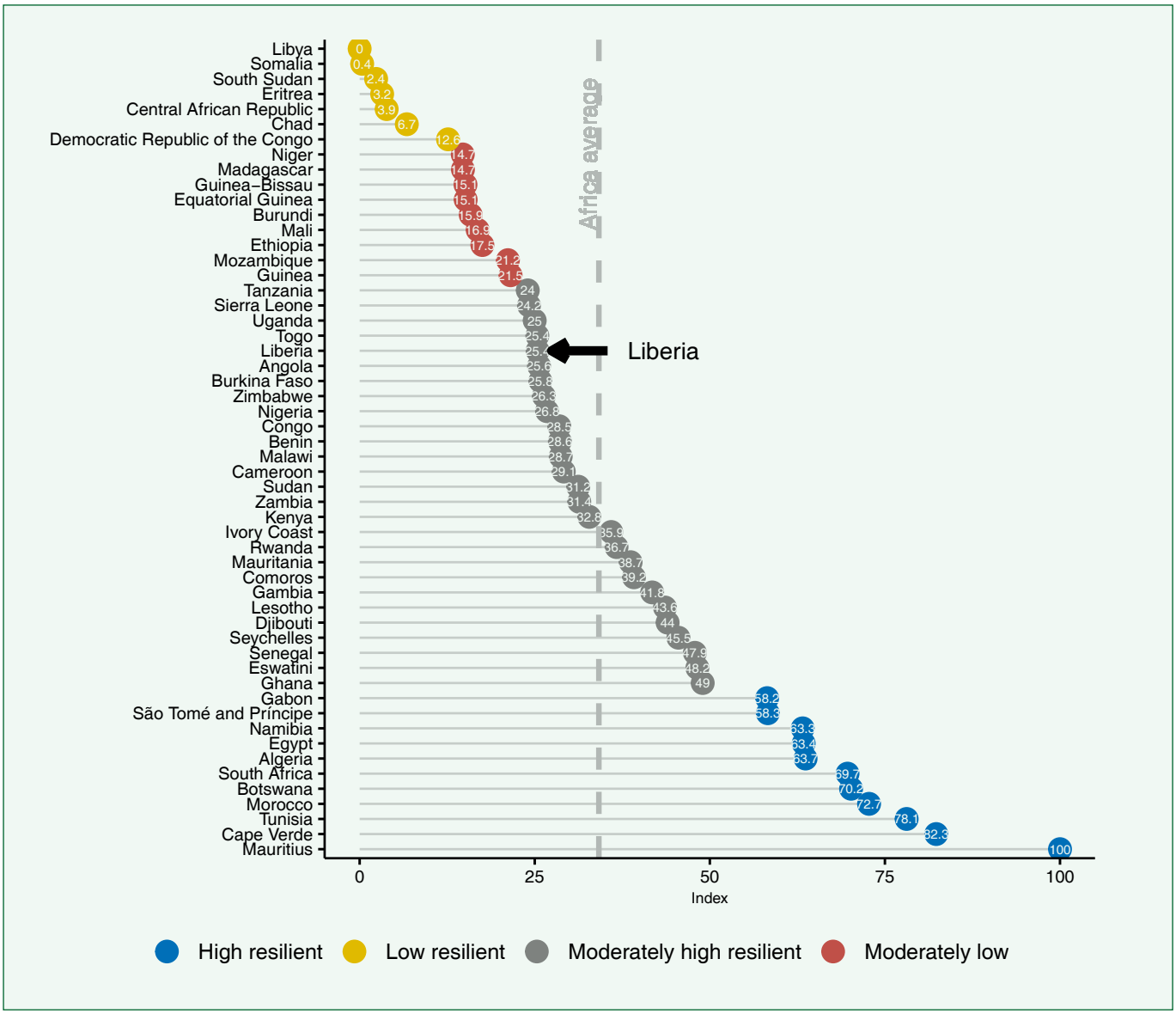
2.1 Climate resilience, readiness, and vulnerability

Among the many challenges in building climate resilience is access to modern energy. As extreme weather events become more frequent and intense, installation of residential and workplace climate control systems is important for building climate resilience among households and businesses requiring modern energy. However, such efforts are held back by Africa's low modern energy production and consumption. Energy is vital in building resilience for key productive sectors of African economies, including agriculture, where changing patterns in rainfall and temperature threaten output and productivity. Unfortunately, Africa's low level of access to modern energy presents significant challenge and dilemma in its quest to build climate resilience, and Liberia is no different.

Liberia is exceptionally vulnerable to climate variability and climate change which affect millions of people and make adaptation efforts more pressing. Rapid changes in weather patterns erode the productivity of local water and food systems and generate unintended consequences for sustainable development. The African Economic Outlook (AEO) 2022 estimates the Climate Resilience Index (CRI). The report shows that in 2010–2019, Africa was the least climate-resilient region in the world with both the lowest median (28.6) and mean (34.6) CRI scores, well behind Europe and Central Asia, the most resilient regions to climate shocks. Between 2010 and 2019, Liberia was one of the countries with the least climate-resilience with a CRI score of 25.4 (see figure 2). The country is also one of the most climate vulnerable countries in the world with the least readiness. The estimated climate vulnerability and climate readiness indices for Liberia are, respectively, 60.6 and 28.4. Moreover, the country is classified as High Vulnerability–Low Readiness[1] (see figure 2.1).

[1]The African Economic Outlook 2022

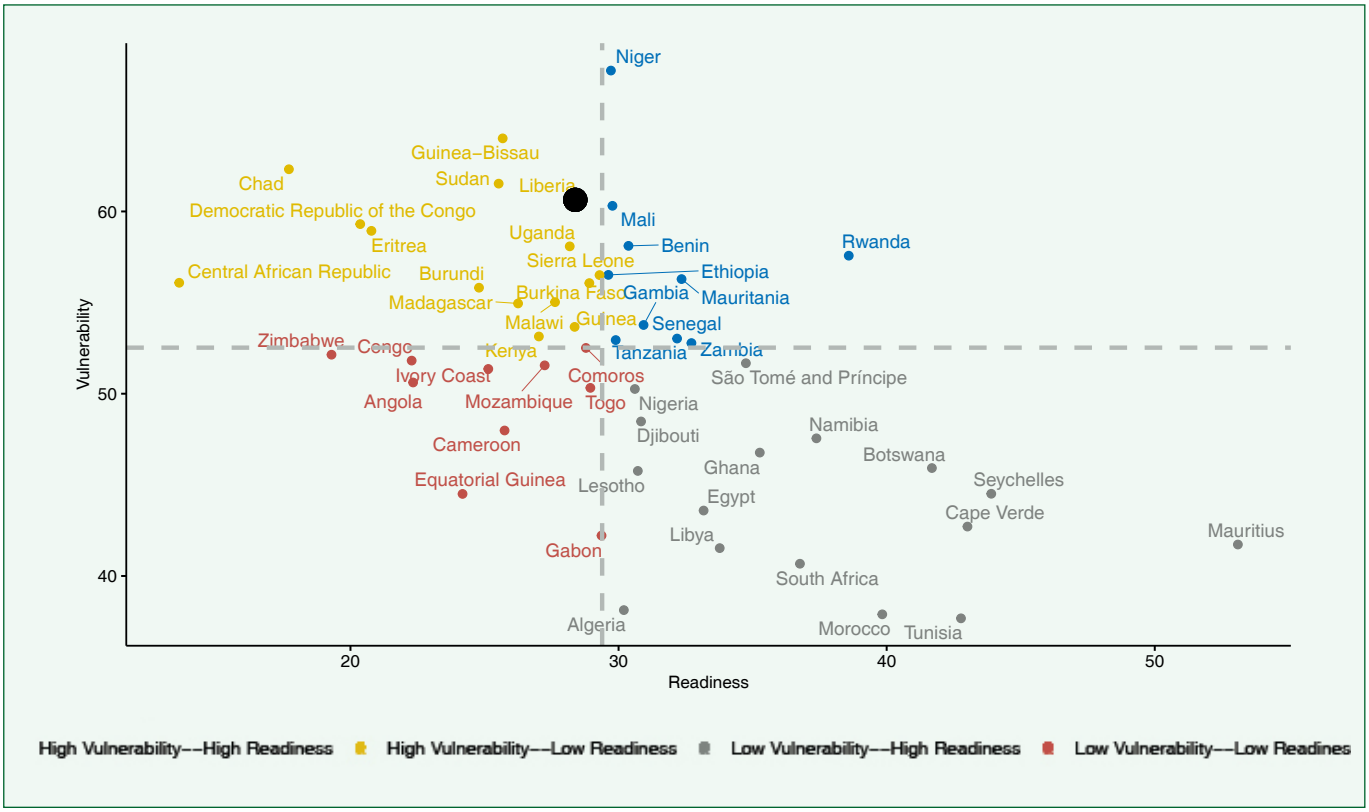
Figure 2.1: Climate resilience score for African countries, average 2010-2019



Source: Staff calculations.

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

Figure 2.2: Classifications of countries by climate vulnerability and readiness characteristics average 2010 - 2019



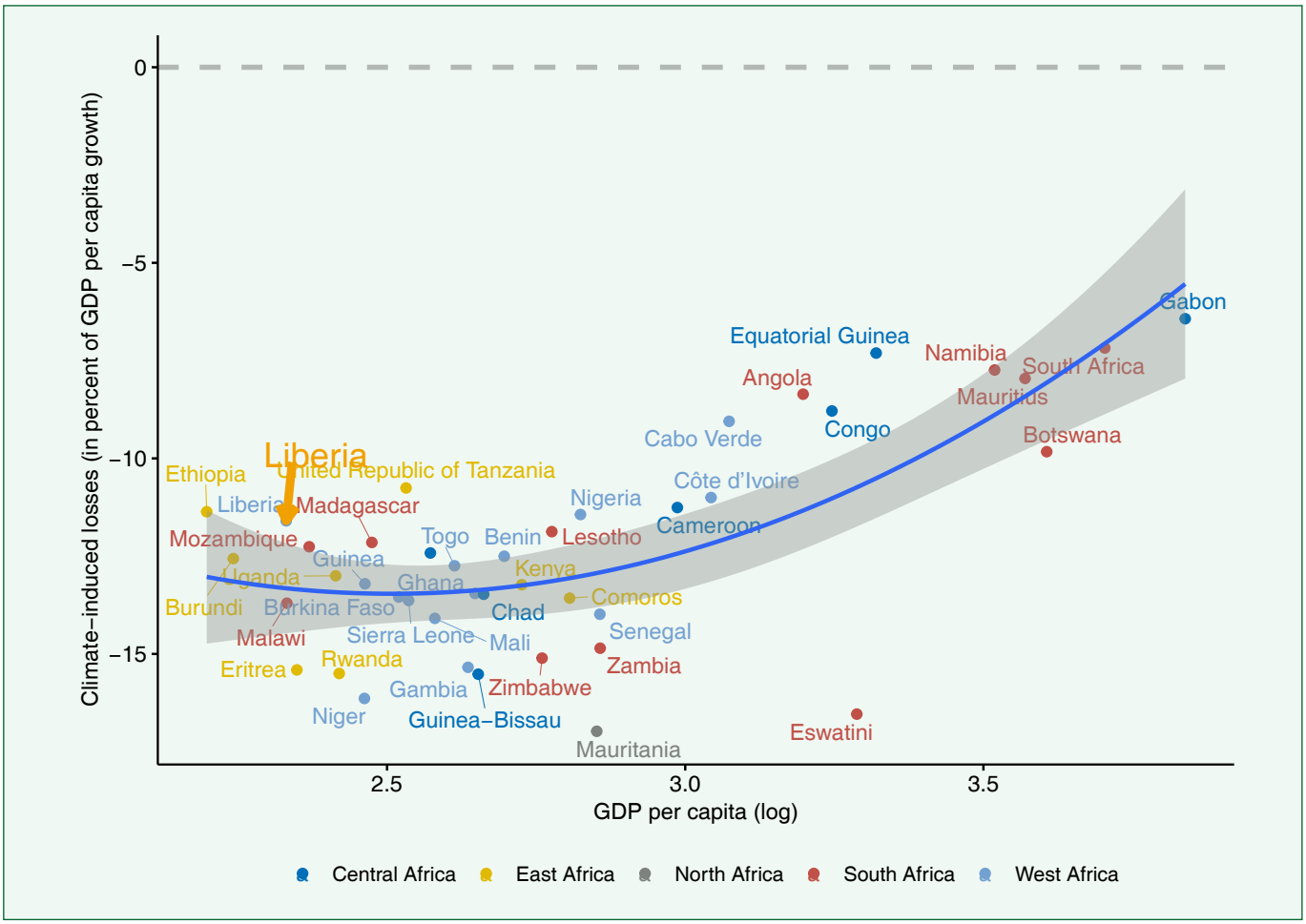
Source: Staff calculations based on Notre Dame Global Adaptation Initiative database.
Note: The four quadrants are delineated by the median score of vulnerability and readiness indices across all countries in 2010–19.

2.2. Climate change and socio-economic impacts

Liberia is faced with high climate change risks, including cyclones, floods and rising sea levels. This is because of its location on the west coast of Africa within a tropical rain forest climate belt with heavy and persistent rains for most the year. Such disasters have often resulted in the destruction of peoples's livehoods and socio-economic infrastructure. Liberia is, therefore, exceptionally vulnerable to climate variability and climate change which affect millions of people and make adaptation efforts more pressing as rapid changes in weather patterns erode the productivity of local water and food systems and generate unintended consequences for sustainable development.

As shown in Figure 2.3, 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 socio-economic outcomes. These include increased risk of mortality, morbidity, high risk of resource-related conflicts, internal displacement and migration. For example, the severe floods of 2007 displaced hundreds of people, cut off piped water to about 250,000 people in Monrovia and caused a serious shortage of safe drinking water due to the pollution of water points. Therefore, Liberia needs to build climate resilience. Building climate resilience involves synergies with considerable mitigation co-benefits. As discussed in the African Economic Outlook 2022 main report, examples of building climate resilience include climate-smart agricultural practices and low-cost but effective technologies such as water harvesting and small-scale irrigation techniques, land and water conservation and management strategies, and minimum or zero tillage agriculture with high net returns to farmers — and even higher when farmers adopt complementary technologies. Building resilience also requires transformative changes, with support from the public sector.

Figure 2.3 Average annual climate-induced losses as a share of GDP per capita growth in Africa Average 1986–2015



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

The Government of Liberia is committed to tackling climate change challenges through several national policies and strategic interventions. In addition, the Environmental Protection Agency (EPA) has:

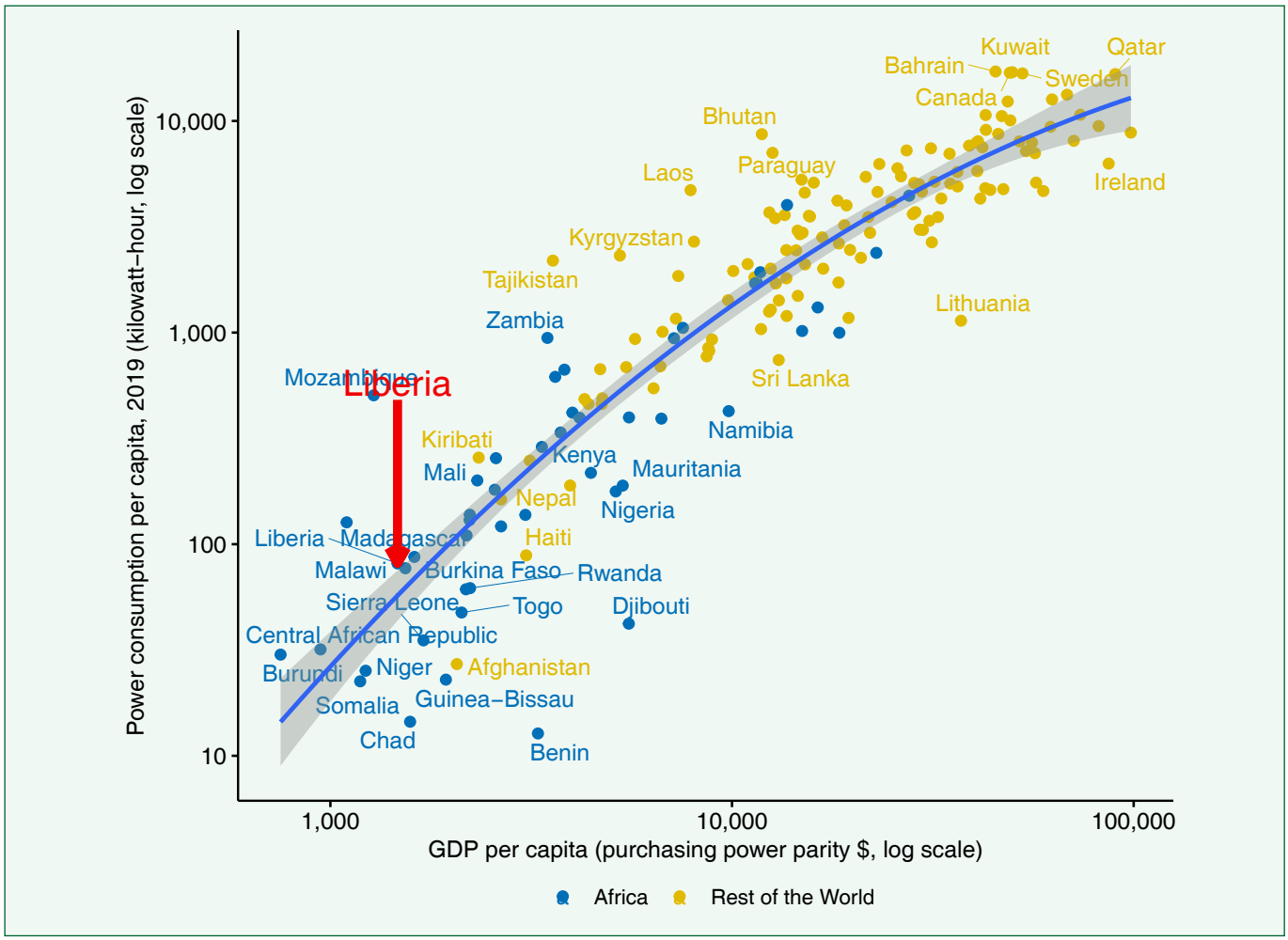
- collaborated with key line ministries and agencies to coordinate, integrate, harmonize, and monitor the implementation of environmental policy and integrate environmental concerns in overall national development planning.
- collected, collated, and analyzed basic scientific data and other information pertaining to pollution, degradation of ecosystems and on environmental quality and resource use.
- trained and built the capacity of line ministries and agencies.
- ensured the preservation and promotion of important historic, cultural, and spiritual values of natural resource heritage; and
- in consultation with local authorities, enhanced effective natural resource management plans.

Despite these measures, challenges persist and would require real time support from donors.

2.3 Energy, development and a just transition

Beyond playing a critical role in building climate resilience, access to modern energy is vital to industrialize and meet the development aspirations of its people, as well as to create high-quality jobs and prosperity for all. A strong correlation exists between GDP per capita and modern energy consumption in the form of electricity across a wide range of countries. Emerging economies such as China, and more recently India, have driven most of the energy growth of the last 15 years, while some high-income countries seem to have already peaked on per capita and even total energy demand. Unfortunately, Africa remains the world's least industrialized region, and modern energy holds a pivotal role in facilitating the speed and degree of structural transformation (figure 2.4).

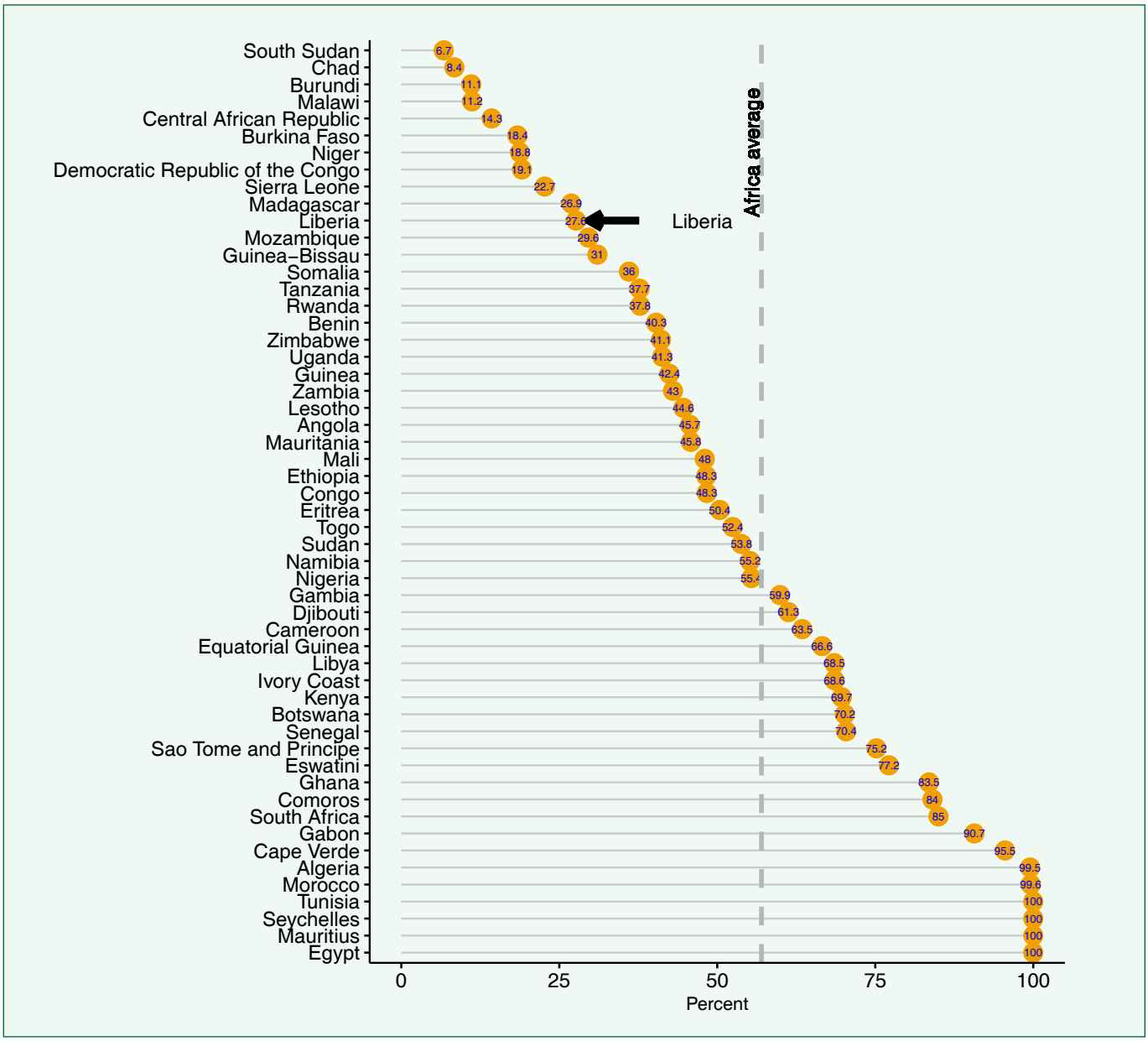
Figure 2.4 Per capita electricity consumption and GDP per capita, 2019



Source: Staff calculations based on BP data
Note: Blue line represents a linear projection.

With 81.082 kWh per capita electricity consumption in 2019, Liberia has one of the lowest electric power consumptions in Africa as well as in the world. This low level of electricity consumption is associated with low GDP per capita (ppp adjusted) which was only USD 1,470 in 2019. Around half of Africa's population still does not have access to electricity. At slightly above 50 percent — about 600 million people — Africa has the lowest electricity access rate of all global regions, a rate that drops to less than 30 percent on average in rural areas. In Liberia, about 27.6 percent of the population has access to electricity compared to Africa's average of 57 percent (figure 2.5).

Figure 2.5 Electricity access in Africa, by country, 2019



Source: World Bank 2021.

2.4. Estimated carbon debt

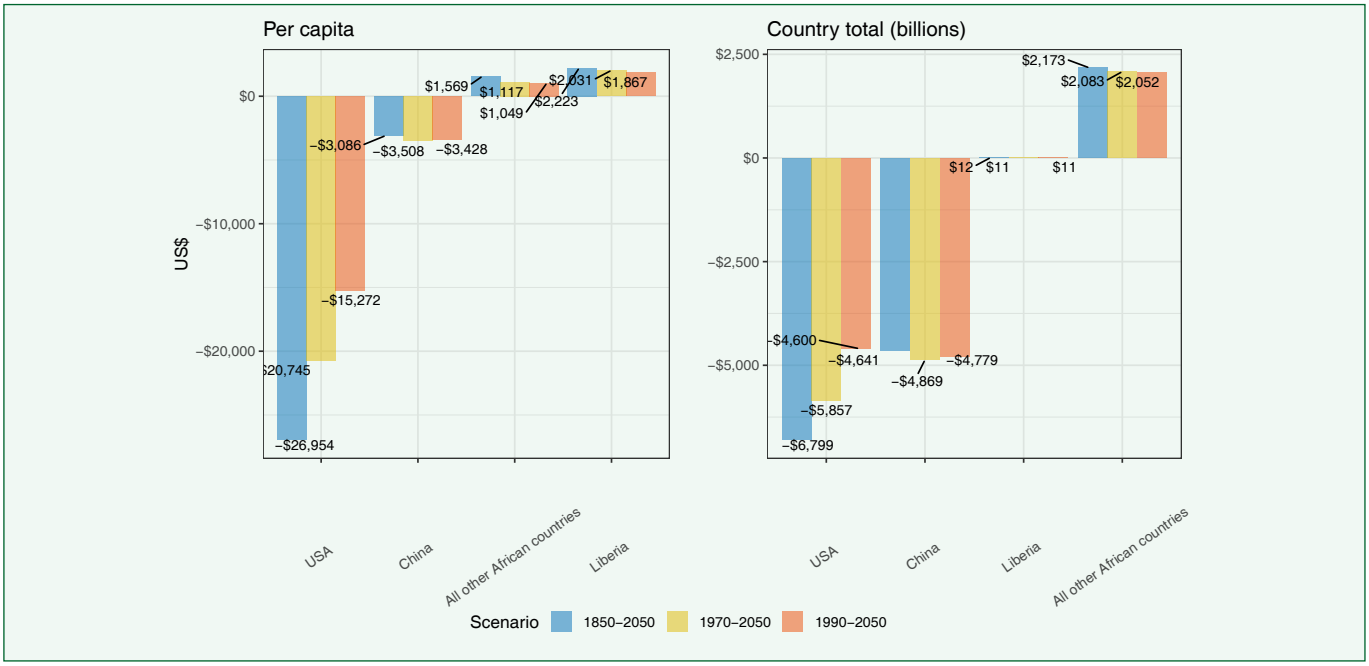
To meet the net-zero emissions target by 2050, it is important to allocate the remaining carbon budget set out by the IPCC in a way that meets the equitable and fair global commitment (see the section "Green finance" in chapter 3 of AEO 2022). However, there is no universally agreed carbon allocation framework that accounts for, or offers, a just balance between countries' historical responsibilities and the development needs of other countries. Although there are several documented approaches, the African Economic Outlook 2022 adopted a pragmatic approach of "contraction and convergence" framework (Meyer, 1999). This approach proposes a two-phased future emission rights allocation that balances environmental effectiveness, equity, national capacity and ability, political feasibility, economic efficiency and technical requirements.

One of the most important issues in global climate commitments to limit temperature increases to 1.50 C, and in climate finance negotiations, is attributing the amount of carbon that countries emitted in the past and allocating the remaining carbon budget. The global consensus seems to be that by limiting future emissions and setting commitments equitably, including those for finance, countries can quantify the "common but differentiated responsibilities" of countries with regard to historical climate damage. The Country Focus Report (CFR) for Liberia refers to this monetary amount as carbon debt or credit. As discussed in the 2022 African Economic Outlook, the Intergovernmental Panel on Climate Change (IPCC) puts 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 percent chance of limiting temperature increases to the 1.50 C target by 2050, is only 400 GtCO2eq. Almost all carbon emissions have come from industrialized countries, with the developing world emitting a very small amount of emissions. The carbon footprint of Liberia on a per capita basis was only 0.2 tCO2 in 2020, which is much smaller compared to developed nations such as the United States and China whose carbon footprint was 14.34 tCO2 and 7.41 tCO2.

To quantify the amount of carbon debt and credit, we used the 2020 average international energy market carbon price of USD 31 a ton and the average social cost of carbon of USD 70 per ton suggested by the High Commission on Carbon Prices and used the suggested 2 percent per year discount rate for historical and future emissions [2]. We also deducted the 2 tCO2eq percapita per year equal share from the actual annual per capita emissions before computing the per capita carbon debts and credits.

Figure 2.6 shows the discounted cumulative per capita carbon debts and credits for Liberia at a discounted international average carbon price of USD 31 per ton for three cut-off years: 1850, 1970 and 1990. The estimates vary widely depending on historical per capita emission levels: emerging and developing regions have carbon credits, but almost all the developed regions, including China, have large carbon debts. Africa's estimated per capita carbon credits are USD 1,050–USD 1,570, which are the amounts that an average person in these regions is owed. The estimated carbon credit at the international average carbon market price for Liberia is USD 11.39 billion with a lower level of USD 11.07 billion and upper level of USD 11.60 billion. On a per capita basis, the estimated carbon credit amounts to USD 2,030.86 on average with lower and upper levels of USD 1,866.79 and USD 2,223.36, respectively.

Figure 2.6 Cumulative carbon emission debt at international average carbon price of US $31 per tC02

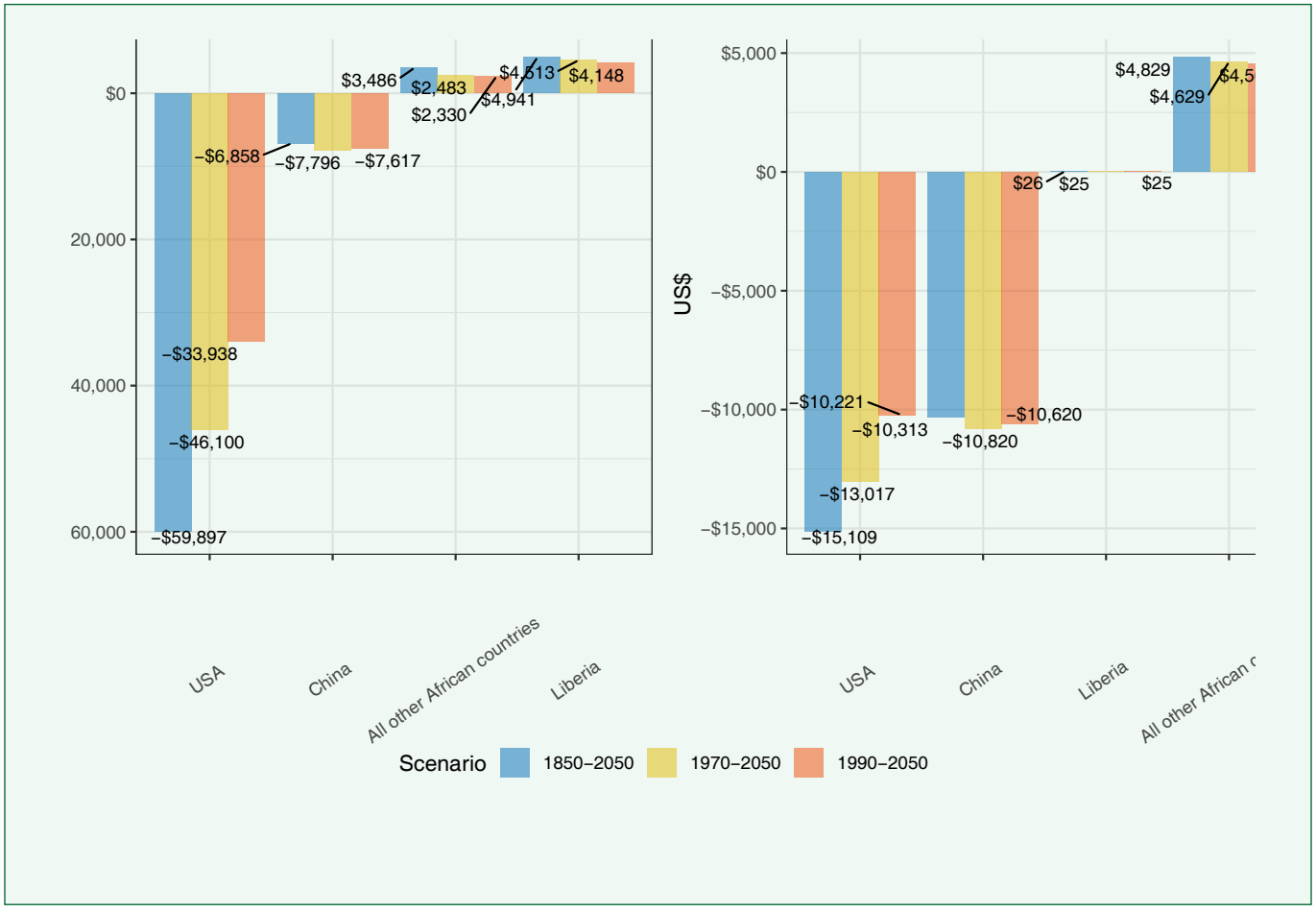


Source: Staff calculations.

[2]https://carbonpricingdashboard.worldbank.org; https://www.carbonpricingleadership.org/report-of-the-highlevel-commission-on-carbon-prices; Mitchell et al., 2021.

Market prices are, however, distorted on the global arena — as are carbon emissions — due to inherent market failures. To measure the true extent of cumulative damage to the climate, we used the discounted average social cost of carbon, finding that cumulative per capita social carbon debts and credits are more than double the amount using market prices (figure 2.7). The estimate shows that Africa has a total carbon credit of USD 4.58–USD 4.8 trillion, averaging USD 4.64 trillion, a credit that considers historical, current and future shares of carbon emissions. Paid annually over 2022–2050, this comes to about USD 165.8 billion a year, with lower and upper amounts of USD 163.4 billion and USD 173 billion. The amount of carbon credit that the continent is owed is, therefore, almost 10 times as much as the global climate finance that it received, which was around USD 18.3 billion annually in 2016–19. At the country level, the estimated carbon debt using discounted social cost of carbon for Liberia is USD 4,513.01 on a per capita basis. This implies that the country is owed USD 25.32 billion. Compensated annually over 2022-2050, Liberia should receive an estimated USD 0.90 billion per year in climate change compensation under "common but differentiated responsibilities" principles accounting for historical climate damage.

Figure 2.7 Cumulative carbon emission debt at social cost of carbon price of US $70 per tC02



Source: Staff calculations.

2.5 National framework to strengthen climate resilience and accelerate energy transition

Liberia's National Vision 2030, aims to reduce poverty, promote socio-economic development, and reduce the impact of weather and climate-related disasters in the country. The country's Pro-Poor Agenda for Prosperity and Development 2018-2023 has integrated green growth, environmental resilience and adaptation into national development planning. The country's 2017 National Policy and Response Strategy on Climate Change guides implementation of mitigation actions for climate change and vulnerability reduction. Liberia's Environmental Protection and Management Law of 2003 and National Environmental Policy of 2002 guide actions around sustainable environmental protection. The government has also established the Environmental Protection Agency (EPA) which is a government regulatory institution responsible for sustainable management of the environment and natural resources. The EPA is also the key institution responsible for the implementation of climate change and mitigation actions.

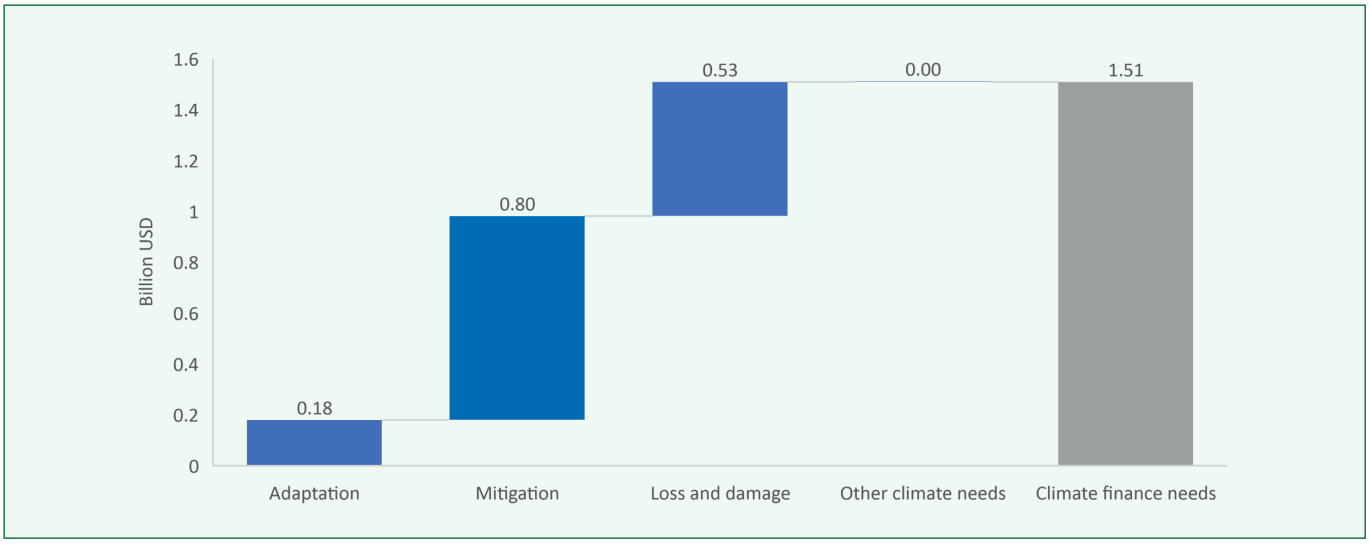
In 2021, Liberia submitted an ambitious revised Nationally Determined Contribution (NDC) report to the NDC Partnership initiative, demonstrating the country's commitment to tackling climate change challenges. NDC targets for 2030, through Liberia's National Vision 2030 which aims to reduce poverty, promote socio-economic development and reduce the impact of weather and climate-related disasters in the country, include: development of alternative livelihoods for forest dependent populations; establishment of an early warning system for climate disasters and flooding; establishment of 2 marine protected areas; development of small-scale compositing of market waste; and strengthening the health system including training and deployment of 1,000 community health workers and 500 environmental health technicians.

3. CLIMATE FINANCE NEEDS, INFLOWS AND GAPS

3.1 Climate finance needs

The estimated cumulative financing needs for Liberia to respond adequately to climate change range from about USD 1.39 billion to USD 1.62 billion, averaging USD 1.51 billion, in 2020–2030. Put annually, this comes to about USD 0.14 billion, with lower and upper amounts of USD 0.13 billion and USD 0.15 billion, respectively (figure 3.1). These costs are likely to be underestimated [3]. Adaptation costs are estimated at USD 0.18 billion, or 11.9 percent of Liberia's total needs. Mitigation accounts for 53.1 percent of the estimated needs in 2020-2030, with USD 0.80 billion. Loss and damage costs due to climate change is estimated at USD 0.53 billion (figure 3.1).

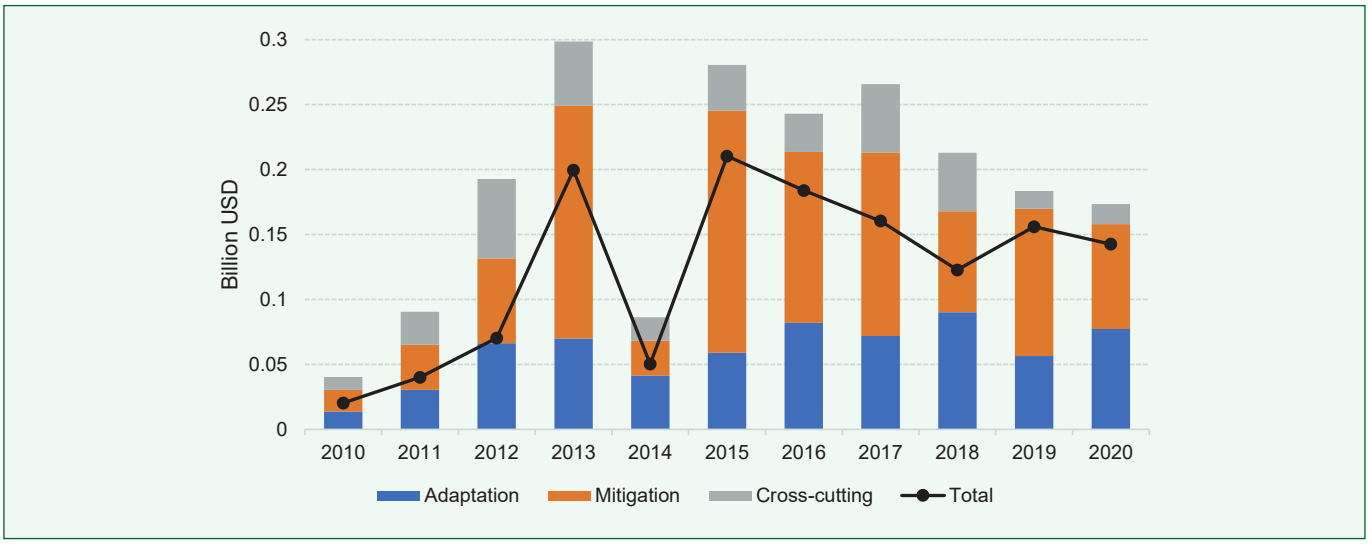
Figure 3.1: Liberia cumulative climate finance needs, 2020-2030, billion USD



Source: AfDB staff Computations

[3]This is according to the CPI report which can be found here https://www.climatepolicyinitiative.org/publication/climate-finance-needs-of-african-countries/

Figure 3.2: Climate finance inflows to Liberia, billion USD



Source: AfDB staff Computations

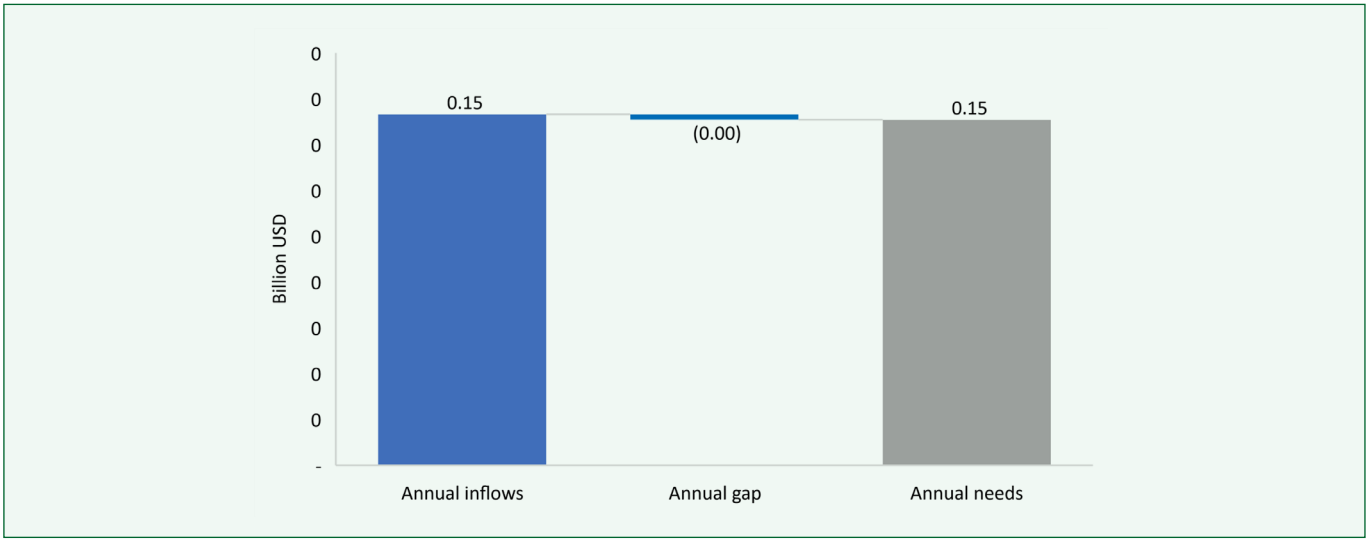
3.2 Climate finance inflows

Over 2010-2020, Liberia received USD 1.36 billion in climate finance mobilized by developed countries, averaging USD 118.18 million per year. Climate finance inflows have increased annually by 24.17 percent on average over the same period, ranging from USD 20.3 million in 2010 to USD 142.6 million in 2020, after peaking at USD 210.4 million in 2015. Over 2010-2015, the country received USD 590 million in climate finance (or USD 98.3 million annually), compared to USD 770 million for the period 2016-2020 (or USD 154 million per year). USD 660 million out of USD 1.36 billion was allocated to adaptation finance while mitigation actions received USD 1.05 million in total. Cross-cutting finance, which covered both climate adaptation and mitigation actions, amounted USD 360 million over 2010-2020.

3.3. Climate finance gap

Assuming that Liberia continues to receive the same annual amount of climate finance as received over 2016-2020 (USD 150 million per year), the resulting financing gap would be zero (figure 3.2).

Figure 3.2: Annual climate finance gaps, billion USD



Source: AfDB staff Computations

3.4. Climate finance architecture: initiatives and instruments

The initiatives and financing instruments used at the national level are based on the multilateral financing mechanisms of the United Nations Framework Convention on Climate Change. These are mainly the Global Environment Facility (GEF), the Green Climate Fund (GCF), the Climate Investment Fund (CIF) and Multilateral Financial Institutions such as The African Development Bank (AfDB) and the World Bank. Below are some of the efforts made by Liberia in collaboration with some climate finance institutions:

- In 2018, The Government of Liberia received USD 805,000 as part of a USD 2.2 million Green Climate Fund grant to support its national climate adaptation planning process. The release of funds to the West African country represents GCF's first transfer of adaptation resources to a least developed country (LDC). Liberia will use the GCF funds to kick-start a cross-government approach aimed at integrating climate change adaptation throughout key ministries, agencies, and authorities, and to develop corresponding strategies. The focus area of the grant was identified by the government following a national stocktaking exercise. This exercise found that limited inclusion of climate adaptation considerations in coastal planning and key sectors like agriculture, energy, forestry and health would be adversely affected by climate change. The government also plans to use grant resources to boost the institutional capacities of two front-line offices – the Environment Planning Authority and the National Climate Change Secretariat – that have been mandated to drive Liberia's climate adaptation efforts, as well as to ensure all adaptation activities are gender-responsive. GCF's adaptation planning support program provides additional USD 3 million to Liberia for the formulation of national adaptation plans (NAPs) or other adaptation planning processes. GCF aims for a floor of 50 percent of Readiness Programme funding to particularly vulnerable countries, including Liberia.
- In March 2021, the Green Climate Fund approved a USD 17.2 million grant for a climate resilience project in Liberia's capital city of Monrovia. The UNDP-supported project will protect vulnerable communities from the life-threatening impacts of sea-level rise and coastal erosion. This will help to protect lives and build climate resilient livelihoods in the Liberian capital of Monrovia. The six-year Monrovia Metropolitan Climate Resilience Project will be implemented by Liberia's Environmental Protection Agency with the support of the United Nations Development Programme (UNDP), The Government of Liberia is providing USD 8.4 million in co-financing for the project. The project will indirectly benefit approximately 1 million people – a quarter of the country's total population – through the adoption of an integrated coastal zone management approach for Liberia.
- In 2022, the African Development Bank extends a USD 10 million grant to enhance climate information systems (January 2022). This will enhance the Climate Information Systems for Resilient Development in Liberia (Liberia CIS) and the Green Climate Fund. The project will reduce the exposure of Liberia's communities, livelihoods, and infrastructure to climate-induced natural hazards through a well-functioning national Multi-Hazard Impact-Based Forecasting and Early Warning System (MHIBF-EWS). A well-functioning MH-IBF-EWS means having in place trained and equipped Liberia Meteorological Service (LMS), Liberia Hydrological Service (LHS), Environment Protection Agency (EPA), the National Disaster Management Agency (NDMA) to collect weather and climate data; introduce and maintain modelling, forecast weather events, and provide early warnings; scale-up evidence-based climate-informed decision-making, planning, and response actions countrywide. Having these in place will lead to transformative change in climate risk reduction and management in Liberia. This new paradigm will focus on translating meteorological and hydrological hazards into the sector-specific and location-specific potential impacts for the development of responses to mitigate these impacts. The project´s activities will further support the design, development and implementation of strategies and actions in the country that effectively address climate change adaptation and sustainable development needs
- The Climate Investment Funds (CIF), with support from the African Development Bank, awarded Liberia a grant in the amount of USD 23.25 million to help transform the country's renewable energy sector. The project aims at developing a 9.8 MW hydropower plant at Gbedin Falls on the Mano River in Nimba County and provide a low-cost, sustainable, and reliable source of electricity to Liberia. The project will be funded by the Scaling-up Renewable Energy Program (SREP), a program under the CIF, the objective of which is to empower transformation in developing countries by demonstrating the economic, social and environmental viability of renewable energy.

Other sources of financing to be promoted in Liberia to help fight climate change issues and achieve a just energy transition include green finance, debt-climate swap, natural capital accounting, the national fund and private sector participation.

Green finance: Liberia prepares to access the carbon market through the issuance of green bonds. This disclosure came about six months after the UN 26th Conference on Climate Change in Glasgow, Scotland, the United Kingdom that there is an inherent imbalance in the current architecture of climate financing. Counties like Liberia, that maintain and protect the largest remaining tracts of forest reserves, receive the lowest benefits for these ecosystem services. During that meeting, the President said, although Liberia bears the brunt of the impact of climate change, the country benefits the least from the existing solutions and financial arrangements currently in place for tackling climate change.

Debt-climate swaps: These exchanges are gaining popularity internationally, and some regional and national organizations are exploring them as an option to raise climate funds. This trading mechanism implies debt cancellation provided that repayments are invested in climate change adaptation and mitigation in order to stimulate economic activities and accelerate private investment. Several countries in Africa are now considering debt-for-climate swaps as an innovative solution to manage mounting public debts, climate change challenges – particularly underfunded adaptation action – and COVID-19 recovery. Liberia being a low-carbon country but one of the countries most vulnerable to effects of climate change is poised to benefit as soon as the initiative is approved and launched.

Natural capital accounting: Liberia should leverage its natural capital to stimulate development. Its blue resources, such as fishing and aquaculture, are are abundant. Consequently, Liberia has started undertaking its Natural Capital Mapping and Accounting to understand the contribution of biodiversity and ecosystem services to Liberia's sustainable development. In this pilot project, Conservation International developed maps of essential natural capital for the following values: biodiversity, forest carbon, non-timber forest products (including bushmeat), freshwater ecosystem services (including flood regulation and sediment regulation for hydropower), and coastal protection from mangrove ecosystems. This critical information can provide a first-cut assessment enabling Liberia to make important natural resource decisions as it develops plans for achieving its national sustainable development targets. We also built one ecosystem account for Liberia's timber sector, to show the linkages between Liberia's natural capital (forests) and its national economy.

In February of 2020, Liberia formally began the journey towards developing national SEEA Ecosystem Accounts. The Liberia Environmental Protection Agency (EPA), in partnership with other governmental agencies, and support from Conservation International, started implementation of the GEF-funded project Conservation and Sustainable Use of Liberia's Coastal Natural Capital (the GEF NCA Liberia Project). The key objective of this five-year project is to improve conservation and sustainable use of Liberia's coastal natural capital by mainstreaming the value of nature into Liberia's development trajectory. The project has the following elements: (i)Natural Capital Accounting (NCA) in coastal ecosystems; (ii) innovative financing schemes for conserving coastal natural capital; and (iii) community incentives to conserve and sustainably manage natural capital in coastal ecosystems.

Domestic finance: National climate funds are among the best ways to mobilize climate finance at the national level. However, due to the tight fiscal condition for Liberia, this source is still in the future as a solution to climate change issues in the country.

Increased private sector participation: Greater private sector participation in climate finance requires removing many barriers and maintaining protective measures. Private climate finance is still very low compared to public funding in Liberia. Strong national financial and regulatory structures are needed to ensure adequate regulation to attract private investment.

4. CONCLUSION AND RECOMMENDATIONS

Liberia will likely be one of the world's most climate change affected countries. Vulnerabilities are high because climate sensitive sectors, such as agriculture and fisheries, provide the livelihood for almost half of the population and because defenses are poor due to an underdeveloped infrastructure, such as weak and easily overwhelmed sanitation systems, leading to flooding and the spread of waterborne diseases.

The government needs to create the preconditions for attracting more climate finance, put more emphasis on adaptation measures and better prioritize adaptation projects. Climate

change conscious policies can be a powerful pull for international financial support but, in order to benefit, Liberia needs to do more to comply with the required transparency and governance standards, such as GCF accreditation, carbon credit verification processes and to fight corruption. Any additional resources should primarily go to adaptation, which is currently allocated less funding than mitigation.

The international community needs to better recognize Liberia's contribution to climate change mitigation. Due to its limited emissions and large rain forest cover, Liberia is a net carbon sink. Once a global emissions trading system is in place, Liberia is likely to benefit from a net transfer of resources. In the interim, the international community could recognize Liberia's contribution when aid budgets are allocated, provided the required assurances by the government are in place.

Liberia needs to set up a robust climate change data collection strategy in Liberia to be able to accurately monitor and report on climate change issues.

To this effect, the following are some of the recommendations for Liberia:

a. A data collection plan is required to meet data quality objectives regarding timelines, consistency, completeness, comparability, accuracy and transparency. The plan will focus on providing guidance for efficiency in data collection and should provide for identifying data gaps and strategies to fill these gaps. It needs to put in place data collection activities that will lead to the continual improvement of data sets.
b. It is important to review data collection methodologies and activities on a regular basis to ensure ease in data collection, collection (as well as maintenance) of quality data, and progressive/improvement in national inventory. Data collection procedures should iteratively improve the quality of the inventory in line with the data quality objectives. Such methodologies should be developed within the framework of the IPCC methodology. An improved data collection plan is necessary to improve the quality of data collected.
c. Adequate support should be provided by the international community for research activities in government institutions to avoid situations such as lack of systematic updates of information on key sectors, poor institutional capacity, loss of historical data due to destruction of important records, and inconsistency of data obtained from government institutions.
d. Develop and implement a public awareness strategy for maintaining data supply, overcoming barriers during data collection and minimizing difficulties in data collection procedures. This strategy should consider making agreements with data suppliers to ensure consistent and continuing information flows. Generally, the collection of climate change related data proved difficult because of a weak GHG management system and poor institutional arrangement, lack of official information in some sectors of Government, fear that the data could be used against the data supplier, and the supplier's lack of knowledge about GHG emissions reporting procedure. Hence, the awareness strategy should consider these situations.
e. Specific policies relating to waste management are needed in Liberia. Existing policies linked to waste management should be reviewed and revised in accordance with the 1973 Municipal Act of Liberia; all such policies and legislative provisions on waste management should be reviewed and revised where possible.

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