Country Focus Report 2023

ZAMBIA

Mobilizing Private Sector Financing for Climate and Green Growth

AFRICAN DEVELOPMENT BANK GROUP
GROUPE DE LA BANQUE AFRICAINE DE DÉVELOPPEMENT

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African Development Bank Group
Avenue Joseph Anoma
01 BP 1387 Abidjan 01
Côte d'Ivoire
www.afdb.org

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The preparation of the report was led and coordinated by Ferdinand Bakoup, Acting Director, Country Economics Department, with a core team consisting of Herve Lohoues, Lead Economist for Central Africa and Acting Division Manager, Country Economics Division 2 (Southern Africa, East Africa and Nigeria), George Kararach, Lead Economist for Southern Africa, Nathaniel Agola, Chief Country Economist for Zambia, and Tricia Effe Baidoo, Team Assistant, Country Economics Department.

Peer review comments and contributions were received from Ahmed Ben Ghazi, Consultant RDGS of the RGDS Country Team members, led by Leila Mokadem, Director General, Southern Africa Region, Macroeconomics Policy, Forecasting and Research Department led by Abdoulaye Coulibaly, Director, Officer-in-Charge, Anthony Simpasa and Jaoui Fadel, Division Managers of the Macroeconomics Policy and Debt Sustainability Division and Microeconomic and Institutional Impact Assessment Division respectively, Ahadjie Jerry Kwame, Chief Minerals Officer (ECNR), of the African Natural Resources and Investment Centre led by Vanessa Ushie, Acting Director, and Fred Kabanda, Division Manager, Renewables.

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LIST OF ACRONYMS AND ABBREVIATIONS

8NDP	Eighth National Development Plan
ADF	Africa Development Fund
AEO	Africa Economic Outlook
AFDB	African Development Bank
ARC	African Risk Capacity Group
BIOFIN	Biodiversity Finance Initiative
CFR	Country Focus Report
CIF	Climate Investment Fund
CSR	Corporate Social Responsibility
DFI	Development Finance Institution
DRC	Democratic Republic of Congo
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
GCF	Green Climate Fund
GDP	Gross domestic product
GEF	Global Environmental Facility
GG	Green Growth
GGI	Green Growth Index
GOF	Green Outcomes Fund
GRZ	Government of the Republic of Zambia
IFC	International Finance Corporation
IMF	International Monetary Fund
JICA	Japan International Cooperation Agency
MDB	multilateral development bank
MRVF	Monitoring, Reporting and Verification Framework
NAP	National Adaptation Plan
NBSAP-2	Second National Biodiversity Strategy and Action Plan
NDBs	National Development Banks
NDC	Nationally Determined Contributions
NPCC	National Policy on Climate Change
NPCIP	Nature People and Climate Investment Plan
NPL	non-performing Loans
SEC	Security Exchange Commission
UN	United Nations
UNCTAD	United Nations United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
UNEP	United Nations Environmental Programme
UNFCCC	United Nations Framework Convention on Climate Change
USA	United States of America
USAID	United States Agency for International Development
USD	United States Dollars
WBG	World Bank Group
WWF	World Wildlife Fund
ZANACO	Zambia National Commercial Bank

Zambia

KEY MESSAGES

Macroeconomic Performance and Outlook

- Zambia's macroeconomic situation remains challenging, though there has been a muted recovery from the effects of the pandemic in 2020 when the economy contracted by 2.8%. There was a growth recovery of 4.6% in 2021 and 3.0% in 2022 from the contraction at 2.8% in 2020.

- Zambia remains in high debt distress, but the country has undertaken a raft of fiscal and macroeconomic reforms under the IMF 38-Month Program with an Extended Credit Facility of USD 1.3 billion to restore macroeconomic stability. The negotiations with creditors to restructure Zambian debt is ongoing with expectations that the parties might reach an agreement later this year.

- The economy is projected to grow at 4.0% in 2023 and 4.2% in 2024 while inflation is projected to decelerate to 8.5% in 2023 and 7.1% in 2024 returning slowly within the 6-8 percent target range. The fiscal deficits are projected to persist at 8.1% of GDP in 2023 and 7.3% of GDP for 2024. Downside risks to the growth outlook include the perennial drought, fluctuating copper prices, and the impact of Russia-Ukraine conflict on fertilizer and fuel prices.

Private Sector Financing for Climate Change and Green Growth

- Green growth and climate action are critical to Zambia's inclusive, equitable and sustainable economic prosperity, as articulated in Vision 2030 which envisages a transition to a middle-income country. The need is even more pressing given that Zambia is also one of the countries with the least climate-resilience indicators.

- Zambia has a sustained commitment and political will to greening its national development framework by inclusion of potential green interventions and supporting green growth as part of its national development plans and strategy.

- The largest proportion of climate finance flows in Zambia are from public financing sources accounting for 92% of finance, while private sector flows account for a meagre 8%. Therefore, Zambia desperately needs private sector financing to achieve its green growth and climate actions.

- Most private sector flows are directed towards the energy sector whereas buildings infrastructure, industry and transport sectors still lack the direly needed investment incentives.

- Zambia will need about USD 3 billion annually up to 2030 to meet its green growth and climate action objectives. New and emerging financing instruments, and partnership models for mobilizing private sector finance which target green growth and climate action in Zambia are evolving, albeit within a constrained context. It is imperative to resolve any constraints within the national ecosystem while also focusing on the most promising pathways to effectively access private sector financing.

Natural Capital for Climate Finance and Green Growth

- Zambia is endowed with many natural resources (land, water, forest and wildlife) beyond the best known, copper. Copper mining has been a part of the country's history and remains its economic backbone in spite of new discoveries and further expansion in the minerals sector. Zambia can be described as natural resources dependent, with a natural resource rent at 11.8% of the GDP. The natural resource dependence attribute is exhibited in the lack of economic diversification, which has led to the high vulnerability to fluctuations in global commodity price volatility.

- There is great potential for investment in the mining, forestry, and fisheries sectors, in addition to tourism with a focus on value addition.

  Concerted policy reforms targeting value chain development and regulations for local content development are, needed especially in the mining sector, and green investments for agriculture and fisheries, forestry and tourism.

1. INTRODUCTION

This Country Focus Report (CFR) for Zambia analyses the critical role the private sector can play in financing green growth and climate action, despite the dismal state of its participation to date. In addition, the Report also examines the role of natural capital's potential in providing additional financial resources needed to realize the green growth and climate action targets of Zambia. Hence the Report adopts a forward-looking and optimistic view of challenges and opportunities from a problem-solving perspective. The continental-level analysis of the same issues provides the critical analytical approach this Report seeks to replicate.

This CFR is structured as follows. Section 2 analyses Zambia's recent macroeconomic performance and outlook in the medium term. Section 3 gives an analysis of the state, opportunities, challenges, and possible solutions to spur green growth and climate actions in Zambia. Section 4 discusses the role of natural capital in the realization of green growth and climate action strategic objectives of Zambia. Finally, section 5 provides some policy recommendations for the government, and the other key stakeholders such as the donor community, domestic and international private sector entities, and bilateral partners.

2. ZAMBIA'S ECONOMIC PERFORMANCE AND OUTLOOK

2.1 ECONOMIC GROWTH AND DRIVERS:

There was a growth recovery at 4.6% in 2021 and 3.0% in 2022 from the contraction at 2.8% in 2020 as shown in Table 1 which details the macroeconomic indicators. The recovery is mainly driven by activities in the wholesale and retail trade, agriculture, mining and quarrying sectors following the ending of pandemic restrictions, and a medium-term refinancing facility to the banking sector for on-lending to the private sector. GDP per capita growth contracted by 1.7% in 2021 and 0.2% in 2022 due to job losses triggered by the impacts of COVID-19 and the prevailing challenging macroeconomic conditions.

Monetary and Inflation: Inflation decelerated from 22.1% in 2021 to 11.1% in 2022. The deceleration is mainly driven by the reduced food price shocks, and the lagged pass-through of the Kwacha's appreciation against the US dollar. Food inflation declined sharply from 24.5% in 2021 to 16.1% in 2022. The policy rate was maintained at 9.0% in 2021 and 2022 owing to inflationary trend, and relatively weaker medium-term growth prospects, and vulnerabilities and risks to the financial sector.

Fiscal Balance and Debt Dynamics: The fiscal deficit situation marginally improved due to higher mining sector revenue collections. The fiscal deficit (as a % of GDP) was 8.1% in 2021 and 8.9% in 2022, compared to 13.8% in 2020. Social sector spending increases drove the budgetary overrun.

Current Account: There was a trade surplus of 12.1% of GDP in 2021 on account of higher export volumes and prices, and subdued imports of consumer goods. This fell to 4.4% of GDP in 2022 owing to debt service and foreign exchange support. International reserves coverage was 2.4 months of imports in 2021 and 3.6 months in 2022 on the account of the use of the Extended Credit Facility and Special Drawing Rights from the IMF. Zambia remains in high debt distress with a debt-GDP ratio of 104%.

Financial Sector: The improved performance in the financial sector in 2021 and 2022 was due to increased economic activity. The non-performing loans ratio improved from 9.0% in 2021 to 6.1% in 2022 due to business recoveries, improved credit performance, and write off of bad loans. Credit to the private sector as a percentage of GDP was 8.9% in 2021 and 9.2% in 2022, mainly augmented by the government's Targeted Medium Term Refinancing Facility. The sector remains resilient, and well capitalized, with stable profitability and with prudential measures in place.

Poverty Indicators: More than half the population lives below the national poverty line. Poverty levels remain highest in rural areas (77%) compared to urban areas (23%). The conditions have been aggravated by the impact of COVID-19 pandemic.

Table 1 - Macroeconomic Indicators

	2018	2019	2020	2021	2022(e)	2023(p)	2024(p)
Real GDP growth	4.0	1.4	-2.8	4.6	3.0	4.0	4.0
Real GDP per capita growth	0.9	-1.6	-5.8	1.7	0.2	0.9	0.9
CPI inflation	7.5	9.2	15.7	22.1	10.1	7.5	7.5
Budget balance % GDP	-10.5	-8.5	-13.8	-8.1	-8.9	-10.5	-10.5
Current account balance % GDP	-1.2	0.6	12.0	12.1	4.4	-1.2	-1.2

Source: AfDB Data from domestic authorities; estimates (e) and prediction (p) based on authors' calculations

2.2 OUTLOOK AND RISKS

Economic Growth: The economy is projected to grow at 4.0 % in 2023 and 4.2% in 2024. The growth is underpinned by the continued recovery in the mining, services, manufacturing sectors, higher global copper prices, and the market confidence associated with ongoing fiscal consolidation measures. In addition, the growth is premised on concerted government policies supporting further growth in those sectors. A slight uptick in growth in real GDP per capita is projected at 1.2% in 2023 and 1.4% in 2024.

Inflation: Inflation is projected to decelerate to 8.5% in 2023 and 7.1% in 2024, coming within the 6-8 % target range. The upside risks to the inflation outlook include increases in fuel price, electricity tariff, and global fertilizer price fluctuation.

Fiscal Balance: The fiscal deficits are projected to persist at 8.1% of GDP in 2023 and 7.3% of GDP for 2024 owing to increased social sector expenditure. The increased spending in the social sector and the debt repayment burden drives the persistent fiscal deficits. Shoring up the Government revenue depends on sustained reforms to expand the tax base and streamlining the tax collection procedures in the medium term.

Current Account: The current account surplus is projected to narrow to -0.5 in 2023, and -0.4 in 2024, owing to the decline in net exports of goods by 2.2% in the first quarter of 2023 and widening deficit on the services account. Imports grew by 23.3% due to heightened economic activity and the temporary appreciation of the Kwacha against the US dollar, primarily in the first quarter. The decline in exports in the same period is as a result of slightly reduced copper earnings, while the service account deficit widened because of higher transportation expenditures driven by the increased imports.

Risks to the Outlook: Downside risks to the growth outlook include the perennial drought, the fluctuating copper prices, and the impact of the Russia-Ukraine conflict on fertilizer and fuel prices.

[2] ZamStats, 2021

3. PRIVATE SECTOR FINANCING FOR CLIMATE AND GREEN GROWTH IN ZAMBIA

3.1 THE IMPERATIVE FOR GREEN GROWTH AND THE ROLE OF PRIVATE SECTOR FINANCING

Green growth and climate action are critical to Zambia's inclusive, equitable and sustainable economic prosperity envisaged in Vision 2030's transition to a middle-income country.

Zambia is one of the countries with the lowest climate-resilience index score of 31.4. According to the Notre Dame Global Adaptation Index (2020), the country is also one of the most climate vulnerable countries in the world. The estimated climate vulnerability and climate readiness indices for Zambia are, respectively, 52.8 and 32.7.

Zambia has experienced perennial droughts, inconsistent precipitation, high temperatures and serious floods which pose challenges to securing livelihoods and poverty reduction, food and water security, health and infrastructure, biodiversity conservation, and power production. According to the Notre Dame-Global Adaptation Index (2020), Zambia is the 41st most vulnerable country and the 55th least ready country globally. In February 2022, there were flash floods in the southern part of Zambia, which affected almost 1.6 million people and created dire need for emergency food and shelter. The country experienced unprecedented precipitation, flooding, and strong winds that created widespread destruction by, for example, flooding agricultural land, and destroying roads and other infrastructure like bridges. Invariably, perennial droughts affect the country with the most recent serious drought occurring between 2018 and 2019, which significantly adversely affected economic growth.

Zambia suffers climate-related losses stemming largely from differences in economic structure and exposure to climate change, with an estimated annual loss in GDP per capita growth of -14.9% during the 1986-2015 period. Prolonged drought between 2018 and 2019 significantly contributed to reduced GDP growth from 4.0% to 1.4% between 1986-2015. Zambia's mainly rain-fed agricultural sector supports the livelihood of 70% of the population, and employs about 67% of the population, while 85% of electricity production is hydro-based. The 2018-2019 drought adversely affected the farming season which left 2.3 million people in need of emergency food assistance. Even more concerning is that a country that so severely impacted by climate change is already poor. Furthermore, the economic cost of climate change is projected to be much higher in the next few decades.

Invariably, the African Economic Outlook 2022 estimates showed that the high warming scenario will have particularly severe consequences for Zambia and other African economies. The reduction in GDP per capita growth in the 'high warming' scenario is projected at 16–64 % by 2030. In addition to macroeconomic impacts, climate change has significant impacts on socio-economic outcomes. These include an increased risk of mortality, morbidity, high risk of resource-related conflicts, increased internal displacement and migration. Therefore, Zambia needs to create an optimal national policy regime enabling climate action and green growth. This requires the inclusion of climate-smart approaches in all economic sectors, while also enhancing efficiency in the use of natural capital.

Green growth and climate action are critical to Zambia's inclusive, equitable and sustainable economic prosperity envisaged in Vision 2030's transition to a middle-income country.

Zambia has had a sustained commitment and political will to greening its national development frameworks, as evidenced by the inclusion of potential green interventions and green growth as part of national development plans and strategy.

Zambia has been very consistent in its focus and inclusion of green growth and climate actions as part of its national development plans which are key medium-term steps towards attaining the 2030 national Vision. An encompassing reflection of Zambia's commitment can be found in the overarching pronouncements of the national policies including the Vision 2030, the Eighth National Development Plan (8NDP), the National Policy on Climate Change (NPCC), the updated Nationally Determined Contributions (NDC), the National Adaptation Plan (NAP), and the Second National Biodiversity Strategy and Action Plan (NBSAP-2). Notably, the 8NDP period specifies interventions seeking to enhance access to and improve the quality of education, health, water and sanitation, and enhance social protection, while prioritizing the promotion of green growth, safeguarding the environment and natural resources, promoting climate change mitigation and adaptation and strengthening disaster risk reduction. The NPCC is a cross-sectoral policy enacted in 2016, which provides a framework for coordinating climate change programmes to ensure climate-resilient and low-carbon development pathways for sustainable development towards attaining Zambia's Vision 2030. Both the NDC and the NAP provides climate mitigation and adaptation ambitions together with outlining the resources required, and guide cross-sectoral actions against negative climate impacts.

Zambia's overall Green Growth Index (GGI)score is 50.38 for 2021, only slightly up from 48.9 in 2010, which is at par with the Southern African region average as shown in Figure 1. This is an indication that the green growth performance was only moderate and about halfway to achieve sustainability targets . The score indicates that Zambia's GGI performance is above the median score for the African continent, however it is worth noting that the overall regional performance still requires significant and urgent interventions to attain the NDCs submitted by countries in the region. Hence, much work remains to be done to enhance green growth across socio-economic drivers with the greatest potential for greening Zambia's economy (see Annex I on green growth components).

Zambia has had a sustained commitment and political will to greening its national development frameworks, as evidenced by the inclusion of potential green interventions and green growth as part of national development plans and strategy.

Figure 1: Green Growth Index and Regional Comparison (2010-2021)

Source: AfDB -ECST, April 2023

[2] MoGEE et al. (2022).

3.2 PRIVATE SECTOR FINANCE FLOWS, GAPS AND NEEDS FOR GREEN GROWTH AND CLIMATE ACTION IN ZAMBIA

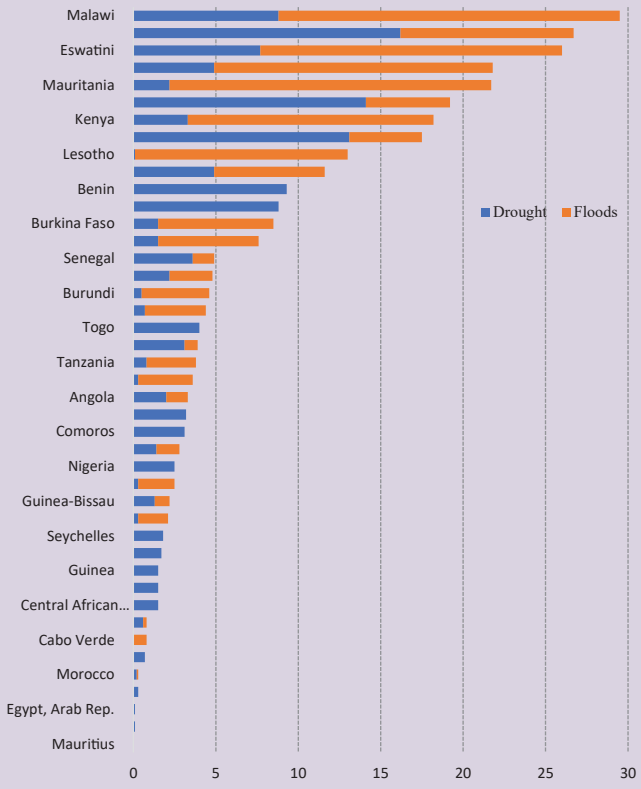
3.2.1 Current Fows of Finance

The largest proportion of climate finance flows in Zambia are from public financing sources accounting for 92%, while private sector flows account for a meagre 8%. Therefore, Zambia direly needs private sector financing to achieve its green growth and climate actions.

For Zambia to meet the NDC targets, it requires an overall investment estimated at USD35 billion up to 2030, which is predominantly expected to be mobilized through new climate finance mechanisms such as the GCF and other climate-related bilateral, multilateral and domestic financing, including the private sector (UNFCCC, 2020). Against this backdrop, there is need to prioritize projects given the scarcity of financial resources, and in tandem mobilize green growth finance through innovative financing mechanisms. Zambia predominantly suffers from the negative impact of perennial droughts and floods, and the upfront private financing required to adapt to droughts and floods is roughly equivalent to 13.1% and 4.4% of GDP, respectively. Zambia is among the top eight countries in Africa with the greatest potential for upfront investment required generally, as shown in Figure 2, but among the top three alongside Namibia and Mozambique in terms of drought-related investment required. Zambia's private finance gap stands at about USD 2.9 billion annually.

The largest proportion of climate finance flows in Zambia are from public financing sources accounting for 92%, while private sector flows account for a meagre 8%. Therefore, Zambia direly needs private sector financing to achieve its green growth and climate actions.

Figure 2: Upfront private investment opportunities to adapt to droughts and floods in Zambia (2021 2040 % of GDP)

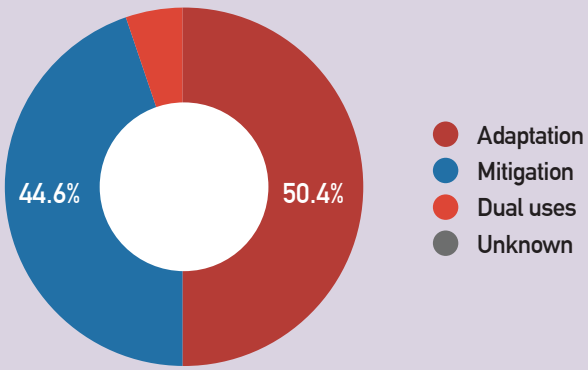


Source: AfDB ECST, April 2023

Most private sector flows are directed towards the energy sector (31.2%), while cross-sectoral use takes up 36%, followed by agriculture (15%), water and wastewater (10%), buildings and infrastructure (5%), and industry (0.41%). The skewed trend of flows favoring the energy sector indicates that the energy sector is more attractive to investments from the private sector whereas buildings infrastructure, industry and transport sectors still lack inherent investment incentives. Zambia exhibits a balanced investment focus on adaptation (50.4%) and mitigation (44.6%) as shown in Figure 3. These are indicators of good potential for directing more financing and investments to achieve significant green growth and climate action as set in the NDCs targets.

Figure 3: Sectoral Flows - Adaptation, Mitigation, and Dual Uses

	Sector	Total Finance (USDm)
1.	Others Cross sector	87
2.	Energy systems	80
3.	Agriculture Forestry other land uses and Fisheries	37
4.	Water Wastewater	24
5.	Buildings Infrastructure	12
6.	Industry	1
7.	Transport	0
8.	Information and Communications Technology	0



Source: https://www.thegcf.org/country/zambia

The national framework for climate action includes an array of national institutions led by the Ministry of Green Economy and Environment and outlining plans and policies upon which mitigation and adaptation initiatives are premised. Notably, the five action pillars of the NDC are: mitigation, adaptation, capacity-building, technology development and transfer, and finance. To achieve the objectives of the NDC, the Government of the Republic of Zambia (GRZ) has developed a new Green Growth Strategy, which augments its overarching vision of becoming a prosperous middle-income country by 2030. The Green Growth Strategy takes note of the need to attract green finance through public-private partnerships (collaboration of state and non-state actors) to enable the country to transition into climate-resilient and inclusive green economy. The strategy aims to ensure that the most vulnerable sectors of the economy are insulated against the adverse effects of climate change and sustainable development is attained through low carbon development models. The Zambian Government has also taken the lead in making budget allocations towards green growth.

Zambia has been able to benefit from increased access to the Green Climate Fund and the Global Environmental Facility for adaptation measures under the United Nations Framework Convention for Climate Change (UNFCCC), and non-UNFCCC bilateral donor funding. Importantly, Zambia also has direct access to the GCF following the accreditation of the Development Bank of Zambia in July 2021. A large chunk (92%) of the financial flows are from the public sector, with 8% of flows from the private sector. Table 2 and 3 provides the details of some of the approved funded projects for implementation in Zambia, the financial inflows, sectors and the key actors. Private sector financial flows are mainly from corporations (4%), households and individuals (2%), commercial financial institutions (1%), and another (1%) from institutional investors.

Table 2: Sources of Green Growth and Climate Action Financial Flows in Zambia

Institution Type	Amounts (million USD)	Percentages
Private Sources	**19**	**8%**
Commercial Banks	**-**	**0%**
Commercial Financial Institutions	**2**	**1%**
Corporations	**10**	**4%**
Funds	**-**	**0%**
Households & Individuals	**5**	**2%**
Institutional Investors	**2**	**1%**
Unknown	**-**	**0%**
Public Sources	**222**	**92%**
Bilateral DFI	**31**	**13%**
Export Credit Agency ECA	**-**	**0%**
Government	**109**	**45%**
Multilateral Climate Funds	**8**	**3%**
Multilateral DFI	**75**	**31%**
National DFI	**-**	**0%**
Unknown	**-**	**0%**
SOE SOFI	**0**	**0%**

Source: https://www.thegcf.org/country/zambia

Bilateral funding is mainly from the EU countries through their development agencies such as the Foreign, Commonwealth and Development Office for the United Kingdom, USAID for the USA, and the Japan International Cooperation Agency (JICA) for Japan, among others. The main instruments used by the bilateral donors to implement climate change projects is predominantly loans and grants and 95% of funding towards climate change adaptation and mitigation measures come from these donors. As such, the government contributes only 5% of the funding needs. Hence, any disruption of fund inflows from these donors can spell serious adverse consequences to Zambia given its vulnerability to climate change events. Table 4 provides the details of the national sectoral financial inflows, in which the energy sector takes up the largest amount of financing followed by multi-sectoral investments. It is worth noting that the domestic sources of funding are still at a very early stage of development and as such there is need for supporting public policy incentives, and appropriate regulatory framework to be put in place to catalyze and nurture the nascent domestic funding environment.

Table 3: National Green Growth and Climate Action Financial Flows by Sectors

	Agriculture, Forestry, Other land uses & Fisheries	Buildings & Infrastructure	Energy systems	Industry	ICT	Others & Cross-sectoral	Transport	Water, Wastewater & Waste
Angola	10.8	0	68.9	0	1.3	18.8	0	0.2
Botswana	5.6	2.5	86.9	0	0.1	4.9	0	0.0
Eswatini	6.8	0	24.1	0	0	14.6	0	54.5
Lesotho	6.3	0	8.6	0.4	0.2	11.4	0	73.1
Madagascar	15.5	4.8	35.0	0.6	0	39.2	2.7	2.2
Malawi	16.7	8.3	23.4	0	0	34.2	9.2	8.2
Mauritius	1.5	0	0.4	0	0	97.4	0.8	0.0
Mozambique	6.9	2.0	48.6	0.1	0.2	28.7	3.8	9.8
Namibia	24.7	1.1	16.4	4.8	0	33.5	3.3	16.2
São Tomé & Príncipe	8.9	7.0	18.2	0	0	44.2	17.5	4.2
South Africa	5.3	4.9	70.8	0	0	15.9	2.7	0.4
Zambia	15.3	5.2	33.2	0.2	0	35.9	0.1	10.0
Zimbabwe	9.3	2.8	70.6	0.4	0	16.4	0	0.5
% of total	9.13	3.61	49.47	0.31	0.12	26.66	2.98	7.71

Source: AfDB-ECST, April 2023.

3.2.2 Private Finance Needs for the Future

Zambia will need about USD 3 billion annually up to 2030 to meet its green growth and climate action objectives.

Progressively, the annual need for financial flows from the private sector to address green growth and climate action will increase from USD 700 million to USD 2.8 billion, signifying a need for public-private partnerships in which the public and quasi-public side will need to craft incentives to crowd in private sector investments. One such promising public-private partnership is the ongoing scoping work to develop a comprehensive Nature, People, and Climate Investment Plan (NPCIP), as a collaborative and concerted effort between the Zambian Government, Climate Investment Funds, multilateral development banks (including the International Finance Corporation and the World Bank) led by the African Development Bank, and the private sector. The NPC IP is expected to comprehensively address green growth and climate action financial mobilization needs through nature-based solutions, and the promotion of profitable value chains for income, food security and building resilient systems at farm, community, local and national level.

3.2.3 Emerging innovative private sector financing mechanisms for green growth and climate action.

New and emerging financing instruments and partnership models for attracting private sector finance which target green growth and climate action in Zambia are evolving, albeit within a constrained context (see Table 4).

Table 4: Innovative and emerging financial instruments

Type of Instruments	Green bonds, sustainable debt financing e.g. sustainable bonds, sustainability-linked loans/bonds, social bonds	Debt for Swaps e.g. Debt-for Climate/Nature Swaps	Blended Financing Instruments	Carbon Markets
Definition	Debt instruments where proceeds are allocated to eligible environmental and social projects or a combination of both.	Debt forgiveness on the condition that debt repayments are instead invested in local currency and into climate change adaptation and mitigation.	Instruments that use public/donor finance to de-risk and scale up private climate investments.	Finance generated through investment in projects that reduce GHG emissions. Purchased by corporates or international actors to reduce or offset their CO2 footprint.
Current Performance	0.1% of global green bond issuance. Issued in 9 countries with 3 countries accounting for over 90%. Other green finance instruments account for less than 1% of global issuance.	This is a new instrument and there is need for high level dialogue with Zambian authorities, and coordination with international climate funds to use it .	Leading globally (average $1.5 billion) per year. Most transactions concentrated in just 5 countries.	11% of total carbon credits generated originate from Africa (Global market $2 billion). Zambia currently taking a readiness review.
Use Case	AfDB Green Bond program. Green bonds issued in 2022 for biodiversity conservation. ADF Guaranteed Green Bonds hold good potential.	Zambia is yet to prepare for the use of this instrument. Good potential for ADF resources to de-risk private sector financial flows.	Africa Go Green Fund, Acumen Fund, African Green Bank Initiative. Still at nascent stage.	Africa Carbon Markets Initiative. Zambia has prepared interim regulatory guidelines. Zambia has been a net carbon sink, due to the large areas of forest land.
Estimated Potential	Still at a nascent stage	Zambia received a "debt-for-nature swap" proposal as part of its $13 billion debt restructuring discussions from the World Wildlife Fund.	High leverage ratios (5-10 times public finance).	Still at a nascent stage.

Type of Instruments	Green bonds, sustainable debt financing e.g. sustainable bonds, sustainability-linked loans/bonds, social bonds	Debt for Swaps e.g. Debt-for Climate/Nature Swaps	Blended Financing Instruments	Carbon Markets
Challenges to Scaling	-Market conditions, policy.	-High transaction costs & lengthy negotiating times.	-Several actors hence ineffective coordination and at times, unclear impacts.	-Unregulated, highly volatile market.
	-Insufficient issuer capacity, monitoring and reporting skills.	-Challenges in freeing up national resources.	-Dependent on public/donor funding.	-Integrity of credits.
	-Smaller ticket size project opportunities, cost of issuance.	-Additionality-swaps substituting already planned in government expenditure.		-Challenges in freeing up national resources.
	-Limited technical capacity. -Greeenwashing.			-High capital intensity for project development & certification.
Key Success Factors	-Broader sets of investors.	-Reduction of complexity and time.	-De-risking/first loss fund, guarantee from public/international actors.	-Increased carbon pricing.
	-Quality climate data/climate tagging	-Need to be significant enough to relieve debt burden.	Technical Assistance/capacity-building.	-Strengthening VCM market strategy.
	-Attractive, bankable low-carbon projects.	-An effective Monitoring, Reporting and verification (MRVF) framework.	- Clear impact and additionality.	Build capacity and capabilities of developers to scale up projects including technical assistance for MRVF.
	-Bonus/penalty if sustainable target is achieved/or not.			-High capital intensity for project development & certification.
	-Technical assistance to governments, local & national financial institutions and projects.			

Source: Authors' compilation

Zambia has had a sustained commitment and political will to greening its national development frameworks, as evidenced by the inclusion of potential green interventions and green growth as part of national development plans and strategy.

3.3 OPPORTUNITIES AND BARRIERS TO MOBILIZING PRIVATE SECTOR FINANCE FOR GREEN GROWTH AND CLIMATE ACTION

3.3.1 Opportunities for Private Sector Investments

While private sector financing of green growth and climate action in Zambia is still small, there is great potential to increase its funding levels through innovative public-private partnerships as a catalyst.

While public sources of finance remains the primary and dominant source of financing green growth and climate action in Zambia, it is pertinent to understand that it can also serve as a catalyst to crowd in private financial flows across different sectors. It is evident from the previous section that cross-sectoral financial flows are quite high (36%), actually slightly above the energy sector which attracts more investments (33%) than any other sector. The data in Figure 2 indicates that there are significant investment opportunities associated with droughts and floods, highlighting the potential for substantial upfront investments in this area.

Additionally, the renewable energy sector has promising prospects, as evidenced by the substantial share of financial flows directed

towards it. Again, it is notable that Zambia continues to make commendable efforts in establishing an effective institutional and legal framework for coordinating and implementing green growth and climate action under the leadership of the Ministry of Green Growth and Environment. Zambia is one of the first countries to have such a ministry dedicated to green growth and climate action. The ongoing preparation of the Nature, People, and Climate Investment Plan undertaken in an inclusive and strategic partnership between the Zambian Government, Climate Investment Funds, the MDBs, and private sector will be immensely pivotal in mobilizing financing from the private sector.

Opportunities for private sector investments in green growth and climate action in Zambia cut across economic sectors.

The Zambian private sector can play a critical role in financing climate change initiatives subject to an enhanced and supportive investment environment with transparent regulations and well-designed policy incentives. The private sector currently provides some climate finance in the form of corporate social responsibility and corporate shared values, and in addition investment with good returns such as in clean renewable energy projects. An example of a private sector financing initiative is the ZMW 1 billion "Green Outcomes Fund" that was recently established by the Zambia National Commercial Bank, Kukula Capital, and the Worldwide Fund for Nature (WWF) Zambia, though this initiative requires regulatory approval. It is noteworthy that the Development Bank of Zambia was accredited by the Green Climate Fund to receive and submit proposals on behalf of green projects developers which the GCF would fund.

However, Zambia is yet to benefit from carbon-market financing mechanisms despite its enormous potential. Invariably, there are innovative climate financing instruments emerging such as Debt-for-Climate Swaps, which would require experience with coordination and implementation of large scale programs across the country to serve both climate change goals and debt burden reduction. Green Bonds also have huge potential for climate action funding given the attractive nature of tax exemptions or tax credits involved, although this remains subject to investment and regulatory business environment readiness. The green bond initiative in Zambia is the outcome of the Capital Markets Development Master Plan, and led by the Ministry of Finance, Security Exchange Commission and Biodiversity Finance Initiative (BIOFIN). The United Nations Development Programme (UNDP) and BIOFIN Zambia have worked to share knowledge and awareness of green bonds among key stakeholders, such as financial sector regulators, mainly the Securities Exchange Commission (SEC) and a wider network of stakeholders should be brought on board. One major milestone has been the SEC approval of the Green Bond Guidelines given that their operationalization is anchored in the Securities Act.

In addition, weather-indexed insurance products are already being used in Zambia, has the potential to be a pivotal positive change to the agricultural sector. As part of the Farmer Input Support Programme, over 240,000 farmers have received insurance pay-outs after their crops were damaged by both drought and flood events. A similar instrument was used in June 2022 when the African Risk Capacity Group and the African Development Bank also presented a symbolic USD5.3 million cheque to the Zambian Government to aid the country's recovery from the extreme drought event during the 2021/2022 agriculture season. The payout stems from the insurance taken out by the GRZ under the Africa Disaster Risk Financing Programme Multi-Donor Trust Fund, a fund supported by the Governments of the United Kingdom, through the Foreign, Commonwealth Development Office, and Switzerland, through the Swiss Agency for Development and Corporation. Going forward, blended financing by donors and commercial entities could also hold much potential for funding climate actions in Zambia, given that it is already being used in many other projects.

Opportunities for private sector investments in green growth and climate action in Zambia cut across economic sectors.

3.3.2 Barriers to Private Sector Investments

Four main barriers were unearthed during a finance mapping exercise, and interventions to alleviate the challenges will unlock a vast latent market for green financing in Zambia.

(a) There are already concerns about the high cost of issuing green bonds, but the same concerns apply to all other emerging green finance instruments. There are extra costs to the issuer related to the verification and tracking of the use of green proceeds to avoid greenwashing, and such added cost may deter investors. Environmental audits come at a cost, and the lower the cost, the better for green bond holders. The silver lining in the clouds is that the Zambian authorities are working on a zero rating withholding tax on interest as an incentive to green investments and tax deductibility for issuance costs associated with green bonds.

(b) There is inadequate human technical capacity to monitor and report with integrity on the outputs and outcomes of green growth and climate action projects. For instance, it should be noted that implementing and managing a zero-rate withholding tax on interest entails complex procedures that demand careful monitoring, compliance, and administrative efforts. This could result in more administrative responsibilities for tax authorities, financial institutions, and green investment firms, potentially leading to higher compliance costs. As such, there is need to enhance the technical capacity related to sustainability reporting, although currently such kinds of reporting on projects is not a requirement in Zambia, thus only very few private sector entities in different sectors can do credible reporting. There is need for private sector entities to shift from corporate social responsibility to sustainability reporting as would be required by green investors to avoid the incidence of greenwashing which could undermine confidence in the nascent green market. Hence, the starting point is to allocate expenditure for technical assistance on sensitizing private sector entities on the understanding of sustainability and greening metrics. This will open up a vast latent market for green financing in Zambia.

(c) Given that green investment products and instruments are at a novel stage, there is a general lack of knowledge and technical expertise across the stakeholder space. As such, there is need to invest resources in training and sensitization, data collection, standardization of processes and outcomes related to green financial instruments. Best practices are expected to emerge, but a proactive approach to the process will allow for a considerable level of control for desired outcomes and accelerate transfer of knowledge and there might be need for localization of some the practices to suit the local Zambian environment. It is expected that such emergence of best practices, and standards, will materialize in tandem with the development of a critical mass of expertise and awareness among all the key stakeholders.

(d) It is important to tackle the perennial problem of risk, both real and perceived, through de-risking financial instruments such as guarantees to increase investor confidence in the emerging green investment market in Zambia. Such confidence is key to the creation of vibrant markets, both primary and secondary.

3.3.3 Pathways to mobilizing private sector finance for green growth and climate action in Zambia

(a) It is essential to coordinate planning and preparedness across sectors to enhance resilience, and to take advantage of emerging opportunities, especially those that are in the most vulnerable sectors. Such preparedness is required to address the challenges of green growth and climate action through better access to private financing. It is notable that creating a conducive ecosystem as a strategic approach is required to attract private sector financing, as opposed to finding isolated and random opportunities that may have no syner-

gistic impact on other green growth and climate action projects. Such a conducive ecosystem needs a sustained effort to reduce the supply and demand side constraints that contribute to green growth and climate action market failure and inefficiencies. Changes associated with supply-side factors such as a well-targeted national energy mix inclined towards renewable sources, or incentives for using cross-sectoral green technologies, will help Zambia create the desired ecosystem for private sector financial flows. Likewise, demand-side factors such as incentives to end users to encourage their adoption of green technologies and services can stimulate the demand and growth of green projects and stimulate a broad expansion in the green growth market.

(b) There is a need to devolve decision-making and planning and to involve a greater diversity of stakeholders. There is a particular need for capacity-building within Zambian local authorities, investment in R&D to support local economic activities and promoting decentralized energy systems.

(c) Attracting green finance is essential to enable Zambia to transition into a climate-resilient and inclusive green economy. State and non-state actors must work together to achieve this as the interdependence between public, quasi-public and private finance is critical to mobilize finance for Zambia's green growth and climate action needs. The ongoing efforts towards the Nature, People and Climate Investment Plan that involves all these entities in an example of a private finance mobilization pathway with great potential.

(d) General support is needed to help financial markets develop, and for domestic institutional capacity development. Vibrant and well-developed financial markets with considerable capacity to handle complex financial instruments and transactions will support the use and mainstreaming of emerging innovative financial instruments targeting green growth and climate action. Zambia's Lusaka Stock Exchange only recently introduced green bonds, while the Securities Exchange Commission also developed guidelines for the transactions in green bonds. Such developments are positive for the for promoting private sector financial flows.

(e) Zambia needs to build human and technical capacity, invest in skills, and support innovation in the green economy across all sectors. A green recovery represents an opportunity to also generate the skills and capacity needed to support for areas such as renewable energy innovation. Human technical capacity and skill market development is a critical aspect of the conducive ecosystem earlier discussed.

3.4 THE ROLE OF DFIS AND MDBS IN UNLOCKING PRIVATE SECTOR FINANCING FOR CLIMATE TRANSITIONS AND GREEN GROWTH

Development finance institutions (DFIs), including multilateral development banks (MDBs) and national development banks (NDBs) play a prominent role in supporting socio-economic development, widening access to finance, and delivering multilateral climate finance. DFIs, including MDBs are the main providers of global public finance for adaptation. The collective commitment of MDBs was USD 58.8 billion in 2021. MDBs announced their climate action targets for 2025 at the UN Secretary General's Climate Action Summit in New York in September 2019, with an expected collective total of $50 billion for low-income and middle-income economies, and at least $65 billion for climate finance globally, with an expected doubling in adaptation finance to $18 billion, and private mobilization of $40 billion. Many have incorporated climate change considerations into their core lending and operations, and most MDBs administer climate finance initiatives with a regional or thematic scope.

DFIs and MBBs have an important role to set and support efficient transmission of funds for green investment. In order to understand the role of DFIs and MDBs in Zambia, the challenges in mobilizing private finance should be examined as well as assess-

ing how the mechanism to match supply and demand for climate investable projects is therefore not working efficiently. Despite growing climate impacts, there is still uncertainty about the disruption that climate change is likely to bring to business operations. Private sector actors are aware of climate change adaptation in general but have limited capacity to integrate physical climate risks into their decision-making. It is very complex to assess the type and extent of adaptation investment needed. For instance, it is not straightforward to determine the time horizon to assess the climate change risks on bank performance. In a typical three-to-five-year scenario, similar to stress-testing or planning horizon, there will be limited effects as climate change impacts are expected in the medium and longer term. In a longer-term scenario, forecasted income statements and balance sheets will depend on anticipated changes within the portfolio composition, business models, and financial structure of the institutions. While comprehensive sensitivity testing of potential credit losses may be more appropriate, it is also essential to emphasise that climate modelling lacks the necessary historical empirical data to assess the climate impacts on credit risks. This means that sectoral-level analysis and expert judgments will become imperative. With the increase in extreme weather events, there is a prerequisite to assess the risk of bankruptcy. Yet, another key challenge is how the uncertainty is modelled and integrated into the analysis. Businesses tend to underestimate potential climate risks. Banks and financial institutions are expected to be drivers for leveraging private sector financing for climate adaptation and mitigation, especially in assessing and disclosing climate change risks and also in developing and scaling up innovative financing approaches.

However, they have limited incentive to track and report spending on adaptation. They also lack the framework to fund adaptation needs. One reason is that many investment activities which could be considered climate change adaptation are also viewed as development through the lens of business risk management.

The challenges imply that there are insufficient investable green projects, while there is a growing demand for climate actions. The mismatch between the top-down demand for green finance and insufficient bottom-up funding of green projects is one reason to explain the higher proportion of climate finance being directed towards energy systems. There is a need to enable the efficient transmission of funds into appropriate green projects. DFIs and MDBs will be called upon to ensure that resources allocated to the Southern Africa region are efficiently directed towards mitigation and adaptation plans. At the same time, they will be playing the role of creating an effective ecosystem of participants in the financial market. In this respect, MDBs' role is to set the framework to mainstream climate impacts in banks' financial dealings, thereby ensuring lenders, insurers, investors, and other stakeholders that climate risks are appropriately assessed, priced, and managed. They are in a position to lead the private finance sector by developing transparent accountability, reporting standards for climate projects and harmonizing contracts for sustainable investment.

DFIs and MDBs could pre-screen prospective projects to align the global benefits of green projects with the potentially high local costs. MDBs will have to align the global benefits of green projects with the potentially high local costs. The framework to mainstream climate risks will need to identify the green portion of the projects, separate the development and climate adaptation/mitigation parts, quantify the benefits over a time horizon, assess multiple funding, and determine the appropriate

[3] The African Development Bank (AfDB), the Asian Development Bank (ADB), the Asian Infrastructure Investment Bank (AIIB), the Council of Europe Development Bank (CEB), the European Bank for Reconstruction and Development (EBRD), the European Investment Bank (EIB), the Inter-American Development Bank Group (IDBG), the Islamic Development Bank (IsDB), the New Development Bank (NDB) and the World Bank Group (WBG).
[4] 2021 Joint Report On Multilateral Development Banks' Climate Finance. www.eib.org/mdbs-climate-finance (Accessed 14/04/2023).
[5] Watson, C., Schalatek, L., and Evequoz, A. 2022. The Global Climate Finance Architecture. Climate Funds Update.

funding mix . In this respect, DFIs and MDBs could assist in pre-screening prospective climate projects.

(a) *Assistance of DFIs and MDBs to develop tools to manage climate risks*

To leverage private sector financing for conservation, banks, and financial institutions need to adopt the tools to measure and manage climate risk. DFIs could provide more granular project-level information on mitigation and adaptation outcomes. Standardizing approaches would streamline reporting and analysis.

(b) *DFIs and MDBs have an important role to play in de-risking climate-related projects in Southern Africa.*

This can be achieved in several ways. In the early stages of projects, DFIs and MDBs can use instruments such as growth equity or concessional construction debt to enable projects to overcome acute barriers to finance and establish operating performance data. They can also provide credit lines on concessional terms or other financial support such as credit enhancement mechanisms (i.e., sub-ordinated loan facilities, first loss facilities or guarantees) to local financial institutions, which then disburse the funds to project developers. DFIs and MDBs can act as a guarantee to ensure an uninterrupted flow of payments from the start, thereby scaling up liquidity facilities to assist renewable energy investors fulfil their business obligations. These liquidity facilities can evolve to incorporate the role of guarantor supported by MDBs and DFIs in compliance with guidelines issued by multilaterals and agreed by shareholders.

(c) *DFIs and MDBs can intervene to release capital from balance sheets.*

Balance sheets of investors and financial institutions generally disclose rights and obligations connected to the owning and lending of assets. It is possible for DFIs to use those elements to raise additional funds through two mechanisms: ***(1)*** posting existing assets as collateral (provided their value is free-and-clear of any encumbrances i.e. when assets, such as shares, are not pledged to any other lender as financial collateral); and ***(2)*** partially repackaging receivables from guaranteed loan repayments (e.g. loans that are guaranteed by insurers) into new financial structured products in the market. In practice, the DFIs could offer a (high-rated) new debt product (e.g. a collateralized debt obligation) guaranteed and managed by a bank such as an MDB to qualified investors (e.g. pension funds, insurers, institutional investors) and traded on international exchanges. The new debt obligation product's proceeds would be used in new investments.

(d) *DFIs and MDBs are expected to provide in-country technical and advisory support for climate financing.*

DFIs and MDBs can provide in-country technical and advisory support to build enabling conditions and an appropriate policy environment—including regulatory, fiscal, financial, and trade - to better align the financing conservation agenda and climate change agenda . There is a greater role for DFIs and MDBs for downstream advisory services and capacity-building to understand the drivers, increase project standardization, support project development, from preparation to implementation, and monitoring, and ensuring the integration of climate risk management strategies. One channel is to develop certification on climate quality assurance. DFIs generally provide technical support and training on specific sectors and/or technologies to ensure that funds are deployed in an effective way to achieve desired outcomes (e.g., climate or gender outcomes).

(e) *There is higher expectation for DFIs and MDBs to mainstream green policy across their lending portfolios and institutionalize*

[7]Reynolds, P. and Kwatra, G. 2017. Practical Considerations To Enhance Structures In Place Today. Financing For Climate Resilience. Marsh & McLennan. Global Risk Center.

[8]Ambachtsheer, J., Colas, J., Khaykin, I., Pyanet, A. 2017. A Stressing Climate. Key Challenges for Banks in Assessing and Disclosing Climate-Change Risk. Financing For Climate Resilience. Marsh & McLennan. Global Risk Center.

[9]IRENA (2023).

climate finance coordination.

Addressing climate change involves many sectors, such as forestry, land, agriculture, water, and finance, as well as a multitude of actors including diverse government departments, civil society, academia and local communities. Coordination is therefore critical for ensuring that finance is achieving its objective effectively. DFIs and MDBs can also assist to institutionalize climate finance coordination for policy coherence, and finance delivery to enable Southern African countries to adapt to and mitigate climate change, while avoiding overlapping responsibilities and struggle for institutional legitimacy among local institutions. Climate finance coordination in Zambia led by the World Bank and the UNDP is an example. When responsibility for coordinating climate finance was moved to the Ministry of Finance in 2012 with the establishment of the Interim Climate Change Secretariat, the latter was unable to assume unilateral authority for the coordination. The emergence of a climate finance coordination framework proved successful with the UNDP and World Bank acting within the development aid coordination infrastructure.

The African Development Bank's priorities include: infrastructure development, regional integration, private sector development, governance, skills and technology. The Bank aims to: mainstream green growth (GG) into development planning; strengthen the enabling environment for GG; make financing available; and track progress. Relevant AfDB activities at present in Zambia include: agricultural projects, including small-scale irrigation projects (with Finland); livestock infrastructure support project (with GEF); Lake Tanganyika Integrated Management Program (with GEF); and Climate Resilience in Kafue Basin (CIF). Power generation projects, including cleaner approaches to coal power plant (Mamba Collieries), Hydro Power (Itezhi-Tezhi), and the Katima Mulilo Transmission Line. Water and sanitation and hydro-power projects including eight centres, the National Water Supply and Sanitation project in Luapula and Northern provinces, and the Nkana Water and Sanitation project. To specifically target private sector green growth financing, the Bank launched the African Green Bank Initiative, a new initiative for green banks. The launch of this initiative gives a unique framework for the African Development Bank to provide governments and financial institutions (public and private banks, microfinance, etc.) with technical assistance grants, fundraising support, and co-financing opportunities for green projects, by providing credit enhancement solutions to reduce the risks inherent in investing in sustainable projects.

[10]World Bank (2020). Mobilizing Private Finance For Nature A World Bank Group paper on private finance for biodiversity and ecosystem services. The World Bank Group https://thedocs.worldbank.org/en/doc/916781601304630850-0120022020/original/FinanceforNature28Sepwebversion.pdf (Accessed 14/04/2023).

[11]Dupuy, K., Sambo, P. T., Funder, M., Chama, E. 2019.Coordinating Climate Finance: Lessons from Zambia. PRIO PAPER. https://pure.diis.dk/ws/-files/3103850/2019_Climate_Finance_Coordination_lessons_from_Zambia.pdf (Accessed 14/04/2023)

4. HARNESSING NATURAL CAPITAL AS A COMPLEMENTARY FINANCING OPTION FOR GREEN GROWTH AND CLIMATE ACTION IN ZAMBIA

4.1 INTRODUCTION

Africa's abundant natural resources could be harnessed for accelerated sustainable development on the continent. Despite these substantial endowments, most African countries are unable to fully leverage the potential of their natural resources for sustainable development and economic transformation. In recent times, issues such as climate change, the energy transition, the digital economy and the creation of the African Continental Free Trade Area have had broad implications for natural resources management in African countries. Furthermore, managing the continent's natural resources efficiently and mobilizing additional domestic revenues remain a challenge. Good governance remains a pre-condition for sustainable and inclusive growth. Despite progress on the continent, governance issues such as corruption, illicit financial flows, lack of transparency and accountability, remain of great concern.

Weak governance and inadequate investment environments have often been cited as some of the reasons for slow investment in Africa's natural resources sector and the weak diversification of their economies. According to UNCTAD , Africa is attracting only a small proportion of investments globally. Thus, given the significance of natural resources, improving their management can accelerate sustainable development on the continent. Africa's natural capital accounts for between 30% and 50% of its total wealth (UNEP, 2016), however, many African countries are yet to fully harness the potential of their natural resources to drive sustainable development and economic transformation. Utilizing natural resources in a manner that allows sustainable revenue flows and promotes development while also safeguarding the environment will spur sustained, inclusive, and green growth, and thus strengthen economic resilience and regional integration.

Zambia is no exception to this situation, and thus efforts are being made by the Government to ensure that the natural resources sector contributes to investment attraction and socio-economic development. An assessment by the International Institute for Environment and Development observed that where the country experiences high economic growth rates, then they are heavily dependent on its environment-based sectors, such as agriculture, tourism, forestry, and mining . Green growth potential opportunities were observed in the energy sector (waste to energy and clean energy supplied), green infrastructure and services, the transport sector, sustainable agriculture, and greener artisanal and small-scale mining practices.

[12]UNCTAD, 2020, World Investment Report, 2020, https://unctad.org/system/files/official-document/wir2020_en.pdf .
[13]MoGEE and GGGI. (2022). Zambia National Green Growth Index 2022. Ministry of Green Economy and Environment (MoGEE) and Global Green Growth Institute.

4.2 OVERVIEW OF THE COUNTRY'S NATURAL WEALTH

Zambia is endowed with many natural resources (land, water, forest and wildlife) beyond the best known, copper. Copper mining has been a part of the country's history and remains its economic backbone to date in spite of new discoveries and expansion in the minerals sector. Zambia's minerals and mining industry has been central to its economic development. This is demonstrated by the mining sector's contribution to GDP, export earnings and employment among other key factors. The size of the Zambian import displacement opportunity is dimensioned at around ***USD 1 billion annually for goods, excluding services.*** Using the AfDB 2017 survey, and 2020 international trade data (ITC Trademap), the mining sector currently contributes 12% to Zambia's GDP. Based on this, the current Vision 2030 also identified the mining sector as one of the key pillars to facilitate creation of downstream value-added products and localizing upstream inputs.

The forest sector is also one of the most important natural resources of Zambia. According to the National Forest Policy of 2014, forests cover 66% of the total land area of Zambia, translating into approximately 49.97 million ha, of which 4.8 million hectares are gazetted forest reserves. Out of the total area classified as forest reserves, 44% is set aside for production, 30% for both protection and production, and the remaining 26% is for protection only . Zambia has only around 59,000 hectares of timber plantations, of which 50,000 ha (85%) are managed by the state-owned enterprise ZAFFICO . Forests currently contribute between 5 to 7% of GDP.

In terms of fisheries, Zambia has a particularly diverse set of surface freshwater ecosystems belonging to both the Congo and Zambezi basins. Fishing is practiced by many communities throughout these systems, and it is estimated that more than 300,000 people make their living directly or indirectly from fishing, including the processing and trade of fish products. According to the Food and Agriculture Organization of the United Nations (FAO) , the share of fisheries in GDP in 2018 was 0.35%, and 12.7% of agricultural GDP. These values do not reflect the importance of the sector for the food security and supporting the livelihoods of fisheries-dependent communities, especially women and vulnerable people. Official capture fisheries' production comes mainly from the three large lakes (Mweru, Kariba and Tanganyika) and exceeded 100,000 tonnes in 2020. However, in the floodplains, household surveys show that actual consumption is well above the national average, up to five times in the Barotse plain. Self-consumption has led to an estimated additional production of at least 100,000 tonnes, which does not appear in the official statistics. Fish farming exclusively concerns tilapia, of which the production grew rapidly, reaching 45,000 tonnes in 2020.

Zambia shares certain attributes with the other Southern African countries with regard to the availability, and use of its natural capital. In particular, Angola, Mozambique, and Zambia can be described as natural resources dependent, with natural resource rent as a percentage of GDP of 25.5%, 11.7%, and 11.8%, respectively. The natural resource dependence attribute is exhibited in the lack of economic diversification, which has led to the high vulnerability to fluctuations in global commodity price volatility. As such, like other Southern African countries, the natural resource rents of Zambia have not

[14]Report of the Auditor General. 2017. Report of the Committee on Agriculture, Lands and Natural Resources on the Report of the Auditor General on Sustainable Forest Management for the Second Session of the Twelfth National Assembly Appointed On 20th September, 2017.
[15]Report of the Auditor General. 2017. Report of the Committee on Agriculture, Lands and Natural Resources on the Report of the Auditor General on Sustainable Forest Management for the Second Session of the Twelfth National Assembly Appointed On 20th September, 2017.
[16]Mutale, B. 2020. A review of the fisheries sector in Zambia. Fisheries Economic Management perspective. Master of Agriculture Economics and Management. Ocean University of China.
[17]GLOBEFISH Market Profile – Zambia, 2018.
[18]Fluet-Chouinard, E.; S. Funge-Smith and P.B. McIntyre. 2018. Global hidden harvest of freshwater fish revealed by household surveys. www.pnas.org/cgi/doi/10.1073/pnas.1721097115

improved significantly, and they only slightly increased from 9.1% in 2000 to 11.8% of GDP in 2020. Forests remain one major component of natural resources rents in Zambia as in the rest of the Southern African countries, with the exception of Angola. The high share of natural capital in Angola's total wealth emanates from its oil rents, while forest rents remain the major component for Eswatini, Lesotho, Malawi, Mozambique and Zambia (7.61%). Tourism, in relation to its different associations with nature, is one important channel to convert the natural resource flow of services into wealth in Zambia. In that regard, it is worth pointing out that Zambia has diverse flora and fauna, most of which is located within the country's protected areas and 20 national parks, which protect about 6.4% of the country's total area. With diverse wildlife, it makes for a popular destination within Africa, and as a result, tourism is one of the country's largest employers and sources of foreign exchange. Zambia has experienced a remarkable increase in tourist arrivals from 457,000 tourists in 2000 to 1,072,000 in 2018.

4.3 APPROACHES TO INCREASE THE CONTRIBUTION OF NATURAL CAPITAL IN FINANCING THE COUNTRY'S CLIMATE CHANGE AND GREEN GROWTH

Most of the mineral commodities produced in Zambia are exported in their raw form while only a few receive minimal value addition. Factors explaining the low level of domestic value-added include constraints to domestic manufacturing from limited access to finance, technology and unreliable energy suppliers which raise manufacturing costs; procurement management practices of Tier 1 contractors who lock-in preferred subcontractors; the lack of a supportive regulatory environment with mechanisms to monitor local content targets; and the limited domestic market for mining capital goods.

Opportunities: Zambia's mining sector procures goods and services to the value of between USD 2 and USD 4 billion annually. These purchases are often recurring items used for mining development, extraction, processing and maintenance. They offer a significant source of domestic demand which could drive industrialization and diversification of the economy into value adding activities in the secondary and tertiary sectors. Efforts to stimulate inter-sectoral linkages to boost domestic value addition via local content programmes in various forms have, as a consequence, been a prominent part of government economic policy and development advice from multilateral agencies. (AfDB, 2019).

Other opportunities include the country's quest to reposition the mining sector to harness global opportunities arising from among others, the energy transition involving the manufacturing of lithium-ion batteries for electric vehicles and stationary energy storage. Currently, a cooperation agreement has been signed between the DRC, Zambia and the USA to collaborate towards establishing the battery and electric vehicle value chains in the DRC and Zambia.

Opportunities in the Forest Sector

About 62% of Zambia's natural forests are under customary ownership and subject to complex governance arrangements, resulting in their unsustainable use. In terms of economic performance, from 2011 to 2020, except for veneers and plywood having a trade deficit of USD 2.1 million and USD 21.2 million respectively, Zambia enjoyed a total trade surplus of USD 470 million (USD 47 million per annum) with respect to trade in four primary wood products. Over the same period, despite having some primary processing capacity that meets national demands for sawnwood, the huge deficit of USD 755.83 million (or USD 75.6 million per annum) from secondary and tertiary wood products trade suggests weak industrial capacities. However, these data also provide evidence of opportunities for jobs and wealth creation in Zambia in the secondary and tertiary wood processing sectors as well as in veneers, plywood production and trade. It is notable that the Zambia's Green Economy and Environment

Ministry has already prepared an interim guideline for carbon trade, which opens a pathway for tapping into further revenue generation from the country's forests.

Fisheries

The Ministry of Fisheries and Livestock's 2020-2021 strategic plan called for a revision of the 2012 fisheries regulations, but this objective does not seem to have been achieved yet. Such a revision is an opportunity to adopt a policy based on the ecosystem approach in line with FAO's recommendations and consistent with public policies on water, the environment and wetlands, among others. In order to ensure that adequate services can be provided to the fish farmers, aquaculture extension work should be strengthened, while also improving coordination of activities between national and provincial level, and of projects in order to ensure that they supplement each other, so that duplication will be kept to a minimum. Strengthening scientific and technical skills to collect and analyze reliable data on the sector on a regular basis is also an opportunity to create qualified jobs. Overall, there is great potential for Zambia to increase productivity in agriculture, while also creating an attractive ecosystem for investments in renewable energy. In addition, the potential for leveraging the tourism sector for increased foreign exchange earnings can be gleaned from the remarkable increase in tourist arrivals between 2000 – 2018.

5. CONCLUSIONS AND POLICY RECOMMENDATIONS

Zambia has adopted the green economy as the main pillar of its development pathway, with a dedicated ministry focused on green economy and environment created in 2021. Along with other African countries, Zambia presents a great partnership opportunity for investors to undertake a just transition to green growth and sustainable climate action. To mitigate the impending calamities of climate change and its associated socio-economic challenges, Zambia needs to steer an effective transition to a green economy enabled by strong leadership from the government and the private sector. Whereas levels of private sector financing of green growth and climate action projects are still dismal as a proportion of the total amounts, there is great potential for the role of private sector financing. Unlocking such financing requires nurturing of an entire national ecosystem that would be conducive to private sector financing. Building such an ecosystem entails the creation of innovative public-private partnerships such as the one behind the ongoing preparation of the Nature, People and Climate Investment Plan. It also involves the creation of policies and incentives across sectors (prioritizing the most vulnerable), devolution of green growth interventions from national to local government level, investment in institutional and human capital, and leveraging natural capital to realize green growth. With such concerted and sustained efforts, Zambia might be able to close the financing gap for its green growth and climate action targets.

5.1 POLICY RECOMMENDATIONS FOR MACROECONOMIC PERFORMANCE AND OUTLOOK

(i) It is critical that Zambian authorities continue to implement their macroeconomic and sector policy reforms to restore macroeconomic stability, while also targeting economic inclusive growth to alleviate poverty as envisaged in the country's Vision 2030.

(ii) To achieve sustainable growth, Zambia needs to enact policies that facilitate economic diversification to increasingly shelter the country from global commodity price shocks. A more diversified economy with improved productivity across sectors would be more resilient.

(iii) To increase productivity and competitiveness of the economy, policies targeting more social sector investments to improve the quality of human capital are required on a significant scale and over sustained periods.

5.2 POLICY RECOMMENDATIONS FOR GREEN GROWTH AND CLIMATE ACTION FINANCING BY THE PRIVATE SECTOR

(i) It is essential to coordinate policies and implementation across sectors in planning and preparedness to enhance resilience, and to take advantage of emerging opportunities. This is also required to address the challenges of climate change, pandemic recovery and national debt in an integrated way.

(ii) There is a need to devolve decision-making and planning in Zambia, and to involve a greater diversity of stakeholders. Capacity-building within local authorities is urgently needed, as is investment in R&D to support local economic activities and the promotion of decentralized energy systems. In certain respects, cross-border coordination is also required for planning, financing and implementing projects that transcend national borders. A case in point is the green project in the Zambezi River Basin ecosystem that transcends national borders.

(iii) Attracting green finance is essential to

enable Zambia to transition into a climate-resilient and inclusive green economy. State and non-state actors must work together to achieve this.

(iv) Zambia needs to build human capacity, invest in skills, and support innovation in the green economy. A green recovery represents an opportunity to generate the skills and capacity needed to support in areas such as renewable energy innovation.

5.3 POLICY RECOMMENDATIONS FOR INCREASING THE CONTRIBUTION OF NATURAL CAPITAL TO CLIMATE FINANCE AND GREEN GROWTH

(i) Policy support and implementation is needed on mineral value chain development especially Zambia's quest to add value to its copper and cobalt resources in collaboration with the DRC. The Bank can collaborate with other DFIs to fund projects identified from feasibility studies of establishing Africa's battery manufacturing value chain. The benefits of value addition to natural resources will include jobs, food security, revenue generation, increased foreign exchange earnings, improved livelihoods and industrialization.

(ii) Strengthening policies, the regulatory framework and key institutions is critical to improve governance in the natural resources sector. This will be a core driver in addressing all the illegalities in the natural resources sector. In addition, the Government needs to strategize ways to add value to resources before export considering the huge negative trade balances.

(iii) Further development of regulatory framework and policies are needed to develop the capital market. In addition, there is need to build the local technical capacity for engaging in transactions such as carbon trade and green bonds to leverage the natural capital of the country.

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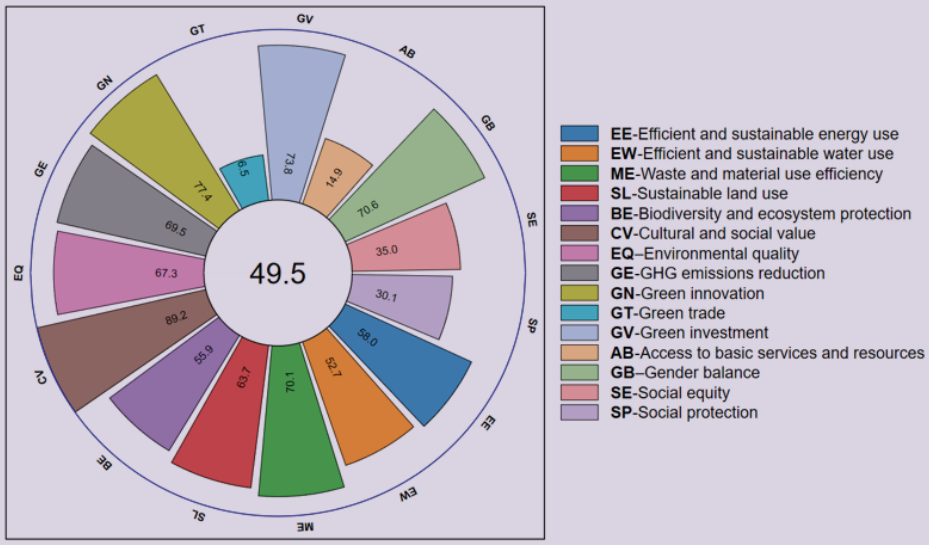
ANNEX 1

Annex 1: Zambia's average score and green growth components (2010-2021)



Annex 2: Zambia Selected Indicators

Indicators	Unit	2010	2015	2018	2019	2020	2021	2022 (e)	2023 (p)	2024 (p)
National Accounts										
GNI at Current Prices	Million US $	18,343	25,022	24,970	25,549	21,388	20,057	...	...	...
GNI per Capita	US$	1,330	1,540	1,400	1,390	1,130	1,030	...	...	...
GDP at Current Prices	Million US $	20,265	21,245	27,282	23,302	18,111	22,148	30,887	35,777	38,874
GDP at 2010 Constant prices	Million US $	20,265	26,058	29,120	29,539	28,717	30,037	30,932	32,171	33,509
Real GDP Growth Rate	%	10.3	2.9	4.0	1.4	-2.8	4.6	3.0	4.0	4.2
Real per Capita GDP Growth Rate	%	6.5	-0.3	0.9	-1.6	-5.6	1.7	0.2	1.2	1.4
Value Added: Mining and quarrying	Million US $	2,591	2,693	3,915	3,308	2,767	3,865	4,563	...	...
Value Added: Mining and quarrying	% GDP	12.8	12.7	14.9	14.2	15.3	17.5	15.1	...	...
Value Added: Fishing	Million US $	...	...	...	...	...	...	...	...	...
Value Added: Fishing	% GDP	...	...	...	...	...	...	...	...	...
Prices and Money										
Inflation (CPI)	%	8.5	10.1	7.5	9.2	15.7	22.1	10.1	8.5	7.1
Exchange Rate (Annual Average)	local currency/US$	4.8	8.6	10.5	12.9	18.3	20.0	17.0	15.4	15.5
Government Finance										
Total Revenue and Grants	% GDP	15.6	18.8	18.7	20.4	20.3	22.3	23.3	23.4	23.2
Total Expenditure and Net Lending	% GDP	18.1	30.9	29.2	28.9	34.1	30.4	32.1	31.5	30.5
Overall Deficit (-) / Surplus (+)	% GDP	-2.4	-12.1	-10.5	-8.5	-13.8	-8.1	-8.9	-8.1	-7.3
External Sector										
Terms of Trade Growth	%	35.9	-2.3	-5.4	-5.7	13.9	21.0	-6.6	2.6	-1.7
Current Account Balance	Million US $	1,525	-577	-341	151	2,174	2,682	1,360	-195	-157
Current Account Balance	% GDP	7.5	-2.7	-1.2	0.6	12.0	12.1	4.4	-0.5	-0.4
Debt and Financial Flows										
Debt Service	% exports	3.7	8.3	18.0	21.0	34.9	28.0	37.0	20.6	21.4
External Debt	% GDP	15.8	72.6	77.6	91.7	119.6	95.7	68.8	64.7	54.0
Net Total Financial Flows	Million US $	790	1,213	1,101	965	760	970	...	...	...
Net Official Development Assistance	Million US $	919	798	1,000	948	1,016	1,071	...	...	...
Net Foreign Direct Investment	Million US $	1,729	1,305	408	860	-173	-457	...	...	...
Demography										
Total Population	Millions	13.8	16.2	17.8	18.4	18.9	19.5	20.0	20.6	21.1
Population Growth Rate	%	3.6	3.2	3.1	3.1	3.0	2.9	2.8	2.8	2.7
Urban population	% of total	39.5	41.5	43.0	43.5	44.0	44.6	45.3	45.9	46.6
Life Expectancy at Birth	Years	56.8	61.2	62.3	62.8	62.4	61.2	61.8	63.0	63.6
Fertility Rate	births per woman	5.4	4.8	4.5	4.5	4.4	4.3	4.2	4.2	4.1
Poverty and Income Distribution										
Pop. living below national poverty line	% of total population	...	54.4	...	...	...	...	...	...	...
Population living below $2.15 a day	% of total population	68.5	61.4	...	...	...	...	...	...	...
Gini Index	%	55.6	57.1	...	...	...	...	...	...	...
Labor Indicators										
Labor Force participation (total)	%	59.3	58.9	58.5	59.5	60.9	60.6	60.7	60.5	...
Labour Force participation (youth)	%	39.3	37.6	35.7	36.7	39.3	38.1	38.0	37.8	...
Unemployment rate (total)	%	13.2	8.3	5.0	5.5	6.0	6.2	6.1	6.1	6.1
Unemployment rate (youth)	%	28.8	17.2	8.7	10.3	11.0	11.1	11.0	11.1	11.0
Natural Resources rents										
Total natural resources rents	% GDP	18.7	11.2	11.5	11.6	11.8	...	...	...	...
Oil rents	% GDP	...	...	...	...	...	...	...	...	...
Natural gas rents	% GDP	...	...	...	...	...	...	...	...	...
Mineral rents	% GDP	13.3	2.9	6.5	5.8	4.1	...	...	...	...
Forest rents	% GDP	5.3	8.2	4.9	5.6	7.6	...	...	...	...
Coal rents	% GDP	0.0	0.0	0.2	0.1	0.1	...	...	...	...
Natural Capital Renewable Resources										
Arable land	1000 hectare	3,400.0	3,800.0	3,800.0	3,800.0	3,800.0	...	...	...	...
Agricultural land	1000 hectare	23,436.0	23,836.0	23,836.0	23,836.0	23,836.0	...	...	...	...
Other land	1000 hectare	4,207.0	4,747.9	5,312.5	5,500.8	5,689.0	...	...	...	...
Forest land	1000 hectare	46,696.0	45,755.1	45,190.5	45,002.2	44,814.0	...	...	...	...
Planted Forest	1000 hectare	54.5	53.2	52.6	52.3	52.1	...	...	...	...
Annual freshwater withdrawals, total	% of internal resources	2.0	2.0	2.0	2.0	...	...	...	...	...
Total Fisheries Production	metric tons	86,686.0	112,818.0	128,103.0	135,943.0	152,506.0	...	...	...	...
Climate Finance and Green Growth										
Total Climate Finance*	Million US $	...	...	...	...	312.5	...	...	...	...
Green Growth Index**	%	48.9	49.1	49.9	50.3	50.4	50.4	...	...	...

Last Update: June 2023

Source : AfDB Statistics Department: African; IMF: World Economic Outlook,April 2023 and International Financial Statistics, April 2023;
AfDB Statistics Department: Development Data Portal Database, April 2023. United Nations: OECD, Reporting System Division.

Notes: … Data Not Available (e) Estimations (p) Projections

* Source: Climate Policy Initiative (www.climatepolicyinitiative.org)

**Source: Global Green Growth Institute (GGGI). The scores for the Green Growth Index range from 1 to 100, with 1 having the lowest or very low performance and 100 having the highest or very high performance

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