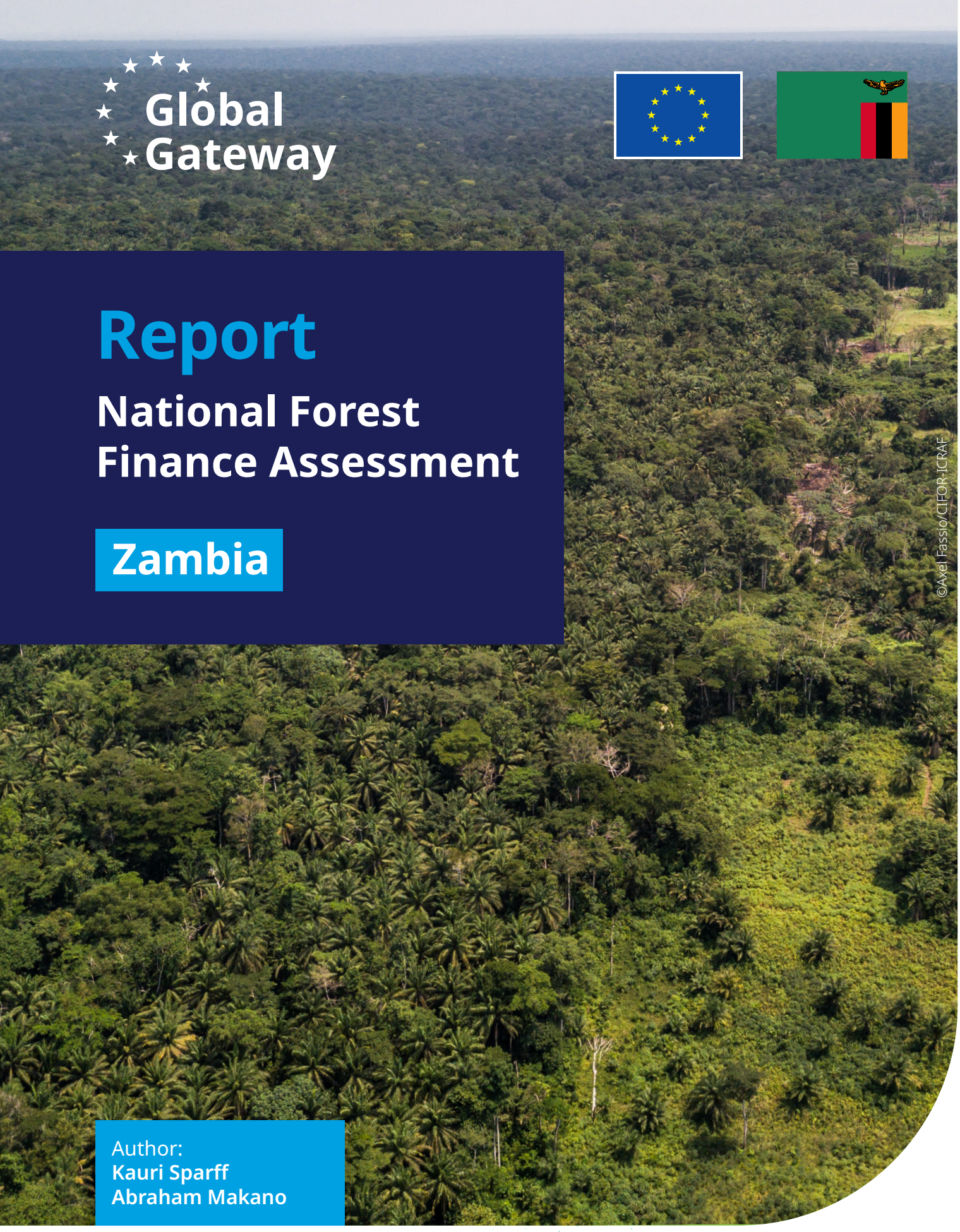
Global Gateway

Report

National Forest Finance Assessment

Zambia



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The EU-funded Forests for the Future Facility (F4F) provides technical support to contribute to healthy forest ecosystems and forest-related value chains in Asia, Africa, the Caribbean and Latin America. The Facility is managed by DG International Partnerships Unit F2 – Environment, Natural Resources, Water.

F4F is working in collaboration with CIFOR-ICRAF on the Forest Finance Assessment reports.

Assessment context

This assessment of existing forest financing instruments at country level operates as the foundation for a proposed EU-funded Action 'Financing for Forest' FFF.

The Action intends to boost financing for forests at global level, by generating and sharing knowledge widely. In selected partner countries, technical assistance (TA) for the implementation of specific forest finance solutions/instruments will be provided. Prior the Action, an assessment is carried out in up to 15 countries to 1) help define which forest finance solutions will be tested and piloted and in selected countries (up to 7 countries will be selected for the Action "Financing for Forest"), 2) help EU Delegations (EUDs) and partners in other countries get a better understanding of existing financing mechanisms, and 3) generate knowledge about selected financial solutions/instruments.

As a preparatory step for the proposed EU-funded Action "Financing for Forests" (FFF), an assessment of forest financing instruments has been carried out in 11 partner countries. Implemented by CIFOR-ICRAF under the Forests for Future Facility (F4F) between February-October 2025, this assessment provides an overview of existing and innovative mechanisms that can enhance the mobilisation of finance for sustainable forest management.

Disclaimer

This publication was produced with the financial support of the European Union. Its contents do not necessarily reflect the views of the European Union.

This assessment has been developed based on consultations with stakeholders and inputs from subject matter experts. It is important to note that the findings and recommendations presented herein do not necessarily reflect the official forest finance priorities or the positions of the national government.

The content is intended to provide insights and support discussions in the context of forest finance but should not be interpreted as an endorsement of any specific policy or strategy.

Project implemented by:

Lead company

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Acronyms

Acronym	Meaning
BCP	BioCarbon Partners LC.
BD	Biodiversity
BoZ	Bank of Zambia
CBD	Convention on Biological Diversity
CBNRM	Community-Based Natural Resources Management
CCA	Community Conservation Area
CFC	Copperbelt Forestry Company
CFMG	Community Forest Management Group
CITES	Convention on International Trade in Endangered Species of Wild Flora and Fauna
CO2	Carbon Dioxide
CSA	Climate-Smart Agriculture
CORSIA	Carbon Offsetting and Reduction Scheme for International Aviation
CSO	Civil Society Organisation
DEG	Deutsche Investitions- und Entwicklungsgesellschaft GmbH
DG-INTPA	Directorate-General International Partnerships of the EU
EIB	European Investment Bank
ECF	Extended Credit Facility
EDFI	European Development Finance Institutions
EFSD+	European Fund for Sustainable Development
ERPA	Emission Reduction Purchase Agreement
EU	European Union
EUD	European Union Delegation
EUR	Euro
FAO	Food and Agriculture Organisation of the United Nations
FDF	Forest Development Fund
FISP	Farmer Input Support Program
FSP	Fertiliser Support Program
FD	Forest Department
FF	Forest Financing
FP	Forest Partnership
GCF	Green Climate Fund
GRZ	Government of the Republic of Zambia
ha	hectare
HHYWEF	Help Youth and Women Educational Foundation
IDC	Industrial Development Corporation
IMF-ECF	International Monetary Fund-Extended Credit Facility
INFORM	Index Management for Risk of the UNDRR
IPCC	Intergovernmental Panel on Climate Change
ITMO	Internationally Transferred Mitigation Outcome
JSLP	Jurisdictional Sustainable Landscape Program
KII	Key Informant Interview
LDC	Least Developed Country
m	meter
MDB	Multilateral Development Bank

Acronym	Meaning
MFI	Microfinance Institutions
MCTI	Ministry of Commerce, Trade and Industry
MGEE	Ministry of Green Economy and Environment
MFNP	Ministry of Finance and National Planning
MRV	Monitoring, Reporting and Verification
MSMEs	Micro Small and Medium Enterprises
NAP	National Adaptation Plan
NBSAP	National Biodiversity Strategy and Action Plan
NDC	Nationally Determined Contribution
NDP	National Development Plan
NGO	Non-Governmental Organisation
NTFP	Non-Timber Forest Product
NST	The North Swaka Trust
PACRA	Patents and Companies Registration Agency
PES	Payment for Ecosystem Services
PvFM	Private Forest Management
QPC	Quantitative Performance Criteria
Ramsar	Convention on Wetlands of International Importance
RDC	Rural Development Center
REDD+	Reducing emissions from deforestation and forest degradation and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries
SACCO	Savings and Credit Cooperatives
SDG	Sustainable Development Goal
SFM	Sustainable Forest Management
SFMP	Sustainable Forest Management Plan
SHF	Smallholder Farmer
SPV	Special Purpose Vehicle (financial tool for investments)
t	ton
TNC	The Nature Conservancy
TRALARD	Transforming Landscapes for Resilience and Development
UCZ	United Church of Zambia
UNCCD	Convention to Combat Desertification
UNDP	United Nations Development Program
UNDRR	The United Nations Office for Disaster Risk Reduction
UNEP	United Nations Environment Program
UNFCCC	United Nations Framework Convention on Climate Change
VCM	Voluntary Carbon Market
VSLA	Village Savings and Loans Associations
WB	The World Bank
WCCFB	Workers Compensation Control Fund Board
WCMC	World Conservation Monitoring Centre
WWF	World Wide Fund for Nature
ZAFFICO	Zambia Forestry and Forest Industries Corporation plc
ZamStats	Zambia Statistical Agency Office
ZDA	Zambia Development Agency
ZEMA	Zambia Environmental Management Authority
ZESCO	Zambia Electricity and Supply Corporation
ZMK	Zambian Kwacha

Executive summary

Overview

This Forest Finance Assessment Report is constructed as follows. Chapter 1 anchors the work with the EU's global objectives on forests. The study approach clarifies how the secondary research data and first-hand consultations with the Zambian experts were carried out. Methodology ensured a solid foundation to promote innovative financing solutions and instruments, and partnerships to catalyse investments in forests. Chapter 2 sets the scene for the forest finance assessment by summarising key facts on the scale, quality, and national importance of the forest sector in Zambia. Chapter 3 establishes the gap assessment of financing based on public documents and estimated total funding needs for attaining the key targets by action area. Specific forest finance solutions and instruments are analyzed in two sections under Chapter 4, namely, firstly, those that are already in use or under development (4.2), and those that are not yet applied or developed (4.3). Recommendations for supporting the broader application of forest finance from various sources and instruments are discussed in Chapter 5.

Given that the assignment was guided by a pre-determined list of FF solutions and instruments, along with systematic assessment criteria, the results were compiled into comparative tables. This is followed by discussions on the recommended actions in support of increasing and diversifying forest financing in the coming years. A special focus is put on activating and enabling the private sector engagement in the economic transformation of forests and their sustainable management. Zambia's forestry sector continues to be grossly underfunded and unable to reach its full potential in the national economy, climate resilience, business development, and local livelihoods. **The unmet financial needs are estimated at approximately USD 3.349 billion (USD 558.17 million per year) for the 2025-2030 period**.

The most significant share of this gap (estimated at USD 3.00 billion) results from the ambitious forest restoration target-setting, which lacks a fully costed and effective funding strategy. Secondly, the promised one million forest-related decent jobs is a very high target, which calls for private sector-led finance through dynamic investments which the banking and insurance sector and development finance would confidently secure, The Government of the Republic of Zambia's (GRZ) current fiscal space is limited for offering incentives, services, and an enabling investment climate in forestry production and allied industries. The gap in job creation is worth USD 295 million till 2023. This figure is derived from the direct and opportunity costs associated with offering both forestry-based employment and alternative rural jobs to smallholder farmers in forest areas where investments and conservation take place.

Tree plantation establishment is a capital-intensive activity that is in need of blended financing with long-term tenor and a feasible cost of capital. The Zambian and international investors will only unlock this financing gap (USD 85 million) through collaborative mechanisms such as joint ventures and public-private-community partnerships, with closer integration of tree-based activities into carbon and climate finance.

The other gaps lie in the actions to lower the deforestation rate, which fundamentally depend on a hard transition to legal and sustainable charcoal production. This requires energy alternatives and supplementary livelihoods to succeed. Another closely linked challenge is the need to bring more forestlands under Sustainable Forest Management Plans (SFMP). Fragmented inventory and knowledge of wood and non-wood forest products hampers resource management planning. Over-reliance on public and donor funding has constrained forest management and forest research on indigenous trees and seeds in the country. The current funding system is not able to cater for the vast forest estate of about 41 million hectares.

The private sector is struggling with the high interest rates on commercial loans. The forest-based

private sector needs funding for logging, supply chains, processing (value addition), tree plantation development, and reforestation. Their combined needs amount to about USD 215 million for the period 2025-2030. However, the Zambezi Paper Mills' USD 145 million investment plan for 9,000 hectares of bamboo plantations and a downstream bamboo pulp and tissue/kraft paper mill investment is currently on hold while they seek foreign partners. The Indo-Zambia Bank (IZB), which is co-owned by the Zambian and Indian governments, recently signed a K200 million (USD 8 million) funding agreement with the Zambia Forestry and Forest Industries Corporation (ZAFFICO) to support the company's integrated investment into a particle board manufacturing plant and adding value to their pine and eucalyptus products. The Zambia National Commercial Bank plc (ZANACO) offers loans at preferential interest rates, which are often significantly lower than commercial lending rates, typically ranging from 6% to 10% (compared to commercial lending rates of about 30%).

The Forestry Department (FD) has two main funding streams from public finance, which are recurring sources of forest finance. Firstly, the Central Treasury (under the Ministry of Finance and National Planning) directly allocates and disburses annual funding to the Central Forestry Department. The second stream is from the Central Treasury through Provincial Administration in a decentralised way. These regular allocations are far too low for maintaining good forest governance, legality, and sustainability, and delivering extension services.

The Forestry Department generates revenue through stumpages, fees, and licences for forest concessions and wood processing, and transports (conveyance). FD uses a conveyance licence as a receipt to show a volume charge has been paid for timber in transit. FD cannot spend this income directly, because the Public Finance Management Act of 2018 stipulates that revenue is deposited on a General Account called Control 99 in the Central Treasury. The forest revenue collected by District Forest Offices was USD 3.793 million in 2024. About 63% of this revenue was generated by Northwestern and Western provinces, where most of the timber concessions are operated. We estimate that the Provincial/District Forestry Departments have the potential to collect more than USD 20 million in annual revenue from private sector operators.

In addition, Community Forest Management Groups (CFMGs) have the right to issue community permits and collect revenue from forest products in their designated forest areas. Local Chiefs also tend to charge informal fees from operators on customary lands.

Several emerging forest financing options are being developed in Zambia. Their primary rationale is to lower the investment risk and cost, and provide for financial innovations that have worked elsewhere. Guarantees and other derisking instruments will be available to bankable investment plans for large-scale projects that have passed due diligence. For example, EFSD+ financing support has the potential to have a broad impact both inside and outside the demarcated production forests and commercial plantations for industrial wood, firewood, charcoal, REDD+, and other carbon projects. Productive systems can be strengthened through out-grower schemes, agroforestry, climate-smart agriculture, forest fodder, and NTFPs.

Knowledge and understanding of forest and climate finance issues in the national government have been enhanced through Zambia's Pilot Programme for Climate Resilience (PPCR) engagement.[1] Progress at the sub-national level has been slower, and civil society remains a small, albeit vocal, network seeking to promote innovations without notable breakthroughs. The current level of knowledge and engagement of the private sector in forest finance is uncertain. Still, there is potential for partnerships that can maximise complementary capacities for forest and climate finance programming. Taking this leap will require a change in process in Zambia's forest sector management from a state-led, chronic scarcity approach to public-private-community partnerships and joint ventures that convince private sector companies, financiers, and investors to take the decisive step. Stakeholder engagement revealed that some instruments have been used or tried in Zambia, while others are not yet ready for application.

1 Funded by the Climate Investment Fund and supported by the World Bank

1. **Green Bonds**. There is an opportunity to increase forest financing by issuing green bonds. In 2023, the Copperbelt Energy Corporation (CEC) issued a green bond that attracted investment of more than USD 200 million. Bonds could be developed for forest conservation, afforestation, and reforestation by both the public and private sectors, with the latter utilising Special Purpose Vehicles (SPVs) to shield from direct risks associated with investment projects. ZANACO Bank is in the process of implementing a green bond for financing these types of forest investments. The green bond will enable the bank to tap into both domestic and international investors who have a growing appetite for ESG-aligned assets.
2. **Payment for Ecosystem Services (PES).** Although the majority of Zambia's agricultural, extractive, and manufacturing enterprises depend on forest ecosystems for their business, PES has not yet been implemented in Zambia due to an incomplete institutional setup.
3. **A Debt for Nature Swap** (DFNS) is not currently possible under the IMF-ECF arrangement, but WWF Zambia is promoting it as a solution for "3H-nation" (high debt, high forest cover, and high forest loss).
4. **National Forest Funds / Conservation Trust Funds**- Although the Forest Development Fund (FDF) was established under the 2015 Forest Act, it has not yet been operationalised to date to raise money for its intended purpose.
5. **Supply chain finance for value chains that support conservation and restoration of forests,** especially for the commercialization of NTFPs. The intended outcome is to increase funding to local communities where products are harvested.
6. **Biodiversity Markets (Biodiversity Credits/ Certificates).** Although very little has been done in this area, combining it with carbon credits and PES could create an emerging solution with a high impact.

Recommendations are made in order of priority. These are presented as small, actionable investment packages that facilitate the enabling conditions for private sector investments and more effective and consistent public forest financing. These collaborative actions have a limited duration, enabling the EU and Member States to provide seed funding that prepares the ground for major investors and new forest finance instruments.

Investment Package 1. Promote private smallholder forestry and industrial timber plantations. (USD 1.0 million, 2026-2027):

(a) Support the Ministry of Lands and Natural Resources in mapping private investment areas (also known as forest blocks) with suitable tenure and access.
(b) Support the establishment of a Forest Investment Portal (FIP) as an online platform for forest investments.
(c) Prepare a 10-year roadmap for the economic transformation of the private sector-led forestry industry and its legal and sustainable value chains.
(d) Matchmaking between EU and Zambian investors for forest joint ventures and introducing EFSD+ and EDFI Carbon Sinks financing instruments for de-risking.
(e) Provide out-grower training and farmer sensitisation to facilitate engagement in the wood value chain.

Investment Package 2. Strengthen the funding for compensating deforestation and biodiversity loss from Zambia's Environmental Liability Solutions. (USD 1.0 million, 2026-2028):

(a) Building scenarios and simulating the GRZ revenue impact, and boosting the practicality and efficiency of the GRZ's Environmental Liability System (ELS) on a large scale (e.g. in Lobito).
(b) Promote the issuance of green bonds for forest conservation and the establishment of plantations.

Investment Package 3. Support the operationalisation of PES in Zambia (including standardisation, registry, and institutional capacity), and subsequently promote it amongst the large businesses that cause harm to forest ecosystems and biodiversity (USD 1.0 million, 2026-2028)

Enabling Action 1: Support for the implementation of Statutory Instruments, especially the Forest Development Fund and the Environment Fund (USD 0.3 million in 2026).

Enabling Action 2: Assessment and proposal for repurposing the Forest Investment Programme (FISP) to support smallholder tree-planting (USD 0.1 million 2027)

Enabling Action 3: Strengthen revenue collection and retention at the Forestry Department.

1

Introduction

1.1 Purpose and Scope of the Assessment

This assessment of forest financing (FF) mechanisms and instruments at the country level serves as the foundation for the proposed EU-funded Action, "Financing for Forest" (FFF), and selection of partner countries for this action. The results from this assessment will guide existing or other upcoming actions in Zambia that support the economic transformation of the forest sector and support the dialogue under the EU-Zambia Forest Partnership (FP). The assessment is commissioned by the EC INTPA F2 and was jointly implemented by the Centre for International Forestry Research and World Agroforestry (CIFOR-ICRAF), an applied research organisation with key expertise in conservation, restoration and management of tropical forests, and the Forests for Future Facility (F4F), a technical assistance facility to the EC INTPA F2 on matters regarding sustainable forest management.

This initiative is designed to support the EU's commitments to climate action, biodiversity conservation, and the Sustainable Development Goals on a global scale by promoting the use of forest finance solutions and instruments and innovative financing mechanisms for forests.

Central to this is the recognition of forests' crucial role in mitigating climate change, protecting biodiversity, and providing essential ecosystem services. By fostering innovative financing solutions, the initiative aims to bridge funding gaps and catalyse investments in forests. This includes developing mechanisms that can attract both public and private sector funding and aligning forest finance solutions with national environmental strategies (such as NDCs and NBSAPs) to support the achievement of international commitments and promoting cross-sectoral collaboration.

This aligns with broader EU environmental policies, such as the European Green Deal, and international commitments under the Paris Agreement and the Convention on Biological Diversity (e.g., the Global Biodiversity Framework). By doing so, the initiative not only seeks to contribute to the global efforts to combat environmental degradation but also to demonstrate the EU's leadership in leveraging finance for sustainable development and environmental stewardship. In summary, this EU-funded action represents a strategic and multifaceted approach to enhancing the role of forests through financial innovation.

1.2 Assessment Approach and Methodology

The FF assessment for Zambia was guided by the Terms of Reference (ToRs) as indicated in Annex 3. First, an initial desk review of online documents and reports published by GRZ and other stakeholders was conducted to gain a better understanding of the current status of forest financing instruments and mechanisms, as well as to identify key issues. This assessment covers various types of financing instruments, including public finance, payments for ecosystem services, debt-for-nature swaps, green bonds, and financial instruments that support the conservation and restoration of forests and biodiversity markets. It also covers biodiversity credits and impact investments (See Annex 4 for the definition of each instrument).

Second, from April to May 2025, a series of key informant interviews and bilateral consultations were conducted with a wide range of targeted key actors, including key public and private sector entities, including national banks, concession holders, local forest stakeholders, and entrepreneurs of timber and non-timber forest products (see Annex 5). Secondary and primary data collected and analysed for this assessment, along with the associated methodology, are outlined in Annex 6.

Third, on May 16, 2025, a technical roundtable discussion was held to present the preliminary results of the assessment. Key stakeholders in Zambia's forest finance landscape shared knowledge and experiences regarding the feasibility of various financing instruments, as well as the challenges and potential mechanisms that could be scaled up or introduced in Zambia (Annex 7).

The final results of the assessment were presented at an online technical validation meeting held on 21 August 2025.

This final report has been revised based on feedback received from the Forests for the Future Facility and the European Union Delegation in Lusaka. The Centre for International Forestry Research and World Agroforestry (CIFOR-ICRAF, Bogor) finalised editing of the report in October 2025.

1.3 Structure of the Assessment Report

Table 1 explains how this report is structured and helps readers to refer back to the specific chapters in which each forest financing solution and instrument is assessed in detail.

Table 1. Status and impact of forest financing solutions and instruments in Zambia

FF Solution / Instrument		Gap to Fill
Operative	**Prospective**	
	Budget tagging & green taxonomy (Chapter 4.3.1)	• UNDP helped develop, but did not actively continue. • Uncoordinated, unaccounted public sector green/climate funding flows. • NDC MRV gap in GRZ on green/climate-BD-friendly funding.
Fiscal Reform (Chapter 5.2.4./5.2.5)		• Low, falling, volatile FD funding by GRZ. • Low revenue collection, which is non-retainable.
Subsidies (Chapter 5.2.3)		• Excessive and partly inefficient subsidies are prioritized for agriculture.
Private Sector Investment with/ without Blended Fin. (Chapter 4.2.4)		• Private sector forestry lacks enabling conditions, capital, and investors. • A handful of bankable, formal enterprises vs. a large number of unlicenced MSMEs • Scarcity of firms with healthy cash flow and their own capital to invest. • Poor access to capital and affordable loans. • Low incentives, high risks to investors.
Carbon Markets (Chapter 4.2.2)		Community-based CC engagement with forest conservation model, increased carbon revenue (Verified Carbon Units under the Voluntary Carbon Market (VCM), and Internationally Transferred Mitigation Outcomes (ITMOs) under the Paris Agreement Art. 6.2 and 6.4), afforestation/reforestation, charcoal transition. • Starts to improve the FD revenue crisis. • Strengthens rural livelihoods and food security.
	PES (Chapter 4.3.4)	• Unfinished framework and payment systems of different types of PES transactions • and contract types. • Low institutional capacity.
	Biodiversity offsets Biodiversity credits (Chapter 4.3.3) Green bonds (Chapter 4.2.3)	• Loss of BD to economic development. • Natural capital awareness and appreciation. • Project-to-Project capacity to implement BD offsets/credits between actors. • No BD market system yet for commoditizing BD credits. • Green bonds have untapped potential despite many keen promoters.

continued on next page

Table 1. Continued

FF Solution / Instrument		Gap to Fill
Operative	**Prospective**	
Environmental Liability / Compensation Pay System (Chapter 5.2.2)		• ELS is not fully comprehensive (exemptions), and ZEMA lacks resources and staff. • Capturing higher revenue from fast-growing mining sector (inc. Lobito). • Like in Forestry Development Fund, ZEMA's revenue from its services, licenses and fees are moved through the Environment Fund to Central Treasury.
Supply Chain Finance (Chapter 5.3.3)		• Chinese companies have unrivalled financing conditions: they are self-financed and can access low-interest loans from Chinese banks, including the Bank of China.
	Debt-for-Nature Swap	• Not allowed during IMF-ECF arrangement, expensive and lengthy process • Zambia may qualify due to its high debt, high forest cover, and high deforestation rate

2

Overview of the Forest Sector and Performance Gaps

2.1 Forest and carbon stock inventory

There is no recent forest inventory available for the country. The Integrated Land Use Assessment II (ILUA II) reports are frequently cited in Forestry Department reports as the primary source of inventory data. According to ILUA II data released by FAO in 2017, the total over-bark volume of all trees measuring ≥ 10 cm in diameter at breast height (dbh) was estimated to be 3,178 million m3, of which forest land held 2,923 million m3, other wooded land 101.5 million m3, and other land held 153.3 million m3. The total carbon stock on forest land was estimated at 1,218.3 million tonnes, other wooded land had 54.7 million tonnes, and other land had 71.5 million tonnes.[2]

Zambia's forests consist mainly of indigenous/natural open woodlands, which are dominated by ***Brachystegia isoberlinia*** and ***Julbernadia*** species, covering most of the northern part of the country. Notably, the teak forest is found in the Western and Southern provinces and is dominated by ***Baikea plurijuga*** (Rhodesian teak). Over 40% of Zambia's forests are poorly tree-covered natural woodlands (mostly miombo type on plateaus). Only 6% of all forests are considered to be well-stocked, closed-canopy forests (see Annex 8).

Forest loss is again on the rise, triggered by the 2023-2024 drought, which caused a food security crisis and increased the clearing of forests for charcoal and farming land. It has been found that one sustainable safety net is increasing the consumption of wild fruit during times of crisis (Seegers 2024).[3]

Forest inventory data is a critical basis for developing management plans. The last national forest inventory was conducted in 2014 as part of the Integrated Land Use Assessment (ILUA II, supported by the FAO), and another one is due to be conducted soon. As with ILUA I and II, which were supported by the Government of Finland and the FAO, external assistance will be required to conduct the next forest inventory.

In addition, the Forestry Department (FD) has revised the Zambia Forestry Action Plan (ZFAP), in which it sets out its plans to anchor forestry at a national level. At the provincial level, the department is developing a District Forest Management Plan (116 districts) under the Provincial Forestry Action Plans (PFAPs). The Forestry Enterprise Strategy and Plan is also being developed and is ready for validation. This will guide the development of forestry enterprises and be replicated at provincial and district levels. In addition, the FD is:

1. Setting up the National Forest Information System at the national, provincial, district, and field levels.
2. Strategically guiding investments in forest reserves, such as ecotourism, game ranching, and beekeeping.
3. Developing designated sites for sustainable charcoal production, managed under a sustainable harvesting system.
4. Revitalising the natural rubber value chain.
5. Providing all districts (116) and the Forestry Research Section with basic forest inventory equipment, such as GPS devices, measuring tapes, and hypsometers.

2 Forestry Department, ILUA 11, 2017.

3 https://reliefweb.int/report/zambia/we-go-sleep-hungry-children-surviving-boiled waterlily-roots-and-wild-fruits-drought-devastates-50-zambias-food-crops

Forest inventory data is factored directly into the estimation of forest carbon inventory. Looking at the following three estimates makes it clear that the carbon stored in woody biomass and soil is a significant asset in Zambia.

1. According to forest inventory data released in 2016 as part of the Integrated Land Use Assessment II (ILUA II), the total carbon stock in forested land was estimated at 1,218.3 million tonnes, with a potential monetary value of up to USD 3.7 billion (USD 3 per tonne). Half of this was located in the Northwestern, Muchinga, and Western provinces.[4]
2. Data from the UN Food and Agriculture Organisation (FAO, 2011) indicate that Zambia's forests contained approximately 2.416 million tonnes of carbon in living forest biomass, estimated to be worth USD 7.3 billion.
3. Zambia's total terrestrial carbon stocks are estimated at around 9.7 Gt, comprising 3.2 Gt of carbon in above- and below-ground biomass, approximately 6.5 Gt in soils up to a depth of 1 m (UNEP, WCMC[5]).

The differences between estimates arise from variations in assessment methodologies, boundaries, and timeframes, as well as the specific carbon components being measured. For example, soil management models that preserve or increase the amount of carbon sequestered in soil, such as regenerative agriculture and agroforestry (i.e., integrating crops, livestock, and woodlands in the same area), partly attribute carbon to trees.

At the level of the forest ecosystem, detailed carbon stock studies have focused on miombo woodlands, which cover a substantial portion of Zambia's land. For instance, in the Copperbelt province:

- Above-ground biomass (AGB) carbon stock is estimated at 0.1253 C tonnes per hectare;
- Below-ground biomass (BGB) carbon stock is estimated at 0.0295 C tonnes per hectare.
- The total biomass carbon stock amounts to 0.1521 C tonnes per hectare (with a decay factor of 0,0027 C tonnes), equivalent to approximately 0.5583 tonnes of CO_2 per hectare. (See footnote.[6])

A 205 report by the United Nations Environment Programme (UNEP) estimated the market value of carbon stocks in 1 ha of forest to be around USD 150/ha, with intact forests valued at up to USD 750/ha depending on the location. Annual values of carbon sequestration range from USD 16/ha to USD 30/ha per annum.[7]

2.2 Forest types by legal status and tenure

According to the GRZ Forest Act 1915, land in Zambia is vested in, administered, and controlled by the president, and shall be used for the common benefit of the people of Zambia. Individual tenure of customary land is limited to use rights. Residents of customary areas may fell trees and clear land for agriculture. Most of the land is under customary tenure (61%), where local chiefs and headmen allocate individual land use rights to the local population. It is estimated that over 50% of forest reserves, which are protected areas, are being encroached upon. However, this requires more field monitoring and forest inventory work, both of which are unattainable with current levels of forest finance. Better analysis of satellite images helps to determine the extent of forest loss.

Natural forests cover about 41.3 million hectares, accounting for around 60% of the total land area. Valuable commercial species include ***Pterocarpus angolensis*** (mukwa), ***Baikiaea plurijuga*** (Rhodesian teak), ***Guiboursia Coleosperma*** (rosewood), ***Pterocarpus chysothix*** (mukula), ***Isoberlina angolensis*** (mutobo), and ***Afezelia quanzensis*** (mupapa), to name a few.

Zambia has a substantial network of legally protected forest areas. There are 432 forest reserves, encompassing a total area of approximately 7.4 million hectares. These reserves are categorised into two main types:

1. Local Forests: 306 reserves primarily aimed at meeting the forest product needs of local communities.
2. National Forests: 184 reserves designated to protect major water catchments and conserve biodiversity.

4 Republic of Zambia, FAO and Finland Ministry of Foreign Affairs, " Integrated Land Use Assessment II (ILUA II) for the Republic of Zambia. 2016.

5 World Conservation Monitoring Centre

6 The conversion from tonnes of carbon (C) to tonnes of carbon dioxide (CO_2) is based on the difference in the atomic masses of the two molecules. While carbon has an atomic mass of approximately 12, carbon dioxide (CO_2) has an atomic mass of about 44, since it includes one carbon atom and two oxygen atoms (12 + 16 + 16). Multiplier is derived from Ratio: 44/12 ≈ 3.67. Calculation applied in the conversion is: 0.1521 tonnes of C * 3.67 = 0.5583 tonnes of CO_2.

7 United Nations Environment Programme (UNEP), 2015. "Benefits of Forest Ecosystems in Zambia and role of REDD+ in a green economy transformation"

Zambia has 20 national parks (6.2 million ha) and 36 Game Management Areas (17.2 million ha), which fall under the Ministry of Tourism. Additionally, Zambia maintains 59 Botanical Reserves, covering about 148,000 hectares. These reserves preserve unique vegetation types, serve as seed banks for plant breeding programs, and provide reference sites for assessing the impacts of human activities on forest ecosystems.

There are opportunities for outgrower schemes because the country has a timber deficit of around 800,000 cubic meters per annum. Due to population growth and economic development, demand for timber for construction is growing. The main exotic plantation developers, ZAFFICO and CFC, are unable to meet this demand, resulting in the country importing small-sized timber from Tanzania and Malawi. While land tenure has been a big issue for industrial plantation development, community-based forest plantations present their own challenges. These challenges are:

1. Lack of technical capacity to grow trees
2. Lack of seed supply by the Forestry Research Section
3. Lack of forest extension services to promote tree growing
4. Inadequate information about the timber market
5. Lack of financing for non-titled land, which prevents growers from securing funding
6. The long gestation period from planting to harvesting is discouraging for growers.

2.3 Decentralisation of forest management in Zambia

Decentralisation is crucial in ensuring the jurisdictional allocation of power, designing benefit-sharing mechanisms, and ensuring sustainable forest management to improve livelihoods. These are meant to empower lower-level governance structures, including communities and the private sector, through community forest management (CFM), joint forest management (JFM) and private forest management (PvFM). Zambia has 164 registered community forests, which manage around 3 million hectares (Forestry Department 2024).[8] However, not all community forests have sufficient revenue-generating capacity due to their small size, degraded condition, or poor growing conditions. A lack of forest management capacity, financial resources, and technical skills means that most community forest management plans focus on low-cost options such as beekeeping.

The success of Community Forest Management Groups (CFMG) in managing and conserving forests under carbon projects has yet to be assessed, as these groups have only recently been formed. CFMGs are not yet deeply involved in sustainable forest management, nor in the processing and trade of timber and non-timber forest products (NTFPs).

The CFM mechanism shall be used to confer management and control rights to local communities interested in managing forests. At the same time, the PvFM applies to landowners who wish to conserve and manage their forests and are entitled to incentives from the GRZ. JFM is a mechanism that applies collaborative forest management with local communities, the government, and other stakeholders.

The Forest Act 2015 clearly defines private forests (natural and plantations). The next step is to document the location, size, and types of these forests. In the absence of national regulations for private forests, the Forestry Department has difficulty identifying registered private forests.

2.4 Biodiversity

Zambia boasts rich and diverse biodiversity, owing to its varied ecosystems, which include savannahs, woodlands, wetlands, rivers, and forests. Zambia's flora features over 6,000 recorded plant species, many of which are endemic or regionally significant. The country's fauna is equally remarkable, comprising over 750 bird species, more than 230 species of mammals, and a wide range of reptiles, amphibians, and insects. The Zambezi and Luangwa River systems, in particular, support a rich aquatic life, including fish species that are vital to local diets and livelihoods.

2.5 Deforestation

Zambia's deforestation rates, estimated at 172,000 ha per year, are among the highest in the world. Forest fires, unsustainable charcoal production, timber trafficking, land degradation, soil erosion, and desertification are driven by the expansion of human settlements and subsistence agriculture. GRZ considered banning the unsustainable production and consumption of charcoal by 2025. The focus is on handling the crisis in 17 'hotspot' districts now, of which the first three were under a total ban during the 2024 drought.

8 Forestry Department Annual report, 2024.

A national forest certification interim standard is being developed with the Forest Stewardship Council (FSC). Once the framework and platforms are in place, it will strengthen the monitoring of this indicator through a chain-of-custody and traceability approach. The FD supports this initiative through a designated Focal Point.

Despite their protected status, many of Zambia's forest reserves face degradation from encroachment and illegal activities such as charcoal and poaching. For instance, several FD Annual reports (e.g., of 2017 and later)[9] indicate that nearly all of Zambia's forest reserves have been affected by illegal settlements, shifting cultivation, and artisanal mining. The lack of coordination with various stakeholders has led to increased encroachments in forest reserves, resulting in deforestation and forest depletion. The status of the forests was categorised as heavily encroached, encroached, degazetted, depleted, or available. These protected forest areas play a crucial role in Zambia's environmental conservation efforts, although they require ongoing management and protection to mitigate human-induced pressures. Unknowingly, those who have settled in such forests for a long time have even lobbied the government to construct social service infrastructure like schools and clinics.

North-Western Province accounts for 32% of the Forestry Department's revenue collection and possesses some of the most extensive natural forests under concessions, together with the 34% from Western Province (Forestry Department 2024). In anticipation of the Lobito Corridor development, the North-Western, Copperbelt, and part of Western Provinces will receive more investments, and this may result in the loss of forests and biodiversity. The Lobito Corridor creates opportunities for forest product processing, forest-based enterprises, industrial hubs, agricultural processing zones, and renewable energy value chains. The European Union, member states, and financiers are promoting the use of biodiversity safeguards and adherence to ESG (Environmental, Social, Governance) principles in responsible investments.

2.6 Economic contribution, processing, employment and livelihoods

Zambia's Gross Domestic Product in nominal rates was USD 27.578 billion in 2023. The annual growth rate was 5,37% and GDP per capita was USD 1,331. As of 2024, the forestry sector contributes 3.87% to the GDP through the "Forestry and Logging" sub-accounts.[10] This figure has risen fast since 2020, when it was 2% of GDP (see Annex 9). If wood industries, trade, and retail are considered (cross-sectoral linkages), the real share is around 5.2% of GDP. This growth is partly due to investment and trade in Non-Timber Forest Products (NTFPs), especially in wild honey.

By comparison, Zambia's tourism sector, classified by the World Bank as "nature-based," contributed over USD 1.1 billion (7.1%) to GDP in addition to creating over 319,000 direct jobs in 2018 (GRZ, 2019). Zambia's forest and woodland ecosystems are the dominant biomes that enable the tourism sector.

It has been established that the sector has about 108,445 formal ('decent')[11] jobs, and the Forest Partnership aims to help increase this number tenfold by 1050,000 by 2030.[12] When actual formal and informal employment are considered, it is estimated that approximately 1.1-1.5 million people are employed in Zambia's forestry sector. Informal employment is common across different sub-segments, such as logging, processing, and trade. This excludes charcoal production, in which at least 0.5 million people work unregistered. Zambia faces significant challenges related to poverty and inequality, with approximately 64% of the population living in poverty. Notably, around 80% of the country's poor reside in rural areas.

The leading private companies are ZAFFICO plc, Copperbelt Forestry Company, Sikale Limited, Mukatasha Timbers, Wood Processing Industries Limited, and other foreign-owned companies. It is estimated that there are over 3,000 artisanal forest operations for exotic timber processors and loggers, and a further 2,000 for natural

9 As reported in the Committee on Agriculture, Lands, and Natural Resources: Report of the Auditor General on Sustainable Forest Management for the Second Session of the 12th National Assembly Appointed on 20th Sept., 2017.

10 Zamstats, 29 May 2025

11 A decent job in Zambia, aligned with International Labour Organization (ILO) principles, is one that is productive and offers fair income, workplace security, social protection, and dignity for workers and their families.

12 EU-Zambia. 2025 Forest Partnership Baseline

forest-based enterprises.[13] MSMEs make up 95% of registered wood processing companies, and in fact, 95% of sawn timber is produced without appropriate licenses. The biggest private company, Zambia Forestry and Forest Industries Corporation, employed about 3,658 people in 2024.[14]

The low annual allowable cut of 200,000-400,000 cubic meters from ZAFFICO's pine and eucalyptus plantations is about one-third of the demand for timber.[15] From all types of forests, the national production of sawn timber is estimated at 1.0 million cubic meters per annum. This estimate is based on members of COSTIGA (Copperbelt Sawmillers and Timber Growers Association) and ZNAS (Zambia National Association of Sawmillers) producing at a minimum of 50 m3 per month each. The demand for sawn timber outstrips supply to the extent that sawmillers and traders must import logs and sawn timber from Malawi and Tanzania. Most of the small 'artisanal' sawmills are mobile mills and can be relocated to new areas for a log supply.

In Zambia, it is common for small wood processing operations to lose 40-60% of log volume due to poor technology and a lack of downstream potential to reprocess wood waste into products. Based on an estimated 700,000 m^3 [16] of sawlogs available per year and a recovery rate of 60%, small-scale sawmillers produce 420,000 m^3 of sawn timber. Additionally, Copperbelt Forestry Corporation (CFC) processes approximately 30,000 m^3, increasing the annual sawn timber production to 450,000 m^3. The potential export volume to the Democratic Republic of Congo (DRC) is 500,000 m^3 per year. Lubumbashi, the second-largest city in the DRC, is located opposite Northwestern Province and has an estimated population of 15 million. The mining industry there is expanding rapidly.

The market size of wooden poles is around 300,000 poles per year, 105,000 of which are supplied domestically. One hundred ninety-five thousand poles are needed from imports.[17] The electricity utility company, Zambia Electricity Supply Corporation (ZESCO), and the Rural Electrification Authority (REA) have a steady demand for wooden poles for distributing electricity in both urban and rural areas of the country. In March 2022, ZESCO issued a tender to 10 Zimbabwean and South African companies for the supply and delivery of 9- and 12-meter wooden poles, as Zambian companies lacked the capacity to meet demand. Approximately USD 107 million was allocated for the import of wooden poles in 2022.

Regarding other wood industries, Zambia's forest legislation restricts the movement of stock for technologies and applications other than sawmilling. The Forest Regulations of the Forest Act of 2015 do not permit logs to be transported more than 100 km from the stump. The law was fit for sawmilling, but it did not consider other processing technologies, such as veneer for plywood, which are used in wood-based panels. Given that timber harvesting from natural forests is by log selection, there is no guarantee that a processor can find sufficient volumes of desired timber from one area. This necessitates the transportation of harvested veneer logs to processing plants, which may be more than 100 km away, from various forest concession areas.

Standard national accounting systems do not include all contributions generated by natural systems, particularly the regulating, supporting and cultural services (aggregated under PES), which are complex to account for. Due to this constraint, the sector continues to evolve under-resourced. The use of natural capital accounting (NCA) in forestry is emerging slowly. NCA is a powerful way to demonstrate the actual economic value of provisioning services, as well as the regulatory and cultural benefits that forests can offer to the economy, thereby encouraging partners to invest through their corporate social responsibility (CSR) portfolios. For instance, the WWF collaborates with the CSR Network Zambia to educate non-conservation institutions and companies on the importance of forest conservation in the green economy, and the EU programmes through the Green Nexus have an emphasis on forest conservation.

13 Personal communication with the COSTIGA Executive.

14 ZAFFICO Annual Report.

15 The Zambian Forestry Opportunities Report, 2023.

16 ZAFFICO Annual reports.

17 Personal Communication with ZESCO, ZAFFICO and CFC.

The estimated market value of NTFPs from Zambian forests is about USD 135.8 million per annum, although a much higher estimate of USD 489 million was released in 2018. Assuming the lower estimate primarily comes from undisturbed forests, the average value of NTFPs per hectare of forest is USD 8.20. Around one-sixth of the rural population depends heavily on wood and non-timber forest resources for their livelihood. NTFPs represent approximately 20% of rural household incomes. A new market for wild fruits is emerging, with baobab fruits, for example, being used to make four to five different products, including alternative charcoal briquettes and pellets (ref. Africa Forest Zambia Ltd.). One underutilised NTFP is bamboo, which is common in Zambia. In Uganda, for example,the provision of clean cooking fuel in the form of high-quality charcoal briquettes produced from local bamboo has gained prominence as a business led by the private sector (UNIDO 2021).

Companies such as Forest Africa, which process indigenous fruits, now use Baobab shells to make charcoal briquettes. Several wild fruits lend themselves to the circular economy. In the face of persistent socio-economic and environmental challenges and ever-increasing use of natural resources, the concept of circular economy has emerged as a promising model aimed at minimising waste and making the most of natural resources. In the forestry sector, this model has attracted significant public and private interests, as reflected in policy instruments and strategies research, as well as private sector commitments to circularity. The Swedish company SupaMoto has been at the forefront of retrieving sawmill waste and converting it into wood briquettes and pellets as an alternative to charcoal. Other sawmill wastes, such as off-cuts and sawdust, are also processed into chipboard.

3

Assessment of Current Levels of Finance and Investment

3.1 Key objectives and targets from forest policy and action plans

Zambia's 8th National Development Plan (8NDP) for 2022-2026 and Vision 2030 promote the goal of becoming a prosperous middle-income country by 2030. Both plans support the development of low-carbon and climate-resilient development pathways, with the 8NDP's strategic development priorities being: 1) economic transformation and job creation, 2) human and social development, 3) environmental sustainability, and 4) a good governance environment.

Both the 8NDP and the Strategic Plan of the Ministry of Green Economy and Environment (MGEE) for 2022-2026 identified carbon markets and trading as modalities that would help Zambia to achieve its carbon emission reduction targets under the NDC. Zambia's Carbon Market Framework has been finalized and published, and will be applied to projects and units destined for valorisation through Article 6 of the Paris Agreement in the future. It supports the strategic planning of CC mitigation and the achievement of NDCs and the National Adaptation Plan (NAP).

The recently revised Zambia Forest Policy (15 May 2025) is now available online (See Annex 10). The following Forest Policy Objectives are of particular importance to forest finance (original document numbering applies):

6.3 Forest Enterprises Development: The objective is to increase production and value addition for wood and non-wood forest products

6.4 Plantation Establishment and Management: The objective is to increase the area under plantation management to improve the supply of forest-based raw materials.

The EU-Zambia Forest Partnership (FP) was established by a Memorandum of Understanding (MoU) signed by Zambia and the EU at COP27 in November 2022. This open-ended, non-binding cooperation agreement aims to enhance the role of Zambian forests in sustainable and inclusive economic development, while addressing deforestation and forest degradation, climate change, and biodiversity loss. The FP has formalised the following four workstreams:

1. Good governance environment: forest policy, governance and management systems.
2. Economic transformation and job creation: improved value chains for forest products and services.
3. Environmental Sustainability: a value to protect.
4. Human and social development: skills, research, and outreach.

Parties herald their commitment to combat deforestation, enhance forest governance, and promote sustainable forest management. The FP Roadmap, signed in November 2023, sets out targets such as reducing deforestation rates and creating decent forest-related jobs. The EU will provide funding to support these objectives and drive economic transformation through a sustainable forest bio-economy.[18]

18 https://climate.ec.europa.eu/news-your-voice/news/global-gateway-european-union-and-zambia-sign-roadmap-implementation-forest-partnership-2023-11-08_en

Hon. Mike Mposha stated the following targets, which are aligned with both the EU-Zambia Forest Partnership and the 8th National Development Plan (8NDP).[19]

1. By 2030, the Ministry is committed to reducing the deforestation rate to 86,000 hectares per year.
2. Sustainable management of forest land has been expanded to 21,336,000 hectares.
3. 1,050,000 forest-related decent jobs are created.
4. Planting of forest trees on 336,000 hectares.
5. The restoration target is 6 million hectares.

In addition, there are other targets (GRZ 2022):

1. Strengthening the policy and regulatory framework on climate change, natural resources, and environmental management, green growth, forestry, and meteorology.
2. In line with the Nationally Determined Contributions, focusing on forestry enhancement, sustainable charcoal production, improved cooking devices, and forest fire management.
3. Increasing local content and investment to add value to products from the agriculture, forestry, and mining sectors and facilitate trade.
4. Promoting light manufacturing, which is characterised by operations that are less capital-intensive but more labour-intensive.
5. Prioritising value chains in processed foods, engineering, wood and wood products, textiles, leather and leather products.

Further information on Zambia's ambitious forest restoration efforts can be found in Annex 11, and additional analysis of success factors is presented in Annex 12.

3.2 Public sector funding to the Forestry Department by activity 2018-2025

Public financing for forestry is channelled from the central treasury (Ministry of Finance and National Planning) through the Ministry of the Green Economy and Environment (MGEE) to the Forestry Department. Figure 1 below shows the GRZ's detailed flows to the FD, while Table 2 outlines the flows reported by activity in their annual reports and Yellow Books.

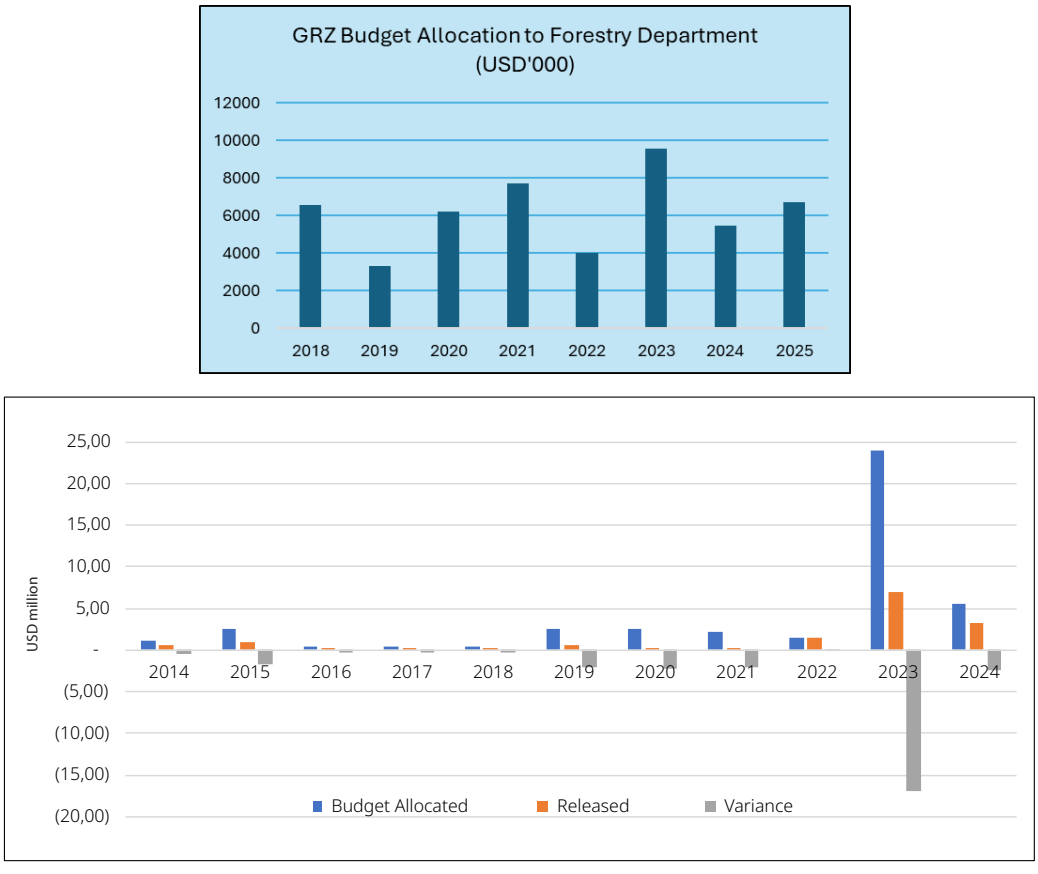

Figure 1. GRZ budget allocation (left) and actually released funds (right) to the FD

19 Source: https://www.mgee.gov.zm/?p=3880, referring to the MoU on the EU-Zambia Forest Partnership.

The GRZ budget allocation to forestry is disproportionate and volatile—the 2025 allocation amounts to approximately USD 6.7 million at the April 2025 exchange rate. For comparison, the Farmer Input Subsidy Programme (FISP) receives USD 352 million, which is 48 times more than the other programme. For international benchmarking purposes, the Rwanda government allocates nearly USD 6.1 million annually to a total forest area of just 724,695 hectares (30.4% of the country's land). Zambia's forest area is around 42-43 million hectares, which is 60 times larger than Rwanda's. Of that, the forest reserves that fall under the direct custodianship of the Forestry Department cover around 7.37 million hectares. Nevertheless, this is 10 times larger than Rwanda's forest area.

In addition to the central forestry department's funding, there is a much smaller flow of government **funding to provincial forestry office (PFO) activities**. Financing for the PFOs through the provincial administration also comes from the central treasury, but is channeled through the decentralised system. It has the same source, but is much smaller in amount. These flows go through the provincial administrations and are in addition to the GRZ's direct funding to the Central Forestry Department (Lusaka) through MGEE[20]. It is estimated that they receive funding amounting to less than 5% of the funds going to the Central FD. Provincial FD offices request these funds from the provincial administration and receive inadequate amounts to conduct their services.

The years 2014 to 2019 were chosen because the government's budgeting policy was based on "activity budgeting" during this period, and this policy was implemented at the provincial level. After 2019, the budgeting policy shifted towards an output-based approach. This resulted in non-reporting at the provincial level, meaning that budgeting was only reported at the national level.

Table 2 shows the budgets of the Forestry Department for key forestry activities from 2010 to 2025. Of significant importance is the government's allocation to forest management (ZMK 9,781,620), followed by forestry research (ZMK 5,584,769). The Forest Development Fund received a mere K24,050.

Table 2. Actual public funding to forestry by activity (ZMK), 2010-2025

Year	Nursery management	Tree Menting	Forest extension	Forest management	Forest research	Bee-keeping	Support to forestry projects	CBPM	Porest Development Fund	Polloy development
2010			510,500	3,411,868	690,188	55,000				182
2011	150,000		80,000	423,000	327,000		6,070	10,400		
2012			112,200	4,797,680	1,178,602					450
2013			305,500	12,372	1,025,734		10,860			950
2014		835	3,151	1,268	1,615	1,987	48,197			
2015		15,000	205	1,465	175,834	890	23,787			
2016		226	290		1,526	649	8,698	64,655		
2017			426	890	1,376,660	323				
2018		315	1,903	63,746	807,610	423	63,746	46	50	
2019		539,600		42,738		72				
2020		800		64,042		202				
2021				131,152						
2022				303,817						
2023				193,943					12,000	
2024				141,838					12,000	
2025				191,801						
Total	**15,000**	**556,278**	**1,286,902**	**9,781,600**	**5,584,769**	**59,546**	**161,308**	**10,446**	**24,050**	**1,582**

20 The funding to the provinces flows through a decentralised system, through the provincial administration, although the money still comes from the Central Treasury.

Notes:

1. These figures are based on authorised expenditure from the Yellow Books of the Ministry. Finance and Forestry Department. It was difficult to ascertain whether the Forestry Department actually received what was budgeted for, since the Yellow Books merely indicate that there were no 'supplementary budgets'. At best, the department received its budget; more likely, it did not.
2. Tree planting includes plantation development.
3. Support for forestry projects: ZMK 26,600,000 to support forestry activities in the Eastern province, and ZMK 20,000,000 for the ZIFLP.
4. Forest policy development included funding for the restructuring of the Forestry Department.
5. Operationalisation of seed money of the Forest Development Fund (column 10).
6. Forest management includes biodiversity conservation.

Table 3 shows the parallel public funding for the three most important provinces, demonstrating that 70% of the forest revenue is generated from stumpage fees, permits, and licenses (Western and Northwestern, Copperbelt). Revenue from the North-Western and Copperbelt provinces is expected to increase significantly once the 360-degree development approach in the Lobito corridor is initiated and forest utilisation intensifies.

The Forestry Department generates revenue both centrally and from the provinces through revenue collection. Centrally, the FD collected USD 3.2 million in 2023 and USD 2.2 million in 2024. At the provincial level, the FD's District Forestry Offices collected between USD 3.2 and 3.8 million in 2023 and 2024. The Northwestern and Western provinces each accounted for around 30% of the total because they have the largest number of operational forest concessions. The central office revenues fell over the last two years, whereas provincial revenues rose. All revenue is returned to the Central Treasury (Control 99 Account) (GRZ 2018a).

3.3 Forest finance gap analysis

Between 2025 and 2030, Zambia will require approximately USD 3.3 billion of forest finance to fund activities ranging from forest conservation, forest and landscape restoration, to smallholder plantation development. As the majority of Zambia's forests are miombo woodlands, we apply a flat rate of USD 500/ha for forest and landscape restoration (FLR), which is half the 2015 estimate from FAO and UNCCD for woodland restoration costs. FLR is understood to cover the following activity types, none of which can be achieved within the above smallholder plantation cost range (Stanturf et al. 2014). FLR activities are:

Table 3. GRZ parallel funding to the three biggest provincial FDs 2014-2019 (USD)

ActivityYear	Copperbelt		Western		North-western	
	Forest management	Enterprise support/ beekeeping	Forest management	Enterprise support/ beekeeping	Forest management	Enterprise support/ beekeeping
2014	43,083	38,898	53,485	n.a.	32,179	3,795
2015	36,859	4,678	66,667	n.a.	85,632	0,000
2016	32,616	1,938	24,225	n.a.	24,225	2,269
2017	30,115	4,092	36,726	n.a.	57,786	2,457
2018	22,313	1,914	24,762	n.a.	61,972	2,230
2019	16,288	2,368	74,615	n.a.	71,564	4,615
Total	**181,275**	**53,889**	**280,479**	**n.a.**	**333,358**	**15,367**

Source: Ministry of Finance Budgets, 2014-2019

1. Rehabilitation: The restoration of desired species, structures, or processes in an existing ecosystem.
2. Reconstruction: The restoration of native plants to land that is being used for other purposes.
3. Reclamation: The restoration of severely degraded, vegetation-free land.
4. Replacement, in which species or provenances that are ill-suited to a given location and unable to migrate are replaced with introduced species, in the interest of climate-change adaptation.

It is estimated that establishing smallholder plantations using local labour would cost about USD 200 per hectare.

Table 4 summarises the estimated needs and gaps in forest finance. Figure 2 provides data on global cost estimates in forest restoration. Annex 2 provides a methodological note to help understand how the figures are calculated.

In summary, forest financing in Zambia (its complete mapping can be found in Annex 1) comes from the following primary sources:

1. **Public sector funding** from the Central Treasury through the Ministry of Green Economy and Environment (MGEE). Allocations are currently falling from USD 5-6 million per annum, with less actually being released. From 2010 to 2015, for example, the FD received only USD 1.163 million (USD 116,349 per year).[21] In addition to the central flow, there is a much smaller parallel flow of GRZ funding to the provincial FD offices. This funding decreased from USD 173,765 in 2015 to USD 73,840 in 2018.[22] These flows are channelled through the local administrations and are in addition to the GRZ's central funding to the Central Forestry Department through MGEE. They are estimated to account for less than 5% of all national-level financing of the FD. Provincial FD offices request these funds from the provincial administration.

2. The second tranche of forest financing is the **revenue collection of Provincial FDs** from the private sector operators, i.e., stumpage and conveyance fees, licenses, and permits from the concession holders, transporters, and industrial processors. However, this revenue is returned to the Treasury. Total revenue collection (Central and Provincial FD) has been in the order of USD 6 million per year.[23] In contrast to the GRZ central budget to the FD, revenue collection has risen from USD 3.22 million in 2023 to USD 3.79 million in 2024.[24] This increase was mainly driven by intensified natural forest logging and wood processing by Chinese companies established in Zambia, which have unrivalled access to supply chain finance from Chinese banks backed by the Bank of China. There is significant potential for growth, given that 99% of charcoal is produced outside the licensing system, and approximately two-thirds of sawmilling output is produced informally by artisanal sawmillers.

3. **Project and programme funding from donors**, multi-national development banks (MDBs), through the GEF, the UN agencies, the WB, and climate funds in forestry or integrated "nexus" approaches is the third and most crucial lifeline for the forestry sector.
   - The most significant forest financing flows come through the WB-IDA ***Transforming Landscapes for Resilience and Development Project*** (TRALARD[25]), which aims to build a sustainable forest economy in the Luapula, Muchinga, and Northern provinces. The total funding for TRALARD II is USD 138 million, consisting of [26]:
     i. USD 100 million from the International Development Association (IDA), including USD 50 million from the Generating Growth Opportunities and Productivity for Women Enterprises (GROW) Project;
     ii. USD 3.04 million from the Global Environment Facility (GEF);
     iii. USD 7.34 million from the Least Developed Countries Fund (LCDF);
     iv. USD 10 million from the Climate Investment Funds (CIF);
     v. USD 7 million from Scaling Climate Action by Lowering Emissions (SCALE); and
     vi. USD 10.6 million from the Nordic Development Fund (NDF[27]).

21 Source FD Annual reports and GRZ Annual report/Budgetary estimates)

22 Ibid.

23 Forestry Department Annual reports (2015-2025)

24 Forestry Department's Provincial Reports (2023-2024).

25 https://projects.worldbank.org/en/projects-operations/project-detail/P164764

26 https://www.mgee.gov.zm/?p=6712

27 https://www.ndf.int/what-we-finance/projects/project-database/transforming-landscapes-for-resilience-and-development-ii-tralard-c173.html

- *The Zambia Integrated Forest Landscape Project* (ZIFLP[28]) is also transitioning into its second phase, known as the ***Eastern Province – Jurisdictional Sustainable Landscape Programme (JSLP)***. The total budget is USD 64 million, with USD 44 million provided by BioCarbon Fund and GEF. The project's main component is to offer emissions reduction credits through ERPAs worth USD 50 million, 55% of which will be distributed to the communities.
- The Community-Initiated Regeneration for Carbon and Livelihood Enhancement (CIRCLE[29]) programme in Zambia is part of a larger project with a budget of up to USD 30 million in results-based payments to communities for carbon credits generated over the next five years. Implemented by Ecosecurities in partnership with World Vision Zambia and Korea Investment & Securities Co., Ltd, it will have environmental and socio-economic impacts across 9,000 hectares of degraded land in Luapula Province. The initial budget has not been announced. The project focuses on afforestation, reforestation, and revegetation (ARR) to restore forest cover and enhance carbon sinks, using farmer-managed natural regeneration, agroforestry, and community land-use planning. The target is to restore 2 million hectares of degraded land by 2033, which would allow for the reduction of ~264,297 tCO_2e per year, amounting to >5.28 million tCO_2e over the 20-year crediting period.[30]
- A new community-led carbon initiative has just been launched in Zambia: The Musokotwane-Nyawa Miombo Woodland Carbon Project is located in the Kazungula District and covers 185,000 hectares. It aims to restore wildlife corridors between Kafue and Mosi-oa-Tunya National Parks. The initiative's ambitious goal is to remove up to 2 million tonnes of CO_2 each year by 2030. It is led by Community Climate Solutions (CCS) and backed by Climate Impact Partners. The Musokotwane-Nyawa project will use blended finance, combining philanthropy with carbon market mechanisms. It expects to channel about $90.8 million into restoration efforts. Status is still in the preparatory stage, with an immediate planting target of 800,000 native trees.
- The EU and MS channels funding, for example, under the Nexus Programme (SAFE, SLIM and LEAF), Z4ABC, the Global Green Growth Institute, and the Lobito Corridor Development etc., and adding up direct assistance from the United Kingdom, Australia, and Canada, is estimated in the order of EUR 75 million in ongoing and planned commitments until 2030. However, not all of this funding is for forest financing. By comparison, the GEF alone will have distributed USD 61 million between 2006 and 2026 (USD 2.44 million per annum) to mitigate biodiversity loss, climate change, and land degradation in Zambia, all of which intersect with forests and woodlands.

4. **Private sector forest finance** comprises company revenue flows, own capital stocks used in investments, commercial bank loans, and de-risking tools such as guarantees for initial losses. Grants from partners are also available for small social enterprises and civil society organizations (CSOs). The forestry sector struggles to attract new investors owing to its reputation as a high-risk frontier with low liquidity and long-term maturity of initial investment. The country has only a few financially viable wood industries, as well as many informal entrepreneurs and MSMEs who require support to become bankable. Blended finance mechanisms and senior equity capital are needed to provide de-risked financing solutions to greenfield and brownfield investments. In June 2025, the Zambia Forestry and Forest Industries Corporation (ZAFFICO)[31] plc. signed a ZMK 200 million commercial loan (USD 4.7 million) from Indo-Zambia Bank. Commercial banks offer concessional rates to forestry companies, but most of them are still at double-digit interest rates.

5. Finally, **carbon finance** is a prominent and fast-growing segment of forest finance. Zambia's estimated potential accounts for 6% of Africa's and 0.7% of the global carbon credit supply. The Luangwa Community Forest Project is the largest carbon project in Africa. On average, BCP issues 1.76 million carbon units from this project per year. GRZ is transforming carbon supply into the **new compliance market with** ITMOs, with a pipeline of 70 projects covering several sectors. The global

28 https://ziflp.org.zm/ep-jslp/

29 https://ecosecurities.com/portfolio/community-initiated-regeneration-for-carbon-and-livelihood-enhancement-project/

30 https://www.wvi.org/sites/default/files/2025-05/Investing%20in%20Carbon%20Programming%20for%20People%20and%20Planet.pdf

31 ZAFFICO is a State-owned Enterpise and listed on the Lusaka Stock Exchange (LUSE).

carbon offset market was valued at USD 331.8 billion in 2022 and is expected to grow by 31% each year from 2024 to 2028. In a landmark decision on 2 July 2025, the European Commission proposed amending the EU Climate Law to set a 2040 EU climate target of reducing net greenhouse gas (GHG) emissions by 90%, compared to 1990 levels. New flexibility mechanisms may include a **limited role for high-quality international emission reduction credits starting from 2036 onwards.**

While there has been interest in developing forest carbon projects, these did not previously seem to benefit local communities much, partly due to a lack of stringent guidelines and transparency in sharing proceeds. To address this issue, the Eastern Province's Jurisdictional Sustainable Landscape Program (JSLP), for example, was designed with a clearer division in mind. The REDD+ benefit-sharing plans for Emission Reduction (ER) are structured to clarify the key roles and responsibilities of the beneficiaries, ensure the cooperation of relevant and affected stakeholders, and properly incentivize and reward those across the jurisdiction who contribute to the implementation of REDD+.

On the supply side, large institutional investors in Zambia form a substantial, untapped capital base for funding the national economy and the forestry sector, albeit to a lesser extent. The institutional and financial sector's Assets Under Management (AuM) are substantial in comparison to Zambia's forest financing needs:

1. Commercial banks such as Zanaco, ABSA, and FNB have gross loans totalling USD 28.8 billion (2023).
2. Pension funds: NAPSA & PSPF have USD 3.46 billion in AuM.
3. Insurance sector: USD 48.29 billion in AuM.
4. Capital Markets Portfolio: USD 7.67 billion (LuSE, government bonds, and collective investment schemes).

In industrialised countries, these types of institutional investors diversify risks by investing counter-cyclically in forestry sector assets, which offer a low-risk, low-return element in their portfolio. Each investment portfolio manager makes these decisions based on their company's risk analysis. There are no standard sector or branch shares in the public domain. In Europe, where 60% of forests are privately owned, institutional investors hold only a small percentage of forestry assets. Although some data from early 2025 indicates that approximately 10% of European institutional investors are considering natural capital allocations, the actual investment in forestry assets remains relatively low compared to markets such as the US, Australia, New Zealand, and the UK. Zambian institutional investors, such as pension funds and insurance companies, have not yet followed a similar pathway, primarily due to their limited understanding of the forest sector and the lack of strong forest industries or timberland management companies to invest in.

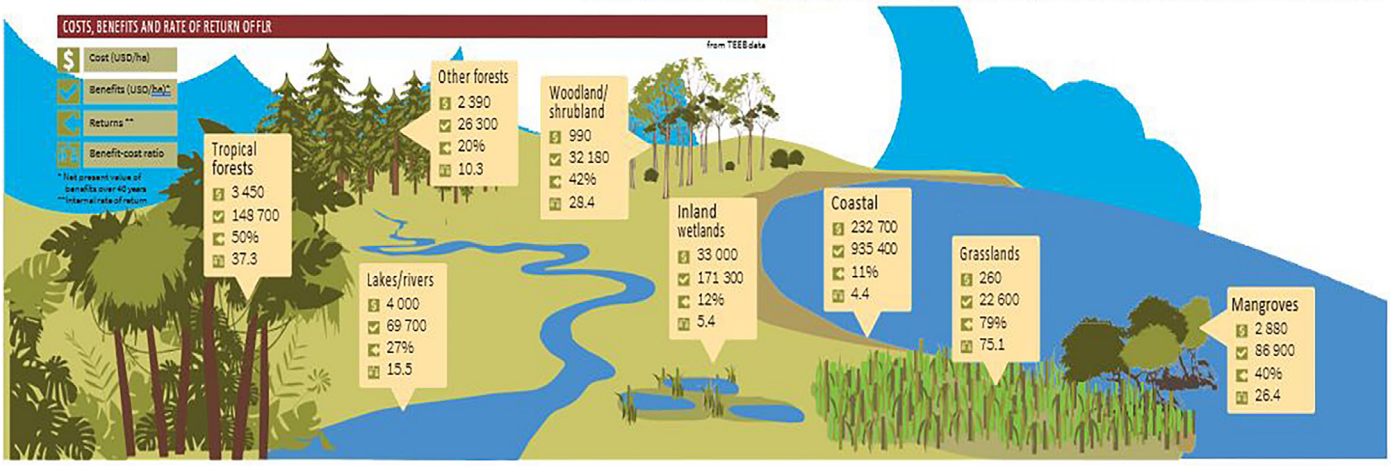

Figure 2. Global estimates on costs, benefits, and rates of return in forest and landscape restoration by biomes

Note: All values are in US Dollars. Benefits yield a Net Present Value (NPV) of 40 years. Returns: Internal Rate of Return (%-IRR).

Table 4. Forest sector's total financing needs and main gaps (cumulative to 2030)

8-NDP / FP Targets in Forest Sector By 2030, ensure that:	Funding Type / Potential Sources	Needs	Available	Gap
		USD million (estimate for 2025-2030)		
Deforestation rates are reduced from 172,000 ha to 86,000 ha/ year (Gap: 86,000 ha).	Alternative rural income to charcoal ban, through NTFPs, environmental compensation funds, PES, social compensation funds, FISP, FSP, Donors, REDD+, carbon projects	**43**	**20**	**23**
Sustainable management (plans) of forest land is enlarged from 20.605 million ha to 21.336 million ha (Gap: 731,000 ha).	FD/ Forester charges for preparing the Sustainable Forest Management Plans (USD 10/ ha) Stumpage fees, license, permit, and regulatory fees of FD and Forest Development Fund (tbc), PES WB JSLP	**7**	**1**	**6**
Tree plantations up by 336,000 ha (Gap: 271,000 ha).	FD seed and seedlings finance, extension services Company funds and loans supporting Out-grower schemes and SHF, linked to FISP, FSP FDI, MDBs, donors, banks, carbon projects, blended finance EFSD+ to de-risk private sector investment*	**135**	**50**	**85**
Forest Restoration: 6 million hectares.**	MGEE, EU, GCF, WB, TerraFund for AFR100 Initiative, carbon (later biodiversity offsets), private sector investors in FLR. TRALARD II.	**3.000*** **	**60**	**2.940**
1,050,000 forest-related decent jobs are created.	GRZ social funds, rural wager, NTFPs, value chain finance, companies, MSMEs, self-entrepreneurs, carbon projects	**315**	**20**	**295**
	Total	**3.500**	**151**	
			36 FD** **	**3.349**

* The European Fund for Sustainable Development Plus (EFSD+), which aims to boost access to funds from financial institutions for key investments for sustainable development.

** Zambia's AFR100 commitment is to restore 2 million hectares of land by 2030. **

*** A highly variable forest restoration cost/ha, and 500/ha is used. Actions range from fire management and assisted regeneration to tree planting.

**** Forestry Department's annual budget allocation of USD 6 million for 6 years across all targets (optimistic). The Forest Development Fund account has only small amounts for the fund's establishment costs.

3.4 Gaps in the enabling environment

This subsection elaborates on the existing data gaps and non-enabling conditions that hinder the readiness of FF instruments and regulatory systems. These factors may hinder the adoption and scaling up of forest finance solutions and instruments. The friction can originate from biased or conflicting political and market frameworks, capacity and power-related systemic limitations, etc. A summary in Table 5 is presented before the main features are discussed in the following chapters.

The key challenges in addressing the gaps in the enabling environment for FF in Zambia include:

Limited mainstreaming and coordination: Budget tagging and green finance mechanisms have not yet been fully mainstreamed, and coordination across ministries is still developing. This limits the effective tracking and mobilisation of green finance.

Investment barriers, including high interest rates, a lack of bankable enterprises, and insufficient incentives, hinder private sector investment in forestry. Additionally, the feasibility mapping of investable land is incomplete.

Institutional and financial constraints: National forest and conservation funds are not operational due to fiscal constraints, drought impacts, and weak financial infrastructure. Meanwhile, regulatory and capacity gaps persist in carbon markets, PES, and biodiversity credits.

There are also long-term trajectories in the composition and sources of financing for forests and nature conservation. Nature conservation is the only investment area where philanthropic funding consistently surpasses venture capital. Traditional markets struggle to value what nature provides, including clean air, fresh water, and resilient ecosystems with their intrinsic biodiversity and genetic resources. Despite their essential role, these life-support systems are complex to monetise (One Earth 2025).

Table 5. Summary of the assessment of enabling environment factors and improvements for emerging forest finance solutions and instruments

Forest finance solution		Assessment
Budget tagging	**Status**	• Budget green tagging or climate tagging is not yet mainstreamed in the GRZ. Although it does not provide additional financing, it consolidates existing 'green' finances from various ministries to improve the Ministry of Finance's reporting, monitoring, and forecasting, while applying the appropriate parameters. It supports reporting on NDCs and on other international commitments (e.g., biodiversity). The Zambia Green Finance Taxonomy (ZGFT) and its associated tagging and reporting system were finalised in April 2025. • It involves assessing each budget measure individually and assigning it a 'tag' according to whether it is helpful or harmful to the assigned target. The tag can refer to 'sustainable finance', 'green', or 'climate-aligned', depending on whether the taxonomy focuses on broader environmental impacts, climate change impacts only, or environmental and social impacts. • Green objectives may relate to climate or other environmental areas, such as biodiversity and water.
Taxon-omy	**Reform**	• Zambia's 8NDP cluster report details the progress and challenges involved in implementing the Eighth National Development Plan (2022-2026) across different sectors and regions. These reports include quarterly and annual summaries of key deliverables, milestone performance, and budget execution at national, provincial, and district levels. • It helps the GRZ to monitor, report on, and verify climate-friendly financing, and navigate a transition towards the Green Growth Strategy and implementation of the Zambia Climate Change Act (ongoing in 2025). • The enabling regulations on green finance, such as the Banking and Financial Services (Green Loans) Guidelines and the Securities (Green Bonds) Guidelines, require financial services providers to implement tagging and reporting systems to report on green projects, including Green Finance (IGF) and green lending/investments. • All GRZ ministries should now have the tools to carry out tagging, with the Ministry of Finance acting as the central point for summarizing the results of tagging from other ministries.
Fiscal Reforms	**Status**	• Zambia's current position under the IMF custodianship through the ECF improves its fiscal space: 75% of the programme is under restructuring and may be completed by the end of 2025. The energy sector is now supported under the ECF rather than forestry. • As a non-commercial loan, this arrangement carries a 0% interest rate and a 5½-year grace period. Invest a portion of it well to kick-start forest investments. Forward lending to kick-start the private sector and PPP forestry is recommended. • Zambia's Green Growth Development Strategy and Industrialisation Policy will help direct green finance towards the forest sector once the restructuring process is complete.
	Reform	• Climate Change Policy supports the implementation of the NDC and provides a basis for fiscal reforms that promote forests and trees for climate mitigation. The NDC 3.0 was submitted in 2025 and will undergo validation steps. • Potential opportunities for reforms and increased investment should be identified and stimulated by an inter-ministerial body that reconciles mandates, tags, and monitors budget provisions across ministries, and resolves disputes to create a coherent enabling environment. • Tie up fiscal reforms to the 8-9 NDP cycle, NDC 3.0. and PES.

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Table 5. Continued

Forest finance solution		Assessment
Private Sector Investment & Finance	**Status**	• Evolving international forest investment, where carbon and timber strategies increasingly overlap with climate and impact goals, is absent in Zambia. • PPPs in large-scale forest restoration remain limited, as only a small portion of degraded land meets the requirements of private sector investors. According to a 2025 international study, where the private sector's multiple criteria for area selection were applied, most of the land in Zambia in need of restoration was excluded (See Annex 12). • Very few large and medium-scale enterprises are bankable. The unmet demand for timber is worsening, and the wood processing sector requires more substantial incentives. • The EIB has committed USD 23.1 million to the Africa Sustainable Forestry Fund II (ASFF II), a growth equity fund investing across the forestry value chain. • Zambian commercial banks provide loans at 23% interest p.a. (ZMK-nominated loans), and 12% p.a. (USD-nominated loans). These rates are too high and inhibit investment. Community forestry and NTFPs present a significant opportunity to develop supply chain finance and local value addition.
	Reform	• Feasibility mapping is undone for investable lands. The EU-supported three-year National Land Audit project will help identify suitable lands for PS forestry investments. • Agroforestry and 'food forests' could provide a continued cash flow while trees reach maturity. • MSMEs need capacity building and training in investment and accessing finance with bankable investment plans. • The Zambia Development Bank was assimilated with the Bank of Zambia in 2023, which may affect its operational status and functionality. There is an apparent need to reinstate it or establish a similar new entity linked to the Zambia Development Agency. • The Forest Investment Portal is in high demand.
Subsidy Schemes	**Status**	• No African plantation forest masterplan has succeeded without the support of a development bank or donor loans, and without an operationalized technical assistance (TA) package (e.g., in Uganda, Tanzania, Malawi, Madagascar, and Mozambique). • Zambia qualifies for support from international financing institutions as a Least Developed Country (LDC), but any subsidies to forestry must be accompanied by strengthened governance. • There is a need for blended finance mechanisms to make renewable forestry projects bankable and to provide cheaper financing options, which would reduce the risk of investment.
	Reform	• FISP and FSP subsidies should partly be repurposed and redirected towards combining farm production with community forestry, forest investments, and agroforestry. This would foster livelihoods, food security, and ecological benefits from integrated farming. • Extending the surtax on specified imports to discourage consumption of intermediary wood products that can be manufactured locally. • Waiving import tariffs and VAT on imported machinery, spare parts, and other key inputs for wood and NTFP processing. • ZDA incentives are currently too simplistic and low to attract forest investors, so they need to be revised, and a one-stop service for forest investors (Forest Investment Portal) should be established.

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Table 5. Continued

Forest finance solution		Assessment
Carbon Markets	**Status**	• The Zambia Environmental Management Authority (ZEMA) implements its regulatory and coordination mandate under the Environmental Management Act (EMA) No. 12 of 2011, which covers sustainable natural resource management (NRM) and environmental protection. ZEMA is responsible for the measurement, reporting, and verification (MRV) of biomass and soil carbon. • The Green Economy and Climate Change Act provides a legal framework for carbon trading, which the MGEE currently only partially oversees through SI. 66. The Forest Carbon Stock Management Regulation of 2021 is currently only partially implemented. New statutory instruments need to be issued to capture the Art. 6 jurisdictional carbon finance potential. • Termination of the Kyoto Protocol's CDM (CER) trade, and the convergence of VCM and ITMOs under the Paris Agreement, means greater opportunities for transparency and fair benefit-sharing. A lack of credibility and transparency undermines the VCM forest carbon credits. • MFNP is setting up a central Climate Finance Unit, whereas the MGEE and FD are focusing on the operationalised forest carbon market, operationalized in SI. 66. Forest Carbon Stock Management Regulation, 2021.
	Reform	• The carbon market is transitioning away from VCUs dominating the VCM, driven by the enormous energy and IT companies offsetting in the VCM towards Art. 6 government-to-government and government-to-PS compliance transactions on ITMOs. • Keep a close coordination between the MFNP and the MGEE to maximize synergies and national effectiveness in mobilising climate finance. • Full operationalisation of the Carbon Market Regulation, with which carbon project developers and traders must comply. • Zambia, as a Party to the Paris Agreement, can benefit from international climate finance such as the GCF, GEF, and AF, as well as any other initiative geared towards climate adaptation and mitigation action involving forests and trees. Capacities should be upgraded to access climate finance for the forest sector successfully.
PES	**Status**	• Following the UNEP and UNDP-BIOFIN estimates, a comprehensive, up-to-date assessment of PES is unavailable for the entire country. • A discrete choice experiment in Zambia (Vorlaufer et al. 2017) indicated that potential smallholder recipients of PES value in-kind agricultural inputs more highly than cash payments, even when the monetary value of the inputs is lower than the cash payment. • Proponents of PES include UNDP-BIOFIN, WWF Zambia, TNC, and other NGOs, as well as the Forestry Department.
	Reform	• There is a need for more empirical case studies to provide quantitative and qualitative data on PES as a forest financing option. • PES could potentially succeed in conserving forests and intensifying smallholder agriculture when linked to FISP/FSB subsidy allocation. • Among the interested PES firms, the first adopters of watershed protection for PES and ESG to avoid contamination and plant downtime are hydropower, bottled water, and breweries.
Biodiversity offsets **Biodiversity credits**		• The Second National Biodiversity Strategy and Action Plan (NBSAP2, 2015) sets out the following vision: 'By 2025, biodiversity is valued, conserved, restored and used sustainably, maintaining ecosystem services, sustaining a healthy environment and delivering benefits essential for all Zambians and the Zambian economy.' The NBSAP2 sets out overarching objectives for biodiversity conservation in the country and emphasises the importance of multi-sectoral coordination. The NBSAP3 is currently being prepared. • Biodiversity credits for measured positive biodiversity outcomes are in the very early stages, have not yet been tested in Zambia, and need promoters to pilot their design and trade.
		• In June of 2023, the European Union (EU) Commission removed biodiversity offsets from its taxonomy of 'sustainable activities' that contribute to protecting and improving the natural environment. This will reduce corporate demand for biodiversity offsets in the EU, which may be reflected in mining investments in Zambia, for example. • Alleviate concerns over the effectiveness and transparency of biodiversity credits, which are similar to those of carbon credits. • Link offsetting and crediting to the Lobito 360 degree approach with mining companies and ZEMA's empowerment to fully implement its Service Charter.

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Table 5. Continued

Forest finance solution		Assessment
National Forest Funds		• The Forest Act 2015 provides for the National Forest Development Fund (FDF) and the Climate Change Fund, in a similar way to how the Environmental Management Act (EMA) provides for the Environment Fund. The Wildlife Act 2015 also provides for a Wildlife Development Fund, but the national Conservation Fund has yet to be established. • All such funds have not yet been operationalised due to the narrow fiscal space, the severe drought of 2023-2024 that strained resources, and persistent financial sector issues such as high interest rates, underdeveloped financial infrastructure, and lacking institutional capacities. • Conservation Trust Funds (CTFs) are legally independent institutions that provide sustainable financing for biodiversity conservation. In Zambia, these funds play a role in mobilising resources, including from international donors, the government, and the private sector (especially from the US family foundations offering tax deductions), to support conservation efforts. They then channel these resources in the form of grants to NGOs and community-based organisations working to conserve biodiversity
Conservation Trust Funds		• Operationalise the different development funds within relevant ministries, and assess the possibility of consolidating them under a single structure to reduce operational costs and improve governance. Statutory Instruments should be planned accordingly, bearing in mind the robustness and management of the funds. • Clarify the purposes and mechanisms for using the funds' reserves within the agencies responsible for replenishing them through revenue collection. • Give a larger role to Conservation Trust Funds as independent grant-making bodies in biodiversity and wildlife conservation and in promoting their sustainable use. Nurture collaborations with international organizations such as WWF and African Parks, as well as with charitable non-profits.
Impact Finance / Blend-ed Finance		• Zambia benefits from the EU's Global Gateway finance mechanisms, which support the environment, infrastructure, and sustainability through finance, digital technologies, and green bonds. Guarantees will reduce risk and help leverage finance for sustainable investments. Additional financing will be provided in the form of grants to development finance institutions, which will combine them with loans. The purpose is to attract foreign investors and joint ventures to invest in Zambia. • Biodiversity Finance Initiative (BIOFIN) is raising awareness among Zambia's pension funds and insurance companies of the following: (a) engaging as investors and underwriters of nature-positive projects, such as originating carbon and biodiversity credits, and (b) financing climate-positive initiatives, while ensuring the profitability of green bonds and sustainability-linked investments.
		• Support the GRZ's ongoing efforts to implement regulations, policies, incentives, and standards that encourage and support the integration of nature into the core business of forestry and non-forestry enterprises, and promote the rationale for nature-positive investment. • Help create innovative risk management solutions for climate-affected sectors and assets that incorporate ESG factors, making insurance products more resilient and adaptive to climatic and environmental changes. • Assist in brokering joint venture investments where specific blended financing mechanisms are applicable, such as the European Fund for Sustainable Development Plus (EFSD+), and the EDFI Carbon Sink EFSD+ Guarantee Programme. • Arrange structured financing packages with guarantees to reduce the risk profile of large investments, for which forest assets are not accepted as collateral. • Invite private European forest investment funds and timberland investment management organisations to carry out due diligence on promising forest investment plans in Zambia. Arrange EIB involvement to support such investments.

4 Assessment of Forest Finance Solutions and Instruments

4.1 Summary of main findings

Public forest finance and the mapping of all forest finance sources and flows have revealed a significant financial gap in forest restoration. There are also other obstacles to the much-needed transformation of Zambia's forest economy. One issue is that the prudent planning processes end with an absence of a coordinated national resource mobilisation plan. This has been achieved by some of Zambia's neighbours, who have kick-started participatory plantation forestry programmes (Tanzania and Uganda) and who are champions of forest and landscape restoration (FLR), such as Rwanda. Zambia has yet to develop and implement a similar actionable strategy and a bankable roadmap.

Common barriers to increasing private-sector investment and financing in forestry and forest restoration investments include: (i) the small scale and fragmentation of investments within a complicated tenure system, (ii), the relatively long timeframe and high perceived risk, (iii) the local specificity leading to difficulty in replication, (iv) the inability to monetise the full benefits of timber and PES, (v) the lack of insurance coverage, and (vi) the difficulties in quantifying the full financial prospect for financiers such as banks and investors such as pension funds.

Given the strong movement and pipeline to develop Article 6 compliance market carbon projects in Zambia, carbon finance is seen as a prime opportunity for the forest sector and rural communities. However, the current pipeline of 70 projects on ITMO is dominated by project proposals from other sectors, such as renewable energy, industry, and agriculture. The carbon credit agreement, officially known as the Implementation Agreement (IA), promotes cooperation under Article 6 of the Paris Agreement. IA can help buyers meet binding mandates, such as offsetting a portion of corporate carbon taxes, strengthening Nationally Determined Contributions (NDCs), and international mitigation requirements such as the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA).

For the seller, carbon income helps to fund activities such as patrolling against illegal logging, funding community programs, and building infrastructure to support conservation. Carbon finance also creates jobs in rural areas, such as planting trees, restoring land, and managing conservation areas. Communities can benefit from revenue-sharing programmes, which they can use to improve schools, healthcare, and water access.

The Forestry Department and MGEE should be strengthened to speed up their capture of climate finance flows from the GCF and carbon markets. Recently, a locally formulated SAP (Simplified Approval Process) proposal to the Green Climate Fund was approved by the GCF Board for full development, but was ultimately awarded to one of the Accredited Entities. Instead of expedient finalisation, the Project Concept Note (PCN) was locked into a lengthy capacity-building and readiness training support.

About gender, youth, and smallholder considerations, reference is made to the UNCDF-FINCA Zambia partnership, launched in 2019. This will enable the targeted groups - women, the youth, 'small-scale cross-border traders', and persons with disabilities – to

access financing more easily, as they have experienced difficulties in accessing financial services. Through this partnership, FINCA Zambia will be able to increase its community outreach and promote financial inclusion.

Women, youth, and other marginalised individuals are disproportionately affected by rural poverty impacts as they are responsible for caregiving, food production, and water collection. Subsistence farming and food insecurity increase their workload, limit their access to resources and reduce their resilience. Furthermore, gender inequalities in access to resources, finance, and employment opportunities hinder women's ability to adapt to and recover from the impacts of climate change. A lack of land ownership, limited access to credit, and gender pay gaps exacerbate economic vulnerabilities. In Zambia, 33.1% of women in the labour force are employed in agriculture, fisheries, and forestry, while 66.9% of those employed in these sectors are male (Zamstat 2024).

It is crucial to ensure that climate finance mechanisms are gender-responsive. Women in Zambia face barriers to accessing formal financial services, including limited access to bank accounts, loans, and insurance. This lack of financial inclusion hinders their ability to build resilience to the impacts of climate change and participate in climate-related activities. Financial inclusion plays a critical role in empowering women economically, enabling them to invest in climate-smart technologies, adopt sustainable practices, and diversify their livelihoods. When women have access to financial services, they can adapt to climate change more effectively, mitigate risks, and build resilient communities. Furthermore, gender-responsive finance mechanisms can direct climate funds towards women-led initiatives, thereby supporting their active involvement in climate change mitigation and adaptation projects (Climate Support Facility 2024).

4.2 Forest finance solutions and instruments applied

4.2.1 Village Savings and Credits Accounts, Savings and Credit Cooperatives (SACCO) and Micro-Financing Instruments

In Zambia, Village Savings Accounts operate through Village Savings and Loans Associations (VSLA) (community-driven groups) as well as through formal bank-provided Group Savings Accounts. VSLAs offer financial literacy, enable members to regularly save small amounts, and provide small, low-interest loans for businesses or household needs. This fosters financial inclusion and empowerment. Formal bank accounts offer these groups enhanced security, digital access, transparency, and interest on savings, as provided by FNB Zambia's new Group Savings Account. At a small scale, the FAO has helped establish a savings and loan scheme that supports local communities in raising funds for value additions to forest products.

Savings and Credit Cooperative (SACCO) is a special type of cooperative offering financial services with a primary focus on the mobilisation of funds and the provision of affordable credit to its members, who are both owners and users. SACCOs offer competitive interest rates, which are often lower for loans and higher for savings. Similar to any formal banking institution, the common risks of operating a SACCO include credit risk arising when members fail to repay loans, leading to cash flow challenges and potential insolvency. Other operational risks include poor internal controls, fraud, system failures, and human errors.

Microfinance refers to the financial services provided to low-income individuals or groups who are typically excluded from traditional banking. Most microfinance institutions (MFIs) focus on offering credit in the form of small working capital loans, which are sometimes called microloans or microcredit. In Zambia, microfinance institutions such as ASA and Agora provide financial services to individuals and small businesses that are unable to access traditional banking. The sector includes a mix of private, for-profit companies and non-profit NGOs and is regulated by the Bank of Zambia under the Banking and Financial Services (Microfinance) Regulations. The majority of Zambia's MFIs are non-deposit-taking credit facilities (Bank of Zambia 2021).

4.2.2 Commercial Bank Finance

Only a few larger forestry and industry companies have the financial capability and healthy cash flow to fund internal investment. ZANACO offers concessional financing for forest management and forest-based industries, primarily through strategic partnerships and dedicated credit lines that are aligned with the bank's sustainability agenda. The bank currently has concessional credit lines supported by institutions such as the Green Climate Fund (GCF) and British International Investment (BII). These facilities are

structured to support climate-resilient investments, including sustainable forestry, agroforestry, and value-added forest-based industries. Through these partnerships, ZANACO can offer loans at preferential interest rates, which are often significantly lower than commercial lending rates. These rates typically range from 6% to 10%, depending on the borrower's profile, risk assessment, and project sustainability impact (compared to the usual commercial lending rates of about 30%). Tenors are also more flexible, with longer grace periods to accommodate the longer return horizons inherent in forestry projects. Loan interest rates offered to smaller companies can exceed 30% per annum.

4.2.3 Carbon markets

Technological, economic, social, and environmental hindrances mean that the carbon market potential is never fully capitalised. The ability of nature on land to sequester carbon shows vulnerability to changing climate conditions, particularly in the face of intensifying droughts and fires, both of which are common in Zambia. Nature on land has absorbed around a quarter of anthropogenic emissions, thereby buffering the warming effects of fossil fuel burning. If this function weakens, more carbon will end up in the atmosphere, driving further climate change.

Both the Eighth National Development Plan (8NDP) and the Strategic Plan of the Ministry of Green Economy and Environment (MGEE) 2022-2026 identified carbon markets and trading as modalities that would help Zambia achieve its carbon emission reduction targets under the NDC. In 2023, the Ministry published strengthened guidelines for the submission and evaluation of proposed mitigation activities under Article 6 as part I of Zambia's Carbon Market Framework, which has been finalised and published (see Table 5). The framework provides clear eligibility criteria for project development and procedures for carbon trading, monitoring, and reporting. This supports the country's strategic planning and needs regarding mitigation and the achievement of its NDC (MGEE website, 2025).

Zambia has a valid carbon market guideline and is piloting the new carbon regulation for project developers under jurisdictional and Article 6 projects. Logically, this is followed by a Fiscal Framework to solidify fiscal sustainability and benefit-sharing of carbon income.

The Technical Climate Change Committee for Mitigation (TCC-MIT) has decided that the carbon credit registry should be operated by the Zambia Environmental Management Agency (ZEMA). The Germany-funded Supporting Preparedness for Article 6 Cooperation (SPAR6C) project finances the registry development at full cost. Through the SPAR6C,[32] GGGI and its partners have helped the country develop a carbon market framework and establish the eligibility criteria and approval process for Article 6 projects. This has strengthened Zambia's standing in the international carbon trading arena.

A significant development in demand would be the EU allowing international carbon credits to help achieve its 2040 climate goal of reducing emissions by 90%, but this has been postponed until September 2025. This would increase EU demand for projects aimed at reducing CO_2 emissions in other parts of the world. Zambia could benefit from scaling up forest restoration, reforestation, and agroforestry projects, enabling EU member states to count these emissions savings towards their EU-ETS goals. Furthermore, the first EU countries have signed government-to-government purchase agreements on ITMOs with Zambia.

Whilst Zambia is a signatory to Article 6 of the Paris Agreement, the government will implement Articles 6.2 and 6.4. The country has more than 70 carbon projects in the pipeline at various stages of development. In addition, the government enacted the Green Economy and Climate Change Law (Act 18 of 2024) in December 2025, which will regulate carbon projects.

While expectations are high regarding carbon finance (benefits, time-to-market), essential gaps persist in local capacities to realise the basic steps of carbon projects, such as carbon measurement and accounting, forest monitoring, verification, and registration.

Examples of current actors

There are several ongoing promotions of carbon market entry in Zambia. Zanaco Bank is a direct access entity to the Green Climate Fund, and the SPAR6C project pipeline is growing fast. BCP (BioCarbon Partners) and COMACO (Common Market for

32 The SPAR6C programme in Zambia is funded by the German government and led by the Global Green Growth Institute in collaboration with the following consortium partners: Carbon Limits, GFA Consulting Group, Kommunalkredit Public Consulting, and the UNEP Copenhagen Climate Centre.

Conservation) have long been the two primary developers of carbon projects. However, other actors have applied to the Zambian government for land on which to develop carbon projects, including Blue Carbon from the United Arab Emirates, Kabompo Community Carbon, and the Lumwana mine. There is significant interest from international companies and facilitators in developing carbon projects in Zambian forests.

Both BCP and COMACO have adopted REDD+ frameworks for designing carbon projects and use remote sensing tools for project origination and monitoring. These social enterprises are also entering into new agreements to incorporate large landscapes into their contracts with Community Forest Management Groups (CFMGs) and Community Resource Boards (CRBs) in Game Management Areas (GMAs). Below, we describe just some of the active carbon projects in the market, while many others are undercapitalised and unregistered. Suitable forest areas for carbon projects near Lusaka are almost fully developed, with BCP covering areas in the Rufunsa district up to the lower Zambezi. In the Copperbelt region, despite the presence of potential lands, agricultural resettlement efforts have complicated the conservation of forests for carbon sequestration, as they risk deforestation spreading to other areas.

COMACO

COMACO works with local chiefs to establish Community Conservation Areas, which are intended to protect the forests and wildlife of Zambia's Eastern Province. To date, this initiative has established 38 such areas, covering over 1 million hectares of land across three provinces. These areas are patrolled by teams of COMACO-trained community forest guards, who detect charcoal producers and offer them alternative livelihood skills to deter them from cutting down trees. Over 5,000 farmers have been recruited for beekeeping in the protected areas. COMACO and oil and gas multinational Shell recently verified 0.9 million tonnes of carbon credits, providing nine chiefdom areas with USD 3.1 million for protecting their customary lands.[33]

On June 2, 2025, the Government of the Republic of Zambia, through the Ministry of Green Economy and Environment, and COMACO officially signed the Nested Emission Reduction Purchase Agreement (NERPA) under the Eastern Province Jurisdictional Sustainable Landscape Programme (EP-JLSP), as well as a general memorandum of understanding (MOU) for joint cooperation across Zambia. The NERPA agreement aims to reduce carbon emissions and tackle deforestation caused by unsustainable agricultural practices, while also returning increased carbon market value to participating communities that demonstrate compliance. This follows the earlier signing of 55 Chiefdom Emission Reduction Performance Agreements (CERPAs) by traditional leaders in the province. [34]

BioCarbon Partners

In 2015, BCP had 236,033 hectares of forest under protection from its carbon projects across 17 Chiefdoms in Luangwa, and a further 40,000 hectares in the Lower Zambezi. Both are REDD+ projects. The Luangwa Community Forest Project is the largest carbon project in Africa. This project generates an average of 1.76 million carbon units per year.

The project in Lower Zambezi was the first project in Africa to achieve nine consecutive successful Verified Carbon Standard (VCS) verifications and the first in Africa (and second globally) to achieve Climate, Community, and Biodiversity Alliance (CCBA) CCB Triple Gold verification.

All carbon project developers distribute carbon credit revenue to communities through chiefdoms, which have established trusts to manage funds and design community projects. The distribution of carbon credit revenues occurs at three levels if the project is in the Eastern Province (due to the REDD+ Jurisdictional projects), or at two levels if the project is outside the Eastern Province. For REDD+ Jurisdiction projects, the distribution includes the government, the community, and the project developer. For non-jurisdictional projects, the revenue goes to the developer and the communities (FAO 2024). Carbon credits at the community level have been used to incentivize forest protection (MGEE 2023) and to fund boreholes/clean water, build classrooms, support healthcare, and vocational training.[35] In addition, they were also reported to create local jobs such as monitoring, patrolling, nursery, or restoration work (BCP 2023).

33 Ernst & Young (EY) Report 2023. Carbon as an asset class Navigating risks and opportunities for Chief Financial Officers.

34 https://epjslp.org.zm/government-signs-carbon-trading-agreement-to-boost-conservation-and-rural-livelihoods-in-eastern-province/

35 https://bcp.earth/news-and-press/from-streams-to-sustainability-how-redd-is-changing-lives-through-clean-water-in-rural-zambia/?utm_source=chatgpt.com

CIRCLE

The Community-Initiated Regeneration for Carbon and Livelihood Enhancement (CIRCLE) project is implemented by Ecosecurities in partnership with World Vision and Korea Investment & Securities Co., Ltd., in Chifunabuli and Chipili Districts in Luapula Province. The project is expected to have a significant environmental and socio-economic impact on 9,000 hectares of degraded land. Key activities include Farmer-Managed Natural Regeneration (FMNR) and tree planting to restore deforested areas and improve ecosystem health. Enhanced biodiversity, improved soil fertility, and increased water retention are also expected. Contributions to climate change mitigation are estimated at around 600,000 tCO_2e. PES are accounted for in terms of water regulation and air purification. The project will introduce climate-smart agriculture (CSA) and alternative livelihoods, such as beekeeping, to diversify income streams and provide social benefits. Training in sustainable land management practices will be provided (Ecosecurities 2025).

The Frankfurt Zoological Society

In 2017, the Nsumbu Tanganyika Conservation Programme began its work with the Nsama and Chitimbwa communities in the Nsumbu area of Nsama District in the Northern Province. The programme aims to conserve the area's biodiversity, especially the Nsumbu National Park and the Tondwa Game Management Area (GMA). The communities are the guardians of the vast wilderness around Nsumbu National Park. Some of the protected fauna and flora fall under IUCN Category VI, which covers protected areas and communal lands that allow for sustainable resource use by local communities. The project aims to designate around 7,000 hectares for a carbon project.

4.2.4 Green bonds

Although bonds are not a new financial instrument, the range of different bond types, particularly those designed to deliver environmental objectives, has expanded over the past decade. A green bond is a liquid, fixed-income financial instrument used to raise funds for climate change mitigation and adaptation projects, as well as environmentally friendly initiatives. They are typically asset-linked securities backed by the balance sheet of the issuing entity. Commercial viability is crucial, particularly when a reliable revenue stream exists to service and repay the bond. Opportunities exist in areas such as ecotourism and national parks, which can generate the sustainable cash flows required for this purpose (Ref. Table 5).

Other types that are not yet commonly known in Zambia include:

1. Forest bonds: fixed-income instruments where the proceeds are earmarked exclusively for activities that support forests.
2. Sustainability bonds: debt instruments that raise money to finance or refinance a combination of green and social projects.
3. Sustainability-linked bonds: performance-based bonds that deliver finance upon the achievement of key performance indicators.

An ESG bond is a form of sustainable investing that considers environmental, social, and governance (ESG) factors.

For bond issuers, particularly for governments and municipalities, green bonds can be an effective way to attract and diversify investments. Bonds can help to reduce investment and financing risk. By lending funds to the bond issuer, investors can avoid direct exposure to any financial risks associated with the project. For investors, bonds offer financing opportunities that can contribute to their 'green' objectives, while also delivering stable returns.

In Zambia, a green bond has been issued in the energy sector. Issued by CEC Renewables in December 2023, the USD 200 million green bond helped the company to raise capital for solar plants in Kitwe. It was oversubscribed, meaning it attracted more money than was initially targeted. The success of CEC's green bond can be attributed to its robust structure, bankability and commercial viability.

ZANACO Bank is implementing a green bond to mobilise capital for green projects, including afforestation, reforestation, and community-led forest conservation initiatives. This instrument will enable the bank to access both domestic and international investors who are increasingly interested in ESG-aligned assets.

Both the public and private sectors need to develop bonds for forest conservation, afforestation, and reforestation, together with Special Purpose Vehicles (SPVs) to shield companies from the direct risks of a single investment project.

4.2.5 Blended finance

ZANACO Bank leverages blended finance models to de-risk investments and attract private sector participation. One example is its partnership with One Acre Fund, through which over 550,000 trees have been planted in collaboration with more than 3,100 small-scale farmers. Through the Acorn platform, the farmers are set to receive 80% of the carbon credit revenue, ensuring direct financial benefits and incentivising the long-term stewardship of the trees.

The potential of blended finance is far greater than this humble beginning suggests. At a smallholder level, blended finance investments support SMEs and Rural Development Centres (RDCs), and Community Forest Management Groups (CFMGs), all of which face high risks and other funding obstacles.

Another frontier for blended finance is lowering the risk profile of large-scale afforestation or reforestation ventures for private forestry investors, co-financiers, or joint venture partners. There is a high need for "patient capital" to secure long-term forest investments against the risk of loss. The long loan tenor of forest investments makes adopting blended finance and insurance cover necessary.

EU's Global Gateway Financing Tools

Zambia is a target country of the EU's Global Gateway finance mechanisms through the Neighbourhood, Development and International Cooperation Instrument (NDICI) and the EU-Zambia Forest Partnership. Overall, the NDICI (European Commission 2021) applies an investment framework to: (a) support micro enterprises and SMEs, (b) promote decent job creation, (c) strengthen public and private infrastructure, (d) foster renewable energy and sustainable agriculture, (e) support the digital economy and (f) address the health and socio-economic consequences of the COVID-19 crisis.

The purpose is to provide guarantees and loans to attract foreign investors and joint ventures to invest in Sub-Saharan Africa, including Zambia.[36] Specific funding mechanisms include the European Fund for Sustainable Development Plus (EFSD+), the EDFI Sustainable Agri and Industries EFSD+ Guarantee, the EDFI Carbon Sinks EFSD+ Guarantee Programme, and the External Action Guarantee. EFSD+ aims to support the EU partner countries by mobilising up to EUR 135 billion in total. Its risk-sharing instrument can provide up to EUR 40 billion globally. The EFSD+ offers guarantees, grants, and loans to support sustainability, climate-proofing, and high developmental impacts in eligible sectors. The European Investment Bank (EIB) is the largest EFSD+ guarantee implementation partner, alongside Team Europe member states.

A large part of the EFSD+ finance mobilisation efforts in Zambia (which provide a guarantee against the first-time loss) is likely to be directed towards the agriculture, forest, and aquaculture sectors. Although the initial project pipeline was identified in 2022, the forestry sector has so far benefited little. The Forest Partnership and its Roadmap are positive steps towards changing this. EFSD+ financing support has the potential to reach a wide range of areas both inside and outside the demarcated production forests and commercial plantations, including those involved in industrial wood, firewood, charcoal, REDD+, and other carbon projects.

Examples of indirect and cross-cutting purposes for financing forests include sustainable landscapes and conservation areas, outgrower schemes, agroforestry, climate-smart agriculture, forest fodder, and NTFPs.

EDFI Carbon Sinks Guarantee Programme

The European Union and the EDFI Management Company, together with the European Development Finance Institutions (EDFI), have launched a groundbreaking initiative to provide critical support for ecosystems, known as the EDFI Carbon Sinks Guarantee Programme (Dec. 2024).[37] The programme's global target is to remove more than eight million tonnes of CO_2 and other greenhouse gases from the atmosphere, while restoring natural habitats. To this end, the programme received an injection of €366 million in EFSD+ support. This funding will be used to significantly boost the capacity of EDFIs to support higher investment levels in countries, including those in Sub-Saharan Africa.[38]

36 The NDICI contains a geographical pillar for the Sub-Saharan Africa worth at least €29.18 billion.

37 https://edfimc.eu/what-we-do/edfi-carbon-sinks/

38 https://edfimc.eu/eu-and-european-dfis-launch-a-major-new-global-gateway-climate-mitigation-programme-aiming-at-mobilising-e4-billion-of-forestry-sector-and-other-nature-based-climate-investments-in-developing-and-emer/#:~:text=The%20EDFI%20Carbon%20Sinks%20Guarantee%20Programme%20received%20an,managed%20by%20the%20EDFI%20Management%20Company%20%28EDFI%20MC%29.

The programme focuses on scaling up equity investments in projects that generate high-quality carbon credits and deliver substantial environmental and social benefits. It will mobilise globally €4 billion in investments for projects in carbon sink sub-sectors, including natural forest ecosystems, outgrower schemes, smallholder forestry, sustainable plantation forestry, and forest-related product processing to promote long-term carbon storage. The first tranche of support from the EDFI Carbon Sinks Guarantee was announced for DEG's (Deutsche Investitions- und Entwicklungsgesellschaft GmbH) USD 20 million equity investment in the Nature Based Carbon Fund, which is managed by Climate Asset Management.[39]

As a low-liquidity sector, Zambia's plantation forestry rarely attracts foreign investment without such de-risking instruments. In contrast, the agriculture sector exhibits considerable liquidity in the market, and the Bank of Zambia opened a subsidised credit line of USD 400 million in 2022. Other forest-based activities appear to be eligible for EDFI support, too, such as ecotourism, afforestation/reforestation, and soil and ecosystem conservation for generating carbon credits.

Finnfund, Finland's development financier and impact investor, has a substantial track record in the forestry sector in Sub-Saharan Africa. It is a co-investor in the recently established African Forestry Impact Platform (AFIP), which aims to raise up to USD 500 million for investment in the African forestry sector by 2026. In 2022, Finnfund signed subscription agreements with New Forests, British International Investment (BII), and Norfund for their investment in AFIP, totalling USD 200 million. AFIP's first acquisition was Green Resources, the largest forest development and wood processing company in East Africa (Finnfund 2022).[40]

4.2.6 Philanthropic funding

One prominent change has been the growing role of the wealthy family foundations and trusts in nature protection and wildlife conservation, particularly in miombo and other woodlands. Just a decade ago, this philanthropy was largely institutional and driven by the EU and USAID. However, as institutional funding has diminished, American billionaires who back organisations such as African Parks, which operates in Zambia, have largely taken over. This new approach to wildlife protection offers full protection but fewer economic opportunities for Zambians from the sustainable management of wildlife. Market value is not captured at a local level, whereas lucrative tax breaks in the US enable wealthy American families to have an impact at a relatively low cost. Through donor-managed funds, benefactors can donate shares that have increased in value, thus avoiding capital gains tax and reducing their income tax while retaining control over their donations for years to come. Through Charitable Remainder Trusts, they and even their heirs can continue to derive income from their philanthropy (Edge 2025).

Another issue is that less than 6% of philanthropic funding for nature conservation supports indigenous land tenure. This underestimates their potential impact and reduces the effectiveness of funding. Research shows that indigenous-led conservation is more effective than the conventional models at protecting biodiversity, storing carbon, and sustaining healthy ecosystems (Worsdel 2024).

Zambian foundations are much smaller and more local than international trusts. The Help to Help Youth and Women Educational Foundation (HHYWEF), for example, promotes tree planting and the development of citrus tree nurseries to empower women and youth people to establish citrus plantations and develop value chains. The North Swaka Trust (NST) collaborates with the Forestry Department and Foundation Zambia to reduce deforestation and forest degradation in partnership with local communities (MGEE 2024).

4.3 Forest finance/investment solutions and instruments not yet applied

4.3.1 Green taxonomy/budget tagging

As of June 2025, Zambia was making significant strides in developing its green taxonomy. A green taxonomy is a classification system designed to define environmentally sustainable economic activities. This initiative is part of the country's broader efforts to transition towards a low-carbon, resource-efficient, and inclusive economy by 2030, as outlined in the National Green Growth Strategy (2024–2030).

In April 2025, the United Nations Development Programme's (UNDP) Biodiversity Finance Initiative (BIOFIN) hosted a stakeholder validation workshop in

39 https://edfimc.eu/carbon-sinks-program-managed-by-edfi-mcsupports-degs-usd-20-million-investment-in-climate-asset-managements-nature-based-carbon-fund/

40 https://newforests.com/wp-content/uploads/2022/10/Media-Release-New-Forests-announces-first-investors-in-African-Forestry-Impact-Platform.pdf.

Lusaka, in collaboration with the Zambian government and the Green Finance Mainstreaming Working Group. This workshop aimed to finalise Zambia's green taxonomy, ensuring that it aligns with national environmental priorities and facilitates sustainable investment.

The green taxonomy is being developed alongside the Green Finance Strategy and Implementation Plan (MGEE 2024). These frameworks aim to integrate sustainable finance practices into Zambia's financial landscape, unlocking investments in key sectors such as agriculture, energy, forestry, and tourism. According to BIOFIN, the green taxonomy is at an advanced stage, highlighting the importance of forestry finance.[41]

4.3.2 Green finance mainstreaming working group

Zambia's Green Finance Mainstreaming Working Group (GFMWG) was formed in 2021. It is based on a Memorandum of Understanding (MoU) signed by three financial sector regulators: the Bank of Zambia (BoZ), the Pensions and Insurance Authority (PIA), and the Securities and Exchange Commission (SEC). The GFMWG members include financial regulators, key government ministries, local financial standard-setting bodies, and development partners/technical advisors. Members include the Bank of Zambia (BoZ), the Pensions and Insurance Authority (PIA), the Securities and Exchange Commission (SEC), the Ministry of Finance and National Planning (MoFNP), the Ministry of the Green Economy and Environment (MGEE), the Ministry of Lands and Natural Resources (MLNR), the United Nations Development Programme (UNDP) Biodiversity Finance Initiative (BIOFIN), the World Wide Fund for Nature (WWF) Zambia and the Zambia Institute of Chartered Accountants (ZICA).

The task of the GFMWG is to provide recommendations for developing Zambia's green finance market. There is currently no consensus on establishing a National Green Fund. Several green financing initiatives in Zambia are funded by partners such as the Zambia Green Outcomes Fund, a ZMW 1 billion fund established by Kukula Capital, Zanaco, and WWF Zambia to encourage investment in small and medium-sized businesses committed to green production. Additionally, the GFMWG aims to create enabling frameworks, policies, and financial mechanisms that recognise the interconnectedness of biodiversity and climate change. This will enable the GFMWG to leverage finance more effectively, ensuring that investments contribute to both biodiversity conservation and climate change mitigation and adaptation.

The four thematic areas through which the GFMWG conducts activities to mainstream green finance in the financial sector are: (1) Zambia's green growth strategies; (2) green finance investments, resource mobilisation and financing; (3) climate- and nature-related financial risks and financial stability; and (4) green finance products. In October 2021, the Tripartite Meeting of BoZ, PIA and SEC approved four main projects for the GFMWG to undertake: (1) the green bond guidelines taxonomy, (2) a green finance strategy, (3) green loan guidelines, and (4) a tagging system.

4.3.3 Biodiversity offsets and credits

Voluntary biodiversity credits (VBCs) represent measured positive biodiversity outcomes from conservation or restoration projects. They enable companies and individuals to invest in nature, helping them achieve sustainability goals. By purchasing these credits, businesses can fund projects such as habitat creation, restoration, or conservation. This generates official evidence of their positive impact, helping to fund global biodiversity efforts and achieve nature-positive targets. The adoption of VBCs was agreed upon in the Kunming-Montreal Global Biodiversity Framework (GBF) in 2022. This is an emerging instrument still in its infancy. The first biodiversity credit transaction occurred in 2023, when a Swedish bank purchased credits from a forest cooperative.

In 2023, at least 30 programmes, primarily in Australia and Europe, were underway to design biodiversity credits and test the rapidly emerging market for these credits. This includes developing guidance and methodologies for project developers and buyers.

Strong governance is essential for designing credits and market architecture, which requires transparent and standardised information. The success of the instrument depends on the integrity of the credits and the markets. Biodiversity credits require standardised trading metrics, including robust methodologies to set consistent values for resilience and to measure

41 https://www.biofin.org/news-and-media/championing-green-finance-zambia-biofin-hosts-green-taxonomy-validation-workshop

success. Developers must demonstrate that investment in biodiversity credits yields desired results, providing investors with confidence in the credits.

To scale up biodiversity credits, a range of participants will need to be engaged, including private sector actors, the government, investors, development partners, and civil society groups.

In June of 2023, the European Union (EU) Commission removed biodiversity offsets from its taxonomy of "sustainable activities" that contribute to the protection and improvement of the natural environment. The decision comes at a time when there is an increasing need for innovative ways to fund the significant restoration and conservation challenges we face. It eliminates one of the most well-established and impactful mechanisms for financing environmental improvement. As income from credit sales is the only incentive for private investment in restoration, this decision contradicts the ethical investment and business practices that the EU Commission is attempting to promote (Forest Trends' Ecosystem Marketplace 2025).

4.3.4 Payments for Ecosystem Services (PES)

Ecosystem services are the direct and indirect contributions that ecosystems provide for human wellbeing and quality of life. These contributions are also known as natural capital. The wide range of services offered by ecosystems can be categorised as provisioning, regulating, supporting, and cultural services. In simple terms, PES are based on the following ecosystem services (Fripp 2014):

1. Carbon sequestration and storage (discussed in a separate chapter of this report).
2. Biodiversity protection is highly efficient, but very difficult to organise and maintain.
3. Watershed protection often involves intermediaries, such as the government or non-governmental organisations (NGOs), who channel payments from users and suppliers.
4. Landscape beauty for ecotourism and recreation.
5. In terms of regulatory constraints, the three main factors enabling for PES to take root in Zambia are:
6. Valuation (quantification of the impact and its economic value): This has not yet been adequately achieved.
7. Legal and institutional frameworks: These are partly in place, but not applied in regulations.
8. Organisation of stakeholders: The playing field is fragmented.

For PES schemes to succeed, clearly defined user rights over targeted areas are required at either the individual, community, customary, or state level.

For some market segments, suppliers of PES may have to meet rigid MRV requirements to qualify as a credible seller. The cost and practicality of fulfilling these requirements should be carefully considered when developing the PES scheme, particularly when creating a business plan and determining whether proposed payments will cover all costs incurred.

The majority of Zambian rural households depend on Miombo woodland systems. This means that forest provisioning ecosystem services (FPES) are essential for coping with stresses and shocks. Smallholders use FPES as a natural insurance strategy to ensure rural livelihoods and food security. In Copperbelt Province, for example, a higher proportion of poor and intermediate households rely on FPES to cope with various shocks than their wealthier households. Charcoal production and sale were the most commonly used strategies, with more male-headed households using FPES than female-headed households.

In terms of institutional capacity, Zambia's overall readiness for PES is still low and under development. The UNDP is assisting GRZ in designing a national PES framework. Even then, there is still a steep institutional learning curve before a PES market can be effectively governed through an implementing agency. The most fundamental requirements for an effective PES system are discussed below.

PES managers must understand the opportunity costs of forest activities to determine the revenue and benefits foregone by landowners/users when implementing sustainable land and forest management through PES. This requires an understanding of profits from forest and farm activities, land use regulations, the drivers of land-use change, and the cost of transitioning to more sustainable practices.

Payments are made for "additionality" - in other words, PES actions must go beyond regulatory compliance to ensure the delivery of agreed benefits. Interventions that are paid for must be permanent and must not result in leakage, i.e., the movement of avoided damage elsewhere.

Payments must be conditional upon the delivery of specific ecosystem services, with delivery ensured before payment. This underlines the necessity to scientifically define and measure baselines if a particular land use system is to be supported. Selection of appropriate monitoring indicators is required, particularly where specific land-use systems are believed to contribute one or more bundled ecosystem services. The direct linkage between specific land-use practices and specific ecosystem services must be clearly identified and understood in different ecological conditions.

In conclusion, a national PES is a strong mechanism when made fully operational. A registry is required to avoid overlaps, enhance PES integrity, and ensure compliance, much like with carbon credits. Registry is helpful in:

- Capturing geographical project information to avoid overlaps and duplication.
- Registering PES participants and activities.
- Issuing and tracking tradable PES credits.
- Displaying environmental, social, technical, etc., criteria.
- Tracking PES performance and permanence.
- Recording PES credit issuance, retiring, and payments made.

PES schemes require clearly defined property and tenure rights over forests. These rights can be held at the individual, community, state, or corporate level, with implementers receiving compensation for conserving forest areas. In the case of common property forests, a larger group of forest users can engage in avoiding deforestation on a watershed landscape, for example. Community-based PES schemes, in which payments are based on the community's conservation efforts, are more effectively implemented through a group approach than schemes aimed at individuals. This is because approximately 60% of the Zambian forests are under customary ownership, where peer pressure to conform to PES activities applies. Their forest user rights fall under the structures of CFMGs or Community Resource Boards (CRBs). To reduce the burden on smallholders and transaction costs, existing certification schemes linked to appropriate marketing opportunities can be used to verify compliance with a PES scheme.

Community-led PES schemes can also be et up in partnership with corporations whose business depends on water, or whose operations (e.g. mining) could affect the water supply or quality. Companies such as Zambia Sugar, water utilities and other commercial farmers would be ideal candidates for PES schemes. Ideally, payments are made directly to ecosystem service providers, but in practice they are often made via an intermediary or broker, who acts as a consolidator and charges fees.

Zambia has the Water Resource Management Agency (WARMA), which regulates water abstraction and use. As a regulator, WARMA is well placed to implement a PES scheme for water users. However, to do so, the Water Resources Act must first be repealed to allow for PES schemes and their regulation.

4.3.5 Impact investments

Impact investment is an umbrella term for investments intended to create positive social or environmental outcomes while generating financial gains. This investment strategy can involve various asset classes, including stocks, bonds, mutual funds, pension funds and the insurance industry, and microloans. The purpose of impact investing is to use money and investment capital to achieve positive social outcomes. In Zambia, impact investments may refer to the capital placed in businesses, nonprofits, and funds in sectors such as renewable energy, agriculture, nature and wildlife protection, forestry, education, and microfinance schemes.

Zambia's pension funds and insurance companies have yet to play a positive role in the forestry sector by:

1. engaging as investors and underwriters of nature-positive projects, such as the origination of carbon and biodiversity credits;
2. financing climate-positive initiatives and ensuring profitability in green bonds and sustainability-linked investments.
3. creating innovative risk management solutions for climate-affected sectors and assets that incorporate ESG factors and making insurance products more resilient and adaptive to climatic and environmental changes.

As indicated in an earlier chapter (3.3), large institutional investors have formed a considerable amount of capital that remains largely untapped, primarily for the development of the forestry sector. The institutional and financial sectors' assets under management (AuM) are substantial, offering a significant opportunity to create social or environmental impact through impact investments in various sectors, including forestry.

4.4 Assessment of scoring grid results

A systematic scoring of forest finance was conducted against a pre-determined grid and six criteria. Table 6 shows the scores for each forest finance solution /instrument on a low-medium-high scale. Table 7 provides a narrative summary of the main findings that led to the scores.

Table 6. Summary of assessment grid scores of forest finance solutions in Zambia

Assessment Grid Forest Finance Solution	Financial Potential	Scalability potential	Alignment with global frameworks	Impact & Effectiveness	Inclusiveness	Market Development Potential
1) Climate Change Budget Tagging	Medium	Medium	Medium	Low	Low	Low
2) Subsidy schemes	High	Medium	Medium	Medium	High	High
3) National Forest Dev Fund / Conservation Trust Funds	Low	Medium	Medium	Medium	High	Medium
4) Debt-for-Nature Swap	Low	Low	Medium	Low	Low	Medium
5) Supply Chain / Value Chain Finance	Medium	Medium	High	High	Low	High
6) PES	Medium	High	High	Medium	Medium	High
7) Green Bonds / Sustainability-linked Loans	High	High	High	Medium	Low	Medium
8) Biodiversity credits/ offsets	Medium	Medium	High	Medium	Medium	High
9) Carbon Markets	Very high	High	High	Medium	Medium	High
10) Blended Finance / Impact Investment	High	High	Medium	Medium	Medium	Medium

Table 7. Summary of the systematic assessment grid criteria for existing and potential FF solutions and instruments in Zambia

FF Solutions/ Instruments	Impact and effectiveness	Scalability potential	Alignment with global frameworks	Inclusiveness	Market development potential
Public Finance	Low impact and effectiveness due to inadequate funding. Poor track record on forest quality, driving degradation.	Potential for scale-up is low from the Treasury unless funded from a subsidy change. Shift towards public-private-community partnerships.	Most forest agencies in developing countries rely on government funding. A Regulatory Impact Assessment (RIA) is needed before changes. Shift from ODA/ budget support to private sector cooperation.	Although its application is inclusive of indigenous peoples, the inadequacy of the funds means it has less impact on the communities.	Low and inadequate contributions to ecosystem conservation.
National Forest Funds / Conservation Trust Funds	The 2015 Forest Act provides for the Forest Development Fund. It has not been operationalised because the statutory instrument has not been enacted.	The Forest Act is being revised, with the hope that the revised version will make the Fund operational.	A National Forest Fund is consistent with other mechanisms that aim to increase the resource mobilisation for forest conservation and management. It is becoming mainstream in the world of forestry.	The fund aims to mobilise finances from donations, the private sector, investments, and development finance.	When operationalized, the Forest Development Fund would provide limited funding for forest conservation extension, management, and livelihoods.
Debt-for-Nature Swap	The impacts are unknown because it has not been applied in Zambia. It would be slow and costly under the ongoing IMF-ECF restructuring.	It would take time and a high cost for each of Zambia's creditors to agree to this scheme.	It is worth trying if creditors agree to the scheme. It is not taking off globally.	It would be encouraging if the government had representatives from the House of Chiefs when negotiating for the Debt-for-Nature-Swap.	If rigorously applied, the instrument has the potential to contribute to forest ecosystem and biodiversity conservation.
Payments for (Forest) Ecosystem Services / Incentives Schemes	Rarely applied because frameworks and payment systems of different types of PES transactions and contract types are unfinished. Process flowcharts and operations manuals are needed.	High potential at the watershed/ catchment level. High tourism potential. Applicable within and outside Protected Areas. Require corresponding policy, legal, and institutional work.	Well aligned with Zambia's NBSAPs, NDC, and 8th NDP.	Local communities in GMAs would be major stakeholders in managing the ecosystem and benefit from its conservation.	PES would link downstream beneficiaries (utilities, processors, GMAs, energy firms) to upstream ecosystem protection, providing financial incentives for conservation.

Table 7. Continued

FF Solutions/ Instruments	Impact and effectiveness	Scalability potential	Alignment with global frameworks	Inclusiveness	Market development potential
Green Bonds / Sustainability-linked Loans	Not yet applied in forest conservation. Only one green bond has been issued for renewable energy (Copperbelt Energy Company's subsidiary Renewable Energy Ltd.).	High potential for scalability with the private sector. Opportunities exist in areas such as ecotourism and national parks, which can generate sustainable cash flows.	Green Bonds are becoming popular for raising capital for green projects. Global green transition pathways are needed.	Due to its limited application or non-existence, it is inaccessible to smallholders, local communities, and indigenous groups.	Commercial viability is critical, particularly the presence of a reliable revenue stream to service and repay the bond. Green bonds remain voluntary in the absence of a clear regulatory framework.
Biodiversity Markets (BD Offsets/ Credits/ Certificates)	Not yet used in Zambia. The Lobito Corridor is a potential test case.	Not known, though supported by The Nature Conservancy. Project-based mostly.	Need for methodologies, robust regulatory frameworks, and transparent reporting practices through a registry. Global connectivity is essential.	Possible to include indigenous people. Sufficient safeguards are required to ensure equitable benefit sharing.	Market or nature-based compensation for biodiversity lost in economic development. Risk of greenwashing by corporations.
Carbon Markets / Carbon Finance	The impact has been very high, with projects yielding visible results and co-benefits. Will increase forests under biodiversity conservation.	Great potential for scalability. It will increase forest and biodiversity conservation in the country.	This aligns with the UNFCCC and the Paris Agreement's Articles 6.2 and 6.4	VCM carbon project developers have been fairly inclusive. The promotion of Jurisdiction projects will further benefit local and indigenous peoples.	Changes in the legal framework for carbon projects (ITMOs). A long pipeline at different stages.
Impact Finance / Impact Investment / Blended Finance / De-risking	Little known in Zambia. It would have impacts on environmental and social outcomes. Need to de-risk players.	A diverse range of investment types and scales makes solutions more flexible. Forest insurance is at a low level. EFSD+ and EDFI Carbon Sinks will entice EU investors.	Numerous EU and international frameworks and providers support forest funding de-risking and blended finance.	Smallholders are unable to de-risk their own assets and are vulnerable to investments (land tenure, fire, flooding, drought). Outgrowers have better access to de-risking with the PS investor / off-taker.	Suitable for innovative private joint ventures and social entrepreneurs who provide capital in debt or equity. When large-scale forest investors enter Zambia, blending and de-risking are key requirements.

5 Recommendations for Support to Forest Finance Solutions and Instruments

5.1 Introduction

A pipeline of potential EU support actions to facilitate the broader adoption of forest finance (FF) solutions and instruments is outlined in Annex 13. Recommendations are provided to build momentum and enable conditions for increased forest finance in Zambia. The pipeline contains small bridging actions for upscaling and unlocking the existing and new FF solutions and instruments. Unlike the AAP Actions, these are small, enabling activities, and are listed in order of priority. The proposed actions could potentially foster much larger developments, amplifying new finance flows to the underserved Zambian forestry sector, which is currently operating below its full potential.

The following chapters deepen the discussion by referring to analytical tables and proposals for small-scale EU actions that could unlock some forest financing opportunities in Zambia.

5.2 Discussion: Areas of support for public sector forest finance solutions

5.2.1 Investment in enabling the business environment

Based on the forest finance assessment, we conclude that the current business environment and financing situation are hindering the sector's performance and preventing it from attracting significant investment (Ref. Table 4).

We propose establishing a Forest Investment Portal (FIP) to serve as an online platform for forest investment. The FIP would be a valuable addition to the forestry sector, aligning with the government's efforts to facilitate business and provide efficient government services. The FIP can be based at the Zambia Development Agency (ZDA, under the Ministry of Commerce, Trade and Industry) as a one-stop shop for forest investors.

The FIP would consist of three modules:

1. **Marketplace,** for promoting, buying, and selling forest products. It provides an opportunity for producer organisations, processing companies, and tenure holders to promote their products to traders and buyers, who can also post/publish their requirements/needs. Commodities: (i) forest land for PS planting; (ii) timber; (iii) non-timber forest products (NTFPs); (iv) agroforestry products.
2. **Financial/insurance facilities** to facilitate the linkage of partners with strong capital market players, banks, financiers, pension funds, and insurance companies. Insurance packages cover selected forestry species within developed forest plantations, while financial, credit, guarantee assistance covers forestry-related activities such as plantation development, maintenance, protection, harvesting, and expansion, FLR finance, and livelihood development.
3. **Innovative finance incubator hub.** Depending on their approach, this lab could be built around one or several existing incubators. Examples include the Lusaka-based business incubators, such as GrowthAfrica (an accelerator for business growth and investor readiness), AgBIT(focused on agribusiness and agroforestry), Jacaranda Hub (for the youth), and more local ones in the provinces. The added value of these incubators would be to provide existing platforms for networking,

partnering, and knowledge exchange. Forest instruments have not yet reached sufficient scale or impact. Most of the new FF instruments in this study lack dynamism, and developers would benefit from an open innovation space and cross-sectoral experiences.

Clustering is an important strategy for improving the chances of success in rural forest grower or micro, small and medium enterprise (MSME) incubation. Experience from AgBIT shows that grouping farmers together around specific value chains can be a highly effective way of providing services that enable producers to access more profitable high-end markets and increase their access to resources and finance (Macqueen and Bolin 2018).

5.2.2 Strengthening the funding for compensation of deforestation and biodiversity loss in Zambia's Environmental Liability Solutions

Similar to the Forestry Department, the Zambia Environmental Management Authority (ZEMA) faces challenges relating to underfunding and unreliable revenue collection (Table 7). Nevertheless, ZEMA's work is invaluable in safeguarding environmental integrity and ensuring the MRV functions effectively. ZEMA has the potential to generate much larger revenues and have a much greater impact when empowered to fulfil its broad mandate.

The EU can support Zambia in unlocking the sizeable development potential of its mineral wealth by promoting environmental, social, and governance (ESG) standards, supporting responsible mineral value chains and enhancing regional coordination. **On the other hand, we propose that the EU helps minimise the negative externalities affecting forests, the environment, water, and biodiversity. It is recommended that the EUD supports the implementation of the Environmental Act, particularly its monetary and nature-based compensation mechanisms under the well-acknowledged *'polluter pays'* principle. This principle is well understood at ZEMA, but is not being enacted sufficiently.** Currently, a high share of compensatory and offsetting funding is waived. This could be addressed by providing ZEMA's key staff with training in benchmarking against EU Environmental Liability Solutions (ELS). **We propose a capacity-building cooperation with a leading EU Member State ELS agency at the government level.** This would contribute to preventive action, fighting environmental damage at source, shared responsibility, and the integration of environmental protection into other policies.

Secondly, the Lobito Corridor's development areas should be used to design an operational nature-based PES scheme. This scheme should then be piloted and trained with partners, before being implemented on a large scale in Lobito, alongside with biodiversity offsets and water offsets. Mining companies should be legally obliged to comply with stricter environmental and biodiversity compensation systems, with the revenue generated being allocated to forest restoration and conservation. Although the Mines and Minerals Development Act of 2015 established the Environmental Protection Fund, it has not yet been enacted.

5.2.3 Repurpose subsidies

Large commercial farms could be linked to agriculture support programmes (FSP and FISP) through PES to promote decoupling food security from forest loss. When well-targeted, subsidies can address forest protection gaps, foster sustainable forest investments and market access, and encourage private capital investment in the following ways:

- By improving access to risk transfer solutions, premium subsidies can enhance financial resilience, thereby serving as a fiscal risk management instrument.
- When strategically designed, subsidies can reduce contingent liabilities, improve post-disaster budget predictability, and support sovereign risk layering, while catalysing private capital through instruments such as contingent credit and parametric insurance.

Smallholder agriculture and charcoal production are the primary drivers of deforestation in Zambia. In the absence of improved technologies, many small-scale farmers rely on shifting to newly cleared and fertile forest land as a low-cost production input, which they have a customary right to use.

The GRZ has long used farmer input subsidies to intensify agricultural productivity (see Table 8). These subsidies serve a dual purpose of improving food security and reducing deforestation when fertile cropland is cleared. However, it is unclear whether agricultural intensification truly decreases deforestation in Zambia's contested landscapes. Finally, because

subsidies can address market failures (e.g., affordability issues, a lack of actuarial data and low insurance penetration), their management is considered a potential means of supporting private investment in the forestry sector.

5.2.4 Operationalise Forest Development Fund (FDF)

The objectives of the FDF are (a) the management of forest regeneration and tree planting in degraded areas; (b) the development and management of forests and trees to achieve a sound ecological balance; (c) the promotion of community-based forestry management practices; (d) research in the forestry sector; and (e) any other matter connected with forest management and development as may be prescribed.

The Zambian government should utilize the funds allocated to the FDF without delay (Chapter 3.2, Table 8). These funds could be used as a cofinancing component to leverage forest finance from multilateral sources and the private sector. The FDF could also include forestry premium subsidies as a financing modality and catalytic instrument. Rather than managing the ***status quo*** in the forest sector or funding the Forestry Department's deficits, funds should be allocated to transformative actions.

Wood processing MSMEs are often excluded from the commercial lending system due to limited credit histories, high transaction costs, and a lack of collateral for affordable financing options. FDF small grants could support the formalisation of MSMEs and their access to concessional loans from commercial banks.

5.2.5 Strengthen revenue collection and retention at the Forestry Department

The Forestry Department is responsible for regulating and collecting stumpage fees. These are fees charged by the government for the right to harvest timber from public or customary forests. The stumpage fee varies according to the species of tree (mukula, mukwa, mutondo, teak, or rosewood), the volume harvested, the type of forest (natural forest or plantation), and the intended use (domestic or export).

Other fees are usually outlined in forest concession agreements or harvesting licenses and are available through the streamlined ZamPortal.[42] Concessions are a significant source of revenue for the government and help to promote sustainable forest management. Most concessions are small, 35 are medium-sized, and 20 are large-scale. Their logging permit sizes are:

i. Small scale: 20-100 m^3 per month
ii. Medium scale: 101-200 m^3 per month
iii. Large scale: 201-400 m3 per month

There is a process for issuing production and conveyance permits for timber from concession license areas. Companies and individuals must obtain a Forest Concession Licence and a Pit-Sawing License before operating in a forest area. These licenses permit harvesting in designated forest areas, and the fees vary according to the size and duration of the concession. Fees depend on the licence type and associated services.

The FD charges ten different license and permit fees, some of which are expressed as floating fees specified in Statutory Instrument (SI) no. 52 of 2013. In general, the fees and permits are too cheap. There have been instances of mismanagement where larger buyers and businesses have acquired logs from domestic users using permits that enabled them to pay less for valuable logs.

It is an acknowledged market reality that licensed timber volumes are tiny compared to unlicensed volumes. This is due to the Forestry Department's weak capacity to monitor forest activities in forest reserves and open areas, as well as the generally easy access to unlicensed timber from the conversion of forests to agricultural use.

We believe that the Forestry Department could generate more than USD 20 million in annual revenues from the commercial forestry sector through increased and better-governed licenses, stumpage fees, forest management plans (FMPs), and permits. We recommend that the EUD collaborate with the MGEE to employ more staff to enforce laws, protect forests, and expand services to the PES, carbon, and biodiversity sectors. Currently, forest crime rarely goes to court for adjudication through legal or administrative processes. Fines are usually modest compared to the value of the illegal activity. Similarly, we recommend that the

42 The FD has just started developing district forest management plans. The FMPs will include monitoring tools and framework.

FD should be mandated to retain what it collects and invest the funds through the Forest Development Fund in improved forest management. Although a national Forest Certification Standard would require an initial investment, it would generate returns in the form of auditing and certification fees, as well as opening up new export markets for final wood products. The EU's support for setting up a traceability system for timber, NWFP, and charcoal would improve the monitoring and enforcement of illicit product flows. This would directly strengthen the possibility of implementing forest certification, which combines two systems in one: SFM certification and chain-of-custody certification.

5.2.6 Mapping lands for investments in reforestation and restoration

Given the high level of unsatisfied demand for timber and the lack of land available for long-term investment by industrial plantation developers, the Ministry of Lands and Natural Resources and MGEE should collaborate to produce a comprehensive map of potential forest investment sites. Currently, investors lack access to data on the geolocations of forest or farming blocks that could be utilized for reforestation efforts. Complementary to this, on-farm woodlots of 1-2 hectares under customary land tenure form the basis of smallholder forestry.

The Northwestern and Western Provinces have a large number of wood processors, and contribute about 60% of the Forestry Department's revenue. We recommend conducting an in-depth study of the structure, production, forest management, and financing of artisanal wood processors in these two provinces, to enable them to practice sustainable forest management (SFM) through the treasury and FDF. This will depend on their willingness to become formalised MSMEs.

5.3 Discussion: Areas of support for private sector forest finance solutions

5.3.1 Transform charcoal value chains towards legality and sustainability

A green charcoal value chain involves sustainable sourcing, efficient production to meet standards, product tagging for traceable and controlled transport, and well-planned distribution, retail, and final use. Such a value chain is resource-efficient, is produced from legally and sustainably sourced wood, and is socially inclusive and healthy to use.

The World Bank's LAFREC Project in Rwanda is referenced, for which the Nordic Development Fund financed a two-year project in 2019-2020: "***Improving the Efficiency and Sustainability of Charcoal Value Chains through Charcoal Makers Cooperatives Capacity Building***". Cooperatives in seven districts were supported. Similarly, the FAO Zambia has conducted value chain analyses and efficient charcoal projects. In the project areas of Choma and Mushindamo, charcoal consumers began to accept the sustainably produced charcoal, and the Charcoal Producer Association developed a 'charcoal traceability system'. The primary interventions that can be scaled up are: (i) policy and legal revisions; (ii) traceability and certification; (iii) upgrading technology and business plans; (iv) developing national green charcoal standard; (v) providing incentives; and (vi) capacity building and training.

The development objective is to achieve a higher conversion efficiency by shortening the charcoal production time and reducing the amount of raw material used per unit of charcoal produced. Around 30-40% efficiency gains have been achieved through better utilisation of forest and wood industry residues, pre-drying wood before placing it in a kiln, valorising charcoal waste, and reducing its environmental footprint.

Work is ongoing in cross-cutting areas of gender, environmental protection, and social inclusiveness. This approach has a fast payback period: the charcoal cooperatives became formalised and more profitable. After receiving initial tax breaks and concessional finance, they started generating higher fees, license revenue, and tax income for the government.

The Rwanda Environmental Management Authority (REMA), the government agency responsible for environmental oversight in the country, has implemented a 'Green Charcoal' Traceability System. The system ensures the legality of charcoal production and provides proof of sustainability, facilitating market access to environmentally conscious consumers as part of the energy market transformation. To facilitate knowledge transfer, we propose a twinning arrangement between REMA, ZEMA, the Ministry of Energy, and the FD in Zambia, funded by the EU or a Member State (possibly Sweden). An additional source of funding for this activity could be a Green Climate Fund project, but developing, approving, and starting up such a project would take at least three years.

5.3.2 Start private smallholder forestry and industrial timber plantations

Our assessment has revealed that Zambia is facing a shortage of exotic logs such as pine and eucalyptus to fuel the growth in the commercial timber market. The annual allowable cut of 400,000 cubic meters is insufficient to meet demand. This is approximately one-third of the timber required for construction and industrial use. This has led to increased demand for indigenous timber, damaging the remaining high-stocked forests and their rich biodiversity, as well as NTFPs, such as honey, mushrooms, herbs, and wild fruits. Further research is required to establish which indigenous tree species can be cultivated in plantations.

Promoting smallholder plantations remains a viable option for increasing the wood supply, as confirmed by the two leading plantation timber companies, ZAFFICO and CFC. These companies are potential investors in outgrower schemes and log market off-takers from SHF woodlots. SHF projects have been successful in Uganda and Tanzania, where Zambian sawmillers have previously had to import logs. In light of this, we recommend that EUD sets aside funds to support smallholder plantations through a private sector-led investment program, in which both large and small investors would be de-risked with EDFI Carbon Sinks and EFSD+ Guarantees (Ref. Chapter 4.2.4).

The European Investment Bank (EIB) is the largest implementing partner of the EFSD+ guarantees for large-scale industrial plantations, working alongside Team Europe member states. The EIB's AFSS II (Africa Sustainable Forestry Fund II) is a growth equity fund managed by Criterion Africa Partners. It supports investments in brownfield forest plantations, the downstream processing of high-value building materials, and biomass energy. If large plots of land and combined carbon-timber revenue streams were available in the long term, European Forest Investment Funds and international Timberland Investment Management Organisations (TIMOs) could be potential investors. Agroforestry systems and food forests would complement soil carbon maintenance while increasing on-farm incomes and ensuring food security.

Smallholders require capacity building in silviculture and forest management, as well as an understanding of contract management. This should include the Industrial Forest Management Agreement (IFMA) and the Simplified Forest Management Plan (SFMP). Family enterprises led by women and young people should be trained to collect seeds and grow seedlings in farm and village nurseries, which they can then sell to tree planters.

A lack of resources poses a significant challenge in addressing all aspects of forest research. The Forestry Research Section of the Forestry Department is underfunded and lacks resources. Originally divided into two divisions (the Forest Research Division and the Forest Product Division), the Section is supposed to conduct research into indigenous and exotic forest management, forest products (NTFPs, charcoal, and timber products), socio-economic studies, and forest taxonomy. With adequate financing, the Forest Section identified over 100 tree species and their uses, which were published in Forest Research Bulletins.

5.3.3 Improve the competitiveness of the Zambian forest supply chain finance

As demonstrated earlier, foreign-owned logging and sawmill operators are funded at concessional rates from their home countries for forest operations in Zambia. In contrast, a Zambian operators only get loans at high interest rates. Foreign loggers can secure supply chain financing for their operations in Zambia by establishing partnerships with influential local businessmen and chiefs, for example. As the local DFOs are under-resourced, there is a risk of insufficient monitoring, which would result in excessive logging and evasion of full concession fees.

Zambian commercial banks should offer competitive terms of supply chain finance and working capital loans to support local SMEs in the logging and wood processing industries. ZANACO's concessional rates should not be the only such lifeline for Zambian forest companies (Ref. 4.2.1).

Before banks can lend with confidence to companies in the forestry and wood industries, we believe that conducting value chain analyses would help to target supply chain finance more effectively and reduce credit risk.

A Value Chain Analysis (VCA) considers the complex system of activities and interactions performed by the various direct and indirect actors (e.g., input suppliers, primary producers, processors, traders, retailers, and service providers) involved in transforming inputs and

services into a final product for sale. Understanding value chains will help us to prioritise strengthening viable private sector firms as log off-takers and community forestry and smallholder forestry as tree growers.

The government should promote linkages among the various players in the forestry value chain, thereby discouraging the illegal export of unprocessed raw materials. From a forest financing perspective, this can be achieved more effectively through export taxes than total export bans.

Zambia Development Agency (ZDA) should facilitate investment in the secondary processing of wood and NTFPs. The funding base should be expanded beyond taxes and fees collected from exporters of primary processed products to include expert services from prospective investors. These funds should be used to raise the competence and bankability of local MSMEs, as well as to promote joint ventures between Zambian and international companies.

5.3.4 Payments for Ecosystem Services

There is a wide array of opportunities in PES. Many of these ecosystem services are not yet sold on the market, so no price or reference point captures their full economic value. PES contracts are best handled as group contracts or by offering multiple services together. These 'umbrella' projects bring groups of farmers (usually small-scale) together under one collective contract to minimise transaction costs.

In the context of this assessment, the PES mainly involves payments to landowners or users for maintaining forest cover, which helps to regulate water flows in a watershed, conserve biodiversity, and sequester carbon. In addition, the PES could provide other benefits to downstream users, such as hydropower plants and water purification plants, city water boards, and bottled water and beer companies, as well as the general public, by mitigating risks in water systems.

Large commercial farms could link PES to agriculture support programmes (FSP, FISP) to promote the decoupling of food security from forest loss. The GRZ needs to establish a regulatory framework for PES in the country to enable private sector buyers and communities on the supplier side to transact in PES. Recipients would be compensated conditionally for conserving forest areas and preventing new agricultural clearings. It is recommended that a voucher system be implemented for periodic payments to participating farmers.

Similarly, the large mining, industrial, and energy companies form a significant potential corporate buyer segment for environmental and biodiversity compensation payments (PES, BD offsets, and water offsets). Actual payments result from voluntary contracts negotiated at agreed prices and terms. These can be performance-based (i.e., based on the actual provision of the ecosystem service) or input-based (i.e., based on land or resource management practices). This must be linked with ZEMA's service charter and enhanced revenue collection, given its role as the environmental damage oversight agency.

In Zambia, some of the largest companies are potential off-takers of PES. These companies include Illovo Sugar, Louis Dreyfus Company, Zambian Breweries, as well as companies from the cement, steel, and copper industries and the gemstone mining sector, such as Barrick, First Quantum, Anglo American, Glencore, and the state-owned Zambia Consolidated Copper Mines (ZCCM).

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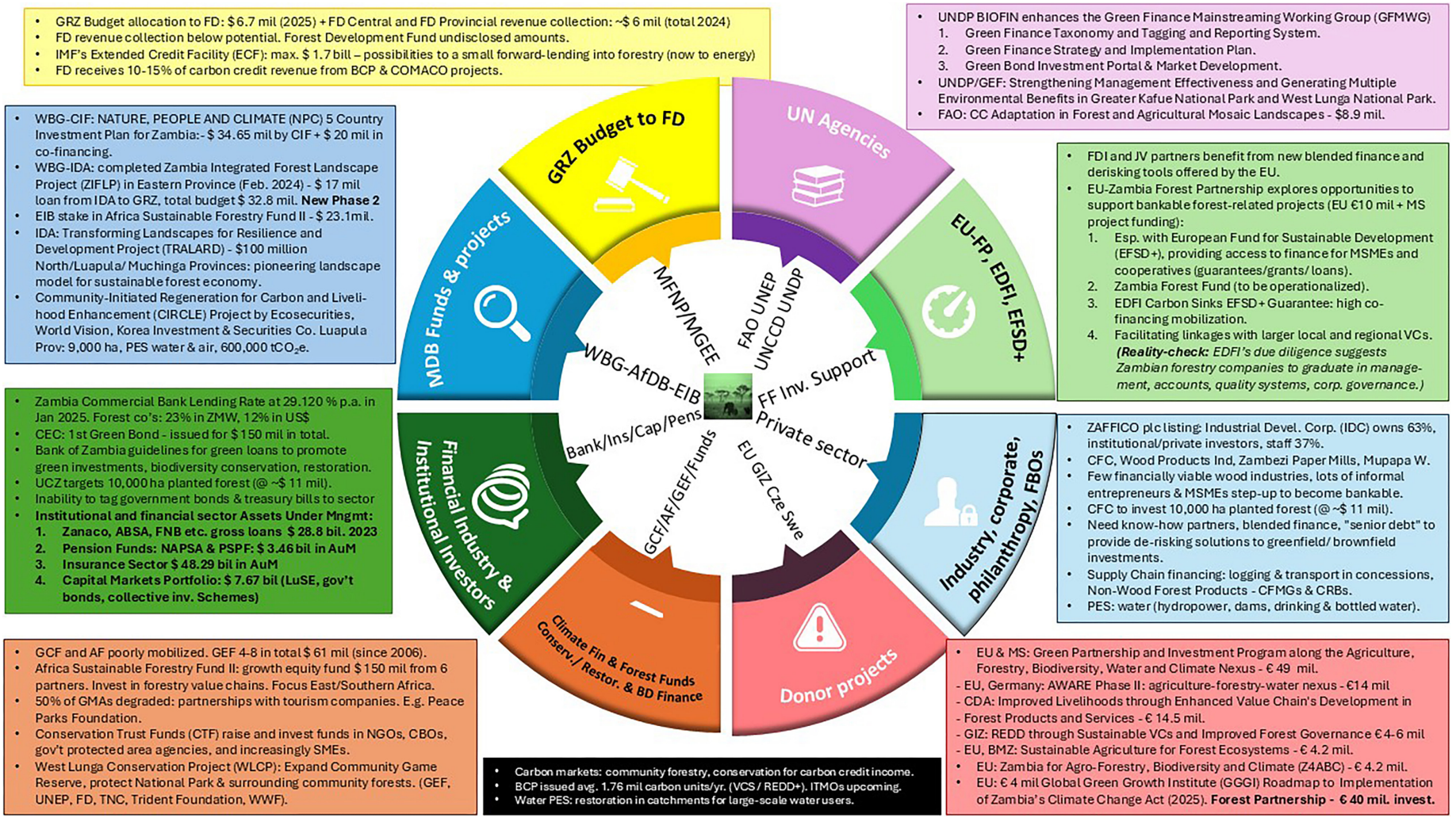
ANNEXES

Annex 1. Full mapping of forest financing in Zambia



- GRZ Budget allocation to FD: $6.7 mil (2025) + FD Central and FD Provincial revenue collection: ~$ 6 mil (total 2024)
- FD revenue collection below potential. Forest Development Fund undisclosed amounts.
- IMF's Extended Credit Facility (ECF): max. $ 1.7 bill – possibilities to a small forward-lending into forestry (now to energy)
- FD receives 10-15% of carbon credit revenue from BCP & COMACO projects.

- UNDP BIOFIN enhances the Green Finance Mainstreaming Working Group (GFMWG)
  1. Green Finance Taxonomy and Tagging and Reporting System.
  2. Green Finance Strategy and Implementation Plan.
  3. Green Bond Investment Portal & Market Development.
- UNDP/GEF: Strengthening Management Effectiveness and Generating Multiple Environmental Benefits in Greater Kafue National Park and West Lunga National Park.
- FAO: CC Adaptation in Forest and Agricultural Mosaic Landscapes - $8.9 mil.

- WBG-CIF: NATURE, PEOPLE AND CLIMATE (NPC) 5 Country Investment Plan for Zambia: - $ 34.65 mil by CIF + $ 20 mil in co-financing.
- WBG-IDA: completed Zambia Integrated Forest Landscape Project (ZIFLP) in Eastern Province (Feb. 2024) - $ 17 mil loan from IDA to GRZ, total budget $ 32.8 mil. **New Phase 2**
- EIB stake in Africa Sustainable Forestry Fund II - $ 23.1mil.
- IDA: Transforming Landscapes for Resilience and Development Project (TRALARD) - $100 million North/Luapula/ Muchinga Provinces: pioneering landscape model for sustainable forest economy.
- Community-Initiated Regeneration for Carbon and Livelihood Enhancement (CIRCLE) Project by Ecosecurities, World Vision, Korea Investment & Securities Co. Luapula Prov: 9,000 ha, PES water & air, 600,000 tCO_2e.

- FDI and JV partners benefit from new blended finance and derisking tools offered by the EU.
- EU-Zambia Forest Partnership explores opportunities to support bankable forest-related projects (EU €10 mil + MS project funding):
  1. Esp. with European Fund for Sustainable Development (EFSD+), providing access to finance for MSMEs and cooperatives (guarantees/grants/ loans).
  2. Zambia Forest Fund (to be operationalized).
  3. EDFI Carbon Sinks EFSD+ Guarantee: high co-financing mobilization.
  4. Facilitating linkages with larger local and regional VCs. ***(Reality-check:** EDFI's due diligence suggests Zambian forestry companies to graduate in management, accounts, quality systems, corp. governance.)*

- Zambia Commercial Bank Lending Rate at 29.120 % p.a. in Jan 2025. Forest co's: 23% in ZMW, 12% in US$
- CEC: 1st Green Bond - issued for $ 150 mil in total.
- Bank of Zambia guidelines for green loans to promote green investments, biodiversity conservation, restoration.
- UCZ targets 10,000 ha planted forest (@ ~$ 11 mil).
- Inability to tag government bonds & treasury bills to sector
- **Institutional and financial sector Assets Under Mngmt:**
  1. **Zanaco, ABSA, FNB etc. gross loans $ 28.8 bil. 2023**
  2. **Pension Funds: NAPSA & PSPF: $ 3.46 bil in AuM**
  3. **Insurance Sector $ 48.29 bil in AuM**
  4. **Capital Markets Portfolio: $ 7.67 bil (LuSE, gov't bonds, collective inv. Schemes)**

- ZAFFICO plc listing: Industrial Devel. Corp. (IDC) owns 63%, institutional/private investors, staff 37%.
- CFC, Wood Products Ind, Zambezi Paper Mills, Mupapa W.
- Few financially viable wood industries, lots of informal entrepreneurs & MSMEs step-up to become bankable.
- CFC to invest 10,000 ha planted forest (@ ~$ 11 mil).
- Need know-how partners, blended finance, "senior debt" to provide de-risking solutions to greenfield/ brownfield investments.
- Supply Chain financing: logging & transport in concessions, Non-Wood Forest Products - CFMGs & CRBs.
- PES: water (hydropower, dams, drinking & bottled water).

- GCF and AF poorly mobilized. GEF 4-8 in total $ 61 mil (since 2006).
- Africa Sustainable Forestry Fund II: growth equity fund $ 150 mil from 6 partners. Invest in forestry value chains. Focus East/Southern Africa.
- 50% of GMAs degraded: partnerships with tourism companies. E.g. Peace Parks Foundation.
- Conservation Trust Funds (CTF) raise and invest funds in NGOs, CBOs, gov't protected area agencies, and increasingly SMEs.
- West Lunga Conservation Project (WLCP): Expand Community Game Reserve, protect National Park & surrounding community forests. (GEF, UNEP, FD, TNC, Trident Foundation, WWF).

- Carbon markets: community forestry, conservation for carbon credit income.
- BCP issued avg. 1.76 mil carbon units/yr. (VCS / REDD+). ITMOs upcoming.
- Water PES: restoration in catchments for large-scale water users.

- EU & MS: Green Partnership and Investment Program along the Agriculture, Forestry, Biodiversity, Water and Climate Nexus - € 49 mil.
- EU, Germany: AWARE Phase II: agriculture-forestry-water nexus - €14 mil
- CDA: Improved Livelihoods through Enhanced Value Chain's Development in - Forest Products and Services - € 14.5 mil.
- GIZ: REDD through Sustainable VCs and Improved Forest Governance €4-6 mil
- EU, BMZ: Sustainable Agriculture for Forest Ecosystems - € 4.2 mil.
- EU: Zambia for Agro-Forestry, Biodiversity and Climate (Z4ABC) - € 4.2 mil.
- EU: € 4 mil Global Green Growth Institute (GGGI) Roadmap to Implementation of Zambia's Climate Change Act (2025). **Forest Partnership - € 40 mil. invest.**

Annex 2. Methodology for calculating the forest finance gap

In order to understand where the figures in the "Needs" column come from, here are some key calculations.

1. Direct costs associated with forestry activities (e.g. SFM, planting).
2. Opportunity costs (avoided deforestation). Opportunity cost is the value of the best alternative that is forgone when a decision is made.
3. Avoided deforestation requires financing to alternative incomes and livelihoods of the rural population. This is estimated using the following logic:

a. The average yearly income in rural Zambia was approximately USD 300/person in 2022, according to the Living Conditions Monitoring Survey Report.
b. The average household size is five people per rural household.
c. Zambia's population is estimated at 21.91 million at midyear in 2025, 10.26 million of whom live in rural areas.
d. The average population density in Zambia is 0,29 people per hectare, but the rural population density is much lower (0,014 people per hectare).
e. This translates to a minimum of 23,000 rural people in target areas who need an alternative income to compensate for the deforestation gap of 164,000 hectares.

Annex 3. Terms of Reference for the Assessment

	Methodology phase	Activities	Experts in charge	Output	Provisional timeline (estimation)
Preparation	Mobilisation and work plan preparation	• Mobilization (logistical arrangements) • Introductory message to the delegation involved • Collation of relevant national reports and programs	National consultant	Inception report with methodology, criteria and work plan (one single inception report for phases 2 and 3, adapted depending of the start in the different countries)	January 2025
		• Work plan preparation and presentation of inception report to INTPA F2 and delegations involved • Template design for inception report	Global team		
Step 1 National level hybrid (online and in person) stakeholder workshop to identify key financial instruments	Workshop Preparation	• Desk review of available reports and documentation shared by EUD and global team • Identification of key stakeholders, with short description of roles in the forest finance landscapes • Input to workshop agenda	National consultant	N/A	February - March 2025
		• Invitation list (15 to 20 participants); assuring a diverse representation of forest actors (production, restoration, protected area management) and donors and partners • Development of workshop agenda, including a) opening, concepts for 3-4 presentations from key stakeholders and guiding questions for facilitated plenary discussion to reach agreement on key instruments to be included in the appraisal • Template design for workshop report	Global team		
	Conducting hybrid Workshop (invitation and hosting done by EU delegation)	• Support EUD in workshop logistics • Facilitation of workshop • Writing of workshop report	National consultant	Workshop Report, including a list of key instruments and list of actors/key informants to be interviewed	
		• Introduction to scope and content of the mission/consultancy • Facilitation of plenary discussion	Global team		
Step 2 Mapping of finance mechanisms and instruments	Interviews of key stakeholders and preparation of draft country reports	• Designing interview instrument to understand existing finance mechanisms, ambitions, effectiveness, bottlenecks, risks and opportunities, and scalable financial solutions to achieve national goals • Backstopping and input to the national country report	Global team	Draft country reports	March – May 2025
		• Meetings with the EUD and partners • Interviews with key informants/stakeholders • Review of secondary data and reports • Writing of draft national country reports	National consultant		
Step 3 Consultation	Consultation with EUD and INTPA F2	• Dissemination of draft country report to EUD and INTPA F2 for comments	Global team		
		• Integration of comments	Global team and national consultant		
	Consultation with stakeholders	• Stakeholder consultation workshop for feedback and alignment	National consultant	Final country reports	May - June 2025
		• Integration of comments	Global team and national consultant		
Step 4 Final Report	Final report	• Final report preparation	Global team and national consultant	Final report	June - September 2025
		• Final layout	Global team		

Annex 4. Predetermined types of forest finance

Forest Finance (FF) solutions, tools, instruments	Short definition
Public finance (including Fiscal Reforms, Green Budgeting, etc)	The adjustment of fiscal policies and budgeting processes to reflect environmental sustainability goals, often incorporating the valuation of natural resources and ecosystems into financial planning. Can include diverse solutions and instruments such as: • Tax breaks/waivers • Subsidies • Grant schemes • Dedicated funds established by national or local governments to support forest conservation or sustainable management • Any other state-funded schemes
Payments for (Forest) Ecosystem Services / Incentives Schemes	Financial and/or non-financial incentives provided to landowners or communities for managing their land in ways that preserve or enhance ecosystem services, such as water filtration, landscape beauty, climate benefits, and biodiversity.
National Forest Funds / Conservation Trust Funds	Dedicated funds established by governments or organisations to support forest conservation, sustainable management, and the development of forest areas through grants, incentives or loans.
Debt-for Nature Swap	A debt-for-nature swap is a financial arrangement where part of a country's debt is forgiven or reduced by creditors in return for the country committing to environmental protection projects. This typically involves conserving natural habitats, biodiversity, or investing in sustainable development initiatives.
Green Bonds / Sustainability-linked Loans	Financial instruments issued to fund projects with environmental benefits, with green bonds raising capital for upfront expenditure and sustainability-linked loans offering incentives for achieving sustainability performance targets.
Finance instruments for value chains that support conservation and restoration of forests	Can include: concessions mechanisms, micro-credit schemes, SME support smallholder schemes, company finance for smallholders & other SMEs (out-grower schemes, off-take contracts), and venture capital/business catalysers. These instruments are strongly linked to value chains that can support conservation and restoration of forests with SMEs and smallholders.
Biodiversity Markets **(Biodiversity Credits/ Certificates)**	Markets designed to the trade of biodiversity credits or certificates, representing actions taken to conserve or restore biodiversity.
Carbon Markets / Carbon Finance	Financial markets and instruments aimed at reducing greenhouse gas emissions through the trading of carbon credits, where one credit represents the right to emit a specific amount of carbon dioxide or the equivalent amount of a different greenhouse gas (may include REDD+ mechanisms, even if not under EU legislation)
Impact Finance / Impact Investment (Fund Set Up – Sustainable Forest Funds / Blended Finance / De-risking)	Investments made with the intention to generate positive environmental and social impacts alongside a financial return, using strategies like fund setup, blended finance to mix different forms of private and public capital, and de-risking (Guarantees, leverage finance, first-loss positions, etc) to reduce financial risk for investors. The roles of Development Finance Institutions (DFIs) and other funds EFSD+ can be considered when relevant for impact and blended finance.

Annex 5. Stakeholders interviewed

No	Respondent name	Institution
Interviewees through an online questionnaire		
1	Cisanga Mwanza	Chilengedwe Zambia
2	Luyanga Mufungulwa	FNB Zambia
3	Ruth Chande Ironside	Mupapa Initiative
4	Ms. M. Kapena	Namfumu Conservation Trust
5	Rob Munro	The Nature Conservancy
6	Dr Natasha Watts	WeForest
7	Abel Siampale	WWF
8	Mpangwe Mutwale	Zambia National Commercial Bank (Zanaco) Plc
Personal interviews		
1	Ms. Cristina Soriani	EU Delegation office, Lusaka
2	Ms. Elizabeth Ndhlovu	Finnish embassy
3	Victor Chiiba	Czech Development Agency (Consultant)
4	Markéta Smrčková	Czech Development Agency
5	Matt Sommerville	Czech Development Agency
6	Saskia Kuhn	GIZ
7	Angela Nantulya	GGGI
8	Ephraim Shitima	Climate Change, Ministry of Green Economy and Environment
9	Charlie Dubois	French embassy
10	Vincent Ziba	FAO
11	Lewis Bangwe	African Development Bank
12	Thresa Musongo	World Bank
13	Alex Museshyo	ZEMA
14	Mulemwa Muwanei	ZEMA
15	Rodwell Chandipo	ZEMA
16	Clayton Lumwaya	ZEMA
17	Benson Mwileli	UNDP
18	Dr. Douty Chibamba	PS, MGEE
19	Sitwala Wamunyima	Director, Forestry Department
20	Dr. Fred Siangulube	CFO, Forestry Department

Annex 6. Data sources and methodology

1. Secondary data

a) Government Yellow books (budgets, allocation, disbursement,
b) Forestry department annual reports
c) Forestry department provincial reports
d) Corporate & NGO annual reports
e) Project documents and impact reports
f) International best practice

2. Primary data

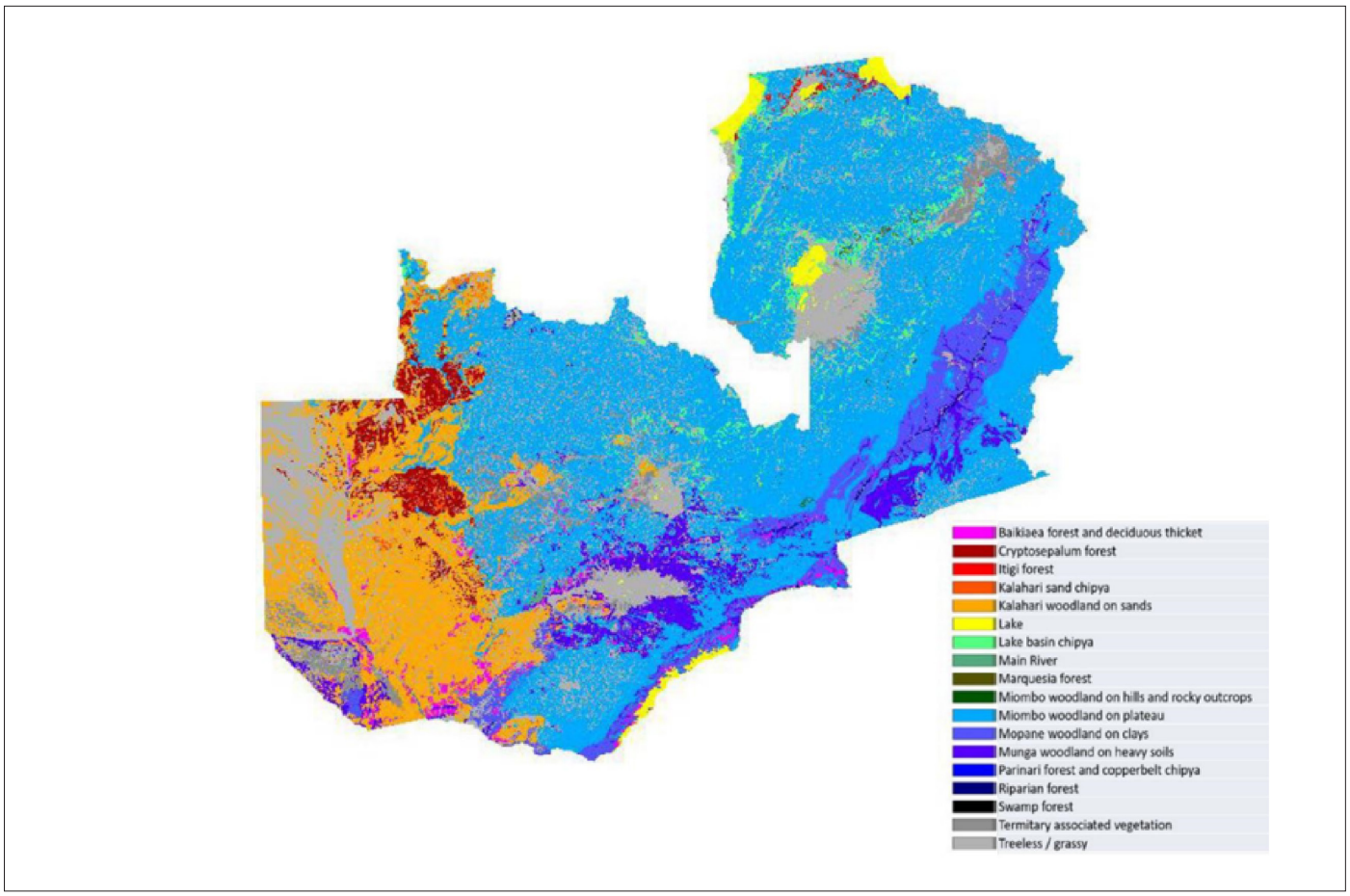
a) Semi-structured questionnaire to representatives of:
   - ✓ public sector
   - ✓ private sector
   - ✓ development agencies
   - ✓ financial institutions
   - ✓ local and international CSOs in natural resource management
b) 15 Key Informants (inc. MS, online)
c) Technical Roundtable Meeting (30 experts)
d) Reporting and Validation Meeting

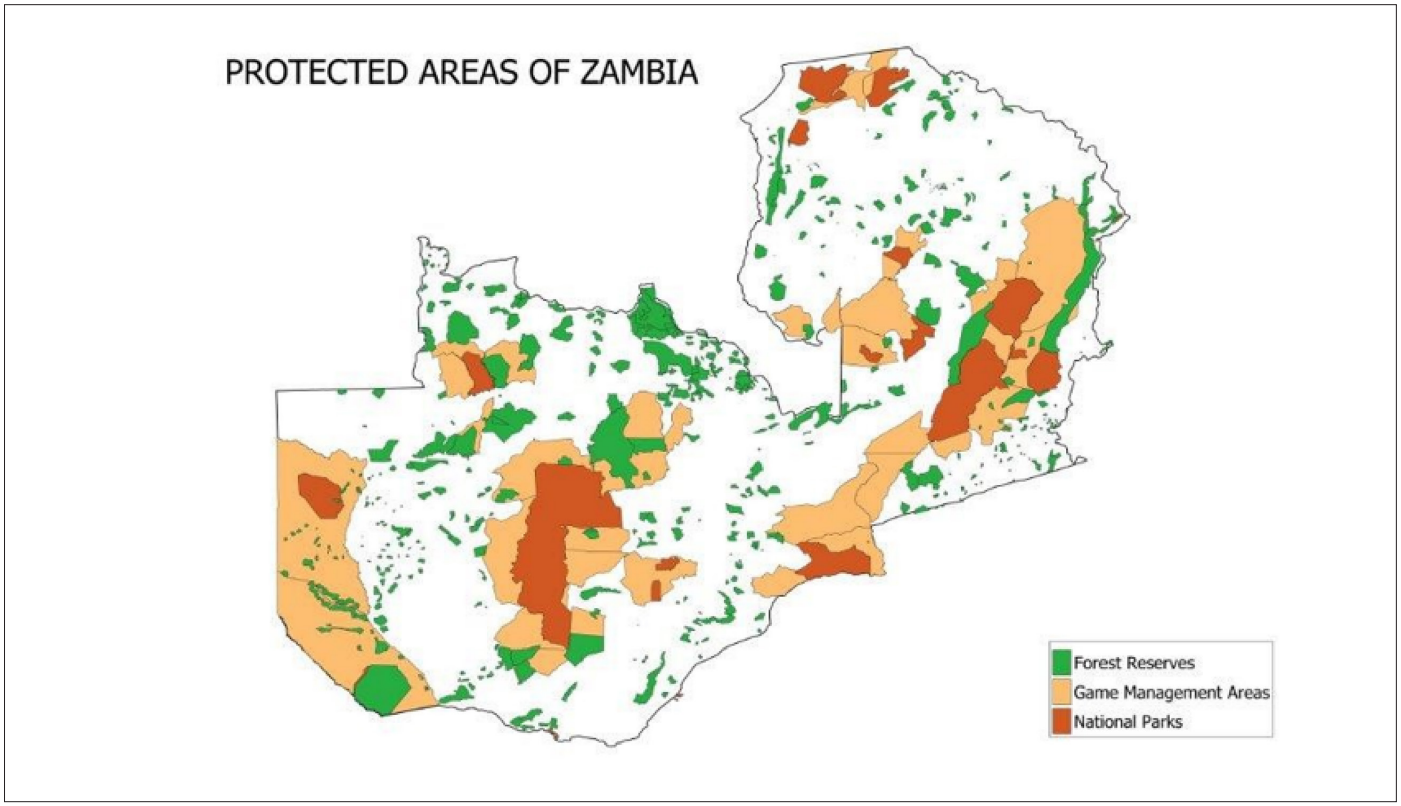
Annex 7. List of institutions attending the technical roundtable meeting

Institutions represented in the technical roundtable meeting held at the EU Delegation Office in Lusaka on the 16th of May 2025 include: (in alphabetical order)

1. BIOFIN/UNDP
2. Business and Finance Consultant
3. Center for International Forestry Research-World Agroforestry (CIFOR-ICRAF)
4. Copperbelt Forestry Company
5. DAI/NDC Facility
6. EUD Zambia
7. European Union
8. First National Bank (FNB)
9. Forest Africa Zambia Limited
10. Forest for the Future Facility (F4F)
11. Forestry Department
12. GGGI
13. Institution/Organization
14. Mupapa Woods Limited
15. PIDACC
16. We Forest
17. World Impact
18. WWF
19. ZAFFICO plc
20. ZEMA

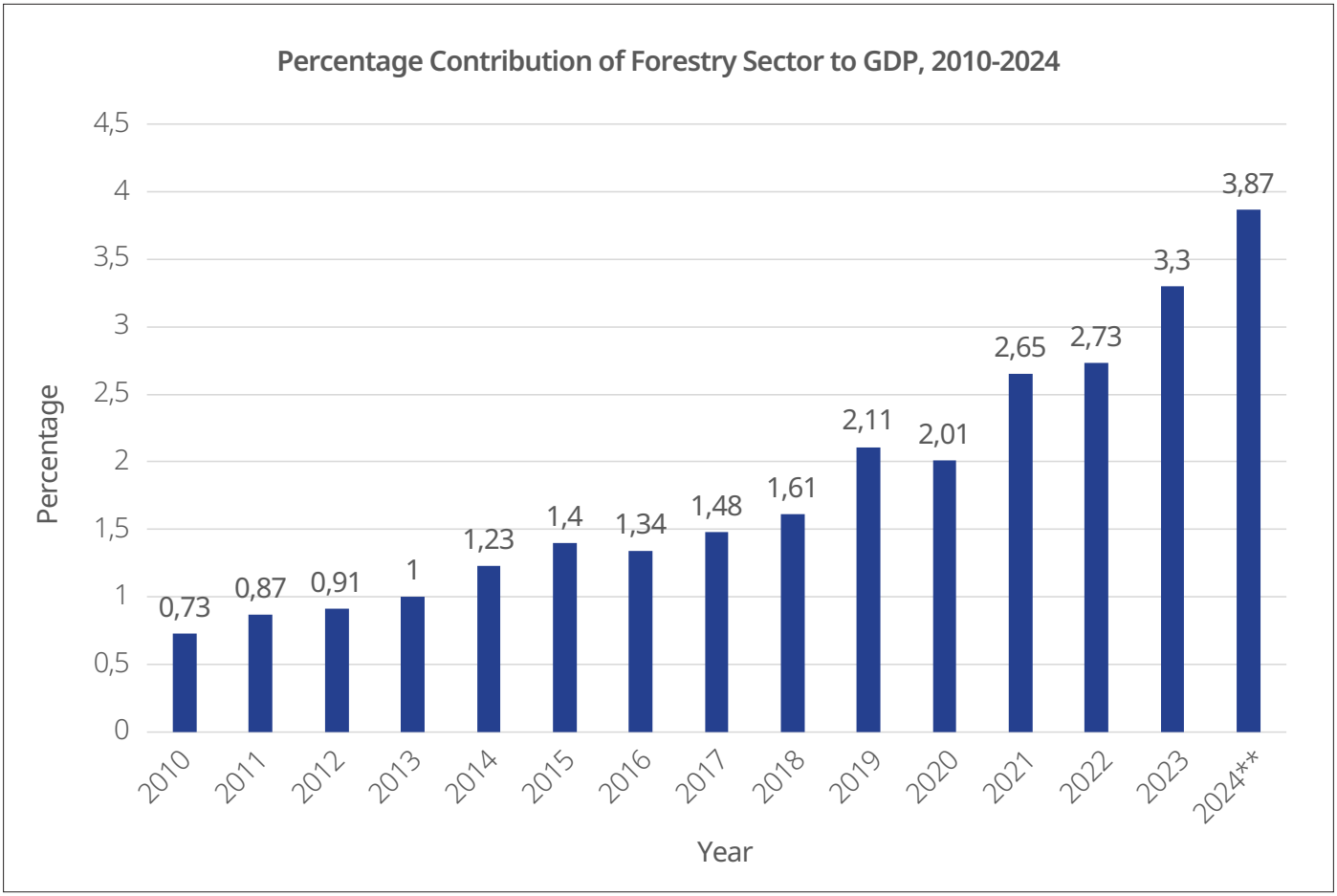
Annex 8. Zambia's forests by type and protection status





Source: Forestry Department, 2016. EU-Zambia Forest Partnership, 2023.

Annex 9. Contribution of forestry and logging to Zambia's GDP from 2010 to 2024



Annex 10. 2024 National Forest Policy Objectives

6.1 Sustainable Forest Resources and Ecosystem Management

Objective: To improve the conservation and management of forest resources in order to increase forest cover.

Measures:

i. Promote sustainable management of all types of forests;
ii. Strengthen multi-sector coordination on forest land-use;
iii. Enhance forest protection and forest health;
iv. Strengthen mechanisms for forest monitoring; and
v. Promote the development and adoption of improved charcoal production and utilization technologies.

6.2 Participatory Forest Management

Objective: To increase stakeholder participation in forest protection and management.

Measures

i. Promote collaborative and innovative forest management;
ii. Enhance incentives provision to stakeholders;
iii. Scale up farm forests and community woodlots initiatives; and
iv. Strengthen local level forest governance structures.
v. Promote Agroforestry practices
vi. Strengthening the Processing of timber to finished products within the country

6.3 Forest Enterprises Development

Objective: To increase production and value addition for wood and non-wood forest products.

Measures:

i. Strengthen the capacity for value addition to forest products;
ii. Promote forests and forest product certification;
iii. Facilitate access to modern value addition technologies for production and processing of wood and non-wood forest products;
iv. Promote ecotourism and nature tourism; and
v. Promote value addition to herbal medicines.

6.4 Plantation Establishment and Management

Objective: To increase hectarage under plantation management for improved supply of forest-based raw materials.

Measures

i. Promote investment and participation of the private sector in plantation establishment and management;
ii. Expand area under community woodlots and local and regional supply plantations;
iii. Facilitate establishment and management of tree-seed orchards for supply of genetically proven seeds; and
iv. Develop a framework for regulating plantation establishment and management.

Annex 11. Forest restoration ambitions in Zambia

Forest Restoration Ambitions

In the EU-Zambia Forest Partnership, a bold target is set at 6 million hectares of forest restoration by 2030. Under AFR100, Zambia's commitment is 2 million hectares. The main responsibility for both targets is vested with the MGEE and Forestry Department, although it is heralded as a national multi-stakeholder effort. AFR100 Initiative and Terra Fund have financed three projects in Zambia, implemented by NGOs WeForest and SCOPE. This is a small but important beginning in restoration, covering 2,000-7,000 hectares per project. WWF has partnered with Banks such as ZANACO, ABSA, StanBic and StanChart to implement restoration projects across Zambia jointly.

Forests may be restored by various means, such as:

i. Protective measures (e.g. protection from fire or grazing and erosion control).
ii. Measures to accelerate natural recovery (e.g. through direct seeding or by planting seedlings in degraded primary or secondary forests).
iii. Measures to assist natural regeneration (e.g. through weed control on degraded lands and marginal agricultural sites).
iv. Planting of native or introduced trees in single-species or mixed-species plantations, in agroforestry production systems, and as trees outside forests.

Annex 12. Assessing conditions to scale up private investment in forest restoration: a study

A study (Vincent et al., 2025) analysed the six main success factors of forest restoration, namely (1) the level of potential carbon sequestration, (2) forest restoration costs (a compound of natural regeneration and tree planting costs), (3) market access, (4) scale, (5) property rights and (6) country risk.

Zambia's **private sector's potential for forest restoration (FR) was assessed at 12,944 hectares. However, only 1,369 hectares met the four most important success factors. The remaining 11,575 hectares did not meet these conditions for optimal success.** Several land types were assessed, not only forestlands. The feasibility of PS restoration areas is **very low** compared to the FR target in the Forest Partnership.

Contrary to common perception, restoring degraded forests is not a low-cost activity if the goal is to restore a similar forest cover to what had been degraded or destroyed. The above study produced average costs as the sum of opportunity costs and implementation costs of restoration. Cost estimates averaged USD 1,648/hectare, with a wide variability per activity type. This cost per is higher than that of monoculture plantation forest establishment in Zambia (USD 1,128/hectare, according to ZAFFICO published data).

Annex 13. Recommended project pipeline for fostering forest finance solutions and instruments

FF Solution / Instrument	Priority pipeline of actionable support proposals	Lead actor	Time horizon
Private Sector Joint Venture Investments with Blended Finance (Chapter 4.2.5)	**Investment package: Start Private Smallholder Forestry and Industrial Timber Plantations:** **Enabling activities:** (a) Support MGEE: Private Investment Areas mapping (forest blocks) with suited tenure/ access. **Ticket: EUR 0.3 million** (b) One-counter Forest Investment Portal (FIP) at ZDA. **Ticket: EUR 0.2 million** (c) 10-year roadmap for economic transformation of private sector led forestry and value chains. **Ticket: EUR 0.1 million (preparation)** (d) Match-making of EU & Zambian investors into joint ventures, introducing EFSD+ and EDFI Carbon Sinks financing instruments for de-risking. **Ticket: EUR 0.2 million** (e) Out-grower training and farmer sensitization to facilitate wood value chain engagement and linkages between the few large-scale forestry and wood industry co's as off-takers.Paying special attention to contract model and competitive pricing. **Ticket: EUR 0.2 million**	EIB / EU timberland investment funds / EU forest industry co's FD and NLA Project ZDA / MCTI EUD and FD EUD with EFSD+ EDFI Carbon Sinks Zambian forest co's FD and NGOs support	Within the 5-years time span of EFSD+ and EDFI Carbon Sinks Ongoing with AAP-2026 1 year 6 months Start 11/2025, recurring Started in 6 months by ZAFFICO et al.
Biodiversity offsets Biodiversity credits (Chapter 4.3.3) Green bonds (Chapter 4.2.4) Environmental Liability System (Chapter 5.2.2)	**Investment package on scenario-building and GRZ revenue impact simulation by boosting of practical efficiency of GRZ environmental Liability System (ELS) at full in Lobito:** **Enabling activities:** (a) monetary compensations based on legal and regulatory frameworks and calculable with the best available methodologies; (a) nature-based solutions on BD offsets/ credits, (b) investor-level capacity building to sensitize companies by ZEMA and a leading EU ELS institution. • Green bonds are facilitated as a driver of greener investment to avoid and minimize environmental damage by prospective investors in Lobito. **Ticket: EUR 1.0 million**	EUD supports scenario and revenue impact simulation in conjunction with Lobito SEA. Zema supports and leads ELS with FD. (MFNP oversees & coordinates support from Min. of Mines and Mineral Dev, MGEE, and Min. of Lands & NR). Green bonds: large Zambian co's investing in Lobito, and their financier (ZANACO)	1 year Revise into 9NDP (2027) BD offsets/credits take 2 years before operational. Lobito Corridor investor sensitization 2026 2 years before operational.

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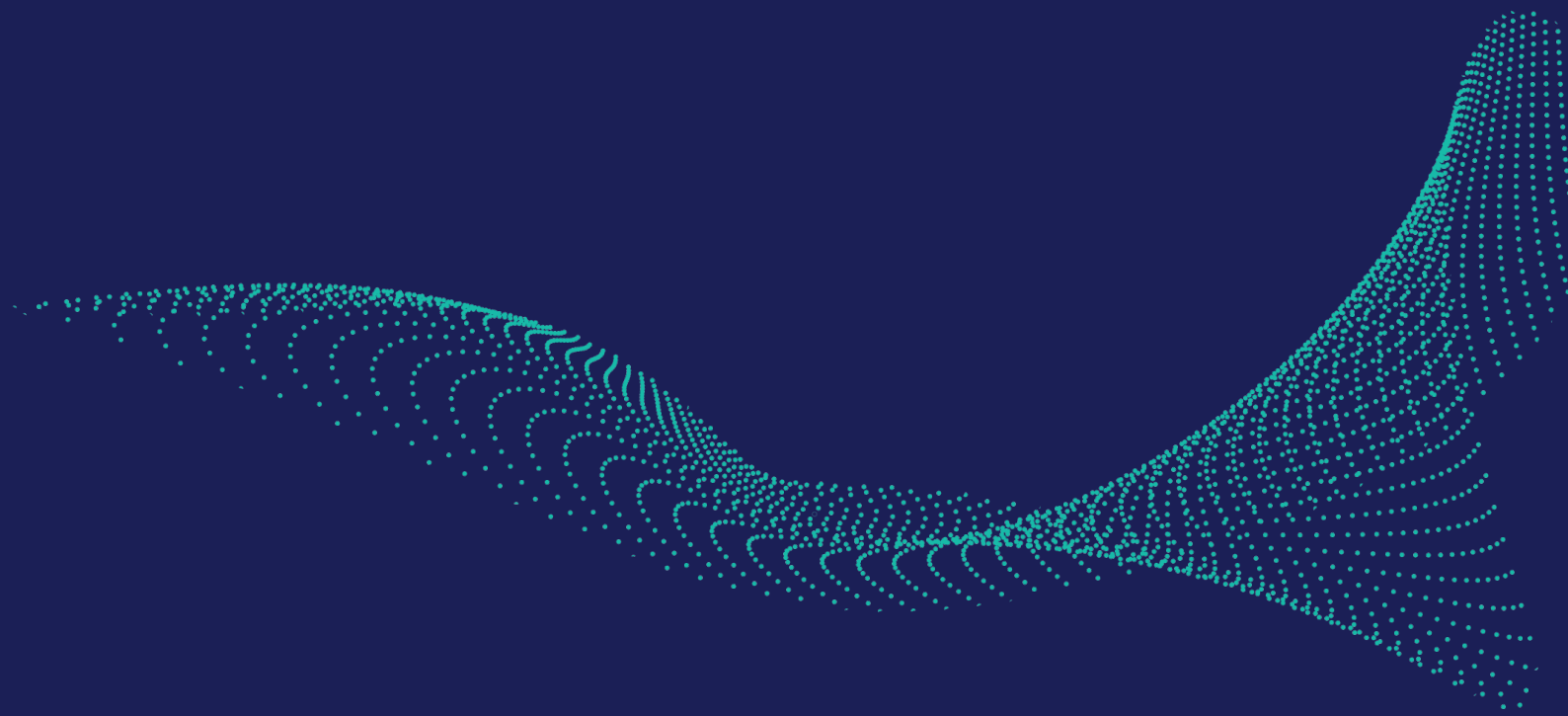
Table Annex 13. Continued

FF Solution / Instrument	Priority pipeline of actionable support proposals	Lead actor	Time horizon
Fiscal reforms (Chapter 5.2.4./5.2.5)	**Support in producing and implementing Statutory Instruments.** • Operationalize sector Funds: Forest Development Fund, Environment Fund, Wildlife Fund. • Intensify revenue collection with higher unit charges & accountability. • Capacity building for staff in charge. **Ticket: EUR 0.3 million**	GRZ, MGEE Sector Agencies / MInistries EU Support AfD for restructuring	Post-IMF-ECF restructuring Revise 9NDP 2027-2031 Support NDC 2030 targets
Subsidy scheme change (Chapter 5.2.3)	**Assessment of the effectiveness and impact of agricultural subsidies and incentives.** **Ticket: EUR 0.1 million** • Repurposing and redirection of a share of FISP, FSP. **Full upside potential 10% of 2023-2024 FISP: EUR 35 million**	GRZ: MFNP, MAG EU support: CAP best practice lessons	Immediate need Feed into 9NDP 2027-2031
Payment for Ecosystem Services (Chapter 4.3.4)	**Operationalize PES in Zambia.** • National targets of the Kunming-Montreal Global BD Framework require contributions of provinces and puts districts on a steep learning curve. • Province and District level Management Plans on water resources and on wildlife need integration with Forest Management Plans. • Opportunity costs of forest activities determine the revenue and benefits that the landowner/land user foregoes for PES. Payments for "additionality" to ensure that delivery of agreed benefits is permanent, credible andregistered. • Recording system and Registry for PES credit issuance, retiring, payments, and institutional capacity building (like in carbon). **Ticket: EUR 1.0 million**	EU Support FD, DNPW Zambian large companies with the heaviest environmental footprint. ZEMA	2 years to finalize PES national framework and do groundwork 3 years before operational (2029)
Budget tagging and taxonomy (Chapter 4.3.1)	**Kickstart support to green/climate finance MRV – GRZ is presently unaware and not tracking what disables it to report budget expenditure on climate-friendly action correctly under NDC** • Capacity building and operational guidelines in the MGEE. • Participation of MGEE, Min. of Lands & NR, Min. Tourism for improved NDC reporting. • Better financial accuracy feeding into national budgeting. **Ticket: EUR 0.2 million**	MFNP (e.g. new Climate Finance Unit, and National Coordination Office). EU Support:NDC Facility	2026-2027 Improved NDC-3 report



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DG International Partnerships Unit F2 – Environment, Natural Resources, Water.
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