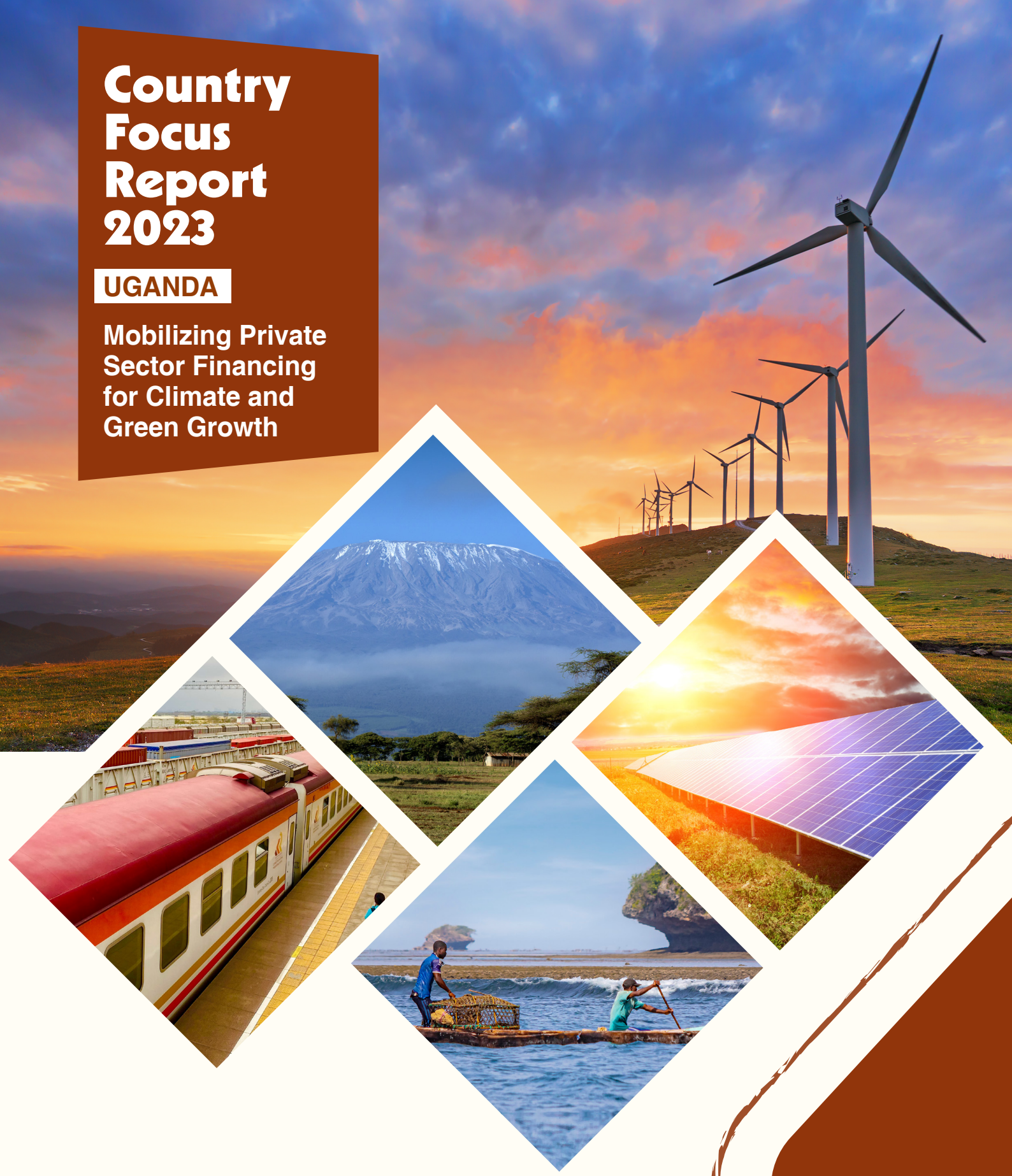
Country Focus Report 2023

UGANDA

Mobilizing Private Sector Financing for Climate and Green Growth



AFRICAN DEVELOPMENT BANK GROUP
GROUPE DE LA BANQUE AFRICAINE DE DÉVELOPPEMENT

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Mobilizing Private Sector Financing for Climate and Green Growth

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LIST OF ABBREVIATIONS

AEO	African Economic Outlook
AfDB	African Development Bank
CFR	Country Focus Report
CO2	Carbon dioxide
COP26	26th UN Climate Change Conference of the Parties
COVID-19	Coronavirus Disease 2019
DFIs	Development Finance Institutions
EAC	East African Community
EITI	Extractive Industries Transparency Initiative
EU	European Union
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
GGI	Green Growth Index
GHG	Greenhouse Gas
GoU	Government of Uganda
IFAD	International Fund for Agriculture Development
IMF	International Monetary Fund
Kg	Kilogram
kWh	kilowatt hour
LPG	Liquefied Petroleum Gas
MDB	Multilateral Development Bank
MSME	Micro, Small and Medium Enterprise
m2	square meter
MWE	Ministry of Water and Environment
NDCs	Nationally Determined Contributions
NPA	National Planning Authority
NSSF	National Social Security Fund
NWSC	National Water & Sewerage Corporation
OECD	Organisation for Economic Co-operation and Development
PPP	Public-Private Partnership
SDGs	Sustainable Development Goals
SME	Small and Medium Enterprise
SOFR	Secured Overnight Financing Rates
tCO2	Tons of Carbon Dioxide
UBOS	Uganda Bureau of Statistics
UGX	Uganda shilling
US	United States
$	United States Dollar
WB	World Bank

Uganda

KEY MESSAGES

Macroeconomic Performance and Outlook

- Uganda's economy expanded by an estimated 6.3% in 2022, higher than the 5.6% registered in 2021. Driving the strong performance was agriculture, which expanded by 4.4%, industry by 4.8%, and services that grew at 8.3% as trade and repairs, and health also demonstrated strong growth. The economy expanded despite higher commodity prices and tighter financial conditions, underscoring the robust foundation of the real economy. Inflation rose to 7.2% in 2022, well above the 2.2% in 2021, and the 5% medium-term target.
- The economy is expected to continue to expand over the medium term, with 6.5% and 6.7% growth in 2023 and 2024. Oil companies will ramp up investments as they target 2025 for production and exports. Higher growth and investment will sustain imports and an elevated current account deficit. Price pressures are moderating, with average inflation declining to 6-6.5% over the medium term.
- The government remains committed to fiscal consolidation, and the IMF Extended Credit Facility will support the consolidation process. The budget deficit is projected to decline to 5.3% of GDP in 2022/23 and 4.6% of GDP in 2023/24.
- External risks remain tilted to the downside with uncertainty in the global markets underpinned by the escalation of Russia's invasion of Ukraine, tensions between US and China, internal conflict in Sudan spreading to neighbouring countries, and further monetary policy tightening. Domestic risks are dominated by unexpected increases in public spending on infrastructure amid weak tax revenue performance, while poor rain distribution can impact agriculture, although bimodal farming areas mitigate effects.

Private sector financing for climate change and green growth

- Most of Uganda's climate finance comes from international partners as publicly available finance. There is a huge gap in climate financing with very little private sector participation. To change this, Uganda needs to lay the foundations for investors by identifying attractive projects. Uganda can also tap into its abundant natural capital, renewable and non-renewable, to finance the impacts of climate change and the transition to a green growth pathway.
- Between 2019 and 2020, Uganda mobilised on average $785 million per year in climate finance, or approximately 21% of its annual needs as assessed by the AfDB. Most of these funds are from public sources with just 3.4% from private sources. The gap, estimated at an average of $3.4-$4.0 billion per year, could to some extent be bridged through greater private sector mobilisation.
- With the integration of numerous innovative financing tools including green bonds, carbon markets, debt-for-nature swaps and blended financing, current developments in the financial markets represent clear opportunities for Uganda to improve the mobilisation of the financing needed to implement actions for green, sustainable, and inclusive growth. Making it more attractive to establish private equity funds by changing the double tax structure is another opportunity to attract climate finances.
- An efficient and smooth operating business environment is critical to attracting international investors that can drive large mineral projects. Uganda's investment environment is becoming more liberalized with free capital markets, easy establishment of business and licensing through one-stop shops. As a landlocked country, there are critical cost factors

that need to be competitive to strengthen Uganda's overall competitiveness, i.e., electricity, transport, skilled labour, and financing.

- A Green Growth Industrial Development facility combined with a green industrial fund could be a vehicle to support industrialization by providing blended finance underpinned by business development services. The facility would aim to drive manufacturing, agro-industrialisation, and construction by providing longer tenors, attractive financing, and market development support. Key partners would be government, pension funds, multilateral development banks, and international financing institutions.
- To encourage greater mobilisation of resources from the private sector at national, regional, and international level, Uganda must build the technical capacity of its experts in the technical and financial structuring of climate projects, on the one hand, and improve the business environment by strengthening an incentive-based regulatory, institutional and governance framework, on the other hand. Multilateral banks and development finance institutions can support Uganda in this regard.

Natural capital for climate finance and green growth

- Uganda is exploiting renewable resources of land and forestry. Available data indicate that natural resource rents, largely from forestry, accounted for 7.5% of GDP in 2020, largely unchanged from 8.1% of GDP in 2010. Over-exploitation, especially of woodlands, has reduced overall forestry land to 9% from 25% of land area in 1990. Replenishment of forests and a shift to sustainable exploitation are needed to secure future generations. A switch away from wood fuel and charcoal to alternatives such as LPG, electricity, or fuel-efficient cooking stoves should be promoted countrywide to protect forests.
- Higher agriculture productivity, using modern methods of farming, is critical to push Uganda towards green industrialization, which will support the rise in median income levels. Low agricultural productivity holds people in poverty and makes agricultural products less competitive on regional markets.
- Uganda's large deposits of non-renewables: oil and gas; iron ores; and "green" metals, have yet to be exploited. Commercially viable oil reserves are estimated at 1.4 billion barrels with production targeted to start in 2025. Current oil reserves for production are for a limited period of 20-25 years and government will need to consider how the additional revenue can best be used to boost sustainable sectors of the economy.
- Underpinned by the domestic iron and steel industry, and with support from international investors, Ugandan iron-ore deposits and green metals could be developed using technologies for greening manufacturing and construction industries to provide the basis for transforming to a green growth economy.
- Uganda can be a regional producer and exporter of green iron and steel but will need to attract partner firms, given the long lead times to develop mineral projects. This requires starting discussions with global developers of green hydrogen, a key component in the production of green iron and steel.

1 INTRODUCTION

This note presents the African Development Bank's Country Focus Report for Uganda. Uganda is vulnerable to climate change and volatile weather events, such as drought and flooding, that it is already experiencing, and which are expected to further worsen over the remainder of this century. There is a link between climate change and economic growth that, if not addressed through investment in adaptation and mitigation, is expected to slow down growth. To support Uganda to address these challenges, the country will need to explore all channels of financing. Apart from funding through global development partners, the private sector could be harnessed to increase climate funding. Additional resources can be harnessed through the exploitation of natural capital resources that have a significant potential in Uganda.

Following this introduction, the remainder of the note is structured as follow: 1) recent macroeconomic developments and outlook; 2) private sector financing for climate and green growth in Uganda; and 3) harnessing natural capital as a complementary financing option for climate and green growth in Uganda. This report aims to elaborate at the country level the analyses carried out at the continental level in the African Development Bank's main African Economic Outlook (AEO) report for 2023, while also adding other perspectives that Uganda could consider.

2 RECENT MACROECONOMIC DEVELOPMENTS AND OUTLOOK

2.1 Recent macroeconomic and financial developments

Economic growth and drivers: Uganda's economy expanded by an estimated 6.3% in 2022, higher than the 5.6% registered in 2021 (Table 1). Agriculture, notably food crops, expanded by 4.4% (from 1.9% the previous year), supported by good rains, while growth in industry weakened to 4.8% (from 7.2%), as output in construction waned. Services grew at 8.3% (from 6.2%) as trade and repairs and the health subsector demonstrated strong growth. The economy expanded despite higher commodity prices and tighter financial conditions fuelled by Russia's invasion of Ukraine,[1] and continued global supply chain disruptions, underscoring the robust foundation of the real economy. Monetary tightening in 2022 to contain inflation has slowed neither consumer demand nor the level of investment. Despite the strong performance, trend levels remain below pre-COVID-19 trend levels, with industry only showing signs of limited recovery, agriculture remaining at trend growth and services not fully recovered (Box 1). Agriculture's stable growth was supported by relatively good rains, while COVID-19 lockdowns had very moderate effects. Industrial recovery has been limited due to waning manufacturing and construction over the period, while services have been supported by the return to school and strong growth in communications and health services.

Table 1: Selected Macro indicators, Uganda

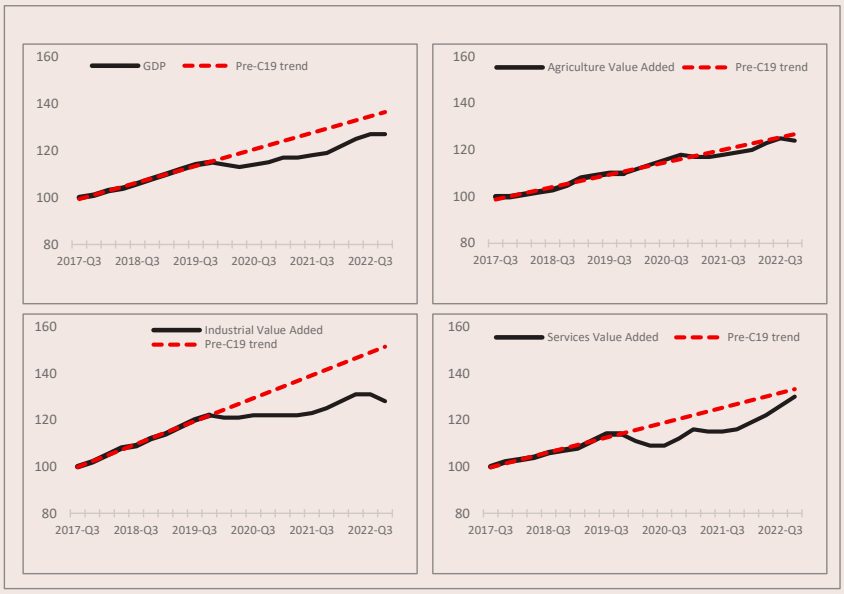
	2018	2019	2020	2021	2022(e)	2023(p)	2024(p)
Real GDP Growth (%)	5.6	7.6	-1.2	5.6	6.3	6.5	6.7
Real GDP Growth per Capita (%)	2.1	4.2	-4.6	2.3	3.2	3.6	4.0
Inflation (%)	2.6	2.1	2.8	2.2	7.2	6.5	6.0
Overall Fiscal Balance, Including Grants (% GDP)*	-4.9	-7.1	-9.0	-7.4	-5.3	-4.6	-3.9
Current Account (% GDP)	-6.1	-6.6	-9.5	-8.3	-8.6	-8.7	-9.0

*Source: Data from Domestic authorities; estimates (e) and prediction (p) based on authors' calculations. AfDB Statistics Department, April 2023. * Fiscal year: Year n refers to n / n+1.*

[1] Agreed wording at the 2022 African Development Bank Group Annual Meetings in Ghana. Algeria, China, Egypt, Eswatini, Namibia, Nigeria, and South Africa, entered a reservation and proposed "Russia–Ukraine Conflict."

Box 1: Recent trends in real GDP and sector value added, 2017Q3-2022Q4

Uganda's economy has not fully recovered since the onset of COVID-19 (C19). Overall GDP level remains below its previous trend as seen in the top-left chart. The trend levels for the series have been indexed (2017Q3 = 100).



GDP has shifted down and followed a parallel path to the pre-C19 trend path. The economy contracted by 1.5% year-on-year in 2020Q2 and is not showing signs of recovery.

Agriculture was not affected by C19 and is mainly de-pendent on local and regional markets and rains. Services are showing signs of recovery to trend level, driven by retail trade, health services, and real estate.

Industry value added has lost output and continues to fall short of its trend level. The construction sector was hard hit by lockdowns and suffered from higher commodity prices and increases in prices on imported building materials. The more recent global slowdown and higher interest rates are not going to support a full recovery for the industrial sector.

Monetary policy and inflation: Inflation averaged 7.2% in 2022, compared to 2.2% in 2021, driven by food and energy inflation of 14.9% and 12.7%, respectively. Higher food and energy prices increased the burden on households, especially urban dwellers (net consumers). During 2022, the Uganda shilling depreciated by 3.8% against the US dollar which contributed to higher prices on imported goods. To manage inflation, the Bank of Uganda raised the policy rate four times from 6.5% to 10.0% in 2022. With the recent decline in international commodity prices, domestic price pressures dampened in the fourth quarter of 2022, falling to 9% in the first quarter 2023. With this declining trend, inflation is expected to converge to its medium-term target of 5%. The Central Bank has been careful not to further raise the policy rate as this would negatively impact investment and growth and reduce private sector borrowing.

Fiscal balance and public debt: Increasing public investment in roads, higher interest costs, and other non-wage expenditure stoked fiscal imbalances since 2018, while COVID-19 drove the deficit to 9.0% in 2020/21 (Table 1). After its peak, the government slowed the pace of investments, reducing the deficit to 7.4% of GDP in 2021/22, above its programmed level of 6.4%. The deficit for 2022/23 is programmed at 5.1%, but with lower than programmed revenues in the first three quarters of the fiscal year, slippages are likely. The AfDB estimates a fiscal deficit to GDP of 5.3%.

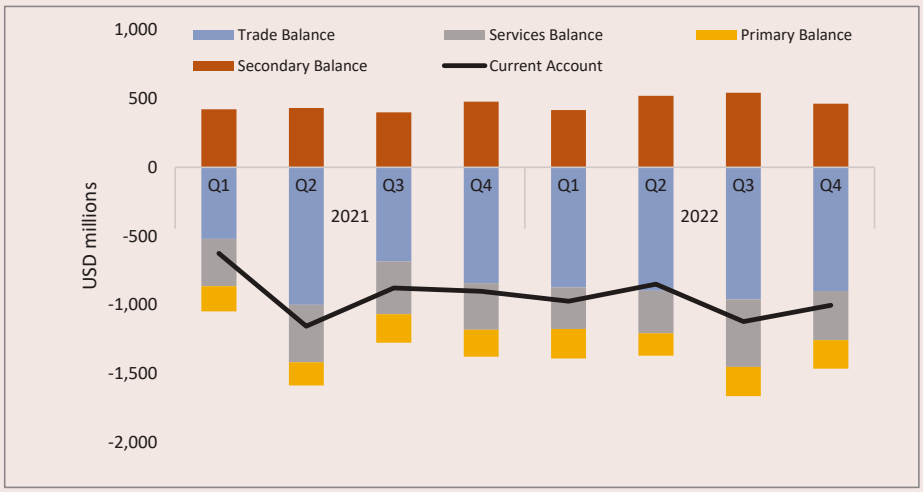
The fiscal deficits were primarily financed through public borrowing. The rapidly rising public borrowing in 2020 and 2021, as well as the deteriorating debt indicators led both the

Ministry of Finance and the IMF to downgrade sovereign debt to moderate risk of debt distress from low risk in December 2020. To mitigate against further deterioration of indicators, Uganda has been implementing a three-year IMF program (Extended Credit Facility) since 2021. The program is just under $1 billion and has disbursed $600 million. Public debt trends are slowly improving. Debt declined to an estimated 46.8% of GDP in 2022 from 48.1% of GDP in 2021. Indeed, the IMF review of January 2023 confirmed that public debt is sustainable in the medium term, but with limited space to absorb shocks. Vulnerabilities are mainly related to export shocks that could lead to breaches of debt-to-exports and debt service-to-exports ratios, while a one-time depreciation will lead to a threshold break of debt service-to-revenue. Ensuring medium-term sustainability will require that the primary deficit is reduced to 2-3% of GDP, a reduction from the 4.4% of GDP in 2021/2022.

Current account balance: The current account balance deteriorated to 8.6% of GDP in 2022 from 8.3% of GDP in 2021, largely on account of the high trade deficit (Figure 1). Exports and tourism receipts remained subdued between 2020 and 2022. Exports grew by just 0.7% in 2021, as gold exports declined by 43% due to increased tariffs. Exports then decreased by 4.9% in 2022, as gold exports further declined by 80%. Imports grew by 6.3% in 2022, with petroleum product imports 60% higher than in 2021, reflecting the higher global oil prices. The current account deficit is financed by overseas development assistance, remittances, and foreign direct investment (FDI). Declining net capital inflows in 2022 have put pressure on international reserves, which have declined from 4.8 months of import cover in 2021, to 3.5 months by end 2022. The Ebola outbreak in the second half of 2022 may have contributed to a delayed tourism recovery, with travel receipts 34% below the peak in 2018.

Financial sector: Uganda's banking system is well capitalized and highly liquid, which enables it to absorb interest rate shocks, despite recent challenges in the US and Swiss banking systems. The capital adequacy ratio[2] was 21.7%, well above the 10% regulatory minimum, while the liquidity ratio[3] was satisfactory at 43.2% by end 2022. Despite a challenging business environment caused by COVID-19 in 2020 and 2021 and followed by Russia's invasion of Ukraine in 2022, non-performing loans have remained stable at 5.3%, slightly above the 5% industry standard. Despite tighter credit conditions in 2022, private sector credit growth increased to 9.9% in 2022 from 8.9% in 2021. There is a likely delayed response in credit growth as borrowers adapt to the higher cost of credit.

Figure 1: Current account balance, $millions (2021 2022)



Source: BOU Data

[2]Regulatory capital to risk-weighted assets
[3] Liquid assets to total deposits

Poverty and social sector indicators: Based on the 2020 Household Survey, the proportion of people living below the national poverty line has increased to 30.1% from 21.7% in 2017 (using the updated consumption basket with new price levels). However, based on the 2009/10 consumption basket, poverty declined to 20.3% in 2020. This increase in poverty is in line with expectations given the stagnation in agricultural productivity (and therefore incomes) for two decades. Poverty is more prevalent in the rural areas (33.8%) than in urban areas (19.8%), with farmers facing high vulnerability of falling into poverty.

Box 2: Impact of Russia's Invasion of Ukraine on Uganda

The impact of Russia's invasion of Ukraine on Uganda's economy has mainly been channelled through global inflation and monetary tightening spurred by the rise in commodity prices that the invasion caused. Direct effects on Uganda's economy have been limited given the relatively small trade the country has with Ukraine and Russia.

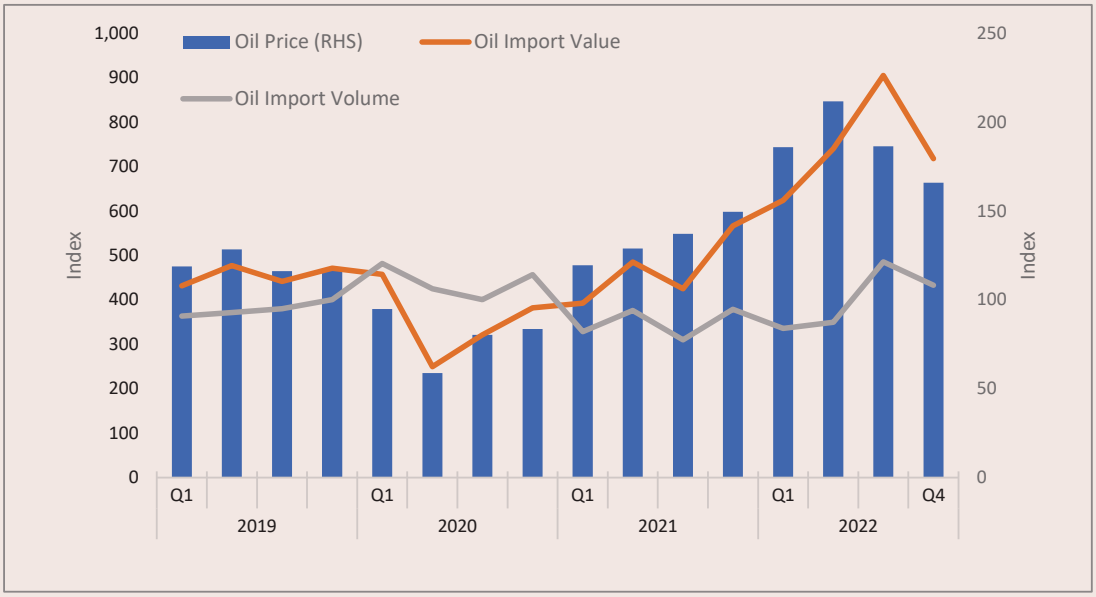
The cost of oil rose as western embargoes on Russian oil increased the cost of imports to Uganda. The price of oil already started rising in the build-up of the invasion increasing the value of oil imports by 53% from 2021Q2 to 2022Q2 (Box Figure 1). The import value of petroleum products increased by 60% in 2022. The oil price has furthermore increased energy and transport costs, thus raising the cost of production and trading.

Global inflation has spilled into domestic prices that rose rapidly by 7.5 percentage points between January and October 2022, with inflation peaking at 10.7%. Food price rises peaked at 29.4% in December 2022. The rapid price rise has added to the cost of living for vulnerable households that find it more difficult to make ends meet.

Global monetary tightening has increased the cost of non-concessional and commercial borrowing. Secured Overnight Financing Rates (SOFR) have increased, e.g., 180-day average has increased to 4.6% end-May 2023, while at the outbreak of the invasion the rate was close to zero. Non-concessional deficit financing should be limited to critical (high return) public projects, as rising debt servicing will squeeze discretionary public spending.

Uganda's combined trade with Ukraine and Russia is small, amounting to 1.2% in 2021, mostly basic food items (wheat) and manufactured goods (fertilizer, paper, and iron/steel). The impact on Uganda's economy would have been small despite significant wheat imports, which amounted to $184 million in 2021, of which 36.3% came from Russia and 17.8% came from Ukraine. Several cereal substitutes to wheat are available and consumption of bread has always been limited to higher income groups.

Box figure 1: Uganda oil imports (index 2005=100)



Source: BOU Data

2.2 Outlook and risks

Economic growth: The economy is expected to continue to expand over the medium term, with 6.5% and 6.7% growth in 2023 and 2024, respectively, assuming any recession in Europe or the United States will be mild. The Chinese economy has eased lockdowns, which have reduced global supply chain disruptions, supporting a return to higher growth. Following the final investment agreements in 2022 to forge ahead with oil production, the oil sector is ramping up investments, and expected to support growth in the medium-to-long term. However, increased imports of capital goods could sustain an elevated current account deficit.

Monetary policy and inflation: Inflationary pressures are already showing signs of abating, with lower inflation of 6-6.5% expected over the medium term. The Bank of Uganda will aim to return inflation to its medium-term target of 5%, but this will take time as workers will put pressure on employers to increase wages to increase purchasing power.

Fiscal and current account balance: The fiscal deficit is on a declining trend, largely driven by government commitment to fiscal consolidation. The government is expected to continue to tighten spending over the medium term bringing the deficit to 5.3% in 2022/23, declining further to 4.6% in 2023/24 in agreement with the IMF. Maintaining this trajectory will support a drive to reduce public debt levels. The current account balance will continue an elevated trajectory over the medium term. With oil expected to flow from 2025, it is expected that the trade balance and reserve levels will improve at that time.

Risks: External risks remain tilted to the downside: with high uncertainty in global markets, underpinned by the risks of escalation of Russia's invasion of Ukraine and further deterioration in US-China relations; expansion of the Sudan conflict to neighbouring countries; and further US monetary tightening. The easing of global supply chains and the reopening of the Chinese economy would tilt growth to the upside. Domestic risks are dominated by unexpected increases in public spending on infrastructure amid weak tax revenue performance and implementation challenges, while poor rain distribution could impact agriculture, though bimodal areas (two harvests) provide a mitigating factor.

Economy to expand above 6.5% over the medium term

3 PRIVATE SECTOR FINANCING FOR CLIMATE AND GREEN GROWTH IN UGANDA

The effects of climate change are already being felt in Uganda. Since the 1960s temperatures have increased by 1.3 degrees (WB, 2021) and conservative estimates point to increases in temperature by 1.5-2.0 degrees over the next 50 years (MWE, 2015a). Climate change estimates further indicate reductions in rainfall that get worse the further south in the country. Rainfall over Lake Victoria could decline by as much as 100 mm per month (6-10% of historic average) with country-wide variations of 13-29%.

Climate change in Uganda is going to bring about warmer weather conditions and more extreme weather events such as volatile rainfall, flooding, landslides, and prolonged dry spells. In addition to the climate effects, the rapidly growing population will further add to the impacts on the environment and the economy. Safeguarding of water resources and replenishment of forests will be a critical part of adapting to climate change. Other areas to safeguard include the large public and private infrastructure projects that the country embarked on this past decade. These projects must be able to withstand the climate changes to ensure longevity of public assets and avoid wasting taxpayers' money. Estimates show that the cost of climate inaction is significantly higher over the long term than what is required to adapt infrastructure and the economy to deal with the rising pressures. By 2025, estimates indicate an annual cost of inaction in the range of $3.1-5.9 billion, which will rise to $18-27 billion in 2050, driven by unmet irrigation and biomass demand (MWE, 2015a).

The government of Uganda will in the next 15 years require 'new and additional' finances to meet its growing cost of addressing climate change. Due to its dependence on natural resources to meet the country's development aspirations, Uganda remains very vulnerable to the impacts of climate change. Positively, the country has put in place an enabling environment to address climate change – the National Climate Change Policy and the Implementation Strategy (2015) and the Nationally Determined Contributions (NDCs), among others.

3.1 The imperative for green growth and the role of private sector financing

Uganda is guided by the Vision 2040 as the flagship model for transforming Uganda from a peasant-led agricultural economy to a prosperous nation within a generation (NPA 2013). Vision 2040 focuses on developing social and economic infrastructure, building human capacities, lowering the high costs of doing business, raising agricultural productivity, and making state institutions more effective. Vision 2040 aims to raise Uganda to upper-middle-income status within 30 years, with per capita income averaging $9,500 (a tenfold increase

in real terms over 2010). Achieving this goal would slash poverty from more than 56% of the population in 1992 to less than 5% in 2040.

In line with the Vision 2040 and to underpin the 17 Sustainable Development Goals, Uganda pursues its own Green Growth Development Strategy 2017/18 – 2030/31 that more clearly outlines its ambitions in transforming the country with sustainable development as the basic principle (NPA, 2017). Apart from being socially inclusive, economic growth will need to ensure the integrity of the environment and its natural resources. The Green Growth Development Strategy has, therefore, been prepared to implement the green growth tenets highlighted in the Strategy, Vision 2040, and its National Development Plans. In the context of the Strategy, green growth is defined as "an inclusive low emissions economic growth process that emphasizes effective and efficient use of the country's natural, human, and physical capital while ensuring that natural assets continue to provide for present and future generations".

Figure 2a: Green Growth Index, Uganda

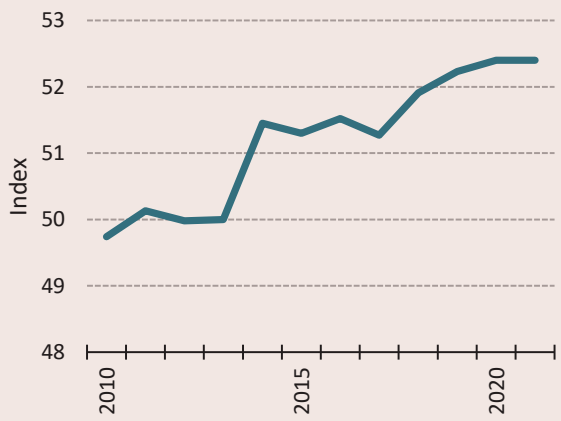
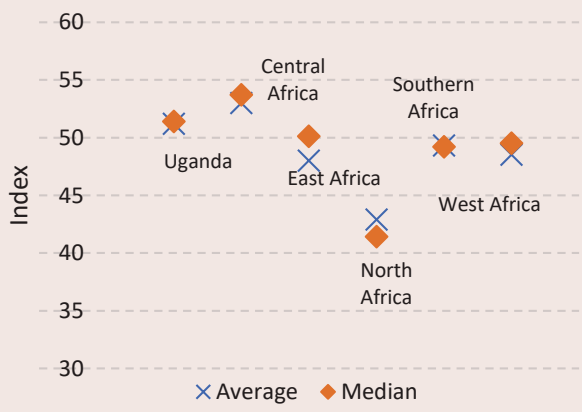


Figure 2b: Green Growth Index, by region



Source: GGGI(2022)

The third National Development Plan and 2020 Industrial Policy provide operational guidance on where the country is headed on its development trajectory, and industrialisation is a requirement if the country is to reach the 2040 income level targets. Key areas of development are identified in agro-processing, mineral beneficiation, mineral-led industrialisation, and oil refining. These areas can all be exploited in a climate-conscious way by utilising green growth technologies that are available on the global market today. However, the investments needed will be significant and require that all stakeholders come together - international financial institutions, multilateral development banks, and the private sector. In fact, the private sector has the most important role to play as sponsors and implementers of green growth investments, while the national authorities must take on the role of conveners and coordinators.

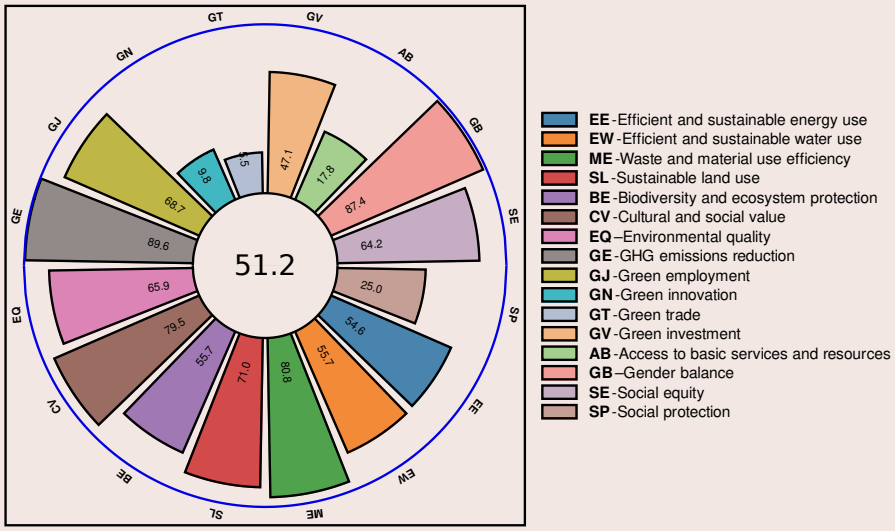
Uganda has made strong commitments to transition the economy to a green growth trajectory. Although adaptation is by far the most significant area of transition, Uganda is also committed to reducing greenhouse gas emissions, despite its already very low levels of emissions. Uganda's carbon footprint was just 0.11 tCO2 on a per capita basis in 2020, which is much smaller than developed nations such as Qatar, Saudi Arabia, the United States and China, whose carbon footprint was 35.64 tCO2, 16.96 tCO2, 14.34 tCO2 and 7.41 tCO2, respectively (Crippa, et al., 2020).

The NDCs (2022) aim to achieve a slightly more ambitious economy-wide mitigation target by 2030 of 24.7% reduction in greenhouse

gas emissions below the business-as-usual scenario. This is a further reduction of 2.7 percentage points compared to the 2016 targets. The additional reduction will emanate from greenhouse gas reductions in agriculture and forestry, which in 2015 contributed to more than 80% of Uganda's greenhouse gas emissions. The third National Development Plan thus aims to address climate change through reforestation, tree planting, sustainable forest management, agroforestry, irrigation, wetland rehabilitation, and other related activities.

Within the East Africa region, Uganda is doing comparatively well in terms of its green growth position on the global green growth index (GGI). Uganda ranked 12th on the GGI in 2022. This is a slight improvement from 15th in 2010. The score has also improved to 52.4 from 49.7 (Figure 2a). Within the region, only Tanzania does better, scoring 59.4, while Kenya comes in just below, scoring 51.1 in 2022 (Figure 2b). The main dimensions driving Uganda's score are Natural Capital Protection and Efficient and Sustainable Resource Use (GGGI, 2022). Uganda's progress demonstrates a mixed performance across the four dimensions and sub-indicators (Figure 3 and Annex 1). The four dimensions and their averages are: efficient and sustainable resource, 63.5; natural capital protection, 70.8; green economic opportunities, 20.1; and social inclusion, 44.1. Green opportunities, and in particular, green innovation and green trade are underperforming. Uganda's average performance from 2010-2021 is 51.2 compared to East Africa's average of 48.0.

Figure 3: Green growth indicators (average 2010 2021)



Source: GGGI(2022)

For Uganda to achieve its green growth and climate action ambitions, private sector investment will need to be mobilised at scale. Meeting green growth and climate action needs will require significant investments. For example, assessments by Bari and Dessus (2022) show that adapting to the effects of floods and droughts in Uganda will require about 3.0% of Uganda's GDP annually up to 2040.

The national green growth framework recognizes the important role for the private sector. The framework estimates costs associated with adaptation, mitigation, and the economic loss of unmet demand and the potential financing sources from government own resources and international development agencies. However, there is very little information on areas for private sector investment and the estimated amounts required.

3.2 The private sector financing flows, gaps and needs for green growth and climate action in Uganda

3.2.1 Current flows of finance

Although there are substantive inflows, the current climate finance flows fall short of the needs. Landscape data from the Climate Policy Initiative reveal that Uganda received on average $785 million in 2019 and 2020. Despite falling short, inflows are rising. In 2010-11, climate inflows averaged $146 million (CFR, 2022). Inflows are mainly directed at agriculture, forestry, and other land uses, cross-sectoral, and energy systems, which account for 73% of the climate financing (Table 2).

Table 2: Average annual total climate finance ($ millions)

Sector	$m	Distribution
Agriculture, Forestry, Other land uses and Fisheries	286.5	36.5%
Others & Cross sectoral	152.7	19.5%
Energy systems	133.7	17.0%
Transport	80.5	10.3%
Water, Wastewater and Waste	35.1	4.5%
Buildings & Infrastructure	23.3	3.0%
Industry	0.4	0.1%
Information and Communications Technology	0.0	0.0%
Unspecified	72.3	9.2%

Note: average calculated over 2019-2020, Source: (CPI, 2022)

Just 3.4% of annual climate finance from private sector.

Just 3.4% or $26.5 million of the annual climate finance for Uganda comes from private sector sources. Most of Uganda's climate financing is from government, 26.9% and multilateral development finance institutions, 61.0%, with the remaining from bilateral and other institutions. Within the region, Djibouti attracts the most private climate financing at 24.2%, followed by Kenya, 19.9%, Eritrea, 16.0%, and Rwanda, 11.2%.

Most of the climate financing for Uganda (52%) is allocated to adaptation. This is probably not unexpected as most of the funds are from development partners (multilateral development banks, bilateral agencies, and governments). These projects will most often support the adaptation of infrastructure to climate change. Mitigation receives 31%, while multiple objectives receive the remainder. Mitigation projects are more likely to be private sector-led as businesses that emit greenhouse gases are privately owned. These could be in energy efficiency in industries, buildings, or transportation, which do not receive much funding. With more appropriate financing instruments and an improved investment environment there would be great potential to increase private financing.

3.2.2 Private sector finance needs for the future

Uganda's climate financing needs have recently been updated to $37.4-$43.6 billion over the period 2020-2030 (AEO, 2023). This is a significant rise over the needs estimated in the NDCs that indicated $17-28 billion over 2020-2030 (NDC, 2022). Using the new financing needs, the annual requirement is estimated at $3.4-$4.0 billion. Climate financing needs are particularly difficult to estimate and are

highly sensitive to the assumptions used in their estimates. The financing needs cover adaptation and mitigation and the unmet demand through the loss and damage to the economy. The amounts are significantly more than what the government and its international partners can source on their own.

Table 3: Innovative instruments used to mobilise private sector finance in Uganda.

Type of instruments	Green and sustainable finance, e.g., sustainable bonds, sustainability-linked loans/bonds, social bonds	Blended financing instruments, e.g., guarantees and first loss	Private equity and venture capital	Carbon markets
Definition	Debt instruments with proceeds allocated to eligible environmental and social projects or a combination of both	Instruments that use public/donor finance to de-risk and scale up private climate investments	Venture capital (private equity) financing is provided by venture capital funds to startups, early-stage, and emerging companies with high growth potential	Finance generated through investment in projects that reduce GHG emissions. Purchased by corporates or international actors to reduce or offset their CO2 footprint.
Current performance	Green bonds have been used indirectly through MDBs to support a limited set of projects in Uganda. There is a potential to expand the use of green bonds and other sustainable financing instruments as the country addresses critical climate issues such as deforestation, nature protection, and expansion of renewables. Examples of projects include Baseruka Hydropower project, Rural Electrification Access, and Bujagali Energy Ltd.	Blended finance is used in Uganda. Blended facilities are mostly targeting key growth sectors: agriculture, energy, and transport sectors. PPP are the most common form of blending. Guarantee instruments dominate. Other instruments are matching grants and credit lines. Prototypes developed: Green MSME finance facility; Green trade finance guarantee; and blended green finance for MSME. Apart from projects that have trickle-down and multiplier effects (energy and road subsectors), many of the blended facilities leave out the poorest of the poor. The prerequisites for accessing the facilities are hard to meet by the relatively poor.	Private equity is largely undeveloped. There is a great need as businesses look to alternative and cheaper financing. The National Social Security Fund is one institution that is interested in investing in private equity funds. Uganda Security Stock exchange has only 16 listed companies, and barely half of them are domestic. The limited listing of private companies means that many unlisted companies may be unable to attract the kind of equity financing they need to expand their investments in development projects.	There are several projects that support the development of carbon credits in Uganda, mainly with international support. Rabobank and DGB Group from the Netherlands are active in the market. The Uganda Carbon Bureau was set up in 2006 as a full-service carbon finance company, but it is unclear how active they are currently.
Contextual challenges to scaling up in Uganda	Market conditions, policy Insufficient operationalisation of regulation and governance Smaller ticket size project opportunities Limited technical capacity	Risks mostly emanate from weak institutional implementation capacity, and governance challenges, particularly corruption, linked with inadequate internal control systems within institutions. This affects the bankability of blended projects and significantly contributes to project delays.	Limiting factors for developing private equity in Uganda: - no licensing regulations for private equity funds - private equity should be seen as pooling of funds to diversify risk. - tax environment that create "double" taxation and reduces returns for private equity.	Ensuring the integrity of projects that sell carbon credits is a major challenge. At the East Africa regional level, projects have come under scrutiny, which is likely to reduce the appetite for new projects. Most demand for carbon credits is from international sources, with very limited consumption locally that could further expand the market.
Key factors enabling successful use of instrument		Uganda's insurance industry and the National Social Security Fund could also prove significant partners of blended facilities if well incentivized.		Strong vetting and regulation of local carbon credit market will entice new investors to enter the market.

Source: (IFAD, 2021), AfDB, Author.

Uganda will need more than $2.9 billion to fill the current estimated climate financing gap to meet the country's climate adjustment needs. There is thus significant scope for the private sector to help fill the gap. On average over the period this would amount to 4.6% of GDP. In perspective, the annual average development financing was 6.4% between 2019-2021 (OECD Data) and the total national budget was 20-21% of GDP in 2021/22.

The financing gap is unlikely to be filled by the public sector and international organisations. It will be necessary to mobilise the private sector to increase investments in green technologies and innovation. This will require a lower cost of finance for firms to invest the extra dollar in green technologies. Even having the private sector finance just 25% of the needs amounts to $700 million annually, which is a considerable mobilization from the current $26.5 million.

The Uganda Green Growth Strategy identifies several streams of resources to finance its strategy. These include mobilising from the national budget, environmental taxes, certification of sustainable production and trade, green energy investments, green innovation and payments for ecosystem services, and international funding. The total green growth needs are estimated at $1.8 billion/year (MFPED, 2016), of which more than half is expected from the private sector.

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

New and innovative instruments for mobilising private sector finance towards green growth and climate action in Uganda are emerging, but constraints remain. Despite the shortfall in the mobilisation of private sector finance for green growth and climate action, Uganda has observed an emergence of innovative mechanisms that have contributed to the available private sector finance. Bakiika, Mbatuusa, Mugeere, and Amumpiire (2020) have drawn lessons from several financing mechanisms in Uganda, which include the Yield Uganda Fund, a private equity fund, managed by Pearl Capital; the Uganda Energy Credit Capitalization Company; and the Agricultural Credit Facility administered on behalf of government through the Bank of Uganda. The team has developed three prototype financing mechanisms for supporting green growth development (SEED, 2022b) that can be used to support SMEs, which drive innovation, provide job opportunities, generate wealth, and champion socio-economic development. Many of Uganda's SMEs can drive green growth and sustainable development but need access to affordable financing. Some of the innovative private sector financing mechanisms used to generate finance for green growth and climate action in Uganda are summarised in Table 3 (see AEO 2023 for definitions of these instruments).

3.3 Opportunities and barriers for mobilising private sector finance for green growth and climate action

3.3.1 Opportunities for private sector investment

The East Africa region attracted $793.1 million in private climate financing, with Uganda attracting a small fraction (3.3%) (Figure 4). Nevertheless, Uganda can use its position to leverage more private sector funding through better marketing of the initiatives that are being taken in the country. Apart from private climate funding, Uganda attracts large amounts of foreign direct investment, which reached $1.5 billion (3.2% of GDP) in 2022 from $626 million (2.2% of GDP) in 2016. Most FDI is channelled into investments in mining, manufacturing, and financial sectors. The annual private investment surveys do not attribute climate-related financing which, therefore, underestimates total climate financing received in Uganda.

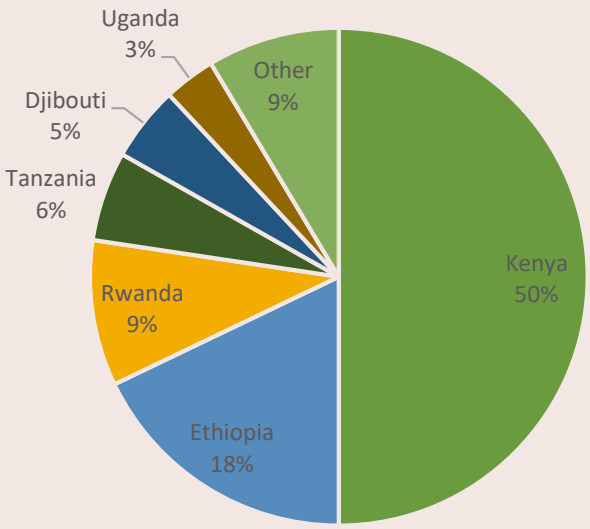
Attracting the private sector will require that the fundamentals for investment (see 3.3.2) are attractive enough to compete with other countries. Furthermore, as a landlocked

country, Uganda is disadvantaged in terms of larger logistics costs to countries with direct access to seaports.

The effects of climate change in Uganda are well explored and the impacts of inaction are going to be particularly hard-felt in energy and water. According to MWE (2015a) the need for fuel for cooking and the need for irrigation are critical. The cost of inaction in the water sector is estimated to rise from $2.4-$4.5 billion in 2025 to $5.5-$10.2 billion in 2050, whereas the cost of unmet demand in energy will rise from $338 million in 2025 to $10.4 billion in 2050. The effects on agriculture and infrastructure are much lower, although still significant.

The unmet demand for biomass is estimated to reach 1.7 billion tonnes over the period 2010-2050, amounting to $123 billion. Thus, there is a very large potential for reforestation, not only for biomass, but also for use in construction, and safeguarding against natural disasters, watershed conservation, and the replenishment of water catchment areas. Restoration of forests, agro-forestry, and efficient biomass energy production are all potential areas to consider. Investing in forestry plantations and facilitating a shift to alternative fuels other than biomass, such as LPG or electricity, offer opportunities for the private sector. But subsidies will be required to facilitate the transition. Expansion in renewable electricity production and distribution offer opportunities in rural and more remote areas of the country. To solve the challenges around deforestation, much more resource needs to be put into raising productivity for subsistence farmers, i.e., the units of output produced per person per hectare.

Figure 4: Distribution of private climate financing in East Africa (avg. 2019 2020)



Source: GGGI (2022)

The demand for water is expected to rise significantly over the next 2½ decades. Demand is expected to rise from 408 million m3/year in 2010 to 3,963 million m3/year in 2050. Assuming that only planned investments are carried out, the unmet demand is estimated to rise from 3.7 million m3/year (0.9%) to 1,651 million m3/year (41.7%) over the same period. Irrigation will require the most investment to meet demand, about three quarters of the cost. However, if systems are not put in place there is a high risk of water shortages for most of the year. For example, in Kasese residents did not see water in NWSC taps for more than four months in 2022 and 2023 (Daily Monitor, 2023). Investment in irrigation, water systems, water harvesting and conservation, and integrated water resource management, will be necessary while protecting catchment areas against degradation. Efficient water usage will also be

critical to safeguard future water resources. These requirements provide an opportunity for the government and the private sector to work together to solve the problems and address the needs.

Global trends in climate and green transition will affect how business is carried out in Uganda.

The global trends in climate and green transition will also affect how business is carried out in Uganda. Some of these trends inherently raise questions on developments in Uganda and considerations for where business as usual will need to adjust quickly. An example is the commitment by several global car manufacturers to go fully electric by 2040 or even earlier. From 2040 (or earlier), all new car sales in the EU countries will be electric, which will most likely lead major car manufacturers to phase out the combustion engine. Some countries and manufacturers have already committed to the Glasgow Declaration (COP26 declaration on accelerating the transition to 100% zero emission cars and vans) that commits signatories to accelerate the transition to implement 100% zero-emitting cars by 2040, with some countries and manufacturers transitioning as early as 2030. In the region, Kenya and Rwanda have signed up to work intensely towards accelerated proliferation and adoption of zero-emission vehicles. As more countries and car manufacturers are likely to sign up to the Glasgow Declaration, the transition to electric cars will require the government to have a clear plan of action and the right regulation in place to attract private investors into the market to start testing. Uganda is already building electric buses and motorcycles (Kira Motors, Zembo, Bodawerk), so this is an opportunity for Uganda to support emerging green industries of the future.

3.3.2 Barriers to private sector investment

To attract domestic and international investors, it is necessary to have a competitive business environment where the fundamentals are better than what is available in neighbouring countries. The Global Competitiveness Report (2018) provides an indication of the most problematic business factors based on a survey. The report specifies (high) tax rates, corruption, access to finance, infrastructure, and inflation as the top five factors that hamper competitiveness that can lead to lower investment.

High cost of capital

A key factor in investment is access to finance. In the Global Competitiveness Report (2018) access to finance was rated the third most problematic business factor in Uganda. The cost of finance is high in Uganda. This is partly a factor of the high credit risk and under-developed financial sector, especially for the missing middle, the early-growth firms that are too big for microfinance while too small for the commercial banking sector (SEED, 2022a). Another key factor is the information asymmetry that acts as a wedge between lenders and borrowers. Over the past decade, the average lending rate has been 21.3% with inflation averaging 5.9%. The real cost of finance is thus sufficiently high to render many investments unfeasible. In addition to the high cost, the limited appetite for the financial sector to provide longer tenor makes capital investment and equipment finance more challenging. A blended green growth and climate fund, established at the national level, could be an avenue to lower the cost of finance and increase access.

Insufficient competitive infrastructure

The main impediment to Uganda's investment and private sector development is its inability to plug into regional and global value chains. To attract more (climate) finance from foreign investors that could crowd in domestic private investors, Uganda needs to be seen as an attractive location for investments. As a landlocked country, Uganda is dependent on efficient transport corridors and systems to move goods between producers and markets. The cost of road transport is estimated at 18-20 US cents per ton-kilometer. This cost can be cut by more than half with the rehabilitation of the meter gauge railway that will reopen the link

between Kampala and Mombasa via Malaba. Despite being landlocked, Uganda serves as a gateway to the hinterlands in Congo DR, South Sudan, and beyond.

Uganda currently has excess generation capacity, although it does not have enough transmission and distribution capacity, which is something investors would consider when setting up production units. The industrial power is somewhat more costly within the region at 10.3-12.3 US cents per kWh. Tanzania and Rwanda have lower prices at 6.7-8.5 US cents per kWh and 10.7-10.9 US cents per kWh, respectively, while Kenya is 13.1-14.0 US cents per kWh. Providing competitive infrastructure can open up Uganda for more international green investments.

Tax rates and the fiscal regime

The Global Competitiveness report ranks tax rates and an unpredictable tax regime as the most problematic factor to investment in Uganda. The Private Sector Foundation Uganda has also raised this issue on many occasions and has stressed the need for a stable environment (Ssekitto, 2023). Taxes are also considered to be very high, accounting for 45-55% of the price on a final product. The fiscal regime with new taxes or adjustments to taxes are presented to parliament every year during the annual budget process. For example, excise taxes are changed on an annual basis, but planning horizons for investments are typically 3-5 years. The annual changes increase investment environment uncertainty and scare investors away.

Cost of doing business

The effectiveness of the business environment and the smooth operation of the public administration are important for attracting investments. The World Bank's Doing Business reports have documented the importance for investments that the business environment operates effectively. Although no longer updated, the World Bank (2020c) ease of doing business indicator for Uganda scored 60.0 points in 2020, worse than its neighbouring countries of Kenya, 73.2, and Rwanda 76.5, while Tanzania scored 54.5. This could explain at least partly, why Kenya and Rwanda, attract relatively higher private climate finance than Tanzania and Uganda. Uganda's relatively low score reflects challenges in accessing electricity, resolving insolvency issues, protecting minority investors, and registering property. Several years ago, the government created a one-stop shop for businesses, the Uganda Investment Authority, to simplify registration and help firms overcome hurdles associated with access to land, but the process has been slow and politically conflicted.

Nonetheless, Uganda does relatively well in several areas that have attracted foreign direct investment. The laws and regulations that guide business operations in Uganda are broadly in line with international norms and the establishment of one-stop shops has eased interfaces with investors, though procedures and regulations still hamper the efficiency of setting up businesses. The government offers incentives for industrial investors, including import duty reductions of 75% on factory equipment. Foreign investors acquire investment licenses that stipulate the size of the investment, impose employment quotas, and require on-the-job training of Ugandans and purchasing of local goods and services.

3.3.3 Pathways to mobilising private sector finance for green growth and climate action in Uganda

Deepening financial markets to mobilise domestic finance

Deepening the financial markets can open a pathway for increasing private climate funding. Although the majority in Uganda have access to the financial system, only 34% have access to formal financial institutions, while 50% have access to informal savings groups. Shifting more into the formal banking system will offer scales and increase competition. Expanding

the consumer base should also lead to higher savings (deposits) that allow the banking sector to rely less on core regulatory financing which is often more costly. The benefit will be more savings, and strengthened competition on the lending market, leading to better pricing.

Crowding in the National Social Security Fund will be critical given their size in the national economy and their need to find projects that give a return to their members (NSSF, 2021). The fund currently has about 2.1 million registered members and invested assets of UGX 13.1 trillion ($3.5 billion), with annual contributions reaching UGX 1.3 trillion ($341 million) in 2021. The fund could expand its investment base into more (green) domestic businesses and utilise the undeveloped land for green industrial use.

Blended finance

The current financing mechanisms are insufficient to cater for climate financing to the broad selection of firms. Often climate financing has been on a select project by project basis. There is a need to offer financial services that can support the broader mass of firms to expand their business, while also adapting to a climate-friendly and sustainable business model. One model is to establish a green industrial facility or funding mechanisms that will specifically focus on greening the different industries in manufacturing. To be competitive, the model requires that the funds, concessional, equity, and (climate) grants, can be blended according to the degree of climate investment that is applied in the project. The goal is to entice more manufacturing and processing in Uganda to create higher value-added jobs, but at the same time move towards green processing. A similar model is described by SEED (2022), that proposes a blended green finance for MSMEs, combined with technical assistance or business development services.

Clearly articulating policies around green growth to attract international investors.

The 2020 Industrial Policy offers an opportunity to revitalize Uganda's industrialization ambitions and strengthen implementation efforts. It states that strategic choices will be required to achieve economic development—that is, structural transformation and the creation of sufficient higher-value jobs. Uganda's workforce could, if trained, be deployed to industrialize the country. Moreover, Uganda could be the logistics hub for Central Africa, which would require stronger logistics, better transport corridors, and lower transport costs. Moreover, Uganda has sufficient natural resources, renewable and non-renewable, that can be used for industrial development.

Ultimately, successful industrialization requires that a government should devote more attention to the details of regulation, infrastructure provision, taxation, and competition. These tasks cannot be left to the market. Success requires unfettered leadership, prioritization from the government, and the willingness of industrialists to take risks and invest, given a conducive business environment. However, industrialization has many political consequences, and the government often tries to pick winners and investors take shortcuts. The strategic sectors chosen for the economy should be based on focused, prioritized, risk-adjusted assessments of Uganda's comparative advantages. This will require the government to develop internal analytical competencies in key ministries and carefully consider the recommendations of experts.

Stable fiscal regime to spur investment

To spur long term investment, the fiscal regime must be more predictable, and changes must be implemented on a gradual basis. Increasing certainty for investors is the prerogative of a strong investment environment and requires that authorities take a longer-term view. The Private Sector Foundation Uganda argues for changes to take effect over a longer period, allowing phasing of the measures, or a gradual adjustment of tax rates, or otherwise. A more predictable fiscal regime will reduce the need for tax holidays which allow for a rationalization of the many different incentive schemes. The Ugandan tax system has become increasingly complex with its many different taxes, while a much simpler system will likely increase compliance.

Development finance institutions

International development organisations can play a critical role in crowding in more private climate finance. MDBs and DFIs can play a more significant role in private sector finance mobilisation to Uganda by increasing their risk appetite for investments, providing more affordable capital that has low interest rates and longer repayment periods. These institutions can also support capacity development of national and local public and private sector institutions to enable mobilisation of private sector finance. The MDBs and DFIs can furthermore help to improve the country's credit rating that was downgraded to moderate risk in 2021, which will enable it to acquire more affordable capital from other lenders. DFIs need to focus and deploy instruments that can target investment barriers including access to innovative technology, policy enhancement, firm permitting and registration, deepened financial markets, and supporting bankability of transformational projects.

The increase in climate change funding opportunities makes it important for Uganda to consider how to attract and leverage different types of climate finance instruments, including that from private sources. With private sector financing expected to extend government funding, a key action for Uganda will be to use scarce public funds to attract private investment.

4 NATURAL CAPITAL FOR CLIMATE FINANCE AND GREEN GROWTH IN UGANDA

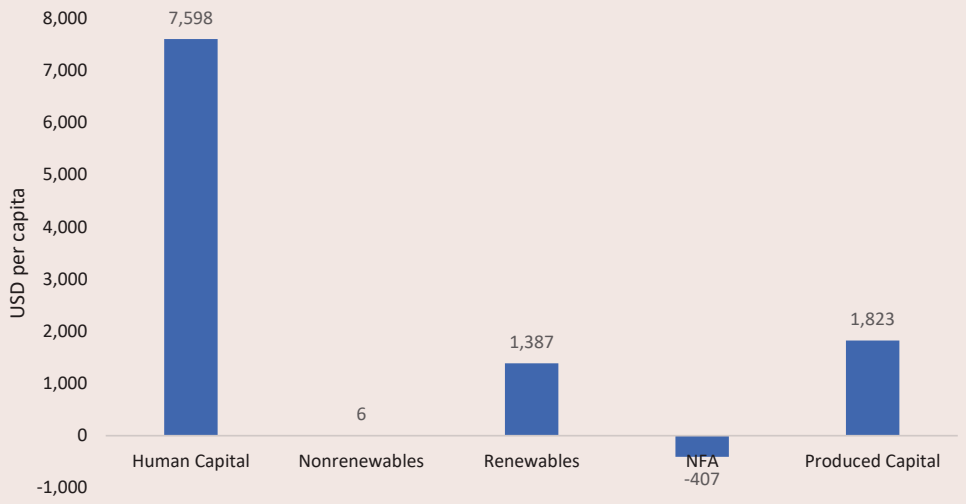
4.1 Introduction

Uganda faces a significant challenge of adapting to climate change and ensuring that such change does not impede its path of meeting the Sustainable Development Goals (SDGs). Uganda is hard hit by the impacts of climate change, which are expected to further worsen over the next decades. The government has only been able to mobilize limited local resources and the allocations have been small. Furthermore, Uganda has, so far, received insufficient financial support from the international community to address these challenges. The government itself is not seen as prioritizing issues of climate change and sufficiently programming to tackle the challenges and attract investments.

For Uganda to ensure success in meeting its own National Development Goals, it is critical that substantial international finance, and in particular private capital, are mobilized. This chapter aims to demonstrate how Uganda, with its enormous natural resources, can leverage its natural capital and finance its path to a green transition. The definition of natural capital used in this chapter was derived from literature as presented in section 3.2 of the AEO (2023), representing the most abundant natural resources in Africa.

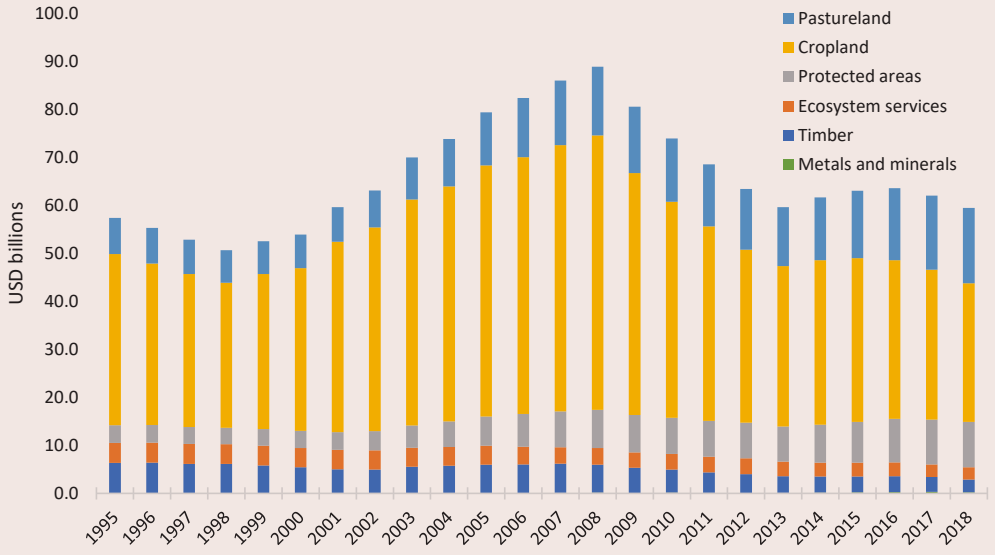
Uganda is blessed with its abundance of natural resources. These resources are both renewable and non-renewable. However, in the context of Uganda's total wealth, natural resources constitute only a small portion of the wealth, with most of it attributed to renewables. Based on data from World Bank (2021), the two main sources of wealth are human resource capital and produced capital, constituting 90.5% of wealth per capita (Figure 5) in 2018. Natural capital constitutes 13.4% of wealth while a small portion of -3.9% is made up of net foreign assets, which reduces wealth. The total wealth per capita is $10,407 in 2018, an increase from $6,232 in 1995.

Figure 5: Wealth per capita (constant 2018 US$)



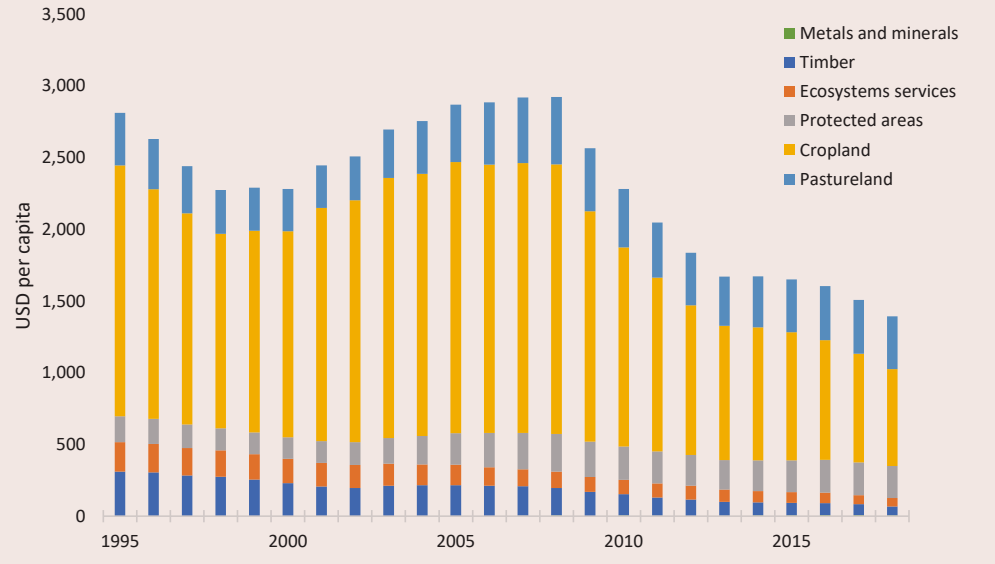
Source: World Bank (2021)

Figure 6a : Natural Capital (billion constant 2018 US$)



Source: World Bank (2021)

Figure 6b : Natural Capital per capita (constant 2018 US$)



Source: World Bank (2021)

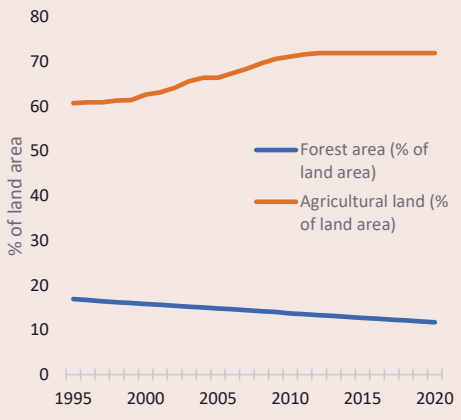
The natural capital data available includes a small portion of Uganda's renewables and non-renewables. For example, the World Bank (2021) data do not include the value of renewables, such as sunshine and water, which have significant potential in Uganda for supplying solar energy and hydropower, and non-renewables such as oil and metals for transport and industrial use. While presenting available data on renewables and non-renewables in the next section, the study will also use data from Uganda's own sources and estimates on its reserves in oil and iron ore given their significance and commercial value in the next few years and beyond.

4.2 The Evolution of Natural Capital

Uganda is fortunate to have an abundance of natural resources. Renewables are mostly agriculture-related assets subdivided into cropland and pastureland; forestland

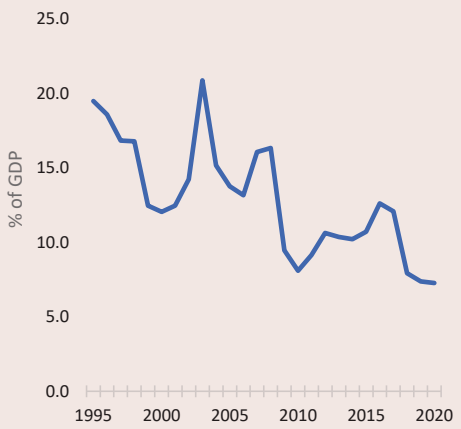
subdivided in timber and ecosystem services; and protected areas. Forest ecosystem services include minor forest products, hunting, recreation, and watershed protection. Protected areas include conservation and preservation areas, which can be used for tourism or protecting drinking water. The non-renewables for which there is data available are metals and minerals.

Figure 7a: : Distribution of forest area and agriculture land



Source: World Bank (2021)

Figure 7b: : Forest rents (% of GDP)



Source: World Bank data

Total natural capital wealth increased by just 3.7% from 1995 to 2018. In constant price terms this was $57.4 billion to $59.5 billion[4] (Figure 6a). The marginal wealth creation has been supported by higher value of protected areas and pastureland, while declining values of cropland, forestland, and ecosystems services have offset much of the increase. Considering the rapidly growing population, average natural capital wealth per capita declined by 50.5% from $2,811 to $1,392 (Figure 6b) with declines on most capital assets.

The agricultural assets include cropland and pastureland. Since 1995, cropland declined from $1,748 per capita to $676 per capita, while pastureland maintained its level at $367 throughout the period to 2018 (Figure 6b). The value of these lands is estimated as the net present value of the estimated annual rents generated for 100 years. The combined value of these lands increased up to 2008 after which agriculture land expansion stabilized at 71.9% of land area (Figure 7a). In 1995, agricultural land area was estimated to 60.7% of land area. The decline in the value of croplands is associated with the stagnant agriculture productivity that has kept rents subdued. The value of pastureland has been maintained by the expansion of the livestock (cattle, sheep, goats, and chickens) population. Agricultural labour productivity declined by 16% from $892 value added per agro-worker in 1995 to $753 value added per agro-worker in 2019.

Protected lands are rising in value and have become increasingly important since 1995. The value increased from $181 per capita in 1995 to $222 per capita in 2018. This is not surprising, given the growing importance of global and Ugandan tourism. Travelers (residents, business, and tourism) arriving in Uganda have increased significantly from 195,000 passengers in 1998 to 1.8 million passengers in 2018.

Forest land values, timber, and ecosystems services have been declining over the past

[4] 2018 constant prices.

25 years. The decline has been from $311 per capita to $62 per capita for timber and from $204 per capita to $60 per capita for ecosystems services. The lands in forestry are both natural and planted areas and can be productive or not. The decline is caused by deforestation (Figure 7a) for the purpose of sustaining livelihoods, mostly in charcoal and firewood production, and population growth. During 1990 to 2015, forest areas declined from 4.93 million hectares[5] to 1.95 million hectares (or about 9.0% of land area) and continue to decline (UBOS, 2020). Forest rents declined by close to two-thirds over the period (Figure 7b). The degradation of the asset value of forests is confirmed by the rapid decline in forest rents from 19.5% of GDP in 1995 to 7.3% of GDP in 2020. The unsustainable exploitation puts at risk critical watersheds' ability to produce clean water and may decimate productive activities such as wood fuel and honey making.

Other renewable natural capital assets not available in the World Bank data are fisheries and solar. They deserve a mention given their importance for the economy and the livelihoods of people. The asset value of solar is significant in Uganda, with solar irradiance of 5.1 kWh/m2, which is considered very high. Furthermore, there is little variability between the best and the worst irradiance periods, making solar a cost-efficient alternative to other energy sources in Uganda. Fisheries exports averaged 21,071 tons annually (2010-2022) and have remained largely stable, but with the potential to provide long term rents if sustainably harvested and expanded with fish farming facilities.

Non-renewable natural capital for which there is data includes only metals and minerals. Since data became available, this asset class has reached an estimated $6 per capita in 2018. This estimate is underestimated as it does not consider estimated iron ore and gold reserves. According to Muwanguzi, et al. (2020a) Uganda has an estimated 583 million tons of reserves of high-quality iron ore (55%-68% iron). These estimates would provide more than 100 years of production. The EITI (2022) states that the country has an estimated 12 million ounces (ca. 340,192 kg) of gold, which is valued at $24.2 billion[6] in current prices.

Uganda has 6.5 billion barrels of proven oil reserves. An estimated 1.4 billion are commercially recoverable and are planned for production from 2025. At current prices, the commercially recoverable oil is valued at $99.4 billion[7]. At peak production, the plan is to produce up to 230,000 barrels a day. The current commercially viable reserves can provide oil extraction and production for up to 33 years based on various estimates.

4.3 Opportunities for enhancing the contribution of natural capital in Uganda

The natural capital of the country could be exploited to boost its current economic development for the common good of Ugandans. Exploiting these resources sustainably will be critical to ensure that these resources can give a good return for Uganda's development, especially when it comes to renewable resources. The following sections will dig into the opportunities the natural resources provide to Uganda.

4.3.1 Boosting non-renewable assets

Although the extractive sector (mining) in Uganda is still relatively small, contributing 1.4% of GDP in 2022, it is a rapidly growing sector. Over the past decade, annual growth has averaged 11.1%. The mining sector has the potential to boost Uganda's industrialisation along the value chains. The mineral industry opens for opportunities in phosphate rock mining, cement production and iron ore mining, and the opening of downstream processing plants for phosphate fertilizers and steel (Yager, 2022). Since 2006, when commercial

[5] Around 1900s forest land was estimated to 40% of total land area.
[6] Reference price for April 2023, $2,018.1 per ounce (p.m.). (https://www.gold.org/goldhub/data/gold-prices)
[7] Reference price Bonny Light Crude oil of $71 per barrel (April 30, 2023).

oil was discovered, the oil industry has been undergoing many developments, and after several false starts now looks to be leading to production and exports in 2025.

Opportunities in the oil industry

Uganda has 6.5 billion barrels in proven oil reserves. An estimated 1.4 billion barrels are commercially recoverable. Two large international oil companies together with the Uganda National Oil Company are currently drilling production wells. The first set of wells were sunk in early 2023 at the Kingfisher development area in Kikuube district in western Uganda. Another several hundred wells will be sunk before production commences. At peak production, the plan is to produce up to 230,000 barrels a day. The total investments to support the oil infrastructure amounts to $11-$14 billion. Investments include the production facility ($3.5-5 billion), the East African Crude Pipeline ($4 billion), an oil refinery (costing $3-4 billion), Hoima international airport ($318 million), and roads to support the oil-related infrastructure ($600+ million).

The design of the fiscal regime that will be applied for sharing of oil rents is outlined in the production-sharing agreements. The main fiscal instruments[8] to be applied include royalties, profit oil, corporate income tax on the contractor's share (after adjusting for costs) and dividends on the government share, which is marketed by the Uganda National Oil Company. According to the authors' estimates the total average annual tax revenue for the first ten years of production is $1.6 billion (2.5% of GDP) assuming an average oil price of $75 per barrel and 5% non-oil real economic growth.

Other studies have been prepared to estimate government oil revenues and benefits. One such study from the World Bank estimates from World Bank (2020b) indicate revenues in the range of 3-4% of non-oil GDP during peak production (or the equivalent of about $1.3 billion in 2018 constant prices), assuming a price of $60 per barrel. At a price of $100 per barrel, revenues would reach $2.5 billion at peak production. The estimated levels are in line with the development aid received in 2020/21 in Uganda. According to Wolf & Potluri (2018), baseline estimates indicate that the project will generate an average of $2.1 billion a year over 33 years, corresponding to $38 per capita per year assuming population growth of 3.2 percent. The estimates are highly sensitive to oil prices, and in any case the source is finite and will not allow Uganda to live off the oil wealth. However, the income, if used appropriately, will allow Uganda to boost critical investment in other parts of the economy that can spur longer term growth.

Although, these are significant amounts of revenue for the government it is for a limited period of 20-30 years, after which it is very uncertain what the oil markets will look like. According to (Schay & Bugala, 2022) oil demand could look very different in 2050. Using estimates from 6 sources, they estimate three scenarios of high, moderate, and low demand. The results for the three scenarios are 95 mb/d, 64 mb/d, or 40 mb/d respectively, from the current level of demand of 96.4 mb/d in 2021. The BP Energy Outlook (BP, 2022) estimates a decline in oil demand by 50% in 2050 in their net-zero emissions scenario. The rapid transition to electrification and electric vehicles, and technology developments in (low-carbon, green and blue) hydrogen could replace much of the oil markets in the future. Nonetheless, the large revenues can, if used effectively, help Uganda make needed investments in its economy to secure strong growth and development going forward, including in industries such as mineral and metal beneficiation.

BP Energy Outlook estimates a decline in oil demand by 50% in 2050 in net-zero emissions scenario

Opportunities in the iron industry

Of much greater importance is the potential to develop the iron and steel industry in the country. Iron ore and steel making are

[8]In addition to these main instruments, other taxes include production bonus, license fees, land rental.

another opportunity for Uganda's industrial development. Uganda has 583 million tons of reserves of high-quality iron ore (55-68 percent iron). By 2024 domestic production can be increased from 210,000 metric tons a year to 1.4 million metric tons. But this will require industry support and infrastructure investments (Muwanguzi, et al., 2020a).

In recent years, gold has become the country's most important export, surpassing $1.8 billion in 2020. Local gold processing has increased rapidly since 2014 in the wake of local refining capacity. Most gold ore is sourced from within the region. Local refining capacity offers opportunities for the local gold mining industry to expand. The high value of gold and risks associated with conflict gold suggest that Uganda should make the purchasing, production, and sale of gold more transparent to avoid contributing to poor governance and regional strife.

4.3.2 Boosting renewable assets

The opportunities to develop renewables are much more significant than non-renewable. This is because if these renewable resources are exploited sustainably, they can give annual rents in perpetuity. Previously, the significant value of crop and pastureland (Section 4.2) compared to the other sources of natural capital wealth was discussed. It is also worth noting that the value had been declining during the past decade. The following will discuss how these assets can be harnessed, and their asset values enhanced.

Agriculture

The agriculture sector assets have declined by almost two thirds due to the rapidly rising population, fragmentation[9] of farmland, and limited land available to expand agricultural lands, and most importantly, the stagnation in agriculture labour productivity, as earlier noted. In the decades to come, the first two factors will be difficult to change given the long adjustment period. There is, though, considerable opportunity in increasing agriculture land value by investing in productivity-enhancing innovation, technologies and infrastructure. Enhancing the competition and the level of services that support agriculture and livestock (seeds, fertilizer, production, sales, storage, marketing, phytosanitary requirements, and exports) and increasing the production knowledge for farmers will also help to increase labour productivity.

Uganda can exploit its lakes and rivers, and bimodal rainfall to increase the use of irrigation for all-year production. Combined with steps to improve seed varieties and fertilizer application, the productivity, i.e., output per hectare per worker, can be increased, and thus farmer income. To increase output, mechanisation and new farming technologies would have to be implemented, thereby increasing production output on the same land. Several technologies are available such as gravity flow irrigation, greenhouse farming, drip irrigation, and hydroponics. Furthermore, there will be a need to strengthen the regulatory functions and quality control mechanisms to make the higher output competitive in the regional and global markets. Additional effort must also be done in industrialising agriculture, increasing value addition and creating more jobs along the value chain.

Forest

The forestry sector offers good opportunities for future timber production if more investment is put into the sector and forests are harvested sustainably. Uganda offers both natural forest and plantation forest for timber, although these have been declining over the past three decades. Despite a favourable climate and soils, Uganda has only a limited area of timber plantations, mainly pine and cypress. These are mostly mature or semi-mature, but years of neglect have led to fire damage (MWE, NA). Lack of pruning and thinning has reduced the potential value of high-quality timber. Industrial

[9]Splitting up of farm plots to smaller units.

forest plantations in Uganda consist of softwood or conifer and hardwood plantations. Forests are also faced with severe pressures mainly from agricultural conversion because of population increase, urban demand for charcoal, overgrazing, uncontrolled timber harvesting and policy failures. Available data indicate that natural resource rents from forestry accounted for 7.3% of GDP in 2020, largely unchanged from 8.1% of GDP in 2010. The opportunities are great, but the government will need to take clear action to reduce deforestation and replenish forest areas.

Based on World Bank estimates (World Bank, 2020a), wood demand is forecast to rise from 48 million tons to 105 million tons by 2040 led by the demand for charcoal. With the current levels of production and pressures from agriculture, this will deplete sustainable wood supply by 2025, and by 2030 all sustainable wood supply outside and inside forests will cause an annual wood supply deficit of 74,000 tons. To safeguard against full depletion, action needs to be taken immediately. Apart from the actions to safeguard against deforestation, demand side actions could include efficient energy use through the adoption of improved cooking stoves, kiln technologies and enhanced incentives for the adoption of alternative sources of energy for cooking, especially liquified petroleum gas and electricity.

Protected lands

Tourism is expected to continue to grow in the coming decades as low-cost travel becomes available to more people. Uganda is expected to benefit from more tourists as the country has significant and available natural parks, habitats and wildlife. However, to fully benefit from its natural protected capital, Uganda will need to expand investment in accessibility to these habitats.

Solar and production of green hydrogen

Solar irradiation is considered very high in Uganda and offers an unlimited amount of energy that can be used for many different purposes. The conversion of solar to energy offers many different opportunities, from electricity production for use in light vehicles and households to green hydrogen production for use in heavy industries, cargo transport and other industrial uses.

Solar energy offers a cost-competitive alternative to hydro-based electricity that can be deployed in remote areas where the grid will not reach within the next decade. Given the technological advancements, there will be areas in Uganda that will not require connectivity to the grid but will be fully supplied by decentralized mini grids.

With Uganda embarking on its industrialisation process, and the exploitation of iron ore, there will be opportunities to support the development and investment in climate-friendly processes. Green hydrogen offers this opportunity. With Uganda's solar potential, this energy form could support a competitive production of green hydrogen to be used in heavy industrial production. Furthermore, Uganda's recent embarking on the revamping of the meter gauge railway and future railway plans, there are opportunities in lower-cost transport that increase Uganda's industrial competitiveness. Green hydrogen can be used in iron and steel and cement production. Green heavy industry will be a prerequisite to growing the country to upper middle income by 2040, given the huge needs for housing, roads, rails, factories, among others.

5 CONCLUSION AND POLICY RECOMMENDATIONS

5.1 Conclusion

Meeting the financing needs of transitioning to green growth, adapting to the consequences of climate change, and investing to counter the consequences of unmet future demand requires much more than what Ugandan authorities can generate from the country's own revenues. The government is already supplementing its green finance funding from development partners, but this still leads to a shortfall in the funding required to invest in the transition. The private sector needs to be brought on board to finance projects.

Up until now, the private sector has been hugely absent, and there are many factors that explain their absence. The country's overall competitiveness is critical to unlocking private investment. In a broad sense this means that the investment environment must be facilitating, business regulation must be unbureaucratic and easily handled where required, and access to factors, i.e., land, labour, capital (machinery and industrial facilities), transport, and utilities must be competitively priced. Additionally, access to finance at affordable levels must be available, especially to domestic investors. Many of these factors are not conducive and not competitive to attract more private investment. This is not to say that Uganda does not have many advantages, but they must be compared to what others offer. Uganda performs in the middle of the range, when compared with other EAC neighbours, in the Global Competitiveness Index, but can do more to address some of the above factors.

Uganda's most important capital asset is its human resources, but Uganda also has abundant natural capital that could be utilised to finance its green growth transition. Agricultural land and forest land are by far the most important. However, in recent decades, Uganda has been unsustainably harvesting its forest estate, which is now less than 9% of the total land area. Agricultural land has continued to grow but has not provided the productivity gains that should be forthcoming. Nevertheless, these two asset classes offer great opportunities if they become more productive and attract much more investment.

Uganda has recoverable oil reserves of 1.4 billion barrels that are expected to go into production over the next 2-3 years. These reserves are finite and will produce for about 25 years, after which they will be depleted. Any new investment decisions to expand production beyond 1.4 billion barrels will have to be seen in the light that global demand for oil will decline dramatically between 2030 and 2050, shifting the share of oil as a primary energy source from 80% in 2019 to as low as 20% by 2050 (BP, 2023). Uganda will have to consider how this finite reserve and the revenues it generates best serves the country and furthermore, carefully consider the future expansion of public oil investments to avoid stranded assets.

Carefully consider the future expansion of public oil investments to avoid stranded assets.

Below is a set of policy recommendations for different sets of stakeholders that can be considered over the time horizon of short (S), medium (M) and long (L) term.

5.2 Recommendations for economic performance and outlook

- **[S]** Continue to strengthen domestic revenue mobilisation, while maintaining fiscal consolidation during a period of tighter monetary policy.
- **[S,M]** Limit non-concessional financing only to high-return projects.
- **[S,M]** For industry and larger-scale manufacturing to grow faster, access to competitive and fully serviced land is critical. Accelerate the legal frameworks and regulations to facilitate business growth while tightening regulations that allow speculation in productive and industrial lands.

5.3 Recommendations to enhance climate financing

5.3.1 National Government

- **[S]** Strengthen the institutional capacity and coordination of national-level institutions responsible for facilitating the implementation of green growth and climate action frameworks.
- **[S]** A blended green growth and climate-industrial fund or facility, established at the national level, could be an avenue to lower the cost of finance and transition to a green growth pathway.
- **[S]** Clearly articulating policies around industrial green growth to attract international investors. In preparing policies, articulate the pathways and actions to be taken to move to a green growth trajectory.
- **[S, M]** Accelerate the pace of implementation of the sustainable financing frameworks that were developed as part of the Green Growth Development Strategy.
- **[M]** Develop financing platforms that link domestic private sector with international actors such as MDBs, DFIs and international private sector actors, to be sources of green finance.

5.3.2 MDBs and DFIs

- **[S]** Increase the risk appetite by further engaging with the government to identify ways to provide affordable capital for green growth and climate change investments.
- **[S, M, L]** Use innovative financing instruments (i.e., blended funds, private equity) at a much larger scale to de-risk private sector investments, particularly in agriculture, forestry, and industrial development.

5.3.3 Domestic and international private sector

- **[S]** Collaborate with MDBs, DFIs and other private sector actors to systematically support the government to identify and unlock key risks to investments and propose ways of addressing these investment risks.

5.3.4 Developed country governments

- **[S]** As shareholders of MDBs and DFIs, developed country governments should instruct these institutions to be less risk averse when financing green growth in Uganda and provide additional capital to these institutions.

5.4 Recommendations for increasing the contribution of natural capital to climate finance and green growth

- **[S, M, L]** To safeguard future rents from natural resources, the government should increase its investment and sustainable use of agricultural and forest land, taking account of climate change impacts.

- **[S, M, L]** To raise the value of agricultural land, agricultural productivity for smallholders must be increased to raise smallholder income levels. This means expanding agriculture extension services and facilitating more private sector involvement in agricultural input services and mechanisation. The use of smart agriculture practices to preserve and maintain productivity should also be institutionalised. Expanding production cannot continue on its own without also developing markets for the produce.

- **[S]** Harnessing the opportunities in forestry will require that the government takes clear action to reduce deforestation and replenish forest areas. The government should promote and enforce stricter policies and regulations protecting forests and preventing illegal logging. Sustainable forestry practices such as selective logging practices and reforestation should also be promoted through instruments such as performance bonds for forest lessees.

- **[S, M, L]** Uganda should continue to develop and expand the use of solar energy as part of its renewable energy program to diversify its dependence on large hydro. Solar energy has become a competitive alternative to fossil fuel energy and can work well in combination with hydropower. To make solar projects more attractive to investors and consumers, a blend of concessionary and commercial financing can help in transitioning to this cleaner energy. Additionally, appropriate policies and targeted subsidies can also help to encourage more investments in this area.

- **[S, M]** Uganda also has large iron ore reserves that could become the foundation for the country's industrialisation and economic development. To harness this opportunity, Uganda will need to integrate iron ore production into its emerging iron and steel industry. Attracting international investors would require that there is a clear plan for greening the iron and steel industry, using new technologies like hydrogen, that can replace coal and gas. Given the long timeframes for large mineral investments, discussions with potential investors should start sooner rather than later.

- **[S]** The government will have to carefully assess public investments in oil-related assets, such as the refinery, given the risk of ending up with stranded assets, should the oil "bonanza" become a one-time opportunity. Estimates point to rapidly declining demand for oil after 2030, which may make future oil investment less attractive in Uganda.

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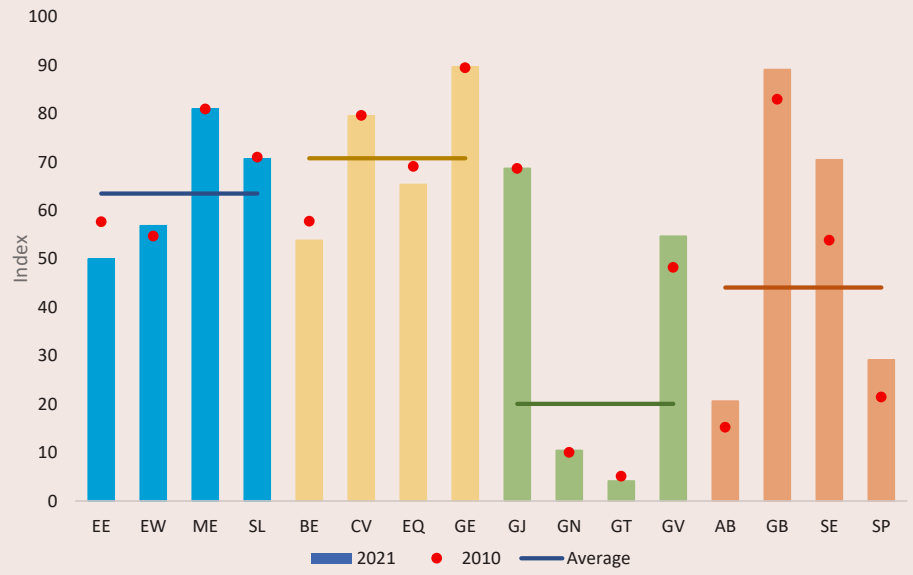
ANNEX 1: GREEN GROWTH INDEX

Figure 8: Green growth index sub indicators, selected years 2010 and 2021.



Source: GGGI(2022)

Green Growth Pillars: EE, efficient and sustainable resource use; EW, efficient and sustainable water use; ME, waste and material use efficiency; SL, sustainable land use; BE, biodiversity and ecosystem protection; CV, cultural and social value; EQ, environmental quality; GE, GHG emission reductions; GJ, green employment; GN, green innovation; GT, green trade; GV, green investment; AB, access to basic services and resources; GB, gender balance; SE, social equity; SP, social protection.

ANNEX 2: UGANDA – SELECTED INDICATORS

Indicators	Unit	2010	2015	2018	2019	2020	2021	2022 (e)	2023 (p)	2024 (p)
National Accounts										
GNI at Current Prices	Million US $	21,992	31,856	30,721	32,212	32,859	34,849	...	...	...
GNI per Capita	US$	680	850	740	750	740	760	...	...	...
GDP at Current Prices	Million US $	19,683	27,649	34,180	38,090	37,460	42,903	56,728	62,883	69,124
GDP at 2010 Constant prices	Million US $	19,683	24,732	27,930	30,063	29,713	31,373	33,342	35,498	37,883
Real GDP Growth Rate	%	8.2	6.1	5.6	7.6	-1.2	5.6	6.3	6.5	6.7
Real per Capita GDP Growth Rate	%	5.1	2.9	2.0	4.0	-4.4	2.3	3.1	3.5	3.9
Value Added: Mining and quarrying	Million US $	200	307	559	562	775	570	840	...	...
Value Added: Mining and quarrying	% GDP	0.8	1.1	1.6	1.5	2.1	1.3	1.5	...	...
Value Added: Fishing	Million US $	905	610	605	928	913	908	1,210	...	...
Value Added: Fishing	% GDP	3.7	2.2	1.8	2.4	2.4	2.1	2.1	...	...
Prices and Money										
Inflation (CPI)	%	4.0	5.4	2.6	2.1	2.8	2.2	7.2	6.5	6.0
Exchange Rate (Annual Average)	local currency/US$	2,177.6	3,475.8	3,714.1	3,676.5	3,772.9	3,562.2	3,664.2	3,685.9	3,743.1
Government Finance										
Total Revenue and Grants	% GDP	11.9	12.6	13.5	13.0	14.7	14.1	14.2	13.8	13.5
Total Expenditure and Net Lending	% GDP	10.3	16.7	18.4	20.1	23.7	21.5	19.4	18.4	17.4
Overall Deficit (-) / Surplus (+)	% GDP	1.6	-4.1	-4.9	-7.1	-9.0	-7.4	-5.3	-4.6	-3.9
External Sector										
Terms of Trade Growth	%	-12.2	11.9	-2.0	-2.4	-3.5	-1.8	1.3	1.1	2.2
Current Account Balance	Million US $	-1,610	-1,671	-2,084	-2,508	-3,552	-3,553	-4,864	-5,490	-6,228
Current Account Balance	% GDP	-8.2	-6.0	-6.1	-6.6	-9.5	-8.3	-8.6	-8.7	-9.0
Debt and Financial Flows										
Debt Service	% exports	3.8	4.5	7.9	7.0	9.6	13.1	14.9	18.2	18.2
External Debt	% GDP	20.7	30.7	35.4	35.2	44.0	42.6	40.6	43.3	43.5
Net Total Financial Flows	Million US $	1,858	2,961	2,704	2,372	3,729	2,047	...	...	...
Net Official Development Assistance	Million US $	1,690	1,638	1,946	2,030	3,086	2,515	...	...	...
Net Foreign Direct Investment	Million US $	544	738	1,055	1,274	874	1,142	...	...	...
Demography										
Total Population	Millions	32.3	37.5	41.5	42.9	44.4	45.9	47.2	48.6	49.9
Population Growth Rate	%	3.0	3.1	3.5	3.5	3.4	3.3	3.0	2.8	2.8
Urban population	% of total	20.3	23.6	25.4	25.9	26.5	27.1	27.8	28.6	29.3
Life Expectancy at Birth	Years	57.1	61.1	62.7	63.0	62.9	62.7	63.6	63.8	64.0
Fertility Rate	births per woman	6.1	5.3	4.9	4.8	4.7	4.6	4.5	4.4	4.2
Poverty and Income Distribution										
Pop. living below national poverty line	% of total population	...	...	...	20.3	...	...	...	...	...
Population living below $2.15 a day	% of total population	...	...	...	42.2	...	...	...	...	...
Gini Index	%	...	...	...	42.7	...	...	...	...	...
Labor Indicators										
Labor Force participation (total)	%	70.1	70.2	70.1	70.0	69.3	69.5	69.7	69.8	...
Labour Force participation (youth)	%	53.8	54.9	54.9	54.2	53.7	53.3	53.4	53.4	...
Unemployment rate (total)	%	3.6	2.7	3.6	3.6	4.5	4.3	4.3	4.3	4.2
Unemployment rate (youth)	%	5.4	4.1	5.5	5.6	7.1	6.5	6.6	6.6	6.6
Natural Resources rents										
Total natural resources rents	% GDP	8.1	10.8	7.9	7.4	7.3	...	...	...	...
Oil rents	% GDP	...	...	...	...	...	...	...	...	...
Natural gas rents	% GDP	...	...	...	...	...	...	...	...	...
Mineral rents	% GDP	0.0	0.1	...	...	0.0	...	...	...	...
Forest rents	% GDP	8.1	10.7	7.9	7.4	7.3	...	...	...	...
Coal rents	% GDP	...	...	...	...	...	...	...	...	...
Natural Capital Renewable Resources										
Arable land	1000 hectare	6,750.0	6,900.0	6,900.0	6,900.0	6,900.0	...	...	...	...
Agricultural land	1000 hectare	14,265.0	14,415.0	14,415.0	14,415.0	14,415.0	...	...	...	...
Other land	1000 hectare	3,036.6	3,092.8	3,216.6	3,257.9	3,299.1	...	...	...	...
Forest land	1000 hectare	2,750.4	2,544.2	2,420.4	2,379.2	2,337.9	...	...	...	...
Planted Forest	1000 hectare	366.8	416.0	445.5	455.3	465.2	...	...	...	...
Annual freshwater withdrawals, total	% of internal resources	1.6	1.6	1.6	1.6	...	...	...	...	...
Total Fisheries Production	metric tons	508,805.0	513,795.0	543,091.0	706,166.7	690,158.2	...	...	...	...
Climate Finance and Green Growth										
Total Climate Finance*	Million US $	...	...	...	...	784.5	...	...	...	...
Green Growth Index**	%	49.7	51.3	51.9	52.2	52.4	52.4	...	...	...

Source : AfDB Statistics Department: African; IMF: World Economic Outlook,April 2023 and International Financial Statistics, April 2023; AfDB Statistics Department: Development Data Portal Database, April 2023. United Nations: OECD, Reporting System Division.Notes: … Data Not Available (e) Estimations (p) ProjectionsLast Update: June 2023 Source: Climate Policy Initiative (www.climatepolicyinitiative.org)**Source: Global Green Growth Institute (GGGI). The scores for the Green Growth Index range from 1 to 100, with 1 having the lowest or very low performance and 100 having the highest or very high performanceSelected*

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