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Approved By
African Department

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ADDRESSING GROWTH BOTTLENECKS IN BOTSWANA[1]

While the first decades after independence were marked by impressive economic progress—anchored in prudent macroeconomic management, strong institutions, and effective use of diamond revenues—this progress has slowed over the last two decades, with a significant decline in growth, persistence of high unemployment, and a gradual erosion of fiscal and external buffers. The recent decline in the demand for diamonds has also heightened the need to diversify sources of growth. Sustaining robust and diversified growth going forward will require overcoming persistent structural bottlenecks. This note examines Botswana's growth constraints using a dual approach. A "bottom-up" analysis based on the 2023 World Bank Enterprise Survey identifies key business obstacles, including limited access to finance, corruption, land tenure challenges, and infrastructure gaps. A complementary macro-structural analysis applies a cross-country empirical model to estimate growth gains from closing reform gaps in institutions, credit markets, and labor regulations. The findings show strong alignment between firm-level concerns and macro-level reform priorities. Targeted interventions in governance, energy, land administration, labor market regulations, and financial access could significantly enhance Botswana's medium-term growth and support its diversification agenda.

A. Introduction

1. For a few decades after its independence, Botswana achieved substantial economic and social progress, underpinned by strong institutions, political stability, and prudent macroeconomic management. Within a single generation, it became one of the richest countries in Sub-Saharan Africa, with a per capita income surpassing South Africa's since the early 2000s. The country consistently ranks among the top performers on the continent in terms of governance indicators, transparency, and public financial management. Notably, investments in health and education have yielded steady improvements in human development outcomes. Botswana's ability to translate its natural resource wealth—particularly from diamonds—into public investment and social gains has made it a regional model for effective resource management.

2. However, development momentum has significantly slowed over the past two decades, and the country is now experiencing a sharp downturn that represents a critical turning point for its economy. Since the mid-2000s, growth has declined significantly, while unemployment has increased to very high levels, most markedly for the youth. More recently, a deeper-than-expected and likely prolonged decline in diamond demand has led to a severe contraction in 2024. With fiscal buffers essentially depleted and a need for substantial fiscal consolidation, there is an urgent need to adopt and implement the long-postponed diversification reforms necessary to promote the development of the private sector and a more resilient and inclusive growth.

[1] Prepared by Alexis Meyer Cirkel, Ann-Alice Ticha (both AFR), Yomna Gaafar, and Marina Mendes Tavares (both RES).

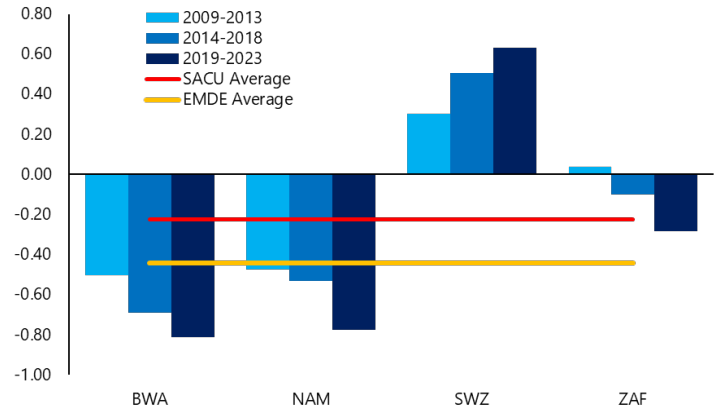
3. Botswana's economic model has remained highly concentrated in the capital-intensive diamond sector, with limited diversification into other productive industries. This reliance on a single commodity has increased the economy's vulnerability to external shocks and contributed to volatility in growth and employment. In addition, structural challenges such as high inequality, persistent high unemployment—especially among youth—and uneven spatial development continue to constrain inclusive growth. Recent indicators, including a declining Economic Complexity Index, suggest that Botswana's productive capabilities are narrowing, further underscoring the urgency of structural transformation.

4. This Selected Issues Paper (SIP) contributes to the policy dialogue on Botswana's growth trajectory by identifying the key impediments facing domestic firms and the broader private sector. Using a dual approach—combining firm-level evidence with cross-country structural reform benchmarking—the analysis seeks to diagnose where reform efforts could generate the highest payoffs. The objective is to inform a strategy for rethinking the country's growth model in light of its shifting structural foundations, particularly as diamond revenues decline. Strategic reforms to remove constraints on private sector development could not only boost productivity and competitiveness but also support a more diversified, resilient, and inclusive economy.

5. First, the analysis adopts a bottom-up perspective by utilizing data from the 2023 World Bank Enterprise Survey (WBES). This firm-level survey provides critical insights into the daily constraints businesses face across Botswana's private sector. It highlights key obstacles—such as limited access to finance, corruption, land acquisition difficulties, and unreliable electricity supply—that firms identify as their most binding constraints. This micro perspective captures perceptions and experiences directly from economic agents, enabling a nuanced understanding of the private sector's operational environment and investment climate.

6. Second, the paper applies a macro approach, leveraging data from a broad set of countries to estimate potential growth payoffs from structural reforms. The empirical methodology developed by Budina et al. (2023) assesses the impact of structural reforms across emerging markets. Using structural gap analysis relative to reform frontiers in emerging and advanced economies, the framework identifies areas where Botswana lags—particularly in labor market regulation, governance, the external sector, and credit markets—and estimates the potential growth dividends of closing these gaps. This top-down approach quantifies how reforms in

Figure 1. Economic Complexity Index in SACU Countries
(2009 to 2023, from-1 to 1)



Source: Harvard Growth Lab, https://atlas.hks.harvard.edu/, and IMF staff calculations.

institutions and regulations could translate into better GDP growth and employment outcomes over time.

7. Taken together, these complementary approaches provide a more robust analysis of Botswana's growth bottlenecks. The WBES-based diagnostics identify symptoms experienced by businesses, while the macro-structural framework allows to apply broad cross-country estimates of growth impact from closing systemic institutional gaps. Furthermore, it is interesting that there are considerable overlaps of the areas identified by the business surveys as key bottlenecks with the findings looking at cross-country data. Hence, this allows an added layer of confidence that the results really uncover areas of relevance impeding economic growth.

B. Falling Economic Complexity

8. Over the past two decades, the Botswana's Economic Complexity Index (ECI) for Botswana (as assessed by the Harvard Growth Lab) has deteriorated notably. The country has slid from around rank 92 (2000) to rank 102 (2023) on the global ECI rankings, with a current index value near –0.67, weakening its position in terms of product space diversification among economies worldwide. This decline reflects a narrowing export base heavily concentrated in diamonds—accounting for about 80 percent of exports in 2023—while diversification into more complex, high-value products has stalled. Compounding this structural rigidity, Botswana's manufacturing sector accounts for only about 5 percent of GDP (quite low compared to over 30 percent in Lesotho and eSwatini, 10 percent in Namibia, and 15 percent in South Africa), underscoring the limited development of industrial capabilities. Without progress in diversifying into adjacent 'complex' industries, the continued dominance of a single commodity sector risks entrenching economic vulnerability, limiting future growth potential and resilience.

9. A falling ECI, as measured by Harvard University's Growth Lab, indicates that a country is producing and exporting a narrower and less sophisticated set of goods over time. The ECI is based on the diversity and ubiquity of a country's exports — how many different products it makes and how complex those products are in terms of the knowledge and capabilities required to produce them[2]. A decline in the index suggests that the country is becoming more reliant on low-complexity, resource-based exports and is failing to develop new, knowledge-intensive sectors. This trend can limit long-term growth prospects, reduce resilience to external shocks, and signal a stagnation or reversal in structural transformation and industrial upgrading.

10. A decline in economic complexity is usually seen as having significant negative implications for long-term growth outcomes. Countries with higher economic complexity tend to grow faster because they are better able to diversify into more productive and knowledge-intensive industries (Hidalgo & Hausmann, 2009). Economic complexity reflects the accumulation of

[2] It is calculated using network-based algorithms that assess both the number of distinct products a country exports (diversity) and how many other countries export those same products (ubiquity), under the assumption that more complex economies produce a diverse range of less ubiquitous (i.e., more specialized) products. See Hidalgo & Hausmann (2009), The Building Blocks of Economic Complexity.

productive capabilities, which are essential for innovation, structural transformation, and resilience to external shocks (Hausmann, Hidalgo, Bustos, Coscia, & Chung, 2014). Empirical studies show that increases in the Economic Complexity Index (ECI) are strongly associated with future GDP growth, even after controlling for institutional quality and education (Hartmann, Guevara, Jara-Figueroa, Aristarán, & Hidalgo, 2017). Conversely, a declining ECI signals stagnation in capability development and limits a country's ability to upgrade its export basket, which in turn constrains its capacity to move into higher value-added sectors and achieve inclusive growth. For resource-dependent economies like Botswana, falling economic complexity increases vulnerability to commodity price volatility and hampers efforts to achieve long-term diversification.

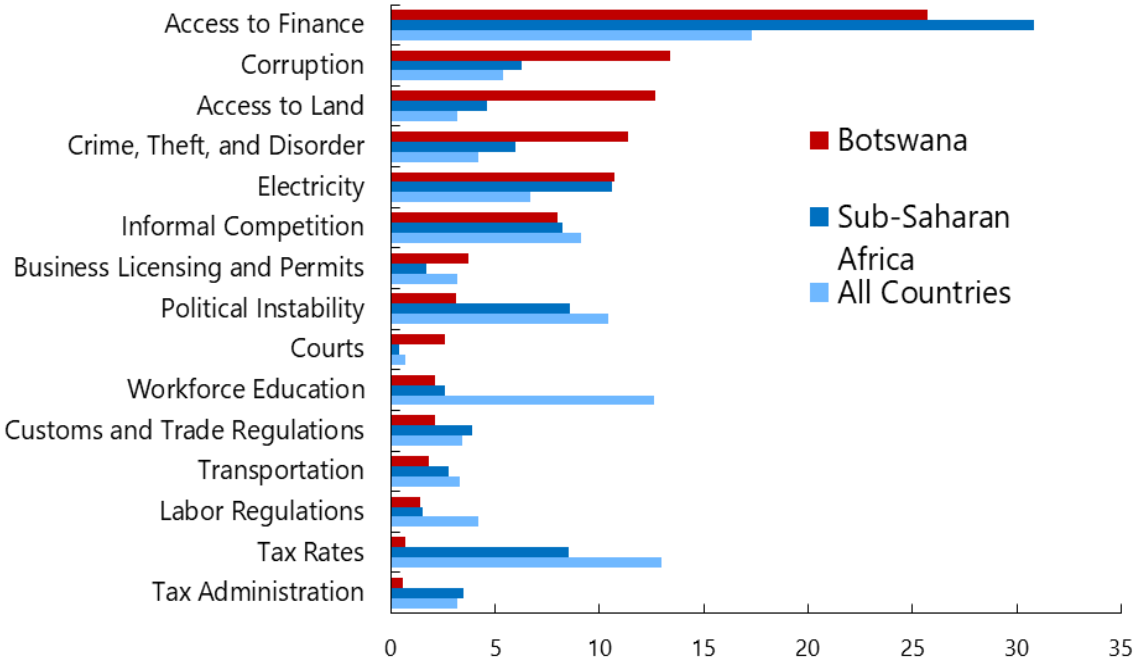
C. Using WBES as a "Bottom Up" Tool

11. Botswana's declining economic complexity reflects a broader structural issue: the limited capacity of non-mineral sectors to develop and diversify. While diamond exports have driven strong aggregate growth and macroeconomic stability, the lack of depth and variety in the country's export basket points to persistent obstacles faced by domestic firms in scaling up and entering more sophisticated, tradable sectors. This underwhelming transformation suggests that firm-level challenges—such as access to finance and land, increasing governance problems, and regulatory inefficiencies taken together—are constraining innovation and investment. Understanding these constraints requires looking beyond aggregate statistics to the experience of firms themselves.

12. The World Bank Enterprise Survey (WBES) provides a valuable bottom-up perspective by collecting firm-level data from a representative sample of the formal private sector. It captures both objective indicators—such as the frequency of electricity outages or time taken to obtain permits—and subjective perceptions of key business environment issues, including finance, corruption, regulation, and infrastructure. As such, the WBES offers an important empirical window into the microeconomic frictions that may explain Botswana's declining economic complexity and weak structural transformation.

13. In Botswana, the most recent WBES was conducted in 2023 and represented a substantial expansion over the previous survey, in 2010. While the 2010 survey covered only 268 firms in Gaborone and Francistown, the 2023 wave sampled 622 establishments across the entire country. It encompassed all privately owned manufacturing industries and selected service sectors, offering a broader and more granular portrait of the national business climate. The results identified key constraints including limited access to finance, governance issues and cumbersome regulatory procedures, challenges in land acquisition, and persistent infrastructure deficits—highlighting persistent barriers to private sector-led diversification and growth.

Figure 2. Firm Perception of the Biggest Obstacle Faced
(Percent of Respondents, 2023)



Source: World Bank Enterprise Surveys and IMF staff calculations.

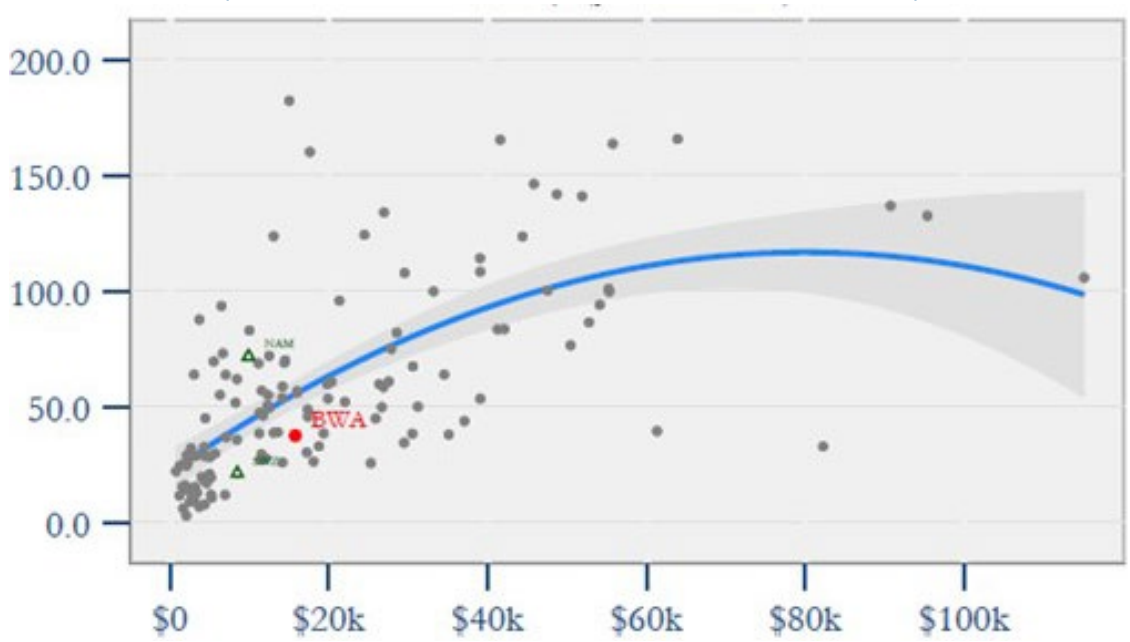
Obstacle 1 – Access to Finance

14. The WBES allows us to rank the obstacles – and access to finance comes up on top. According to the survey, 25 percent of businesses reported that access to finance is their biggest problem. Limited access to credit and financial services hampers the ability of businesses to invest, expand, and innovate, which is essential for economic growth. Addressing this bottleneck involves enhancing financial inclusion, improving the regulatory environment, and promoting alternative financing options such as microfinance and venture capital.

15. Despite a sound banking sector, financial intermediation remains shallow, constraining especially small and medium-sized enterprises (SMEs) in expanding and innovating. Only about 8 percent of Botswana's micro, small and medium enterprises had a bank loan in 2019,[3] indicating that the vast majority are credit constrained. Private sector credit is around 30 percent of GDP in Botswana, which is modest compared to deeper financial systems in emerging markets (for instance, South Africa's private credit is about 90 percent of GDP). This gap suggests that many viable businesses in Botswana cannot obtain the financing needed to invest in new projects, technology, or hiring. When looking at domestic credit to the private sector and comparing across the income spectrum of countries (Figure 3), it also becomes evident that Botswana is not close to where it should be.

[3] IMF 2024 Article IV Staff Report (link).

Figure 3. Financial Market Depth Across Countries
(Domestic Credit to Private Sector, Percent of GDP, 2020)



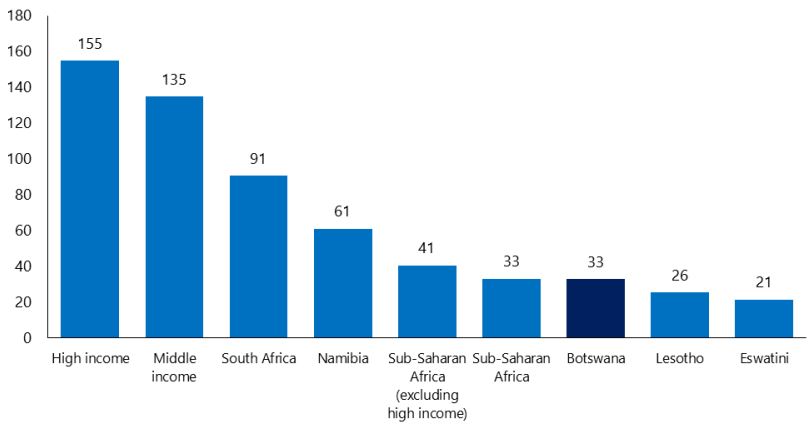
Notes: Variable in x-axis represents GDP per capita, PPP (constant 2017 international $).
Source: World Bank and IMF staff calculations.

16. Research on emerging economies confirms that such financial constraints impede growth. Firms with better access to finance tend to invest more and grow faster, whereas financing obstacles slow down firm expansion. In fact, Beck and others (2005) find that financing obstacles for small firms can have nearly twice the negative impact on annual growth compared to large firms. These findings align with global evidence that financial development spurs economic growth by enabling efficient allocation of resources (Levine, 2005) and that lack of credit is a binding constraint for entrepreneurship in Africa. Consistently, WBES shows that access to finance is the single most cited obstacle by Botswana's businesses in 2023, up from a lesser concern in 2010,[4] reflecting how crucial this bottleneck has become as other issues (such as skills) slightly receded. Regionally, Botswana's experience mirrors that of many African and emerging markets, where up to one-third of firms report limited finance as a major constraint (Brixiova and others 2020). Without addressing this issue, the country's ambitious goals for private sector led diversification and job creation may be difficult to achieve, since entrepreneurs cannot capitalize on opportunities due to funding limitations.

[4] Access report here (link).

17. Compared to its peers, Botswana lags in some aspects of financial inclusion. Other upper-middle-income economies often have more developed capital markets and alternative financing channels for firms (equity, venture capital, etc.), whereas Botswana's financial system is bank-dominated and cautious. Even within Africa, countries like South Africa and Mauritius have higher credit-to-GDP ratios and more SMEs utilizing formal loans, partly explaining their more diversified industrial base. Botswana's conservative lending environment—while contributing to financial stability—has meant that banks favor low-risk, well-collateralized borrowers (often larger firms), leaving smaller enterprises and startups behind. Moreover, the absence of a robust microfinance sector or local venture capital limits financing options. Empirical studies underscore that firms in countries with shallow financial sectors grow more slowly and create fewer jobs than those in financially developed economies (Beck & Demirgüç-Kunt, 2006).

Figure 4. Domestic Credit to Private Sector
(Percent of GDP)



Source: IMF IFS and IMF staff calculations.

18. Policy Recommendations. To alleviate the financing bottleneck, Botswana can pursue a multifaceted strategy drawing on international best practices and successful cases:

- **Strengthen credit infrastructure:** Improve financial information and reduce collateral constraints. This includes expanding credit bureaus and fully operationalizing a movable collateral registry, so banks can lend against assets beyond fixed property. For example, better credit reporting and collateral frameworks have been associated with higher SME lending in peer economies (Djankov, McLiesh, & Shleifer, 2007).

- **Promote diverse financing instruments.** Undertake the necessary reforms to enable and encourage banks and non-bank institutions to offer products tailored to micro, small, and medium enterprises (MSMEs). Expanding access to innovative financial products—such as accounts receivable financing with more flexible collateral requirements—would provide firms with much-needed breathing space. More broadly, the expansion of digital payment services could facilitate real-time transactions by developing acquiring infrastructure, improving system interoperability, and enabling the entry of new market participants.[5]

- **Reorient public support schemes:** Rather than direct lending by state-owned banks, which can sometimes crowd out private lenders, Botswana can adopt a catalytic approach. Public SME

[5] IMF 2024 Article IV Staff Report (link), paragraph 35.

funds could co-invest alongside banks or investors, sharing risk, and focus on capacity-building (training entrepreneurs in finance and management). This approach, used in countries like Chile (through CORFO's programs; Griffith-Jones and others 2018) and Malaysia, helps improve bankability of SMEs and ensures that public resources mobilize private capital rather than substitute for it. Any remaining government credit programs should be carefully targeted and performance-monitored to avoid distortions.

- **Enhance competition in the banking sector:** Botswana's banking sector is profitable and liquid, suggesting room to extend more credit if competitive pressures increase. Regulatory sandboxes and proportional licensing (for microfinance banks, for instance) could foster a more inclusive financial landscape. Over the medium term, developing domestic capital markets (bond and equity listings for midsize firms) would provide alternative financing and reduce the over-reliance on banks.

19. Implementing such measures could help Botswana broaden financial access. International experience shows that when credit flows to productive smaller firms, countries reap gains in innovation, employment, and diversification. In the Botswanan context, a concerted push on financial inclusion aligns with the goal of reducing unemployment and fostering a more dynamic private sector-led economy.

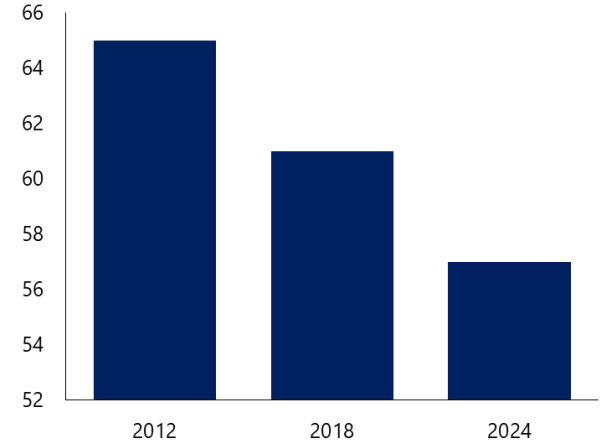
Obstacle 2 – Corruption

20. Strong governance has historically been a cornerstone of Botswana's development story. Botswana is frequently cited as the least corrupt nation in mainland Africa[6] and consistently ranks among the top performers on the continent in Transparency International's Corruption Perceptions Index. This stellar reputation is an economic asset: it has helped Botswana attract investment and effectively manage its vast diamond revenues. Studies show a clear link between good governance and growth, particularly in resource-rich countries. Cross-country research finds that corruption acts like a tax on investment, deterring business activity and ultimately slowing GDP growth (Mauro, 1995). Other researchers portray corruption's impact as "sand" in the economic engine (rather than the lubricant some earlier theories suggested), undermining efficiency and confidence. Botswana's relative success in controlling corruption—attributed to strong institutions like an independent judiciary and an effective anti-graft agency—has therefore contributed to its robust growth record over past decades. Comparatively, many of Botswana's regional peers have struggled with much higher corruption, which has impeded their development. Countries with similar income levels in other regions (like Eastern Europe or East Asia) often had to undertake significant anti-corruption reforms to sustain growth, something Botswana largely got right early on by emphasizing rule of law and accountability.

[6] Botswana: The Pragmatic Path to Prosperity

21. But the perception of corruption has deteriorated over the last decade. The widely tracked Corruption Perception Index computed by Transparency International declined by about 12 percent between 2012 and 2024. Furthermore, businesses have been increasingly voicing their concern. In the 2023 WBES, corruption features as the second most mentioned obstacle to development, with 13 percent of businesses naming it as a major issue, a considerable increase from the 10 percent reported for the 2010 WBES. Strengthening governance involves enhancing transparency, accountability, and public sector efficiency. Building the capacity of institutions to implement policies and deliver services effectively is essential for fostering an environment conducive to growth.

Figure 5. Botswana: Corruption Perception Index
(0= Highly Corrupt; 100 = Very Clean)



Source: Transparency International and IMF staff calculations.

22. Higher corruption could present risks to growth in Botswana. Mauro (1995) estimates that a one standard-deviation improvement in bureaucratic efficiency is associated with a boost of annual per capita GDP growth by around one percentage point. Conversely, even moderate corruption can shave off growth: for a middle-income country, moving from a low-corruption rank to a mediocre one tends to reduce long-term GDP per capita levels through lower productivity and human capital accumulation (Hammadi and others, 2019). As laid out in Chapter 2 of the 2019 IMF Fiscal Monitor[7], corruption undermines growth by eroding tax revenues, distorting spending toward rent-seeking projects, and reducing the efficiency of public investment and services. It lowers revenue collection by enabling evasion and exemptions, inflates procurement costs, weakens SOE performance, and crowds out social spending, ultimately reducing capital formation, human capital, and trust in institutions. In Africa, the payoff to fighting corruption is especially high: research suggests that the growth dividend of governance reforms in sub-Saharan Africa is two to three times larger than in other regions.[8] This is partly because many African economies have historically been held back by governance problems, so improvements create a step-change in efficiency. For Botswana, this means that reinforcing the importance of good governance could enhance its competitive edge regionally and amplify its diversification drive.

[7] https://meetings.imf.org/en/IMF/Home/Publications/FM/Issues/2019/03/18/fiscal-monitor-april-2019

[8] https://www.imf.org/en/Publications/fandd/issues/2019/09/tackling-corruption-in-sub-saharan-africa-sobrinho#:~:text=Our%20research%20shows%20that%20the,2%20percentage%20points%20a%20year

23. Policy Recommendations. To reinforce Botswana's gains and address emerging governance risks, a governance-strengthening agenda is advised, drawing on successful international experiences and Botswana's own history of good practice:

- **Bolster institutional checks and oversight:** Empower anti-corruption agencies like the DCEC with greater independence, resources, and investigative authority. Ensuring that bodies such as the Auditor General and parliamentary committees can rigorously scrutinize public spending and tenders is crucial. Judicial independence must be maintained and reinforced so that any corruption cases are handled fairly and without political interference.

- **Enhance transparency and e-governance:** Reducing opportunities for graft can be achieved by increasing transparency in government operations. Botswana should continue expanding e-procurement systems for public tenders, where bids and awards are conducted on digital platforms openly. Publishing budget information, mining revenues, and contract details openly (open data portals) will allow civil society and media to play a watchdog role. The more sunlight on government decisions, the lower the space for illicit behavior. Botswana's adherence to initiatives like the Extractive Industries Transparency Initiative (EITI) in the diamond sector, for example, can reassure investors of fair play.

- **Simplify regulations and reduce red tape:** Complexity in regulations often breeds petty corruption, as firms may feel compelled to pay bribes to navigate cumbersome rules. Botswana already fares relatively well in perceptions of regulatory quality, but further streamlining business licenses, permits, and customs procedures can limit daily corruption opportunities. International evidence suggests that "smarter" regulation—clear rules, one-stop-shop services—cuts down the need or temptation for unofficial payments.

- **Share experiences with peers and engage in international frameworks:** Botswana can actively participate in regional anti-corruption forums to share experiences and keep up with evolving best practices. Adopting international standards—such as the OECD Anti-Bribery Convention or utilizing World Bank integrity diagnostics—could further strengthen Botswana's own anti-corruption framework.

24. By redoubling efforts in these areas, Botswana can protect its hard-won reputation for good governance. The payoff is likely to be substantial: sustained investor confidence, efficient use of public resources, and the continued translation of its natural resource wealth into broad-based development. In the long run, maintaining low corruption is not just a moral or governance issue, but an economic strategy for ensuring robust and inclusive growth.

Obstacle 3 – Access to Land

25. Access to land remains a significant constraint for private sector development and economic diversification in Botswana. As indicated in the 2023 WBES, 13 percent of firms consider land access their most important obstacle. The main problem of land tenure in Botswana lies in the fragmented and inefficient land administration system, which stems from the coexistence

of customary, state, and freehold land systems. Customary land—making up the majority—is managed by Land Boards but often lacks clear, formal documentation. This creates delays, weakens land security, and hampers the ability to use land as collateral. Institutional overlaps, slow allocation processes, and limited coordination between national and local authorities further compound access issues, especially for businesses and women (White, 2018)**.**

26. Secure and transferable land rights are critical for collateralization, which affects access to credit. Without formal titles, firms cannot use land as collateral (Deininger & Feder, 2001), exacerbating financing constraints discussed previously. Although customary land rights are legally recognized, the process of obtaining Certificates of Customary Land Grant (CCLGs) and converting to leasehold remains complex and slow, particularly for SMEs and female-headed households (White, 2018). While Botswana's land policy is nominally gender-neutral, implementation often falls short in ensuring equitable access for women.

27. Comparatively, other African countries that reformed their land governance systems—such as Rwanda, which introduced a national land registry and digitized titling—experienced improved investment and credit access (Ali, Deininger, & Goldstein, 2011). In emerging markets, clarity in land use planning and registry reforms have been essential in catalyzing urban development and rural productivity (Byamugisha, 2013; World Bank, 2020). Botswana's reforms under the Land Administration Procedures, Capacity and Systems (LAPCAS) project succeeded in mapping a large portion of the country, yet the legal integration and validation of records into the formal cadaster remain incomplete (White, 2018).

Obstacle 4 – Electricity

28. Reliable and affordable electricity is fundamental to enabling economic growth, improving productivity, and supporting the diversification of economic activities. In Botswana, the 2023 World Bank Enterprise Survey reported that 11 percent of firms consider electricity supply to be their main obstacle to doing business. This reflects both structural and operational deficiencies in the country's power sector, including high prices, inconsistent supply, and limited rural electrification.

29. Electricity tariffs in Botswana remain in mid to high range in the Southern African region, despite government subsidies and the partial liberalization of the power market. The Botswana Power Corporation (BPC), the state-owned utility, continues to struggle with operational inefficiencies, aging infrastructure, and fiscal dependency. Power outages and voltage fluctuations increase production costs for manufacturing firms and deter potential investors from establishing energy-intensive operations (Allcott et al., 2016).

30. Although Botswana has made progress in regional energy trade, relying on imports from South Africa and Namibia exposes it to external supply risks. The country remains vulnerable to power shortages and transmission losses due to its insufficient generation capacity and a fragile grid. This undermines industrial competitiveness and is especially damaging for SMEs, which often lack the capital to install backup solutions like diesel generators or solar systems.

Furthermore, the lack of a transparent and competitive electricity market limits private investment in generation and renewables. While Botswana's National Energy Policy (2021) commits to diversifying energy sources and increasing the share of renewables, implementation has been slow, and regulatory uncertainty continues to inhibit independent power producers (IPPs).

31. Policy Recommendations: Botswana should accelerate reforms to: (i) strengthen the financial viability and operational performance of BPC, (ii) invest in grid modernization and regional interconnections, (iii) incentivize renewable energy development through transparent regulation and feed-in tariffs, and (iv) promote mini-grid and off-grid solutions for underserved areas. Reducing regulatory barriers to entry for IPPs and improving energy governance would further catalyze the sector's contribution to economic development.

D. Structural Reforms in Botswana – an Empirical Assessment

32. This section shifts the focus toward identifying reform areas that could unlock Botswana's growth potential and promote economic diversification. It leverages Botswana's position relative to advanced and frontier emerging economies to highlight priority gaps in structural reform. By drawing on cross-country evidence, the analysis provides country-specific insights into where reform efforts could be most impactful on supporting growth and employment.

33. The analysis conducted in this section assesses structural reforms in Botswana, based on the structural reforms database and empirical analysis featured in the IMF Staff Discussion Note "Structural Reforms to Accelerate Growth, Ease Policy Trade-offs, and Support the Green Transition in Emerging Market and Developing Economies," (Budina and others 2023). The authors analyze the growth and macroeconomic impacts of structural reforms using a panel of 54 emerging market and developing economies (EMDEs) over the period 1985–2021. They construct a composite Structural Reform Index (SRI) encompassing reforms in domestic finance, trade, labor, and product markets. The empirical approach relies on fixed-effects panel regressions to estimate the dynamic effects of reforms on real GDP per capita growth, accounting for both short-term adjustment costs and long-term gains. The study also explores how the effectiveness of reforms interacts with institutional quality, debt vulnerabilities, and climate policy objectives.

Structural Gaps

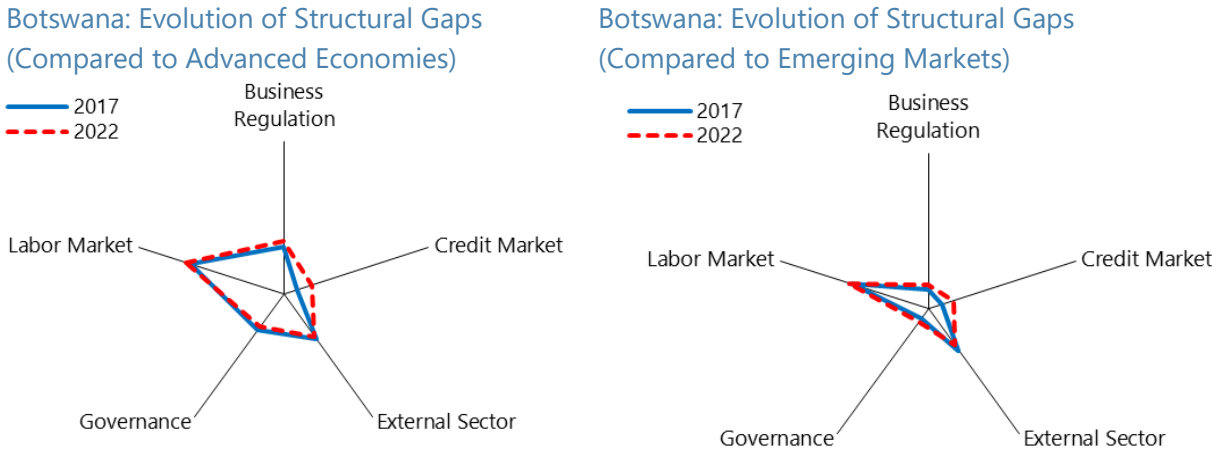
34. To analyze Botswana's progress on structural reforms, the methodology described in Budina and others (2023) is applied. Structural Reforms—business regulation, the credit market, the external sector, governance, and the labor market—are compared to global leaders in selected peer groups (Advanced Economies and Emerging Markets). Each reform indicator is normalized between 0 and 1 over the time-period 2000–22, with higher value implying better quality of institutions and regulation. For a given year, structural gaps are calculated as the absolute difference in values between the frontier (maximum value in each comparator group) and Botswana. Thus, a

larger structural gap implies that the country is further away from the frontier. Table 1 provides a brief description of what each indicator captures.[9]

Table 1. Botswana: Definitions of Structural Indicators

Structural Indicator	Source	Definition
Governance	World Bank, Worldwide Governance Indicators	Measures the perception of the quality of governance along six dimensions: voice and accountability, rule of law, political stability, government effectiveness, regulatory quality, and control of corruption.
External sector	Fraser Institute, Index of Economic Freedom	Measures the degree of trade and financial openness along four main dimensions: tariff and non-tariff barriers, exchange rate flexibility and constraints of the movement of physical capital (such as capital controls, degree of financial openness).
Business regulation	Fraser Institute, Index of Economic Freedom	Measures the degree to which regulation and bureaucratic procedures restrain entry and reduce competition. This indicator also captures the presence of impartial public administration.
Credit market regulation	Fraser Institute, Index of Economic Freedom	Measures the extent to which credit is supplied to the private sector, the presence of interest rate controls, and the extent to which the banking industry is privately owned.
Labor market regulation	Fraser Institute, Index of Economic Freedom	Measures the degree of flexibility of hiring and firing regulation and centralized collective bargaining.

Figure 6. Structural Gaps



Source: World Bank, Fraser Institute, and IMF staff calculations.

- **Governance:** Overall, Botswana remains structurally closer to the Emerging Market average than to Advanced Economies. Botswana continues to lag behind both advanced and emerging market peers in governance-related reforms. The reform gap relative to Advanced Economies narrowed marginally between 2017 and 2022, from 0.29 to 0.26, suggesting some progress. However, the gap relative to Emerging Markets actually widened slightly, from 0.08 in 2017 to

[9] The indices used for the charts have been modified to exclude the Doing Business indicators.

0.10 in 2022, indicating that peer countries may have progressed at a faster pace in strengthening governance institutions.

- **Business Regulation:** Botswana has lost some ground in business regulation reforms relative to both advanced and emerging market peers. Between 2017 and 2022, the reform gap with Advanced Economies widened from 0.31 to 0.35, while the gap with Emerging Markets increased from 0.13 to 0.15. This suggests that Botswana's regulatory improvements have not kept pace with global or regional reform momentum. Although the gap levels remain relatively moderate compared to other structural areas, the trend points to a growing risk of institutional drift.

- **External Sector:** Botswana has made modest progress in external sector reforms, but gaps with both advanced and emerging market peers remain sizeable. Between 2017 and 2022, the external sector reform gap narrowed slightly, from 0.37 to 0.34 relative to Advanced Economies, and from 0.33 to 0.29 relative to Emerging Markets. While this indicates some convergence, the persistence of a wide gap suggests that Botswana has yet to significantly improve external sector performance.

  Botswana's persistent reform gap in the external sector, despite modest aggregate gains, can be better understood by disaggregating into five key dimensions: non-tariff barriers, tariff barriers, capital controls, financial openness, and the black-market exchange rate.

  Across both Emerging Markets and Advanced Economies, the highest gaps remain in non-tariff barriers and tariff barriers. Encouragingly, both categories show some decline in average reform gaps over time. Among Emerging Markets, the gap in non-tariff barriers narrowed from 0.58 to 0.54, and in tariff barriers from 0.46 to 0.33. Similarly, for Advanced Economies, the gap in non-tariff barriers fell from 0.64 to 0.61, and tariff barriers from 0.50 to 0.36. This suggests that while these areas continue to represent major bottlenecks, there has been progress.

  By contrast, financial openness is the only area where reform gaps have widened. In Emerging Markets, the gap rose from 0.25 to 0.31, while in Advanced Economies it increased from 0.25 to 0.36. This trend likely reflects the growing complexity of capital account management. Capital controls remained unchanged in both comparators (0.46 in EMs, 0.31 in AEs), while the black-market exchange rate gap stayed at zero.

- **Credit Market Regulation:** Credit market reform remains a relatively modest gap for Botswana, but recent trends point to a gradual loss of momentum. Between 2017 and 2022, the gap with Advanced Economies widened from 0.09 to 0.19, and with Emerging Markets from 0.09 to 0.17. While these gaps remain smaller than in areas such as external sector, the direction of change suggests that Botswana is not keeping pace with peer progress. The gap in credit market regulations reflects limited progress in interest rate controls, where the gap with both Advanced and Emerging Markets has increased (with Botswana's gap in interest rate controls score rising from 0.0 to 0.3).

- **Labor Market Regulation:** Labor market reforms remain Botswana's most significant structural gap area, with a slight increase in gap over the past five years relative to Advanced Economies and Emerging Markets. In 2022, the reform gap stood at 0.67 relative to Advanced Economies and 0.53 relative to Emerging Markets, the widest across all core reform pillars. A closer look at the sub-indicators reinforces the picture of persistent rigidity in Botswana's labor market. The gap in hiring and firing regulations remains particularly wide, unchanged at 0.81 relative to Advanced Economies and 0.72 relative to Emerging Markets, pointing to constraints in employment protection frameworks. Meanwhile, the reform gap in centralized collective bargaining has widened relative to both comparator groups, increasing by 0.06 between 2017 and 2022.

Estimating the Potential Impact of Structural Reforms

35. This section illustrates the potential impact of structural reforms in the context of Botswana, based on the empirical analysis featured in Budina and others (2023). To assess this, the empirical framework relies on a local projection approach in a panel data setting to estimate the impact of reforms on output, following the specification below:

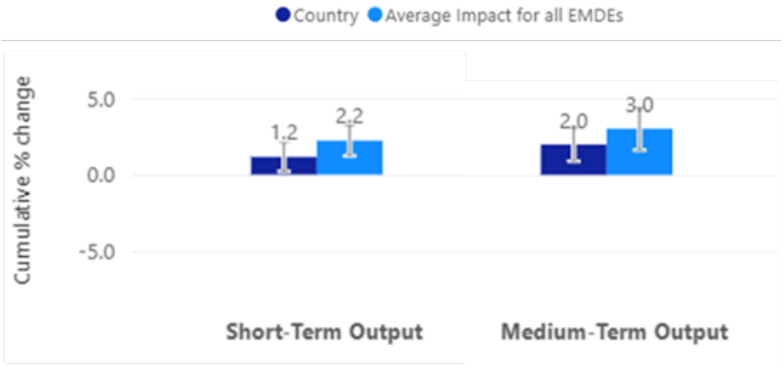
$$y_{i,t+k} - y_{i,t-1} = \alpha_i + \lambda_t + \beta_k \Delta SR_{i,t} + \theta X'_{i,t} + \epsilon_{i,t},$$

where $y_{i,t+k}$ is the log of real GDP (PPP) for country i in year $t+k$, α_i and λ_t denote the country and year fixed effects, which help control for unobservable cross-country heterogeneity as well as common global factors, $\Delta SR_{i,t}$ is the change in the average structural reform score[10] indicator for country i between *t and t-1*, and $X'_{i,t}$ is the set of time-varying controls, including lags of the dependent variable, and past reforms. For additional robustness, $X'_{i,t}$ also controls for simultaneous and past reforms in other areas of reform which could affect the estimated output response (i.e., when estimating the impact of business regulation reforms, simultaneous and past reforms in other areas such as external sector, credit market, labor market and governance are accounted for). It is important to note that the local projection approach is less robust to addressing endogeneity, and hence the large coefficients should be interpreted with caution. In the following section, the estimated reform multipliers are combined with information on which structural areas Botswana is lagging the most in (structural gaps radar chart) to identify potential areas of specific reform action.

36. First-generation reforms, which include governance, business regulation, and the external sector, can meaningfully boost medium-term growth. A 50 percent narrowing of the first-generation reform gaps is associated with a 1.2 percentage point increase in real GDP growth in the short term, and a 2.0 percentage point gain in the medium term (Figure 7). While the external sector accounts for the largest structural gap within this set, its medium-term impact could deliver a 2.1 percentage point boost to growth.

[10] Each reform area includes multiple sub-indicators, with 1 representing the highest score.

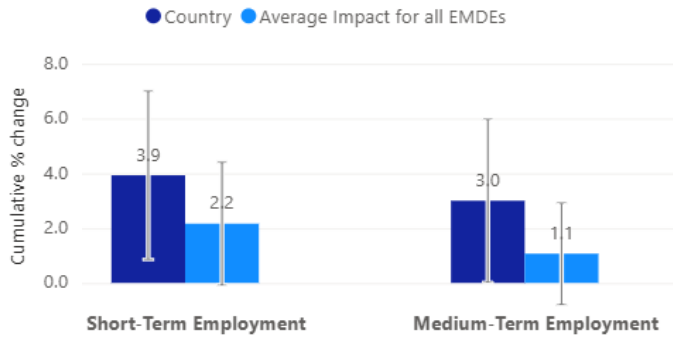
Figure 7. Impact of First-Generation Reforms on Output
(Country Impact Conditional on the Level of First-Generation Reforms)



Sources: Fraser Institute; World Bank; IMF staff calculations.
Note: Each bar shows the average additional annual growth (in pp.) in response to a reform which would see Botswana closing the gap to the Emerging Markets frontier by 50 percent. We use the coefficient at the end of the projection horizon (average of last two periods), which represents the cumulative percent change in output over a period of five years and convert it to annual contribution to growth using CAGR formula. Results are statistically significant at the 10-percent level.

37. Botswana has made considerable progress in closing structural gaps, but labor market and external sector reforms remain its most critical priorities. Labor market reforms, where Botswana faces the widest gap, offers the highest dividends: closing half the gap could boost employment by 3.9 percentage points in the short term and 3.0 percentage points in the medium term (Figure 8). These findings highlight the urgency of addressing persistent rigidities in hiring and firing practices and centralized collective bargaining. External sector reforms also present a sizeable opportunity, particularly over the medium term. Complementary reforms in governance and business regulation could further enhance growth and strengthen the broader reform impact.

Figure 8. Impact of Labor Market Reform on Employment
(Country Impact Conditional on the Level of First-Generation Reforms)



Sources: Fraser Institute; World Bank; IMF staff calculations.
Note: Each bar shows the average additional annual employment growth (in pp.) in response to a reform which would see Botswana closing the gap to the Emerging Markets frontier by 50 percent. We use the coefficient at the end of the projection horizon (average of last two periods), which represents the cumulative percent change in employment over a period of five years and convert it to annual contribution to employment growth using CAGR formula. Results are statistically significant at the 10-percent level.

E. Lessons Learned and Policy Advice

38. The previous two approaches (survey and macro-empirical) broadly converge in both diagnosis and direction of policy recommendations:

- The WBES-based analysis identifies firm-level constraints—such as access to land, finance, skilled labor, and regulatory burdens—as key impediments to private sector growth and economic diversification. These constraints are grounded in the lived experiences of domestic firms and help explain why non-mineral sectors remain underdeveloped, contributing to Botswana's declining economic complexity.

- While the empirical analysis indicates that among the structural reforms the highest gains for growth could come from labor market adjustments, governance and credit market reforms also offer meaningful growth dividends—governance improvements would enhance institutional quality and policy credibility, while easing credit market constraints would support private investment and SME expansion. Although Botswana has made some progress, gaps remain sizeable relative to peers. Prioritizing first-generation reforms in labor markets, governance, credit markets, and trade openness would help unlock private sector–led growth and accelerate economic diversification.

39. Both approaches point to the same binding constraints: inefficiencies in public resource allocation, underperforming private sector capabilities, and the need for a shift away from state-driven to market-enabled growth. The WBES offers micro-level validation of these challenges, while the empirical exercise applies a cross-country comparator lens—together building a coherent case for structural transformation centered on enabling private sector–led development. **To address the private sector bottlenecks identified through the World Bank Enterprise Survey (WBES) and macroeconomic modeling, Botswana could consider the following policy actions, grouped into key reform areas:**

- ***Improve Access to Land***
  - Digitize and update land registries, especially in urban and peri-urban areas.
  - Streamline and decentralize land allocation processes to reduce bureaucratic delays.
  - Allow the use of customary land as collateral, with clear legal frameworks for conversion to leasehold.
  - Increase transparency in land transactions to reduce rent-seeking and provide investors with clarity on land availability.
- ***Enhance Access to Finance***
  - Support credit guarantee schemes for SMEs to reduce collateral requirements.
  - Deepen capital markets to diversify financing options beyond traditional banking.
  - Improve property rights and contract enforcement to lower the risk premium in lending.
  - Encourage the use of movable assets as collateral through secured transaction reforms.

- ***Boost Human Capital and Skills***
  - Align vocational and tertiary education with labor market needs, especially in technical and digital skills.
  - Expand public-private training partnerships, particularly in tradable sectors.
  - Implement targeted upskilling programs for youth and rural populations to reduce mismatches.
- ***Simplify Regulation and Lower Compliance Burden***
  - Establish a one-stop shop for business registration and licensing.
  - Digitize permit and inspection processes to increase efficiency and transparency.
  - Conduct regulatory impact assessments before new laws are passed, to reduce unnecessary burdens on firms.
- ***Improve Infrastructure and Utilities***
  - Invest in reliable electricity and water supply, particularly in industrial zones.
  - Expand affordable internet and broadband access to facilitate digital business operations.
  - Promote public-private partnerships (PPPs) for infrastructure development, with clear regulatory oversight.
- ***Foster Competition and Reduce Market Concentration***
  - Strengthen competition policy enforcement, particularly in sectors with state-owned enterprises or monopolies.
  - Encourage contestability in procurement and public service delivery to open space for private firms.
  - Review and rationalize industrial and tax incentives to ensure they are performance-based and do not distort markets.
- ***Strengthen Governance and Institution***
  - Implement a national productivity and innovation strategy, including support for startups and R&D.
  - Reduce corruption risks by improving procurement systems and public financial management transparency.
  - Enhance judicial efficiency to resolve commercial disputes quickly and fairly.

F. Conclusion

40. **Botswana stands at a critical juncture in its development trajectory.** Building on its early legacy of prudent macroeconomic management and strong institutions, the country must now address persistent structural impediments that constrain the economy's ability to realize its growth potential and diversify.

41. Insights from firm-level perceptions and cross-country structural gap analysis point to a series of reform priorities. But two reform areas overlap across the approaches: access to finance, as well as corruption and governance. These bottlenecks not only suppress firm productivity and investment but also undermine broader macroeconomic performance. On the other hand, structural reform gaps identified through the cross-country macro-analysis and survey data point to complementary areas—particularly in labor markets, external sector openness, land tenure and electricity shortages—where reforms could unlock substantial growth dividends and employment gains.

42. Policymakers should leverage this dual-lens analysis to prioritize and sequence reforms strategically. Enhancing institutional quality, improving credit access, modernizing land administration, and advancing energy reforms will be essential to position Botswana for a more resilient, inclusive, and diversified growth path in the decade ahead. Sustained progress will require strong political will, effective implementation, and a commitment to inclusive consultation with private sector actors.

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STRUCTURAL REFORMS TO SUPPORT FISCAL CONSOLIDATION[1]

Botswana faces growing fiscal challenges driven by declining diamond revenues, rigid spending, and weakened fiscal institutions, which have contributed to elevated fiscal deficits and increasing public debt. These challenges need to be rapidly adressed to ensure external and fiscal sustainability. Based on recent technical assistance (TA) findings from IMF assessments—including TADAT, PIMA, and Financial Reporting Framework reviews—this Selected Issues Paper (SIP) summarizes priority structural fiscal reforms that could support the necessary fiscal consolidation efforts. Key recommendations focus on strengthening tax administration, improving budget preparation and execution, enhancing transparency, and increasing the efficiency of public investment. The proposed reforms aim to restore fiscal sustainability, reinforce institutional credibility, and position Botswana to navigate a more constrained economic environment while safeguarding its long-term development goals.

A. Introduction

1. Botswana is navigating a period of pronounced fiscal and economic headwinds. The country's traditional wealth-generating engine, the diamond sector, has come under increasing strain due to external shocks and structural vulnerabilities, resulting in diminished export receipts and lower government revenues. At the same time, persistent fiscal deficits have progressively eroded Botswana's once-substantial fiscal buffers—leaving the economy more exposed to future shocks and limiting its capacity to respond to emerging development needs—and more recently contributed to a rapid increase in public debt.

2. These issues have been exacerbated by weaknesses in public financial management. Technical problems with the government's Integrated Financial Management Information System (IFMIS) have constrained the capacity to execute expenditure control, complicated budget execution, and reduced fiscal transparency—further highlighting the need for comprehensive reforms to strengthen Botswana's public financial management framework. Botswana's public procurement system suffers from significant deficiencies that contribute to delays, cost overruns, and weak value for money in public investment. Procurement responsibilities are fragmented between the Accountant General's Department and the procurement authority, leading to unclear oversight and poor coordination with budgeting and planning functions. Inefficient procedures and limited procurement capacity further undermine timely project execution and fiscal discipline. Strengthening institutional arrangements, streamlining processes, and building capacity are critical to improve procurement performance and support more efficient public spending.

3. Failure to address Botswana's PFM shortcomings would have serious fiscal and economic consequences. Persistent weaknesses in procurement, budget preparation and execution, financial reporting, and institutional coordination would continue to undermine spending

[1] Prepared by Alexis Meyer-Cirkel based on a series of FAD Technical Assistance Reports.

efficiency, leading to waste, delays, and poor value for money. Gaps in fiscal controls and reporting would heighten fiscal risks, including the buildup of arrears and contingent liabilities, while weak investment management would limit the growth and diversification impact of public spending. Over time, these deficiencies would erode fiscal credibility, constrain the government's ability to respond to shocks, and jeopardize debt sustainability, ultimately weakening the country's development outcomes.

4. This report draws on IMF technical assistance to identify structural fiscal reforms that could be particularly useful to underpin the needed fiscal consolidation. Drawing on recent technical assistance (TA) engagements—including TADAT, PIMA, and financial reporting assessments—it sets out sequenced reform recommendations to strengthen tax administration, improve public investment management, modernize budget preparation, and enhance transparency and control over public finances. The overarching objective is to rebuild Botswana's fiscal capacity and ensure that public policy remains an effective tool for economic transformation and long-term development.

5. Implementing these reforms can help build a more resilient, efficient, and accountable fiscal framework—one that is capable not only of withstanding near-term pressures but of sustaining Botswana's development trajectory for decades to come. Strengthening tax administration will broaden the revenue base, reduce leakages, and mobilize resources in a more equitable and predictable manner. Enhancing budget preparation and execution will improve expenditure efficiency, helping to contain deficits while safeguarding priority social and infrastructure spending. More rigorous public investment management will raise the growth and diversification impact of capital outlays, thereby reinforcing medium-term economic resilience. Finally, greater transparency and improved financial reporting will bolster accountability, support investor confidence, and anchor expectations about debt sustainability. Collectively, these reforms will help strengthen fiscal discipline and enhance macroeconomic stability, creating fiscal space to finance Botswana's development goals without compromising long-run sustainability.

B. Tax Administration Diagnostic Assessment Tool[2] and Design of a Revenue Administration Reform Roadmap[3]

Summary of TADAT Evaluation

6. The 2021 Tax Administration Diagnostic Assessment Tool (TADAT) assessment provided a comprehensive analysis of the effectiveness of Botswana's tax administration

[2] This section provides a summary of the TA Report: "Tax Administration Diagnostic Assessment Tool (TADAT) Performance Assessment"; FAD April 2021; By Andrew Masters, Thabo Letjama, Faith Mazani, Eileen Rafferty, and Raphael Kamoto.

[3] A post-TADAT mission developed a medium-term roadmap based on the TADAT assessment to improve BURS efficiency and effectiveness, summarized in TA Report: "Implementing a Medium-Term Transformation Roadmap"; FAD February 2022; By Faith Mazani, Raphael Kamoto, Maureen Kidd, Jonathan Leigh Pemberton, and Peter Menhard.

system. The aim was to provide an objective assessment of the health of key components of the system of tax administration, the extent of reform required, and the relative priorities for attention. The TADAT identified reform priorities, and established a baseline for assessing reform progress by future assessments. The assessment identified several key areas where BURS has demonstrated strengths, as well as critical weaknesses that require urgent reform to improve tax compliance, efficiency, and revenue collection.

7. The evaluation highlighted several important strengths. One key strength is that taxpayer registration system contains extensive and detailed information about registered taxpayers, forming a solid base for compliance monitoring. In addition, Botswana's legal and regulatory framework provides a strong foundation for tax administration, with clearly articulated laws and a well-defined mandate for BURS in both tax enforcement and compliance.

8. At the same time, TADAT identified significant weaknesses. Compliance risk management remains underdeveloped, as BURS lacks a systematic, risk-based approach to enforcement, and the audit selection process is still largely manual, limiting efficiency. Taxpayer services, while showing some improvement in call center responsiveness, continue to be fragmented and are supported by limited outreach and education initiatives. The introduction of the Lekgetho Live Tax Information System (TAX IS) has faced implementation challenges, including flawed data migration and usability concerns, which undermine broader digital transformation efforts. Furthermore, the integration of customs and domestic tax functions has resulted in inefficiencies, with unclear accountability and insufficient support for domestic tax divisions, including chronic understaffing.

9. To address these shortcomings, a February 2022 post-TADAT mission recommended several priority reforms. BURS should develop a systematic compliance risk management framework to strengthen tax enforcement and modernize audit selection practices. Taxpayer services need to be significantly enhanced, including through the establishment of a dedicated Taxpayer Services Department and the expansion of outreach initiatives to encourage voluntary compliance. The evaluation also emphasized the importance of upgrading ICT systems, starting with an external review of the TAX IS platform to resolve usability and data migration challenges. Finally, BURS's organizational structure should be realigned to provide clearer separation of functions between customs and domestic tax divisions, ensuring that each receives adequate focus and resources.

ICT, Taxpayer Service, and Revenue Mobilization

10. BURS's Lekgetho Live Tax Information System (TAX IS), introduced in 2020, was expected to modernize tax administration. However, flawed data migration, inconsistent system usability, and varied levels of staff acceptance have hampered its effectiveness. The recommendation is to have an external review of the system to assess its functionality and identify necessary enhancements. A comprehensive ICT improvement strategy is essential to ensuring BURS's digital transformation success.

11. Taxpayer service and outreach remain fragmented across multiple departments, and BURS lacks a comprehensive taxpayer service strategy. Improvements in call center responsiveness and online inquiries have been noted, but broader stakeholder engagement and customer service initiatives need expansion. The suggestion is to create a dedicated Taxpayer Services Department to improve voluntary compliance and enhance taxpayer relations.

12. Three broad recommendations emerge. First, BURS should conduct a comprehensive external review of the TAX IS system and implement necessary improvements to ensure digital modernization delivers on its promise. Second, the creation of a unified Taxpayer Services Department is critical for developing a coherent strategy to strengthen outreach, improve customer service, and foster voluntary compliance. Third, BURS needs to make greater use of data analytics to strengthen risk assessment and operational efficiency, thereby enhancing the overall effectiveness of tax administration.

Roadmap for Reform and Strategic Priorities

13. BURS's mid-term review of its 2019-2024 strategic plan identified key priorities, including enhancing compliance enforcement, optimizing organizational efficiency, and leveraging digital transformation. However, the IMF 2022 mission found that progress on key reform initiatives remains slow, largely due to leadership changes and inadequate execution mechanisms. To accelerate reforms, a Transformation Roadmap is proposed, focusing on short-term actions that can improve revenue collection and tax administration effectiveness.

14. Against this backdrop, the strategic reform agenda centers on three actions. First, BURS should develop a clear compliance improvement plan with measurable outcomes to ensure progress can be tracked and evaluated. Second, it should enhance the use of risk-based tax administration to improve audit effectiveness and enforcement outcomes. Third, reforms to modernize BURS's operational framework must be accelerated, ensuring that institutional weaknesses are addressed and revenue administration is aligned with international good practices.

C. Public Investment Management Assessment (PIMA)[4]

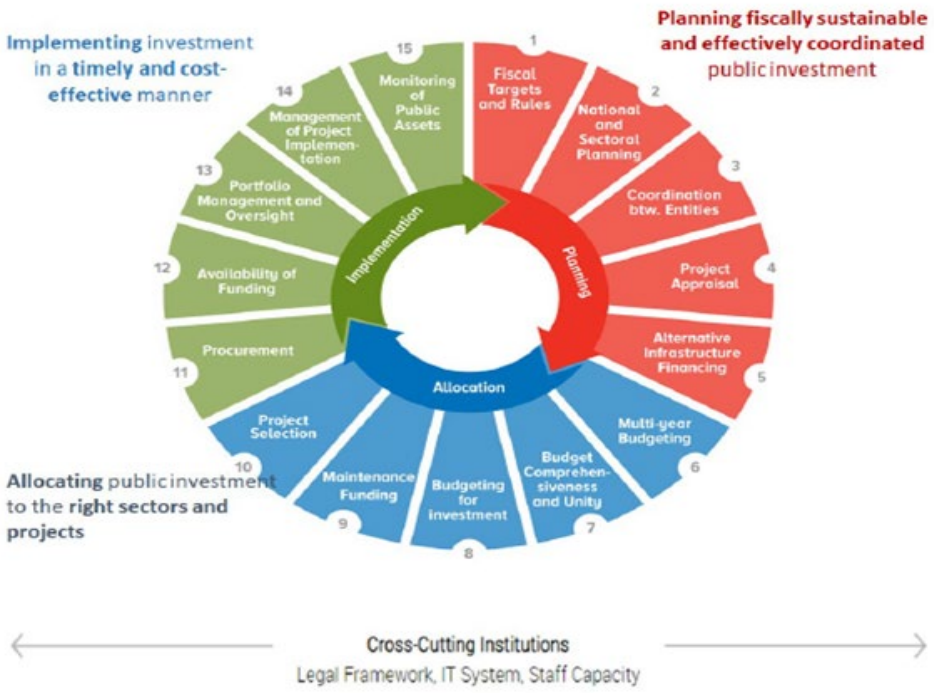
15. The Public Investment Management Assessment (PIMA) framework evaluates the institutional design and effectiveness of a country's public investment management system. It identifies institutional strengths and weaknesses, providing practical recommendations to enhance efficiency and effectiveness in public investment. PIMA defines "institution" broadly, encompassing laws, regulations, organizational structures, as well as procedures, activities, and outcomes. The assessment covers 15 institutions involved in the three key stages of the public investment cycle (Figure 1): (i) planning of investment levels for all public sector entities to ensure sustainable levels

[4] This section provides a summary of the TA Report: "Botswana - Public Investment Management Assessment Update"; FAD December 2023; By Isabel Rial, Juan Alberti, Robert Clifton, George Daniel, Willie Du Preez, Simon Groom, and Knut Leipold.

of public investments, (ii) allocating investments to appropriate sectors and projects, and (iii) delivering productive and durable public assets.

16. The 2023 PIMA update for Botswana, conducted in September 2022, provides a thorough evaluation of the country's public investment management (PIM) framework. PIM is central to Botswana's fiscal policy, particularly in addressing the country's infrastructure gaps, which are critical for long-term economic growth. Despite ongoing efforts to enhance infrastructure, significant inefficiencies have persisted, particularly in project planning, implementation, and management. This section outlines the key findings from the 2023 PIMA assessment, highlights Botswana's progress since the 2017 assessment, and provides recommendations for improving the effectiveness of public investment.

Figure 1. PIMA Framework Diagram



Sources: Public Investment Management Assessment: Review and Update, April 2018, IMF. Public Investment Management Assessment - Review and Update in: Policy Papers Volume 2018 Issue 025 (2018)

Table 1. Summary Assessment

Phase/Institution			Strength	Effectiveness	Rec. #	Reform Priority
A. Planning	1	Fiscal principles or rules	**Medium**: Statutory gross debt limit 40 percent of GDP including guarantees. Expenditure policy objectives not bidding.	**Low**: Debt limit not bidding due to depletion of financial assets. Expenditure policy objectives not observed.	*	High
	2	National and sectoral plans	**High:** Major projects are identified and costed in national and sectoral plans. Outcomes, outputs, and targets are included.	**Medium:** Budgets include major projects identified in plans, but there are relevant cost overruns. Outputs and targets are occasionally based on unreliable data.	1,2	High, Low
	3	Coordination between entities	**Medium:** Investment projects by SNGs are funded and coordinated by MLGRD. No transparent mechanism to distribute funds and no legal requirement to report all CLs from SNG and PPPs	**Medium:** Formal coordination of MLGRD in place and funding relatively predictable. Weak monitoring of CLs beyond government guarantees.	3	Medium
	4	Project appraisal	**High:** Appraisal process and methods in line with good practices, but national parameter values need to be developed to operationalize CBA.	**Low**: Few projects follow appraisal process and methods. Independent review not well resourced, inappropriately timed and lacking external expert inputs	4,5	High, Medium
	5	Alternative infrastructure financing	**Low:** Legal framework does not support competition in several markets. Lack of legislation related to PPPs. Parastatals investment is coordinated by line ministries.	**Low:** Apart from Telecoms, no effective competition in infrastructure. Few PPPs developed. Parastatals investments are not coordinated and centrally monitored.	6	Medium
B. Allocation	6	Multi-year budgeting	**Medium:** Total capital spending is forecast over the medium-term, but not broken-down by line ministry, sector, or project	**Medium:** Multi-year projections deviate significantly from actual outturns.	7	Medium
	7	Budget comprehensiveness and unity	**Medium:** Most capital spending is undertaken in the budget, but current and development budgets are prepared and presented separately using different economic classifications.	**Medium:** Despite recent MoF efforts coordination between current and development budget remains limited.	8	High
	8	Budgeting for investment	**Medium:** There is no explicit mechanism that protects funding of ongoing projects	**Medium:** Practice of ensuring that ongoing projects receive priority for funding ahead on new projects is embedded in budget preparation practices	9	Medium
	9	Maintenance funding	**Medium:** A few sectors have maintenance methodologies. Routine maintenance cannot be identified in budget.	**Low:** Methodologies are not used, incorrect costing and inadequate resources.	13	High
	10	Project selection	**Low**: There is an annual review process, but it is not framed by clear and stable criteria for selecting new projects. There is no pipeline of appraised projects.	**Low:** Quality is only validated after a project has already been selected for inclusion in development budget. No clear distinction between appraisal and selection in practice.	10	High
C. Implementation	11	Procurement	**Medium**: Procurement process is open and transparent. No database for monitoring procurement.	**Low**: Lack of good procurement planning and contract management. Only 60 percent of complaints resolved within law limits.	11, 12	Medium, Medium
	12	Availability of funding	**High:** Funding for capital projects is made available in a timely manner but cash forecasting practices could be improved.	**Medium**: The timely availability of cash is the result of cash buffers maintained by Bank of Botswana.	-	Low
	13	Portfolio management and oversight	**Medium:** Major projects are monitored; funds can be re-allocated between projects and ex-post reviews is not a requirement	**Low:** Projects not centrally monitored, projects encountered delays and under expenditure. No ex-post reviews.	14	Medium
	14	Project implementation	**Medium:** Senior official are required, project cost adjustments are regulated, external audits are required	**Low:** Critical Ministries do not have project managers; Project cost adjustment is done. Few external performance audits done.	15	Medium
	15	Management of public assets	**Medium:** Asset management policy in place, assets to be recorded in financial statements depreciation of assets required	**Medium:** Central asset register not in place. Depreciation is straight line method. Asset values in parastatal accounts only.	-	Low

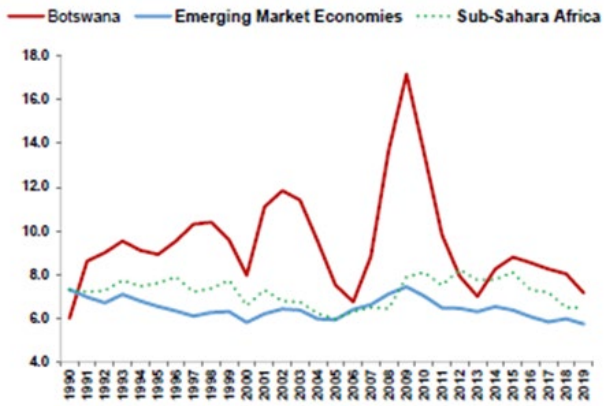
*Currently under review in line with IMF recommendations.

Trends in Public Investment

17. For over three decades, closing the infrastructure gap has been central to Botswana's fiscal strategy, with public investment averaging 35 percent of total investment from 1990 to 2012, though declining to 25 percent in the past decade. While volatile, public investment has consistently exceeded the Sub-Saharan Africa (SSA) and emerging market economies (EMEs) average, peaking at 17 percent of GDP in 2009. Reflecting this sustained effort, Botswana's public capital stock reached 106 percent of GDP in 2019—one of the highest in the region—and, on a per capita basis, was 50 percent above the EME average and ten times that of SSA, according to IMF estimates. Under National Development Plan 11 (NDP11), investments focused on roads, power, and water and sanitation, though implementation was disrupted by the COVID-19 pandemic. Looking

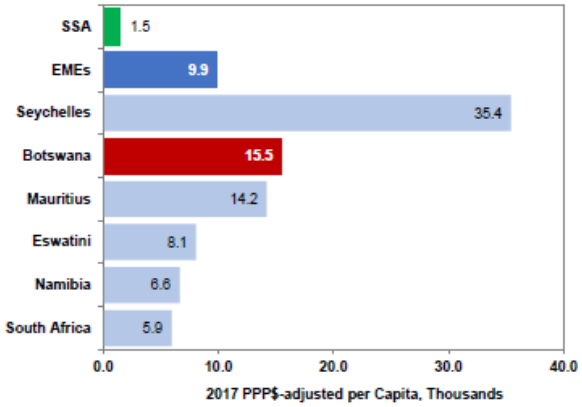
ahead, the draft Transitional National Development Plan (TNDP, covering 2023-2025) envisions renewed expansion in public investment, particularly in water and transport infrastructure.

Figure 2. Public Investment Comparison with Peers
(Percent of GDP)



Source: Authorities data and IMF staff estimates.

Figure 3. Public Capital Stock per Capita, Comparison with Peers, 2019
(In 2017 PPP$-adjusted)



Source: Official data and IMF staff calculations.

Key Findings

18. Progress Since 2017. The 2023 assessment indicates that Botswana has made progress in several areas since the last PIMA evaluation in 2017. This progress includes improvements in institutional structures, legal frameworks, and the overall strategic orientation for managing public investments. However, challenges remain in implementing these frameworks effectively, which limits the optimal use of public resources. In 2017, Botswana's public investment strategy was largely focused on filling the infrastructure gaps that hindered its economic growth. Over the years, Botswana has sought to address these gaps through increased spending on infrastructure, which includes roads, energy, water supply, and healthcare. The government has attempted to create a more coherent public investment strategy through reforms in the public sector, aiming for greater alignment between national development priorities and fiscal policy. However, while the intentions behind these reforms were commendable, their practical impact has been hampered by a series of issues related to project planning, monitoring, and execution. Despite significant public investment, poor project selection, delayed implementation, cost overruns, and underutilization of resources have continued to be challenges.

19. Institutional Strengths and Gaps. Botswana's institutional framework for public investment management is designed with strong foundations. The institutional setup includes the Ministry of Finance and Economic Development (MFED), which plays a central role in public investment planning and budgeting. Additionally, sector ministries and agencies are tasked with the execution of investment projects. However, there is a lack of coordination across these entities, leading to fragmented project execution. One of the significant institutional weaknesses identified in the 2023 update is the gap between national planning and budgeting. Botswana has a National Development Plan (NDP) that provides a strategic framework for investment priorities, but there has

been a growing disconnect between the planning process and the actual budget allocation. This disconnect arises from the increasing pressure on the budget due to competing national priorities, compounded by slow economic recovery in recent years. Moreover, the government's ability to ensure that sectoral plans align with the overall national development strategy remains a work in progress. Another notable issue is the slow pace at which key public investment projects are executed. In many instances, projects face delays, which affect their ability to contribute effectively to the country's development goals. The reasons for these delays include inadequate project management practices, lack of skilled personnel, and poor coordination between ministries and implementing agencies.

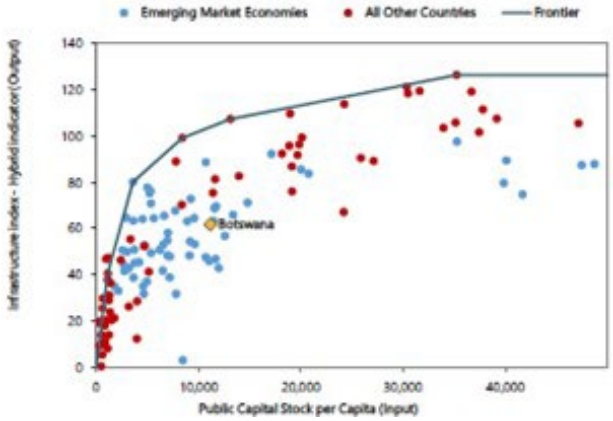
20. Challenges in Project Selection and Appraisal. A major challenge identified in the 2023 PIMA update is the inefficient project selection and appraisal processes. The criteria used for selecting public investment projects are often unclear, and the decision-making process lacks transparency. Furthermore, there is a tendency to select projects based on political considerations rather than their long-term developmental impact or their alignment with national development priorities. The lack of a comprehensive and formalized project appraisal system exacerbates this issue. In Botswana, the appraisal process is often ad hoc, and there is limited use of cost-benefit analysis or other investment evaluation tools. This makes it difficult to assess whether a project is likely to deliver value for money or whether it should be prioritized over other projects. Additionally, the national and sectoral planning processes are not always aligned with the budgeting process. This misalignment further complicates the selection of projects that would best contribute to the national development objectives. In the absence of a more integrated and streamlined planning system, projects are sometimes initiated without adequate feasibility studies or risk assessments.

21. Project Implementation and Monitoring. One of the key findings of the 2023 PIMA update is that Botswana faces significant challenges in project implementation and monitoring. The country has made strides in setting up mechanisms for tracking project progress, such as the Development Project Monitoring System (DPMS). However, the use of these tools remains inconsistent, and there is a lack of detailed, timely reporting on project outcomes. In many cases, the data collected through monitoring systems are not fully utilized to inform decision-making or project adjustments. The absence of strong project management capacity at both the central and sectoral levels has led to frequent delays and cost overruns. While the MFED and other ministries have put in place various monitoring and evaluation systems, they are often underutilized or not properly integrated into the project implementation process. Moreover, the lack of skilled project managers and trained technical staff at the implementation level remains a barrier to the successful execution of public investment projects. As a result, despite substantial public investment, many infrastructure projects fail to meet their expected outcomes. Delays in construction, maintenance backlog, and incomplete projects are common in Botswana, which undermines the long-term impact of these investments.

22. Asset Management and Sustainability. Another critical issue identified in the 2023 PIMA update is the lack of an effective asset management strategy for public investments. Once projects are completed, there is insufficient focus on their maintenance and sustainability. Many

infrastructure projects in Botswana, particularly roads and energy facilities, face significant maintenance challenges, which reduce their effectiveness over time. The lack of a comprehensive asset management plan and a clear strategy for managing public assets means that large investments often deteriorate prematurely. In some cases, the resources allocated for maintenance are inadequate, which leads to the rapid deterioration of infrastructure. Botswana's failure to implement a robust asset management system for maintaining public investments undermines the long-term sustainability of these projects.

Figure 4. Capital Spending Efficiency Gap



Efficiency frontier: Calculations based on hybrid indicator (perception of quality of infrastructure, quantity and access to infrastructure services.
Source: Official data and IMF staff calculations.

Recommendations for Reform

23. The 2023 PIMA update provides a comprehensive set of recommendations to address the weaknesses in Botswana's public investment management framework. These recommendations are aimed at improving project selection, enhancing the implementation and monitoring of public investments, and ensuring the long-term sustainability of infrastructure.

24. Strengthening Legal and Institutional Frameworks. The first set of recommendations focuses on strengthening Botswana's legal and institutional frameworks for public investment management. This includes refining the Public Finance Management Act (PFMA) and ensuring that sectoral ministries have clear guidelines for the planning, selection, and implementation of public investment projects. Moreover, the roles of various actors in the public investment process should be clearly defined to improve coordination across ministries and agencies. The authorities are also encouraged to improve the alignment of national planning and budgeting processes. By integrating the national and sectoral plans more effectively with the budget process, Botswana can ensure that public investment is targeted at projects that will deliver the greatest developmental impact. This will require enhancing the capacity of the Ministry of Finance and Economic Development to oversee and coordinate the entire public investment cycle.

25. Enhancing Project Selection and Appraisal. To improve the efficiency of public investment, where a gap to the efficiency frontier stands out (Figure 4), the government should focus on making project selection and appraisal processes more transparent and evidence-based. This can be achieved by formalizing the project selection criteria and introducing robust cost-benefit analyses to assess the help prioritize projects based on their alignment with national development goals. A more structured and formalized project appraisal process would ensure that projects are selected based on their potential for delivering value for money, rather than political or short-term

considerations. Furthermore, ensuring that sector ministries have the technical capacity to conduct rigorous appraisals would enhance the overall quality of public investments.

26. Improving Monitoring and Evaluation Systems. Improving monitoring and evaluation (M&E) systems is critical for ensuring that public investments deliver their intended outcomes. The government should make greater use of the Development Project Monitoring System (DPMS) and ensure that data from monitoring efforts are used to inform decision-making. This could involve enhancing the training of personnel responsible for monitoring and improving the reporting process to ensure timely and accurate data collection. In addition, a stronger focus on ex-post evaluation would allow the government to assess the effectiveness of completed projects and extract lessons learned for future investments. Creating a culture of accountability and transparency in public investment management will help ensure that the country's investments are being utilized effectively.

27. Building Capacity in Public Investment Management. One of the key recommendations from the 2023 PIMA update is the need for a comprehensive capacity-building strategy in public investment management. The government should invest in developing the skills and expertise of civil servants involved in project planning, implementation, and monitoring. This could involve providing specialized training in areas such as project management, public procurement, and asset management. Strengthening institutional capacity in these areas would help improve the quality of public investment projects, reduce delays, and enhance the effectiveness of public funds. Moreover, the government should explore the possibility of partnering with international organizations, such as the World Bank, to provide technical assistance and support in strengthening the capacity of its public investment management systems.

28. Focusing on Asset Management and Sustainability. To ensure that public investments continue to deliver value over the long term, Botswana should develop a comprehensive asset management strategy. This strategy should focus on improving the maintenance and sustainability of infrastructure projects by allocating sufficient resources for maintenance and repair. Additionally, the government should adopt a more proactive approach to managing public assets by conducting regular assessments of infrastructure conditions and developing long-term maintenance plans.

29. The 2023 Public Investment Management Assessment highlights both the progress and challenges in Botswana's public investment management framework. While the country has made notable strides in strengthening its institutional frameworks and improving project planning, significant gaps remain in project selection, implementation, and monitoring. Addressing these challenges will require a multi-faceted approach, including reforms to legal frameworks, the development of better project selection criteria, and a focus on building institutional capacity. By implementing these recommendations, Botswana can improve the effectiveness of its public investments, ensuring that they contribute more significantly to the country's development goals. The success of these reforms will depend on the government's commitment to enhancing transparency, accountability, and efficiency in the management of public funds. With the right interventions, Botswana can maximize the impact of its infrastructure investments and create a foundation for long-term economic growth.

D. Improving the Financial Reporting Framework[5]

Background and Objectives

30. The report evaluates Botswana's financial reporting framework and outlines reform recommendations. The mission responded to Botswana's request to improve the coverage and quality of fiscal reporting. The overarching goals are to improve the comprehensiveness, frequency and quality of fiscal reports to strengthen fiscal oversight, enhance policy decision-making, and align Botswana's public financial management (PFM) information systems including the chart of accounts with international good practices. The assessment was anchored in Botswana's broader commitment to fiscal reforms as part of its sustainable development and economic resilience goals. The mission reviewed the current status and functionalities of the Government Accounting and Budgeting System (GABS); provided advice on advancing the digitalization of PFM processes when considering upgrades; proposed changes to the current chart of accounts (CoA); and underlined the importance of re-establishing financial reporting.

Key Observations and Findings

31. The Government Accounting and Budgeting System (GABS), Botswana's Integrated Financial Management Information System (IFMIS), has faced persistent operational problems since its 2018 upgrade, culminating in a critical breakdown in August 2023 when the General Ledger stopped updating. The system's instability—stemming from excessive customization, poor configuration, and recurring hardware and database failures—has severely undermined its reliability as a tool for fiscal management and transparency. These issues have led to the suspension of in-year and annual financial reporting for the last two fiscal years, disrupted payment processing, and delayed supplier settlements and bank reconciliations. The Ministry of Finance (MoF) has relied heavily on vendors and consultants to stabilize the platform, but repeated interventions have yet to restore full functionality. Governance weaknesses, including the absence of a service-level agreement between the Accountant General's Office and the Department of Shared Digital Services, have compounded coordination and accountability challenges.

32. Fragmented Financial Reporting. Botswana's public financial reporting remains fragmented. While the Ministry of Finance produces cash-based financial statements annually, several entities—including extra-budgetary funds (EBFs), State-Owned Enterprises (SOEs), and local governments—maintain independent accounting systems with limited integration or standardization. As a result, consolidated financial reporting remains incomplete and insufficient for comprehensive fiscal analysis.

33. Inadequate Chart of Accounts (CoA). The existing CoA does not adequately support economic classification, policy analysis, or inter-entity transactions such as transfers to SOEs or EBFs.

[5] This section provides a summary of the TA Report: "Botswana - Improving the Financial Reporting Framework"; FAD February 2025; By Amitabh Tripathi, Soren Langhoff, Vijay Ramachandran.

It also lacks standardization across ministries and departments. The absence of a well-structured CoA undermines efforts to ensure reliable budget execution reports and hampers the government's ability to produce consolidated statements or transition toward accrual accounting.

34. Limited Use of Accrual Concepts. The financial reports currently emphasize cash flows and do not sufficiently incorporate accrual-based data, such as accounts payable, receivable, or depreciation. This limits transparency over financial obligations and asset management. While the government has made initial steps toward accrual reforms (including the adoption of IPSAS principles by some SOEs), a whole-of-government strategy is still lacking.

Recommendations for Reform

35. There is urgency in restoring reliable financial reporting. While work continues to stabilize and upgrade GABS, the immediate priority must be to reinstate financial reporting for the Budgetary Central Government using available data from GABS, revenue agencies, and the Bank of Botswana. In the medium to long term, sustainable improvements in financial reporting—and any move toward accrual accounting—will depend on a well-functioning, stable IFMIS that supports timely, reliable, and comprehensive fiscal information.

36. A central recommendation is the redesign of the Chart of Accounts (CoA) to ensure greater consistency and reliability in the classification and reporting of public sector financial transactions. The revised CoA should be aligned with international standards, notably the Government Finance Statistics (GFS 2014) framework and International Public Sector Accounting Standards (IPSAS). It should codify the financial relationships between parent ministries and dependent entities, such as state-owned enterprises (SOEs) and extra-budgetary funds (EBFs), in order to enhance transparency and control over fiscal flows. In addition, the introduction of unique identifiers for government-to-government transactions would allow for more accurate tracking of transfers and eliminate discrepancies that currently undermine the production of consolidated statements.

37. Beyond improving classification systems, the report recommends the establishment of a new Financial Reporting Framework (FRF) to standardize reporting practices across all government entities. This framework would clarify the roles and obligations of reporting institutions, establish a uniform reporting calendar, and require systematic reconciliation between cash-based and accrual-based reporting systems. The implementation of the FRF should be supported by the issuance of a comprehensive Financial Reporting Manual (FRM), which would serve as operational guidance for practitioners, and complemented by updates to the Public Finance Management Act to make compliance mandatory. Together, these reforms would provide the foundation for a consistent and transparent approach to financial reporting.

38. The success of these reforms will depend on institutional strengthening and sustained capacity building. To ensure effective coordination, a committee should be tasked with overseeing implementation and monitoring progress. At the ministry level, internal audit and accounting units will need to be reinforced to support the adoption of new practices and maintain reporting quality.

Collaboration between the Accountant General's Department and the Office of the Auditor General must also be enhanced, ensuring that reporting reforms are complemented by effective oversight and independent validation. Training and upskilling of staff across ministries and agencies in modern accounting practices are essential to building the technical capacity needed for sustained reform.

Implementation Strategy and Phased Roadmap

39. The implementation roadmap to guide reform efforts looks as follows:

Short-Term Priorities:

- Restore financial reporting (IFMIS) and finalize the CoA redesign.
- Develop reporting templates based on IPSAS cash and accrual standards.
- Initiate a gap analysis of existing IT systems and accounting processes.

Medium-Term Priorities:

- Roll out the revised CoA across all budgetary and non-budgetary entities.
- Adopt and pilot the Financial Reporting Manual (FRM) in key ministries.
- Begin transition from cash-based to hybrid accrual reporting for selected areas (e.g., payroll, vendor payments).

Long-Term Goals:

- Full adoption of accrual-based IPSAS reporting at the general government level.
- Integration of SOE and EBF financial data into consolidated reports.
- Regular publication of whole-of-government financial statements.

Broader Fiscal Governance Considerations

40. There are broader policy implications of improving financial reporting. Stronger reporting enhances fiscal transparency and investor confidence, enables better tracking of public debt and assets, and supports risk-based fiscal planning. Moreover, consistent classification and monitoring of transfers to SOEs and other dependent entities is critical for managing contingent liabilities and safeguarding fiscal sustainability. Botswana's commitment to reform is evident, but implementation will require sustained political support, inter-agency coordination, and investment in people and systems.

41. By addressing institutional and technical gaps in its PFM system—especially through CoA redesign, standardized reporting, and eventual accrual adoption—Botswana can enhance fiscal transparency, strengthen public accountability, and better manage fiscal risks. The report encourages a phased, realistic approach that balances ambition with capacity and institutional readiness.

E. Ministry of Finance Organizational Assessment[6]

42. The report reviews Botswana's Ministry of Finance (MoF) to assess organizational strengths and gaps and coordination issues in delivering key Public Financial Management (PFM) functions. Triggered by the country's deteriorating fiscal buffers and increasing macro-fiscal risks, technical assistance mission evaluated core PFM functions: macro-fiscal forecasting and policy, fiscal risk analysis, budget preparation, financial control and reporting, and cross-cutting reform coordination. It proposes institutional restructuring and capacity building to support Botswana's shift toward a more sustainable medium-term fiscal path.

Macro-Fiscal Functions

43. The MoF currently lacks a unified structure for macro-fiscal policy management. While the Policy Research and Data Management Unit (PRDMU) conducts select forecasting and strategy functions (e.g., Budget Strategy Paper, debt sustainability analysis), it is not charged with several core tasks such as below-the-line fiscal projections, comprehensive and coordinated Medium-Term Fiscal Framework (MTFF) production, regular fiscal performance reporting, and macroeconomic policy analysis. Crucially, Botswana lacks a standalone macro-fiscal department, and the institutional structure for fiscal risk management is underdeveloped. The report recommends establishing a new Macro-Fiscal Management Department integrating macro-fiscal policy, tax policy, debt sustainability analysis, and fiscal risk analysis, and reconstituting the technical macro working group including all relevant agencies (e.g., Bank of Botswana, Statistics Botswana, etc). The mandates of the Tax Policy Department and Debt Management Departments should also be reviewed and expanded to incorporate all basic tax and debt management functions under a MoF and their capacity built up to effectively perform these functions.

Budget Preparation Functions

44. Budget coordination in the MoF is fragmented. Responsibility is split across divisions, leading to weak coordination of critical activities such as the budget calendar and speech preparation. Recurrent and development budgets are prepared separately, weakening budget unity. The mission recommends establishing a dedicated budget coordination unit to streamline budget preparation, facilitate cross-department collaboration, and ensure adherence to the budget calendar. To improve collaboration between the MoF and the National Planning Commission on PIM, the report recommends that the roles and responsibilities of both institutions be clarified using the existing legal framework as the basis, and their responsibilities for budget preparation should be set out in the budget calendar.

45. The budget challenge function is undercut by limited capacity. Only five desk officers at MoF manage challenge responsibilities for all Ministries, Departments, and Agencies (MDAs), with

[6] This section provides a summary of the TA Report "Botswana – Ministry of Finance Organizational Assessment", [June 2025].

most finance staff seconded to MDAs. While this supports capacity in MDAs, it dilutes MoF's central oversight. The report recommends augmenting desk officer capacity, training, and analytical capabilities to restore MoF's gatekeeping function.

Financial Control, Accounting and Reporting

46. Botswana's financial control and reporting systems suffer from structural and operational weaknesses. The PFM legal framework is outdated, consolidated financial statements have not been produced since FY2021/22, and in-year reports are often incomplete or unreconciled. The Government accounting and budgeting system (GABS) is technologically obsolete and poorly maintained, lacking functionality to support modern budgeting, reporting, or MTBF requirements. Core manuals like accounting policies or SCOA guides are missing, and internal controls are frequently ineffective, leading to financial losses.

47. To address these gaps, the mission recommends strengthening the Accountant General's Department (AGD) responsibilities for the design and oversight of the financial control, accounting and reporting framework, transferring procurement policy coordination responsibilities procurement oversight fully to the procurement authority, strengthening the accounting systems management function to better manage and develop GABS and external application providersexpanding the AGD systems group, and upgrading enhancing cash management and financial reporting capacities. A new IFMIS should be procured or GABS reinstalled, but as a stopgap, an interim reporting solution is urgently needed. Stronger engagement of Accounting Officers with internal audit findings and decentralization of financial control responsibilities are also advised.

Cross-Cutting Functions and Reform Implementation

48. PFM reform implementation has been piecemeal and lacks strategic coherence. Responsibilities are not clearly assigned, reform monitoring is weak, and the coordination unit is not sufficiently empowered. The report recommends placing the reform coordination office under the Permanent Secretary and holding departmental heads accountable for outputs. Finance and accounting functions across MDAs should be integrated to improve performance and coordination. Development partner coordination is also fragmented, with multiple points of contact within MoF. A single coordination unit should be established to ensure harmonized engagement with external stakeholders.

Implementation Roadmap and Recommendations

49. The report proposes 16 priority recommendations with short-, medium-, and long-term timelines, categorized under macro-fiscal, budget management, financial control, and cross-cutting themes. Key structural reforms include the creation of a Macro-Fiscal Management Department, budget coordination unit, and fiscal risk division. Technical recommendations target the rollout of MTBF, baseline costing methodologies, and interim and

long-term solutions for financial reporting. Success will depend on senior leadership commitment, DPSM and Office of the President support, and careful sequencing of reforms.

NO.	RECOMMENDATIONS	TIMEFRAME	PRIORITY
	MACRO-FISCAL		
1.	Establish a stand-alone Macro-Fiscal Management Department, drawing on the existing capabilities of the Transformation Office, and expand role to cover all major macro-fiscal roles.	Short-term	High
2.	Expand the mandate and build-up the capacity of Tax Policy and Debt Management Divisions.	Medium-term	Medium
3.	Staff, train and direct PEEPA to carry out fully the SOE governance and oversight functions	Medium-term	High
4.	Reconstitute the Technical Macro-Fiscal Working Group	Medium-term	Medium
	BUDGET PREPARATION AND MANAGEMENT		
5.	Combine the existing budget coordination functions to guide budget preparation including development of the budget calendar and guidelines, and lead the rollout of budget reforms	Medium-term	High
6.	Strengthen coordination of the recurrent and development budget, including the functions and responsibilities of the MoF and NPC	Short-term	High
7.	Review institutional arrangements for budget decision making with a view to incorporate the early participation of key role players	Medium-term	High
	FINANCIAL CONTROL, ACCOUNTING AND REPORTING		
8.	Strengthen the OAGs design and oversight of financial control, accounting and reporting framework	Short-term	High
9.	Transfer OAG procurement policy coordination responsibilities to PPRA	Short-term	Medium
10.	Strengthen the OAG's systems function to manage and develop GABS and to manage external application providers	Short-term	High
11.	Expand mandate of the Cash Management Unit for monitoring cash flows and guiding budget releases	Short-term	High
12.	Strengthen arrangements and secure greater engagement of Accounting Officers with the internal audit findings	medium-term	Medium
	CROSS-CUTTING		
13.	Review the arrangements for progress reporting and monitoring of the PFM reform strategy, relocate the coordination function to the Office of the PS	Medium-term	Medium
14.	Review the current PFM reform strategy and elaborate aspirational but credible expectations, priorities, plans, etc. for the achievement of proposed reform outputs	Medium-term	Medium
15.	Implement arrangements to provide for a more integrated finance function in Ministries, Departments, & Agencies (MDAs)	Longer-term	Medium
16.	Review opportunities to consolidate development partner coordination within MoF	Medium-term	Medium

50. Botswana's MoF must modernize its PFM framework to adapt to deteriorating fiscal conditions and rising macroeconomic risks. Institutional reform, backed by analytical capacity and strategic leadership, is vital to enhance fiscal governance and sustain long-term economic stability. The recommendations outlined offer a roadmap for revitalizing fiscal institutions and anchoring a credible medium-term fiscal policy in Botswana.

F. Conclusion

51. Botswana's fiscal challenges are intensifying as diamond revenues decline and deficits persist, exposing weaknesses in the country's fiscal institutions. Recent IMF technical assistance sets out a clear reform agenda: modernizing tax administration, strengthening budget preparation and execution, improving public investment management, and enhancing financial reporting and transparency. Implementing these reforms will be essential to restore fiscal sustainability, rebuild buffers, and reinforce the credibility of fiscal policy. Success will depend on strong political commitment, effective sequencing of reforms, and investment in institutional capacity. If carried out decisively, the recommended measures will not only safeguard macroeconomic stability but also create the foundation for a more diversified and resilient economy capable of supporting Botswana's long-term development goal.

CLIMATE ADAPTATION AND ENERGY REFORM: STRENGTHENING BOTSWANA'S MACROECONOMIC RESILIENCE[1]

A. Introduction

1. Growing macroeconomic risks from observed climate trends and projections, alongside fiscal strain from electricity subsidies, call for effective adaptation policies and energy sector reforms. The intersection of climate trends, macroeconomic risks, and fiscal pressures in Botswana presents a critical challenge that demands urgent policy attention. The continued and intensifying warming trend, marked by more frequent extreme heat events and prolonged droughts, poses significant macroeconomic threats to the nation's development trajectory. These climate-induced shocks are projected to diminish agricultural yields and labor productivity across various sectors, directly impacting economic growth and undermining revenue generation. In the near term, such shocks can sharply reduce growth rates, while over the long run, they threaten to contract GDP substantially and strain public finances through a shrinking tax base and increased demands for social protection and adaptation spending. The fiscal strain from electricity subsidies further compounds these risks, limiting the government's capacity to respond effectively. Without decisive adaptation policies and comprehensive energy sector reforms, the economy faces mounting vulnerabilities that could slow long-term growth.

2. Recognizing these stakes, this paper will examine the macroeconomic implications of observed and projected climate trends in Botswana, analyze the fiscal impacts of energy sector challenges, and outline a strategic framework for adaptation and reform. The paper will first explore the nature and magnitude of the climate risks confronting the country. It then provides broad guidelines for effective and efficient adaptation, including practical suggestions on how to prioritize actions listed in the country Nationally Determined Contribution (NDC). Finally, the paper addresses the critical issue of electricity subsidies that strain public finances, emphasizing the need for solutions that promote fiscal sustainability while enhancing energy security.

B. Macroeconomic Risks from Climate Change

Climate Trends and Projections

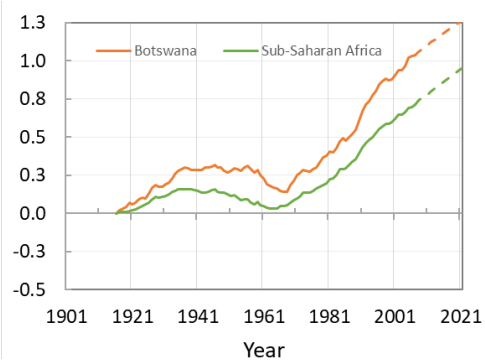
3. Botswana is already experiencing notable warming, with implications for water security, agriculture, and health. The country's climate is predominantly semi-arid to arid, with limited rainfall and high evapotranspiration (Richardson et al., 2022). Over the past century, Botswana has warmed by more than 1.2 °C relative to pre-industrial levels—faster than the

[1] Prepared by Emanuele Massetti, Danielle Minnett, and Filippos Tagklis (all FAD).

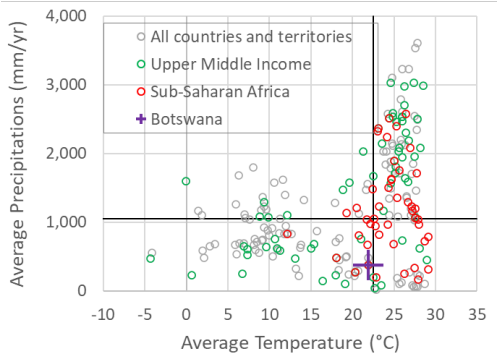
Sub-Saharan African average (Figure 1).[2] The mean annual temperature was equal to 21.9 °C during the 1985–2014 baseline period and is estimated to have exceeded 22.3 °C by 2020. The mean annual temperature is lower than that of most countries in the world, and of almost all other Sub-Saharan countries, but seasonal variation is large, and hot days are normally recorded from November to February. Botswana has among the lowest annual precipitation totals globally—around 400–500 mm/year (Figure 1). High temperatures during the hottest months and structural aridity make the country vulnerability to future warming and dryer conditions, particularly through potential impacts on rainfed agriculture, pastoral systems, and the climate-sensitive Okavango Delta.

Figure 1. Observed and Projected Changes in Average Annual Temperature and Total Annual Precipitation

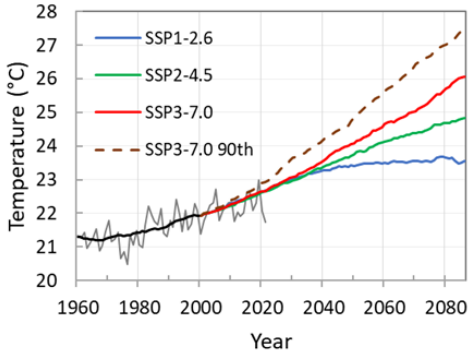
Temperature Anomalies (Relative to 1901–1930, ºC)



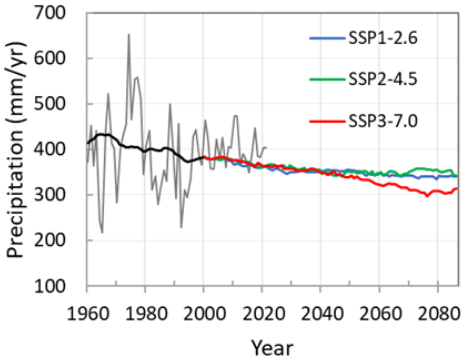
Cross-Country Comparison of Average Climatic Conditions (1985–2014)



Projected Average Annual Temperature (ºC)



Projected Total Annual Precipitation (mm)



[2] IMF staff estimate using CRU data (Harris et al., 2020). Average mean annual temperature between 1901–1930 used as a proxy for pre-industrial levels. Mean annual temperature is projected by estimating a linear trend.

Figure 1. Observed and Projected Changes in Average Annual Temperature and Total Annual Precipitation (concluded)

Source: FADCP Climate Dataset (Massetti and Tagklis, 2024), using CRU data (Harris et al., 2020) and CMIP6 projections (Copernicus Climate Change Service, 2021).

Notes: All temperature and precipitation are calculated using CRU. The observed temperature changes 1985-2014 (2000) with respect to 1901-1930 (1915) can be used as a proxy of warming relative to the pre-industrial period. In the second row, the gray line describes historical values based on observations (CRU for temperature and precipitation. The black line describes the 30-year moving average around each year. Colored lines represent the median of 30-year moving averages of CMIP6 anomalies added to the observed value (thick black line in the year 1999). SSP3-7.0 (red) is a high emission scenario. SSP1-2.6 scenario (blue) is in line with the Paris goal to keep global mean temperature increase below 2 ºC with respect to pre-industrial times. SSP2-4.5 (green) represents continuation of present trends.

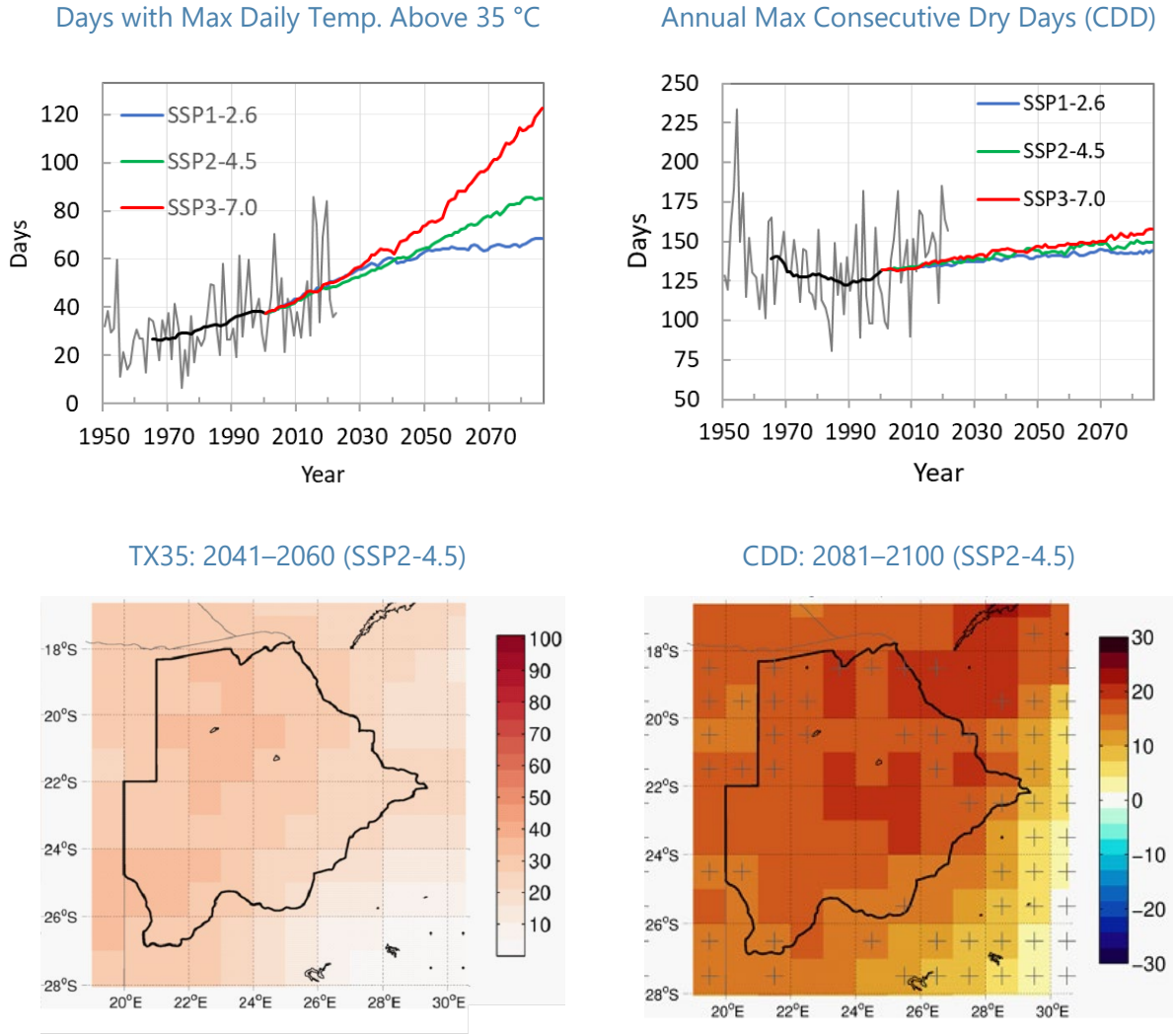
4. Botswana is projected to face significant warming over the coming decades and annual precipitation is expected to decline slightly. Climate projections show a consistent rise in average temperatures under all scenarios, with median warming of 1.5–2.2 °C by 2050 and 1.6-4.1 °C by 2085, relative to the 1985–2014 baseline. Under a high-emissions/fast-warming scenario (SSP3-7.0, 90th percentile), temperatures could rise by nearly 5.5 °C by the end of the century (Figure 1). In contrast, annual rainfall is projected to decline, from a historical average of around 420 mm/year to approximately 350 mm/year by 2085 across scenarios. While year-to-year variability has historically dominated rainfall outcomes, the long-term drying trend is expected to exceed internal variability and become statistically significant with most climate-models in agreement by the latter half of the century.

5. Extreme heat and prolonged dry spells are intensifying in Botswana while trends in heavy rainfall events are uncertain. The number of days with maximum daily temperatures exceeding 35 °C (TX35) – a commonly used threshold to characterize hot days – has increased steadily over the past two decades, consistent with observed warming trends. This rise in extreme heat is expected to continue under all emissions scenarios, with high confidence, further amplifying heat-related stress across sectors (Figure 2). Consecutive dry days (CDD), a key drought indicator, have also shown a marked upward trend since the 1990s, with an average increase of over 30 days relative to historical conditions, and are projected to continue increasing throughout the century (Figure 2). Heavy rainfall events have become more intense, but trends remain within natural variability and projections do not indicate significant changes. While intense rainfall events—measured by annual maximum one-day (Rx1day) and five-day (Rx5day) precipitation—have shown upward trends in recent years, these changes remain within the bounds of year-to-year variability and are not statistically significant (Figure 4). Projections suggest that the lack of statistically significant trends in these intense precipitation events is likely to persist under all emissions scenarios.

6. This analysis of climate trends and projections highlights increasing risks for the macroeconomic outlook and for the most vulnerable part of the population. The combined effect of higher temperatures and reduced rainfall, exacerbated by more frequent extreme temperature and longer dry periods, amplify existing aridity problems and increase pressure on Botswana's already water-stressed ecosystems and rainfed livelihoods. The largest impacts are going to be felt by farmers that rely on rainfed agriculture and other vulnerable parts of the population,

but higher temperatures and increased aridity have the potential to worsen productivity across sectors with adverse macroeconomic consequences.

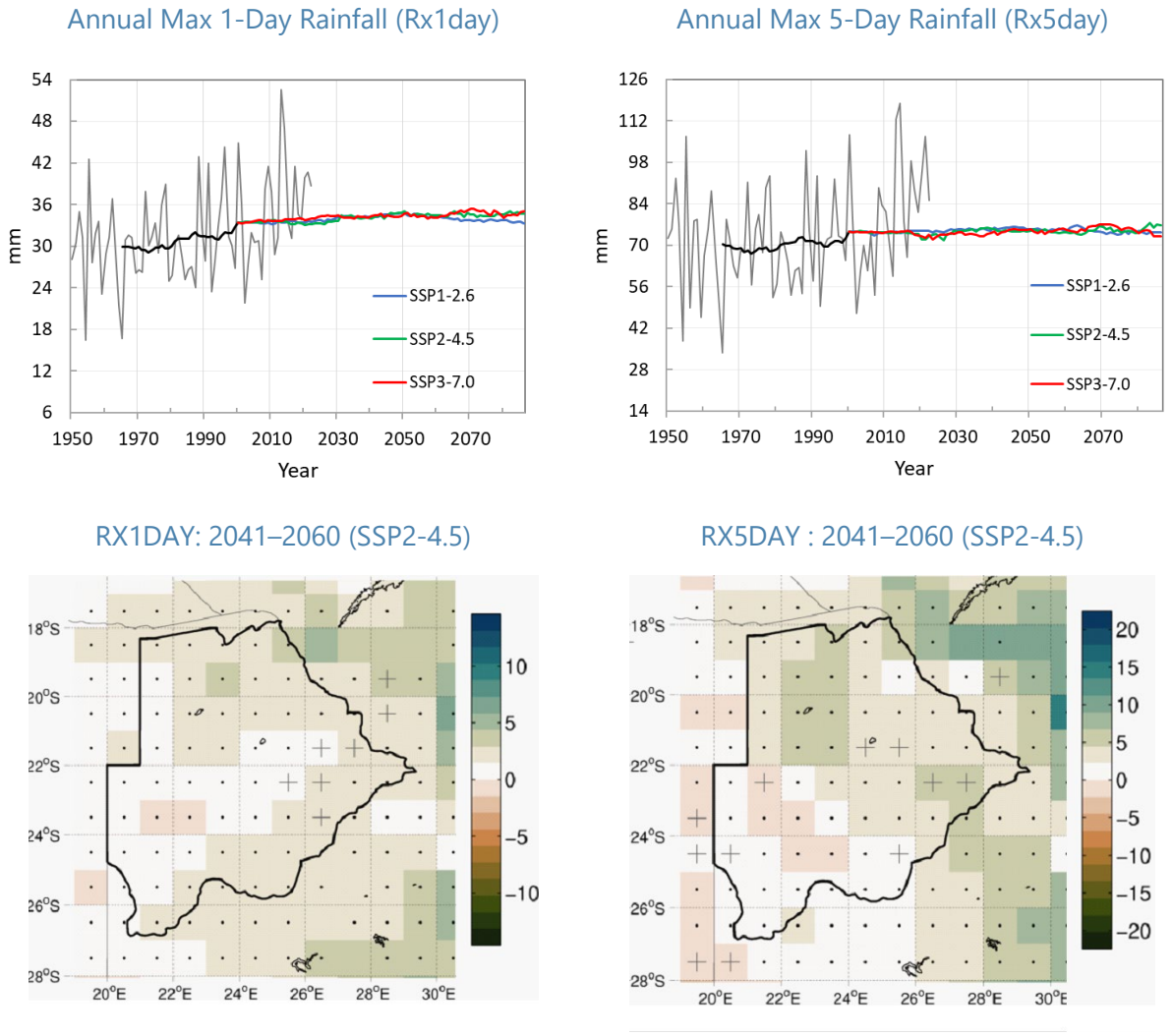
Figure 2. Projected Changes in the Number of Hot Days (TX35) and Consecutive Dry Days (CDD)



Source: FADCP Climate Dataset (Massetti and Tagklis, 2024), based on ERA5 reanalysis (Hersbach et al., 2023), CMIP6 projections (Copernicus Climate Change Service, 2021), and Copernicus Interactive Climate Atlas (C3S Atlas: https://atlas.climate.copernicus.eu/atlas).

Notes: Timeseries show country averages. Gray line: historical annual mean TX35 and CDD (ERA). Black line: 30-year moving average centered on each year. Colored lines: median 30-year moving averages of CMIP6 ensemble temperature anomalies added to ERA5 baseline (1999 black line). Scenarios: SSP3-7.0 (red: high emissions); SSP1-2.6 (blue: Paris-aligned <2°C); SSP2-4.5 (green: current trends). Maps: SSP2-4.5 projected changes vs. 1991-2020 baseline for 2041-2060 (medium-term) and 2081-2100 (long-term). Ensemble robustness (AR6 method): Robust Signal (≥80 percent models agree on sign); Conflicting Signals (crosses: <80 percent agreement but significant); No Change/No Robust Signal (dots: low change/significance, <66 percent emergent signals).

Figure 3. Projected Changes in Extreme Rainfall (Rx1day and Rx5day)



Source: FADCP Climate Dataset (Massetti and Tagklis, 2024), based on ERA5 reanalysis (Hersbach et al., 2023), CMIP6 projections (Copernicus Climate Change Service, 2021), and Copernicus Interactive Climate Atlas (C3S Atlas: https://atlas.climate.copernicus.eu/atlas).
Notes: Timeseries show country averages. Gray line: historical annual mean RX1DAY and RX5DAY (ERA5). Black line: 30-year moving average centered on each year. Colored lines: median 30-year moving averages of CMIP6 ensemble precipitation anomalies added to ERA5 baseline (1999 black line). Scenarios: SSP3-7.0 (red: high emissions); SSP1-2.6 (blue: Paris-aligned <2°C); SSP2-4.5 (green: current trends). Maps: SSP2-4.5 projected changes vs. 1991-2020 baseline for 2041-2060 (medium-term). Ensemble robustness (AR6 method): Robust Signal (≥80% models agree on sign); Conflicting Signals (crosses: <80% agreement but significant); No Change/No Robust Signal (dots: low change/significance, <66% emergent signals).

Projected Macroeconomic Impact of Weather Shocks Climate Change in Botswana

7. The warming trend predicted for this century can cause significant reductions in GDP, particularly with slow or no adaptation. Higher temperatures can reduce labor (Kjellstrom et al., 2009; Somanathan, et al., 2021; Kahn et al., 2021) and agricultural productivity (Kurukulasuriya et al., 2006; Malhi, Kaur, and Kaushik, 2021), increase energy spending for air conditioning (Isaac and Van

Vuuren, 2009), and intensify aridity due to accelerated evapotranspiration (Serdeczny et al., 2017). The impact of warming can be particularly severe if temperatures exceed critical thresholds, beyond which both agricultural and labor productivity decline sharply (Schlenker and Roberts, 2009; Akyapi, Bellon, and Massetti, 2025). Estimating the macroeconomic impact of these climatic changes presents numerous methodological challenges, and long-term projections are inherently uncertainty. However, the empirical literature has made progress, offering useful insights.

8. A worst-case warming scenario could result in a 10 percent annual economic loss by the end of the century if adaptation is slow.[3] Without adaptation these losses can double (Mohaddes and Raissi, 2024), while rapid adaptation could reduce losses to 3 percent of GDP for the same temperature scenario. Moderate global emissions cuts can keep GDP losses under 1 percent (SSP2-4.5 scenario in Figure 4), while deeper reductions that stabilize global temperature are projected to boost growth by removing the drag on the economy from the present warming trend. These losses arise from both direct and indirect impacts of higher average annual temperatures across sectors. They include the effects of increased aridity due to accelerated evapotranspiration, but do not account for reduced rainfall, more frequent extreme temperatures, and droughts. Furthermore, these estimates do not consider potentially large negative impacts from abrupt climatic changes, environmental collapse, and societal transformations indued by climate change.

9. Extreme temperatures are estimated to already cause significant negative impacts on GDP, and their macroeconomic importance is expected to grow as they become more frequent. Empirical evidence suggests that in years with a higher than usual number of hot days (maximum daily temperature above 35 °C), GDP growth is 2 percentage points below the norm (Akyapi, Bellon, and Massetti, 2025).[4] Fewer cool days than usual also decrease growth, but the negative effect is approximately half that of hot days. Based on these estimates, it can be concluded that the increased frequency of hot days over the past four decades in Botswana has reduced GDP by 2.4 percent below its potential without climate change.[5] Two-thirds of this loss are attributable to the increased frequency of hot days, and one-third to the decreased frequency of cool days. As shown in Figure 2, the number of hot days is projected to increase across all scenarios. The number of cool days is also expected to decline because of the warming trend. Without adaptation, losses

[3] SSP3-7.0 90th percentile scenario, implying an increase of mean annual temperature equal to +4.1 °C in Botswana in 2071–2100 compared to the 1985-2014 reference period. This loss is calculated relative to a scenario in which temperature continues increasing following observed trends and is already lower than in a hypothetical scenario without climate change. For a more extensive discussion, see Centorrino et al. (2025).

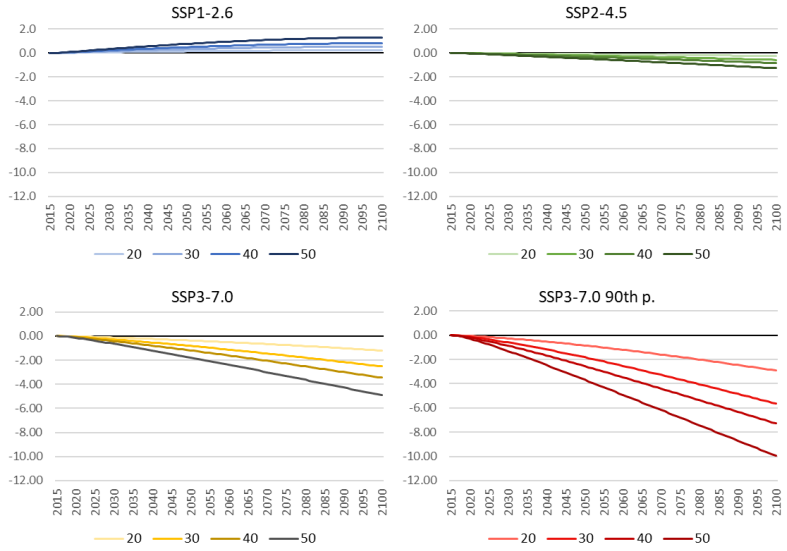
[4] Recent estimates of the impact of weather shocks on GDP growth obtained by applying machine learning methods to a large climate dataset for a panel of world countries indicate that three key weather variables – extreme temperatures, severe droughts, and days with cool temperatures – have a sizeable impact on annual GDP growth. The estimates presented here use a model estimated for a panel of Sub-Saharan countries. In the specific case of Botswana, droughts do not generally cause large economic impacts.

[5] While the effects of year-to-year weather shocks on the macroeconomy offset each other in the absence of trends (hotter and cooler than normal years tend to alternate), it variables are trended their net effect can be different from zero compared to a counterfactual scenario without climate trends.

from these climatic trends could be substantial and add further stress to macroeconomic losses from slow-moving warming.

Figure 4. Macroeconomic Effects of Warming and Weather Shocks

GDP Losses Relative to a Scenario with Continuation of Present Trends (Percentage)



Source: Centorrino et al. (2025) using Kahn et al. (2021), and CMIP6 data (Copernicus Climate Change Service, Climate Data Store, 2021) processed by Massetti and Tagklis (2024).

Notes: The impact of the warming trend for each scenario is estimated using Kahn et al. (2021) under the assumption that adaptation can offset the warming trend after 20, 30, 40, or 50 years. Impacts are measured as percentage deviations of real GDP per capita relative to a reference scenario in which the warming trend follows the historical pattern. Country specific warming trends are calculated for each scenario using the bias-adjusted ensemble median projections of temperature anomalies with respect to 1985-2014 over 30-year time periods centered around each year using CMIP6 data.

Impact of Selected Climate Variables on Growth in Botswana (Percentage)

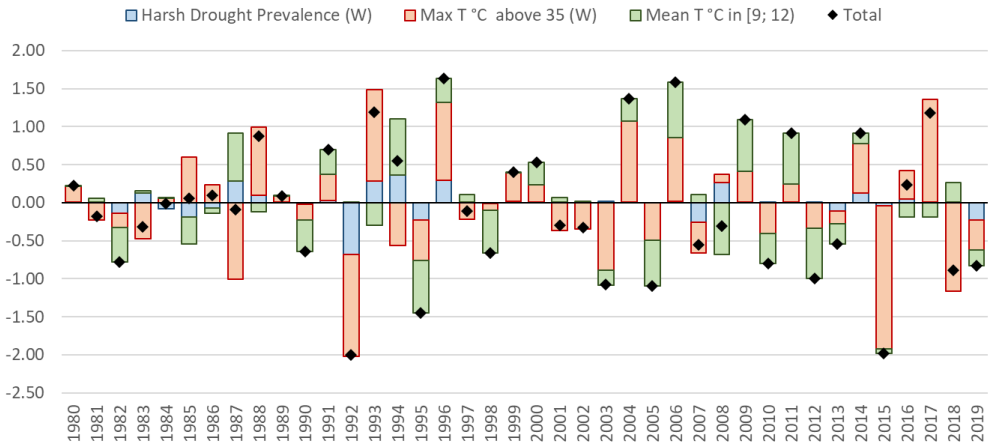


Figure 4. Macroeconomic Effects of Warming and Weather Shocks (concluded)

Source: IMF staff using Akyapi, Bellon, and Massetti (2025).

Notes: Notes: Impact on GDP per capita growth in Botswana of variables selected in by Akyapi, Bellon, and Massetti (2025), using a panel of Sub-Saharan countries. Harsh Drought Prevalence: Share of grid-months during which the Palmer Drought Severity Index (PDSI) is < -4. Max T °C above 35: Share of grid-days with maximum daily temperature greater than 35°C. Mean T °C in [9; 12): Share of grid-days with mean temperature in the interval [a,b). (W) indicates population-weighted variables Black diamonds indicate the net impact of all variables.

C. Adaptation Policy Recommendations

10. Adaptation can substantially reduce climate change impacts while minimizing fiscal costs if supported by efficient public policies. While estimating with precision what should be done, and at what cost is extremely difficult, it is possible to build a roadmap for including adaptation into macrofiscal planning by starting from important general principles. IMF staff developed guidance to help countries adapt by integrating climate change in macro-fiscal planning (Gonguet et al. 2021; Bellon and Massetti, 2022a,b; Aligishiev, Bellon, and Massetti, 2022; Sakrak et al. 2022).

11. A crucial first step in estimating investment needs is to differentiate between investment in climate change adaptation and investment in development. While nearly all development investments reduce climate vulnerability as a side benefit – for example, expanding the use of irrigation to deal with present needs also aids in managing future climate change stress, paving rural roads increases their flood resilience, and transitioning employment from informal agriculture to formal sectors fosters economic growth and overall economic resilience – adaptation investments are those driven exclusively by climate change. Often, adapting to climate change requires marginal adjustments to existing development investments, such as larger water storage tanks to manage longer dry periods. Only the additional cost of these water tanks attributable to climate change should be considered an adaptation expense (Bellon and Massetti, 2022). This distinction enables accurate estimation of budgetary pressures and prevents double counting of investment needs.

12. By focusing on strictly additional measures, the government can simplify and strengthen the country's climate change adaptation strategy. Botswana's Second Updated Nationally Determined Contribution (NDCs) under the Paris Agreement outlines approximately forty measures across eight areas aimed at reducing vulnerability to weather shocks and climate change (Government of Botswana, 2024),[6] though not all are strict adaptation measures. While all these

[6] Adaptation measures are listed across eight areas: climate services, water, livestock, crops, forestry, biodiversity and rangeland, health, infrastructure.

measures are beneficial in decreasing vulnerability to weather shocks and climate change, many are driven primarily by development needs.

13. The impact of government action and spending can be maximized by focusing on public provision of climate services, on boosting water sector efficiency. Investing in climate services – including by expanding early warning systems, climate risk mapping, and defining a system to measure the impacts of climate change is a key government goal in the national NDC and deserves the highest priority. This information is instrumental to mainstream climate change into all government operations, for example by integrating climate change into Public Financial Management (PFM). Measures to increase efficiency of water supply and water use – such as water transfer schemes, minimizing water losses, and strengthening transboundary agreements on water – deserve immediate attention because they alleviate present risks while build a system that can efficiently adapt to the increasing water stress predicted by climate models. As market inefficiencies and policy failures may limit private adaptation or create distortions, another key role for the government is to continue promoting reforms that ease the efficient use of all resources and ensure competitive access to markets. For example, access to credit markets allows farmers to invest in adaptation and efficient water pricing creates incentives to conserve water. Finally, the government has an important role in addressing adverse distributional impacts of climate change ensuring a just transition.

14. Cost-benefit analysis (CBA) can play an important role in selecting public adaptation projects. Adaptation investment yields beneficial effects, but investing in adaptations with low economic and social returns may crowd out investment in more impactful development measures. For instance, choices about investing in climate resilient infrastructure, improved drainage systems, water desalination facilities, rooftop rainfall catchment on public buildings, and other actions identified in the NDC often require balancing levels of protection with associated costs. These trade-offs are best evaluated by systematically comparing social costs and benefits. What to do, when, how, and at what cost ultimately relies on ethical choices that should reflect the preferences of each society. However, CBA, complemented by analysis and correction of distributional impacts, can help decision makers maximize overall social welfare by avoiding wasting scarce resources. To achieve this goal, it is essential that CBA is applied to adaptation as well as to all other development programs in a consistent manner (Bellon and Massetti, 2022).

D. Powering the Future: Accelerating Botswana's Shift to Renewables

Background

15. Electricity supply in Botswana is dominated by coal-fired generation, with minimal contribution from renewable sources. Domestic installed capacity is approximately 900 MW, of which around 630 MW is used during peak hours.[7] Coal-fired plants, Morupule B (~600 MW) and Morupule A (~132 MW), account for over 96 percent of domestic power.[8] Diesel generators at

[7] World Bank, 2024, SAD Centre for Renewable Energy and Energy Efficiency (n.d.)
[8] IEA (n.d)

Orapa (90 MW) and Matshelagabedi (73 MW) plants provide roughly 160 MW of contingency generation. Meanwhile, renewable energy remains marginal, with only 6 MW of installed solar photovoltaic (PV) capacity (IRENA, 2021).

16. Botswana's electricity supply remains heavily dependent on imports, making regional connections through the Southern African Power Pool (SAPP) an essential component of the energy system. The Morupule B plant continues to face persistent operational challenges and is undergoing extensive remedial work, limiting its ability to operate at full capacity. Meanwhile, Morupule A is projected to be retired from service by 2027. Botswana's heavy reliance on these plants, combined with the high costs of diesel generation, has caused the country to be dependent on electricity imports. Currently, about 48 percent of final power consumption is generated domestically, while 52 percent is sourced through the Southern African Power Pool (SAPP)[9], primarily from Zambia, Namibia, and South Africa. In 2023, Botswana spent $156 million on electricity imports, making it the 55th largest importer of electricity globally.[10] Around 60 percent of SAPP electricity generation comes from coal generation and around 24 percent from hydro.[11] Last year, the unit costs of imported power increased by an estimated 166 percent (Timothy, 2025). Although imported electricity can carry higher per-unit costs, participation in the SAPP provides Botswana with the ability to draw on regional surplus generation during periods of domestic shortfall. At
the same time, high dependency on imported electricity can cause energy security concerns. Load-shedding in South Africa is affecting service levels in the neighboring villages across the border in Botswana (World Bank, 2024).

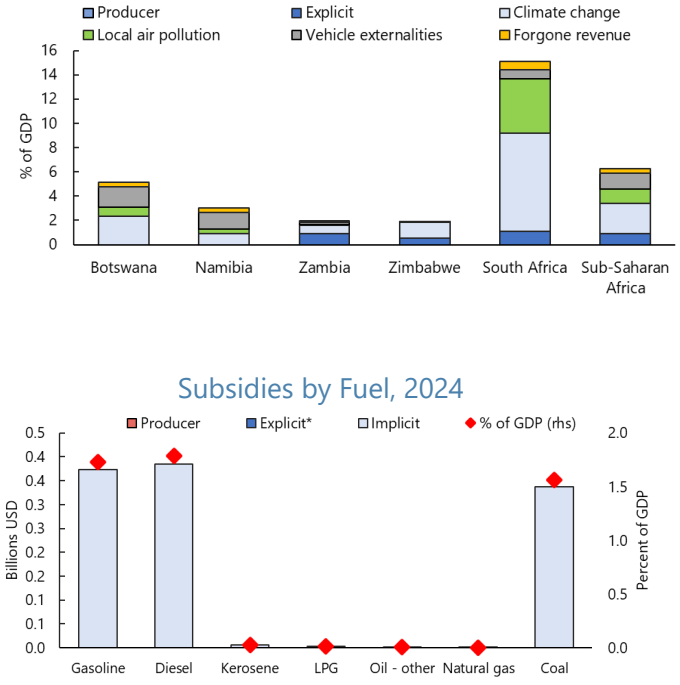
17. Botswana's electricity market operates under a single-buyer model, with the Botswana Power Corporation (BPC) serving as the sole off-taker for all domestically generated power and electricity imports. BPC is state-owned and is responsible for generation, transmission, and distribution, as well as implementing the government's rural electrification program funded by the Ministry of Minerals and Energy (MME). While this model provides a centralized framework for sector planning and investment coordination, it also concentrates off-taker risk into a single entity. BPC's network spans large distances, leading to transmission and distribution losses, which averaged 15.35 percent in 2021 (World Bank, 2024). Other key sector players include the MME, which oversees policy and regulation and the Botswana Energy Regulatory Authority (BERA), responsible for licensing and tariff setting. The single-buyer arrangement underscores the need for robust financial management and contractual certainty to ensure investor confidence and long-term supply security.

18. Despite relatively high overall access to electricity, disparities remain stark between urban and rural areas. National electrification stood at approximately 72–76 percent in recent years, outpacing many neighboring countries, but remaining low in comparison to similar per capita income countries. Additionally, access remains uneven. Urban access has reached around

[9] IEA (n.d)
[10] OEC, Electricity in Botswana (n.d)
[11] SAPP, 2021 Annual Report (Latest available)

95.5 percent, whereas rural access has lingered around 25 percent—causing equity challenges.[12] Though a small levy on electricity bills supports low-income grid connections, many households have struggled with upfront connection costs at the household level, including wiring and appliance affordability (World Bank, 2024). The zero-cost connection policy, launched in 2024, established the free supply of a pre-wired electrical distribution system known as a ready board, for customers earning up to P2,400 per month. Regardless of these efforts, off-grid and decentralized solutions have not yet been mainstreamed (World Bank, 2023).

Figure 5. Implicit Subsidies



Source: IMF Fossil Fuel Subsidies Database

19. Although Botswana does not provide explicit fossil fuel subsidies, implicit subsidies are estimated at around 5 percent of GDP. Implicit subsidies occur when the retail price fails to include external costs, inclusive of the standard consumption tax. These external costs encompass contributions to climate change from greenhouse gas emissions, health impacts—especially premature deaths—caused by harmful local pollutants such as fine particulate matter, and the negative effects of road fuel use, including traffic congestion and accident-related costs. The IMF also includes forgone consumption tax revenue that would be collected if implicit costs were included in pricing. Implicit subsidies are high compared to neighboring countries aside from South Africa (see Figure 5). As a result, energy prices do not fully reflect their true economic cost, reinforcing carbon-intensive consumption patterns and potentially delaying a shift toward cleaner alternatives.

20. Electricity subsidies continue to place a considerable strain on Botswana's public finances, as tariffs remain well below the cost of supply. BPC tariff increases of 10 percent, 22 percent, and 3 percent occurred in April 2018, 2020, and 2021, respectively. Requests by BPC for further 5 percent adjustments in 2022–2023 and 2023–2024 were denied, even as operational costs rose. The subsidies reflect a persistent cost-recovery gap, with tariffs at 30–32 thebe/kWh (0.021–0.0224 USD/kWh) below actual generation and import costs, contributing to operational losses of P498 million in FY2023 (Timothy, 2025). For the upcoming year, BPC is already confirmed to receive around P1.2 billion as subsidy support that is part of a P3–4 billion package under the

[12] SDG 7.1.1 Electrification Dataset, World Bank, Accessed 08/14/2024

Transitional National Development Plan, though the estimated shortfall for 2025-2026 is P3.4 billion (Timothy, 2025). As a result of the subsidies, current average domestic tariffs, at roughly $0.09/kWh, are among the lowest in the Southern African Development Community.

Targets and Plans

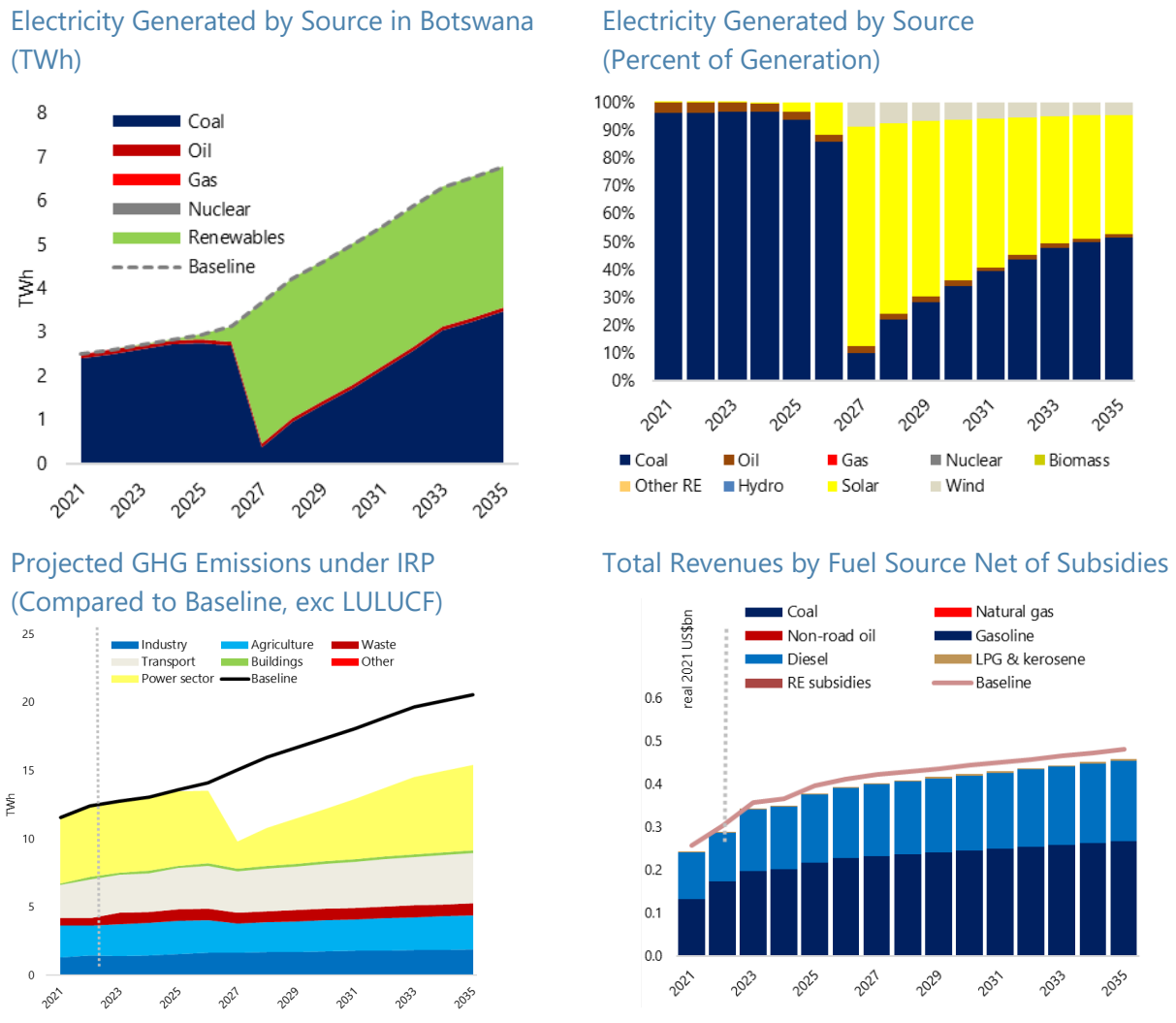
21. Botswana has set highly ambitious energy goals and updated their Integrated Resource Plan (IRP) with a substantial renewable energy rollout that still involves coal generation. The government has targeted a 50 percent share of renewable energy generation in Vision 2036 and aims for universal electricity access and net energy exporter status by 2030. Under its Nationally Determined Contribution (NDC), the country has pledged a 15 percent reduction in greenhouse gas emissions relative to a business-as-usual (BAU) scenario by 2030, conditional on securing adequate financing. As electricity generation—followed by transport—accounts for the largest share of non-Land Use, Land-Use Change, and Forestry (LULUCF) CO2 emissions, the government's updated 2025 Integrated Resource Plan outlines a substantial renewable energy rollout, with incoming renewable energy installed capacity at 1950 MW. Implementation is being spearheaded by the Projects and Energy Development Unit (PEDU) under the MME, which is preparing competitive tenders for large-scale solar and wind projects. The IRP also plans to continue to invest in coal generation. The 600 MW Mmamabula power plant, already procured and expected to be completed in 2027, will add significant capacity. Meanwhile, the plan aims to have another coal plant in Palapye established by 2027 with an additional 615 MW and a coal bed methane project reaching 100MW of installed capacity. However, it is important to note that the plan is not informed by a least-cost generation analysis or renewable energy feasibility studies, and as such, the feasibility of the proposed projects remains uncertain.

22. The outcomes of the updated IRP are modeled by the Climate Policy Assessment Tool (CPAT). CPAT is a spreadsheet-based model providing projections of fuel use and GHG emissions for the major energy sectors in over 200 countries. The impacts of carbon pricing and other mitigation policies depend on their proportionate impacts on future fuel prices and the price responsiveness of fuel use in different sectors. The former is based off international energy price forecasts and emissions factors while the latter is parameterized to the mid-range of existing modelling literature and empirical evidence on fuel price elasticities. The model is linked to input-output tables to infer impacts on production costs in different industries, consumer prices, and burdens on household income groups. CPAT, which was developed jointly by IMF and World Bank staff, is widely used in IMF surveillance, cross-country, and technical assistance reports (see Annex 4 for more details).

23. CPAT analysis indicates that a substantial influx of renewable energy capacity would significantly reshape Botswana's generation mix and drive a notable decline in GHGs compared to the country's current emission trajectory. Under the IRP, renewable energy—particularly solar PV—is projected to surpass the demand for coal-fired generation within the first year of being introduced (see Figure 6, panel a) since the price for renewable energy is lower than coal-generation. However, since the IRP ends in 2027, and no additional renewable energy is planned beyond this horizon, the demand for coal-generation increases again as energy

demand grows and the modelling assumes a reduction of imported electricity.[13] Therefore, to maintain the high renewable energy share, more renewable energy projects would need to come online after the 2027 time horizon. Under the IRP, power sector emissions are expected to fall by approximately 54 percent and overall emissions by 30 percent compared to 2030 baseline levels, thereby exceeding the country's NDC (see Figure 6, panel c). The majority of energy-related revenue comes from excise taxes on gasoline and diesel consumption, thus the reduction in coal generation would not significantly diminish government revenue streams (see Figure 6, panel D). In addition to climate benefits, a transition to renewable sources would reduce reliance on aging coal plants, improve air quality, and enhance energy security by diversifying supply sources.

Figure 6. CPAT Results Modelling the Updated IRP



Source: IMF calculations using CPAT

[13] The CPAT is modeling the IRP business-as-usual scenario, which has the highest electricity demand compared to other scenarios. The CPAT is using an assumed 10 percent fall in annual electricity imports for the time horizon of the IRP and a 5 percent fall in annual electricity imports until 2033.

Table 1. Capacity and Demand of Electricity in SAPP Countries

Country	Utility	Installed Capacity (MW)	Operating Capacity (MW)	Current Peak Demand (MW)	Peak Demand Plus Reserves (MW)	Capacity Excess/Shortfall Including Reserves (MW)
Angola	RNT	3,129	2,500	1,869	2,138	362
Botswana	BPC	927	459	610	698	-239
BRC	SNEL	2,457	1,076	1,376	1,574	-498
Lesotho	LEC	74	70	150	172	-102
Malawi	ESCOM	352	351	326	373	-22
Mozambique	EDM/HCB/MOTRACO	2,724	2,279	1,850	2,116	163
Namibia	Nampower	614	389	695	695	305
South Africa	Eskom	50,774	48,463	38,897	41,374	7,089
Swaziland	SEC	70	55	232	265	-210
Tanzania	TANESCO	1,366	823	1,051	1,202	-379
Zambia	ZESCO/CEC/LHPC	2,734	2,734	2,194	2,510	224
Zimbabwe	ZESA	2,045	1,535	1,615	1,847	-292
Total	—	67,266	60,754	50,865	54,964	6,401

Source: Southern African Power Pool, 2025

24. However, the plan's focus on becoming an energy export could lead to oversupply risks. Bringing over 3000 MW of installed coal and renewable energy capacity online before 2027 presents a risk of oversupply relative to the current peak demand of just 630 MW. However, it is important to note that the capacity factor of solar is low, at around 20 percent. Therefore, when including capacity factors, the level of additional supply is closer to 1050MW of capacity, which is still an oversupply of domestic generation. The interconnected SAPP grid, means Botswana can access broader markets, monetize excess generation, and improve energy security across the region. However, it is important to question if there will be demand available for excess generation. In 2024, excess capacity, including reserves, for the region was 6,401MW (see Table 1) and there may be less demand for coal-based power as countries, like South Africa, accelerate their energy transitions. Regional competition may be another constraint as SAPP members are also planning to expand generation capacity (see Table 2). Lastly, the country could face infrastructure constraints since export potential depends on transmission interconnectors, which require significant time and investment to develop. If regional demand growth and connection lags behind supply expansion, Botswana could face difficulty selling its surplus power, forcing it to operate plants below capacity factors and undermining the economic case for the investments.

Table 2. Generation Expansion Plans for Other SAPP Countries

Country	Planned Capacity Additions by 2030	Key Details & Technologies
South Africa	~29,500 MW total new capacity by 2030	As outlined in the Integrated Resource Plan (IRP 2019), additions include 14,400 MW of wind, 6,000 MW of solar PV, 3,000 MW of gas, 1,500 MW of coal, and 513 MW of pumped storage. The South African Renewable Energy Masterplan (SAREM) further targets 3 GW of new renewables annually, increasing to 5 GW/year by 2030, with emphasis on local manufacturing and energy storage.
Mozambique	+2,000 MW hydropower by 2030; long-term plan to reach 17,720 MW by 2043	The 2023 Energy Transition Strategy prioritizes large hydro expansions, especially the 1,500 MW Mphanda Nkuwa Hydroelectric Project, alongside grid expansion to boost electricity access and exports. The Integrated Master Plan envisions exports rising from ~1,500 MW to 7,000 MW in the long term.
Zambia	+6,308 MW by 2030, with ~3,443 MW from renewables	The Integrated Resource Plan (2023) aims to raise the share of variable renewable energy sources (solar, wind) from 3% to 33% by 2030. Key projects include the 255 MW Lunsemfwa Hydro (2027) and multiple 100 MW+ solar PV plants, such as Chisamba Solar.
Namibia	~140 MW confirmed projects; additional capacity in planning	Projects include the 40 MW Otjikoto Biomass Power Station (2027) and a 100 MW large-scale solar PV plant (commissioning 2026). The country is supported by a $138.5 million World Bank loan for grid upgrades to integrate renewables and improve reliability.

Sources: South Africa Department of Mineral Resources & Energy, 2019; Enerdata 2025, Jowett, 2025, Bungane, 2018;, Zambia Ministry of Energy IRP; Global Transmission Report, 2025 ; Reuters, 2025; Reuters, 2024a ,, Reuters,2024b;, Nambia Ministry of Mines & Energy, 2022.

Table 3. Key features of Botswana's Renewable Energy PPA Framework

Feature	Description
Well-Structured Competitive Process	Sealed-bid, location-specific, two-stage tenders ensure transparency and fairness.
Pre-Developed Project Sites	Botswana Power Corporation (BPC) selects and prepares sites, including grid connection points.
Rigorous Pre-Qualification	Bidders must demonstrate strong technical and financial capability.
Robust Financial Commitments	Bid bonds (up to US $1M) and performance bonds (US $4M) required, enhancing project delivery discipline.
Long-Term Revenue Certainty	Projects awarded a 25-year Power Purchase Agreement (PPA) with BPC, providing predictable cash flows.
Currency & Inflation Risk Mitigation	PPA price partially indexed to local inflation and Pula/USD exchange rate—offering financial stability to investors.
Government Backing without Sovereign Guarantee	No sovereign guarantee, but support via a three-month liquidity facility and a government-issued letter of comfort.
Incentivized Local Ownership	Projects expected to include 40% local equity, applied only if local market capacity exists—balancing inclusivity and feasibility.
Dual Evaluation Criteria	Evaluation based on both price and economic development impact.

Source: Information taken from Kruger, W., Alao, O., & Betz, S. (2024)

Table 4. Renewable Energy Auction Rounds in Botswana

Auction Rounds	Initiation Year	Volume Requested (MW)	Project-Size Limits (MW)	Technology Requested	Capacity Procured (MW)
Round 1	2015, relaunched 2017, and again in 2019	100	50	CSP or PV	50 MW
Round 2	2015	100	100	CSP	Nil
Round 3	2018	N/A	N/A	Solar PV	Nil
Round 4	2022	N/A	N/A	Solar PV	Nil
Round 5	2022	200	100	CSP	Nil

Source: Kruger, W., Alao, O., & Betz, S. (2024).

Building an enabling environment for renewable energy

25. Evidence-based planning is essential to ensure that energy investments are both efficient and achievable. The IRP provides a strategic outline for future energy development, but it is not based on a least-cost generation analysis or renewable energy feasibility studies, which limits confidence in its economic efficiency and technical viability. Basing energy planning on least-cost and feasibility analyses is crucial because it ensures that resources are allocated optimally, generation options are technically achievable, and the system can reliably meet demand at the lowest possible cost. Without this foundation, the plan risks promoting solutions that may be financially or operationally unsustainable, potentially leading to higher costs for consumers and delays in achieving energy security and renewable integration goals.

26. Committing to a clear, consistent auction schedule with transparent rules can rebuild investor trust and secure long-term renewable energy investment. While Botswana's Renewable Energy PPA Framework offers notable strengths (see Table 3), past disruptions to auctions have undermined investor confidence, making transparency and predictability essential going forward. Multiple utility-scale solar auctions have been canceled or delayed, eroding trust among developers and financiers (see Table 4), and highlighting the need for better planning. For example, the 100 MW PV tender announced in 2017 was canceled in 2019 and later reissued in smaller lots, some of which the government did not pursue. To restore credibility and attract sustained investment, Botswana must ensure procurement auctions are rolled out in a transparent, consistent, and timely manner.

27. Incorporating clear methodologies to remunerate and integrate generation from variable sources to the national grid can provide the clarity needed for an investment-ready power system. Clear rules and standards give Independent Power Producers (IPPs) and private investors the confidence to commit capital, knowing their projects can connect to the grid efficiently and operate under predictable conditions. The current grid code lacks comprehensive technical standards for integrating renewable energy, storage, and distributed generation and lacks clarity on

grid access protocols and interconnection requirements for IPPs. BPC's workforce includes only a limited number of engineers skilled in transmission and connection planning, which further hinders the smooth integration of renewable energy (Kruger, Alao, and Betz, 2024). Updating the gride code to incorporate RE, ensuring there is institutional capacity to provide timely grid connection approvals, as well as, monitor and enforce compliance, can encourage investment into the sector. Meanwhile, robust provisions for managing variable renewable energy (e.g., forecasting, curtailment protocols, or ancillary services) help maintain grid stability as more solar and wind power come online, preventing outages and ensuring consistent supply.

28. Increasing electricity tariffs to cost-reflective levels and phasing out subsidies can play a pivotal role in enabling a country to expand its renewable energy share. When tariffs reflect actual costs, utilities can recover their operating expenses, maintain infrastructure, and invest in grid upgrades or new generation capacity, including renewable energy projects. This financial stability also makes the sector more attractive to private investors, as they can see a clear path to recovering their costs and earning a reasonable return. For example, Namibia, with a peak electricity consumption comparable to Botswana's, implemented cost-reflective tariffs following a national tariff and cost-of-service study. These actions enabled NamPower to operate without external subsidies, meet its financial obligations, and attracted an influx of Independent Power Producers— all renewable—that now contribute 25 percent of installed capacity (Baker and Bischof-Niemz, 2022). In addition, reducing subsidies eases the fiscal burden on the government, freeing up public resources that can be redirected to other priorities.

29. Reaching cost-reflective levels does not mean everyone has to pay the full cost. For example, Namibia's tariff structure uses cross-subsidies in which tariff support flows from businesses/high-consuming residents to low-consuming domestic users. For Botswana, a cross-subsidization approach could make electricity more affordable for rural communities. Under such a scheme, revenues from customers connected to the main grid would be used to subsidize electricity for consumers in areas of solar mini-grids, thereby supporting rural electrification efforts and narrowing the access gap between urban and rural areas. By sharing costs across the customer base, the model would advance social equity while encouraging the uptake of renewable energy solutions. It would also provide a more predictable revenue stream for mini-grid operators, strengthening their long-term financial sustainability and enabling wider access to reliable electricity.

30. Successful cross-subsidization would require careful designing, including transparent tariff setting, consumption metering, and addressing sector inefficiencies. A transparent compensation mechanism should include clear participation criteria to promote cost efficiency (including estimating the impact of adding new mini-grids on tariffs), cost recovery calculations for participating mini-grids, studies on the impact of increased main grid tariffs on customers, and periodic tariff reviews. Effective metering of electricity consumption, including using advance metering infrastructure (AMI), would be useful, and could reduce commercial losses irrespective of cross-subsidization. Long-term planning of the sector, including mini-grids sites, will help to

leverage economies of scale to lower the costs. Finally, addressing operational losses is crucial to ensure transparency and effectiveness of the scheme.

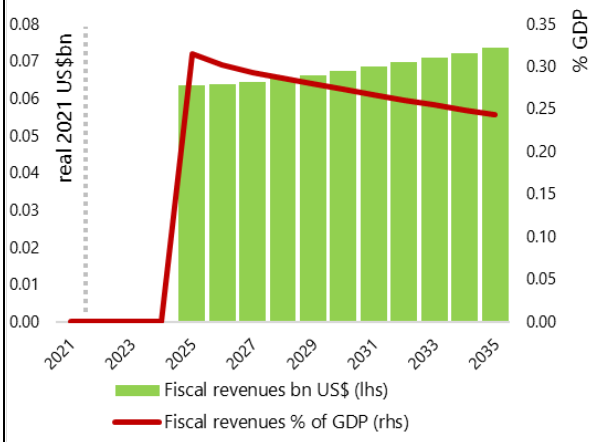
31. Instead of direct cross-subsidization, additional revenues from urban tariffs could be used to subsidize green technology in rural areas. In this case, the revenue subsidizes the technologies instead of the consumer. Each approach targets affordability in different ways: one through revenue redistribution, the other through cost reduction via technology. If technology is subsidized, priority should be given to technologies that improve energy access, enhance reliability, and reduce emissions—such as solar mini-grids, battery storage systems, and efficient appliances. Careful assessment of the impact of urban tariff adjustments on consumers would still be necessary to maintain affordability while generating sufficient revenue. Long-term sector planning, including identifying priority rural sites for green technology rollouts, could help maximize economies of scale and cost efficiency. Finally, periodic reviews of both the tariff structure and the rural deployment program would be essential to ensure transparency, effectiveness, and sustained benefits.

32. Holding large electricity users accountable for their energy mix can also help drive a cleaner and more equitable power sector. In Botswana, the mining sector is responsible for approximately half of all productive electricity usage. Copper and nickel operations account for 49 percent of the mining sector's electricity consumption, with the diamond subsector not far behind at 45 percent, giving it significant influence over national energy outcomes (World Bank Group, 2016). The government can leverage distributed energy policies and self-generation requirements to ensure these companies contribute to the renewable transition. For example, mining companies could be required, perhaps through an adopted decree by MME, to increase the share of renewable-based electricity in their power mix by at least a set percentage each year until 2030, with unmet targets triggering compensatory investments in rural electrification, particularly in isolated communities. With industry leaders like Debswana already aiming for carbon neutrality by 2030, such measures could accelerate the shift toward sustainable and inclusive energy development while shifting some of the investment burden to the private sector.

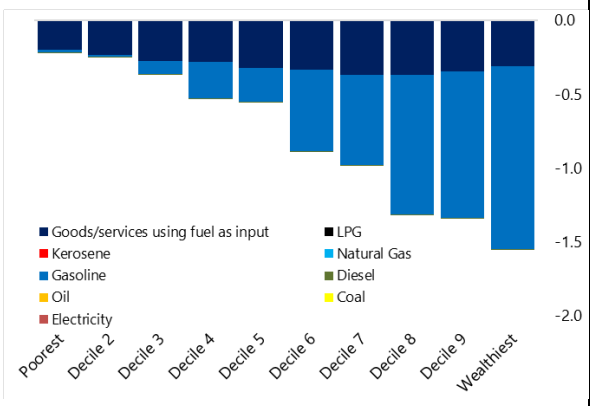
33. Aligning the current tax structure with the green agenda can simultaneously boost government revenues and accelerate renewable energy adoption. There is a zero-rated VAT on diesel and petrol—which currently avoids the standard 14 percent rate. Maintaining zero-rated VAT on fuels can unintentionally incentivize higher consumption of diesel and petrol and undermine national climate commitments. Applying the standard VAT to these fuels could generate an additional 0.25 percent of GDP in revenues by 2035 (see Figure 7, panel a), which can provide more flexibility during a period of fiscal consolidation and help to level the playing field across technologies. This policy would be progressive as wealthier households have greater access to gasoline and diesel-requiring equipment, like vehicles (see Figure 7, panel b). Expenditures from the general budget, including spending on health, education, and social protection often support lower-income individuals. As a result, by recycling the additional revenues into the general budget, this policy can improve consumption levels for lower income households (see Figure 7, panel c). It also would reduce CO_2 emissions, particularly from gasoline in the transport sector (see Figure 7, panel D).

Figure 7. CPAT Results from Applying Standard VAT on Diesel and Petrol

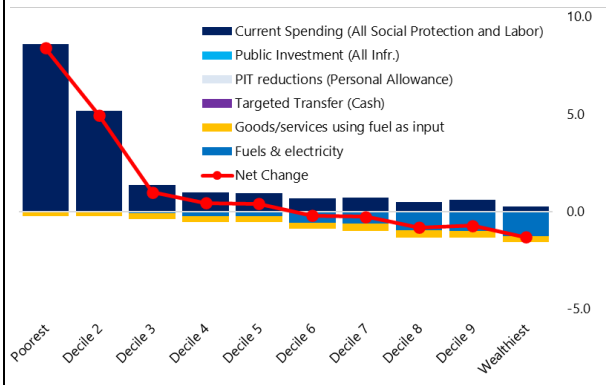
Additional Fiscal Revenues from Fossil Fuel Excises (Against the Baseline)



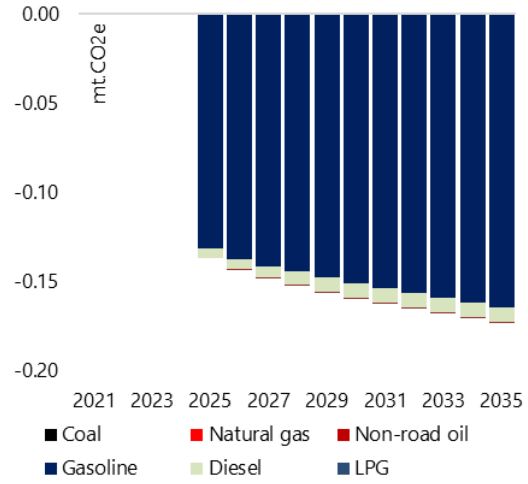
Relative Mean Consumption Effect (Percent of Consumption for $0-Carbon tax per tCO2e in 2030), Botswana



Relative Mean Consumption Effect with Revenue Recycling, Botswana (Percent Consumption, VAT on Diesel and Petrol in 2030)



Change in Energy CO2 Emissions by Fuel



Source: IMF calculations using CPAT

Box 1. South Africa's Carbon Tax: A Pioneering Policy in Africa

Implementation & Design:
South Africa introduced its Carbon Tax Act in June 2019, becoming the first African nation to enact a national carbon tax. The policy was designed in phases, with generous tax-free allowances (between 60–95%) during the initial phase to ease industries into the transition. This approach helped industries acclimate without sudden cost shocks.

Revenue Generation & Use:
Although revenues are pooled into the general government fund and not ring-fenced, they are utilized to support green initiatives—such as energy efficiency incentives, solar water heaters, and free basic energy for low-income households. In 2022 alone, the carbon tax generated approximately R1.6 billion.

Box 1. South Africa's Carbon Tax: A Pioneering Policy in Africa (concluded)

Driving Renewable Energy Investment:
The tax signal, particularly as allowances phase down, is increasingly making fossil fuel–based power more expensive—causing businesses to pivot toward clean energy. The upcoming 2026 carbon tax overhaul further accelerates this by reducing allowances (from 60 percent to 30 percent, with annual reductions through 2030).

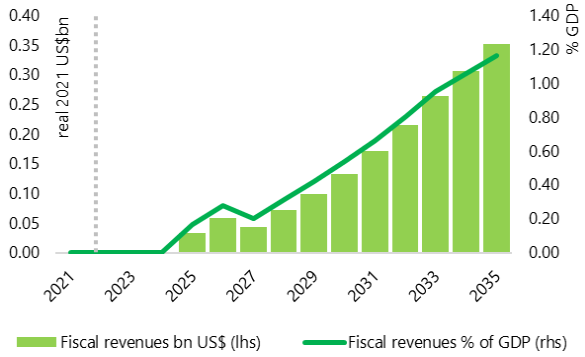
Broader Climate Policy Integration:
This carbon pricing framework dovetails with South Africa's broader climate strategy, including its new climate change law that mandates carbon budgets for large emitters and requires municipal adaptation plans— reinforcing the carbon tax's impact.

34. Establishing a carbon price would take Botswana's green fiscal reforms a step further by directly incentivizing emissions reductions while generating new revenue streams. A well-designed carbon tax would help internalize the environmental costs of fossil fuel consumption, reducing the implicit subsidies that currently make high-emission energy sources artificially cheap. Applying a predictable and gradually increasing carbon price encourages industries, including major energy consumers like the mining sector, to invest in cleaner technologies and improve efficiency. South Africa was the first in the region to impose a carbon tax (see Box 1). Today, the tax is 13USD/tCO_2 but it expected to rise to 30USD/tCO_2 by 2030. Carbon taxation is gaining popularity across the region with introduction of carbon taxes expected in Tanzania and Senegal. If Botswana imposed a 5USD/ tCO_2 carbon tax that escalates to 25USD/tCO_2 by 2030, additional fiscal revenues could increase over 1.2 percent of GDP (by 2035) with only a small change in electricity prices, of 11 percent, over the next five years (see Figure 8, panel a & b). The impact on GDP from the carbon tax is negligible (see Figure, panel c). However, the carbon tax would complement the IRP to reduce emissions to an even greater extent, particularly in the industrial sector (see Figure, panel d).

35. The revenues collected could be strategically repurposed into the budget or applied as targeted support for vulnerable households. Even without considering revenue recycling, carbon pricing is inherently progressive in Botswana because poorer households typically have lower fossil fuel consumption and therefore bear a smaller share of the tax burden (see Figure 9, panel a). When considering the additional general budget support, which can include adaptation needs, consumption effects are positive, and highly progressive (see Figure 9, panel b). Cash transfers can also be used to target the lower income households impacted by carbon taxation which could further increase their consumption effect as well as improve political acceptability (see Figure 9, panel c).

Figure 8. CPAT Results - Carbon Tax Starting at $5/tCO2 and Increasing to $25/tCO2 by 2030

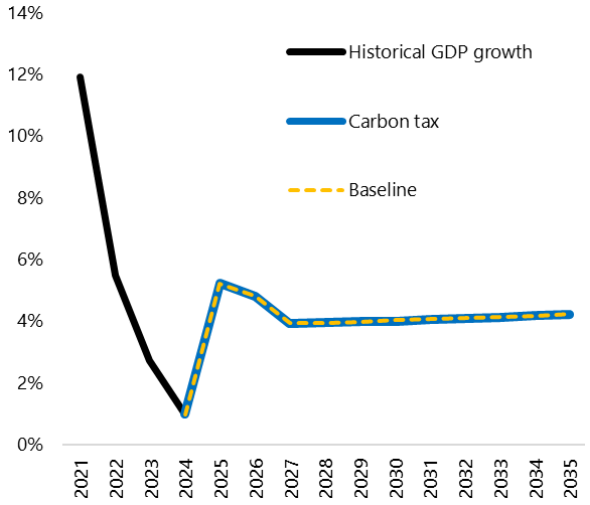
Additional Fiscal Revenues from Fossil Fuel Excises (Against the Baseline)



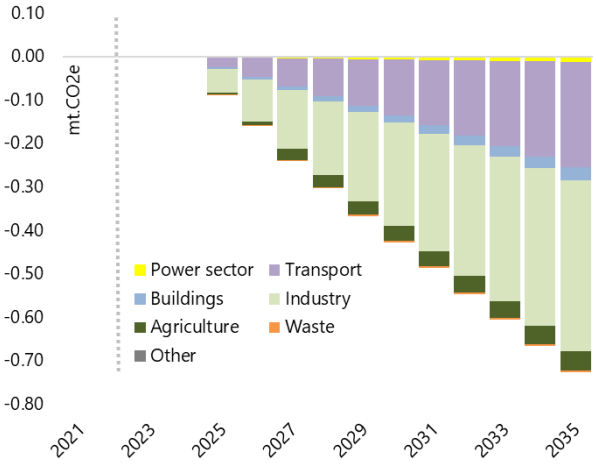
Energy Price Change for $25/tCO2 in 2030 (Weighted by Consumption)

Fuel	Unit	Baseline	Baseline + - Carbon tax	% change
Gasoline	US$ per liter	0.85	0.91	7%
Diesel	US$ per liter	0.85	0.91	8%
LPG	US$ per liter	0.51	0.56	9%
Kerosene	US$ per liter	0.73	0.80	9%
Oil	US$ per barrel	54.5	66.2	22%
Coal	US$ per gigajoule (GJ)	1.90	4.26	124%
Natural gas	US$ per gigajoule (GJ)	9.74	11.14	14%
Electricity	US$ per kwh	0.090	0.099	11%

GDP: Annual Growth Forecasts (Baseline and Policy Scenario)



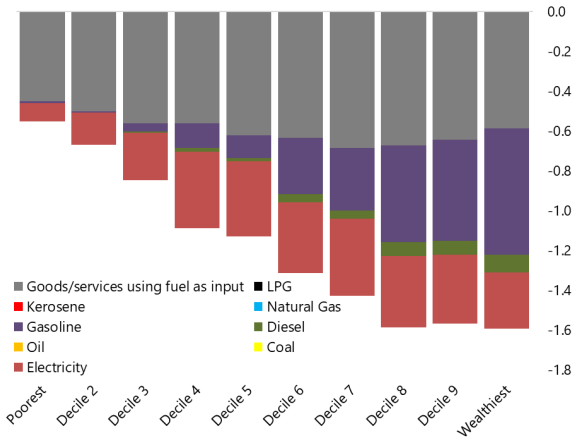
Abatement of GHGs by Sector Excluding LULULCF



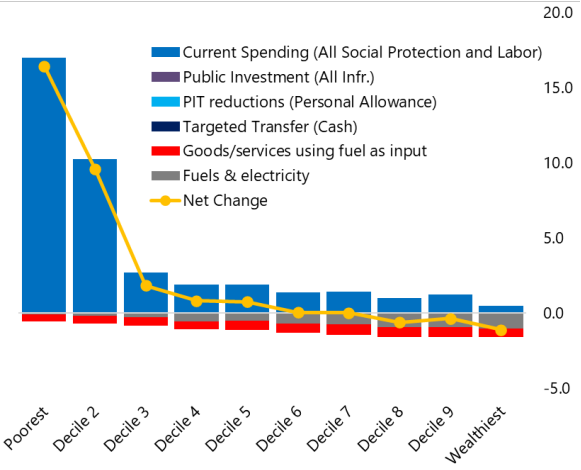
Source: IMF calculations using CPAT

Figure 9. Distributional Impacts from the Modelled Carbon Tax

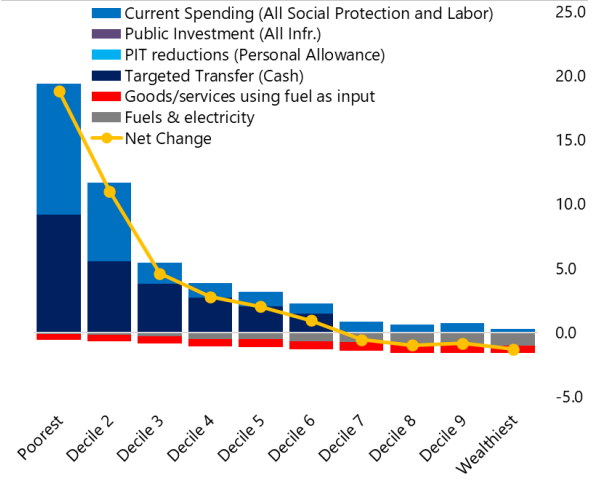
Relative Mean Consumption Effect (Percent Consumption for $25 Carbon Tax per tCO2e in 2030), Botswana



Relative Mean Consumption Effect (Percent Consumption for $25 – Carbon Tax per tCO2e in 2030, Botswana)



Relative mean consumption effect with revenue recycling (Percent Consumption, in 2030), Botswana



Source: IMF calculations using CPAT

36. Targeted import duty exemptions for renewable energy technologies can boost adoption of clean energy solutions but needs to be weighed against other priorities. By removing or reducing tariffs on equipment such as solar PV panels, batteries, and inverters, governments can make these technologies more affordable. Lower upfront costs would improve the financial viability of renewable energy projects, attract private investment, and encourage wider market participation. In turn, this could accelerate the transition away from fossil fuels, enhance energy security, and support national climate commitments. Forgone tariff revenues could limit government resources that could be used for other critical programs and, if exemptions are not well-targeted, they could disproportionately benefit wealthier households and businesses that are better able to invest in renewable systems, widening inequality in energy access. However, this type

of policy would lower the imports of more expensive, fossil-based electricity which is currently subsidized.

37. Lastly, positioning Botswana as a key supplier in the global clean energy transition offers a pathway to diversify its economy. As the world accelerates its shift to green technologies, the demand for critical minerals—such as cobalt, copper, manganese, and nickel—is expected to surge, creating an opportunity for Botswana to capitalize on its endowments of these resources. Developing this sector responsibly could help reduce the country's heavy reliance on diamonds while tapping into new, high-growth global markets. However, to maximize benefits and avoid economic pitfalls like Dutch Disease, the country will need to diversify its economy beyond resource exports by investing in other sectors like manufacturing and services, as well as manage resource revenues prudently to prevent currency overheating. Robust environmental safeguards, strong governance, and sustainable mining practices must be paired with new mineral development to ensure long-term economic and social returns.

E. Conclusions

38. Increasing macroeconomic risks from current and projected climate trends, combined with fiscal pressures from electricity subsidies, underscore the need for robust adaptation policies and energy sector reforms in Botswana. The persistent warming trend in the country is expected to intensify, with more frequent episodes of extreme heat and longer drought periods. These changes are anticipated to reduce agricultural yields and labor productivity across multiple sectors, further deteriorating the macroeconomic outlook. In the short term, extreme heat events have been shown to lower growth by up to 2 percentage points. As these events become more common, short-term macroeconomic risks are likely to increase. Over the longer term, a sustained warming trend could lead to as much as a 10 percent reduction in GDP by the century's end compared to projections under current conditions. Such losses may have cascading fiscal consequences, resulting from decreased revenues due to a shrinking tax base and increased spending on social protection and climate adaptation.

39. The government can substantially reduce these macroeconomic impacts by refining the adaptation measures outlined in the Second Updated Nationally Determined Contribution (NDC). Priority should be given to investing in climate services, such as expanding early warning systems, conducting climate risk mapping, and establishing mechanisms to measure climate change impacts, which are critical steps for integrating climate considerations into PFM. Improving water sector efficiency can help address immediate water shortages and build resilience against growing water stress. Furthermore, reforms to reduce market inefficiencies can facilitate private adaptation in all sectors, crowding-in private investment and reducing fiscal risks.

40. There is also an opportunity to ease fiscal pressures stemming from electricity sector subsidies. The ambitious renewable energy expansion set out in the updated Integrated Resource Plan could help lower energy imports, diminish reliance on less efficient coal plants, and cut power sector emissions by over 50 percent compared to a business-as-usual scenario for 2030. Proper

planning, including a least-cost generation plan, and adjusting the tax system to support climate goals—such as applying the standard VAT rate to diesel and petrol, and gradually introducing a low-level carbon price—would further strengthen the fiscal position.

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