TECHNICAL BRIEF:

CLIMATE FINANCE AND IMPLICATIONS FOR CREDIT RATING

KEY MESSAGES

- *Climate change is now a core economic and fiscal risk, directly affecting growth, stability, and creditworthiness, essential for resilience, but its impact depends on its structure, quality, and predictability.*
- *While global climate finance is expanding, it remains insufficient and uneven, especially for adaptation in developing countries.*
- *Rwanda has strong institutional frameworks (e.g., FONERWA, climate budgeting), but still faces financing gaps and reliance on external resources.*
- *The structure of financing matters: concessional finance strengthens sustainability, while excessive non-concessional borrowing increases risk.*
- *Climate shocks translate into fiscal pressure, growth volatility, and external imbalances, affecting overall stability.*
- *Financial markets increasingly price climate risk, influencing borrowing costs and sovereign ratings.*
- *Private sector participation remains limited, making blended finance and risk-sharing mechanisms critical.*
- *Strong institutions, governance, and project implementation capacity are key to maximizing benefits.*
- *Ultimately, effective climate finance management is central to long-term resilience, macroeconomic stability, and credit strength.*

Climate change has evolved from a long-term environmental concern into an immediate and systemic macroeconomic challenge with direct implications for fiscal stability, external balances, and sovereign risk.

1. INTRODUCTION

Climate change has evolved from a long-term environmental concern into an immediate and systemic macroeconomic challenge with direct implications for fiscal stability, external balances, and sovereign risk. Its effects are no longer confined to isolated environmental events but are increasingly embedded in core economic outcomes, including growth volatility, inflation dynamics, public expenditure pressures, and financial sector resilience. Climate-related shocks, such as droughts, floods, and temperature variability, are already affecting agricultural productivity, infrastructure integrity, energy systems, and human capital, thereby weakening the foundations of sustained economic growth. As these shocks become more frequent and severe, they amplify macroeconomic uncertainty and complicate policy management, particularly in developing and climate-exposed economies.

In this context, climate finance has emerged as a central pillar of economic policy. It encompasses not only the volume of resources mobilized for mitigation and adaptation but also the efficiency, predictability, and structure of those resources. Climate finance is increasingly viewed as a strategic instrument for managing climate risks while simultaneously advancing development objectives. Well-targeted investments in resilient infrastructure, climate-smart agriculture, renewable energy systems, and disaster risk management can reduce long-term fiscal costs, stabilize economic output, and enhance productivity. Conversely, insufficient or poorly structured climate finance can exacerbate vulnerabilities, forcing governments to rely on costly borrowing or emergency fiscal adjustments in response to climate shocks.

For sovereign issuers, particularly in low- and middle-income countries, the interaction between climate vulnerability and financing capacity has become a defining feature of creditworthiness. Countries with high exposure to climate risks often face a dual challenge: rising fiscal demands due to climate-related expenditures and constrained access to affordable financing. This can lead to a deterioration in debt sustainability indicators, widening fiscal deficits, and increased reliance on external borrowing. At the same time, countries that are able to mobilize concessional climate finance, attract private investment through de-risking mechanisms, and integrate climate considerations into macro-fiscal frameworks are better positioned to manage these pressures and strengthen their credit profiles.

The implications for sovereign credit ratings are increasingly evident. Credit rating agencies and investors are incorporating climate-related risks into their analytical frameworks, recognizing that climate vulnerability can materially affect a country's economic resilience, fiscal flexibility, and external stability. This shift reflects a broader evolution in risk assessment, from a backward-looking evaluation based primarily on historical fiscal and economic indicators to a more forward-looking approach that considers structural risks and long-term sustainability. Climate risk, in this regard, is not treated as an isolated factor but as a cross-cutting issue that influences multiple dimensions of creditworthiness.

Moreover, the growing integration of climate considerations into financial markets is reshaping investor behavior and capital allocation. Institutional investors, sovereign wealth funds, and development finance institutions are increasingly aligning their portfolios with environmental, social, and governance (ESG) criteria, with climate risk being a central component. This trend creates both opportunities and challenges for sovereign issuers. On one hand, countries that demonstrate strong climate governance, credible transition pathways, and effective use of climate finance may benefit from improved market access and lower borrowing costs. On the other hand, countries that lag in addressing climate risks may face higher risk premiums, reduced investor appetite, and potential rating pressures.

Ultimately, climate finance is no longer a supplementary development tool but a core element of macroeconomic management and sovereign risk assessment. Its role extends beyond funding climate-related projects to shaping the trajectory of economic resilience, structural transformation, and long-term sustainability. Understanding the linkages between climate finance and credit rating is therefore essential for policymakers seeking to navigate an increasingly complex and climate-constrained global economy.

2. THE GLOBAL CLIMATE FINANCE LANDSCAPE

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USD 1.46 trillion

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Global climate finance has grown significantly over the past decade, reflecting a structural shift in how governments, financial institutions, and private investors respond to climate change. Total flows reached approximately USD 1.46 trillion in 2022, marking a major milestone in the scale-up of climate-related investments. This expansion has been driven by stronger policy commitments under the Paris Agreement, rising carbon-transition pressures, technological advancements in renewable energy, and increased participation from institutional investors. A large share of this financing continues to be directed toward mitigation activities, particularly renewable energy deployment, energy efficiency improvements, electrification of transport, and green industrial transformation. These sectors attract substantial private capital because they offer relatively predictable returns and are supported by regulatory frameworks and incentives.

However, despite this rapid growth, global climate finance remains far below what is required to achieve climate and development objectives. Current estimates suggest that global investment needs could exceed USD 7 trillion annually by 2030 to align with a net-zero pathway and climate-resilient development. The shortfall is particularly pronounced in developing and emerging economies, where investment requirements are highest due to infrastructure gaps, rapid urbanization, and high climate vulnerability. At the same time, these countries often face constrained fiscal space, limited domestic capital markets, and higher borrowing costs, which restrict their ability to mobilize adequate financing.

A critical structural imbalance within the global climate finance landscape is the disproportionate allocation between mitigation and adaptation. Mitigation continues to dominate global flows, accounting for the majority of investments due to its stronger revenue-generating potential and clearer risk-return profiles. In contrast, adaptation finance, covering investments in climate-resilient infrastructure, water management systems, disaster risk reduction, and climate-smart agriculture, remains severely underfunded. In 2023, adaptation finance reached only about USD 26 billion, while estimated needs for developing countries alone are projected to rise to USD 310–365 billion annually by 2035. This gap is particularly concerning because adaptation investments are essential for reducing vulnerability and preventing long-term economic losses, especially in climate-exposed regions.

The composition of climate finance also reveals important structural features. A significant portion of global climate finance is still concentrated in advanced economies and large emerging markets, where financial systems are deeper and investment risks are lower. In contrast, low-income countries receive a relatively small share of total flows and rely heavily on public and concessional finance. Multilateral development banks, bilateral donors, and dedicated climate funds such as the Green Climate Fund (GCF) and Global Environment Facility (GEF) play a central role in channeling resources to these countries. However, the scale of concessional finance remains insufficient, and access is often constrained by complex application processes, limited project preparation capacity, and stringent eligibility requirements.

Private sector participation, while growing, remains uneven across regions and sectors. Globally, private finance accounts for a substantial share of mitigation investments, particularly in energy and transport. Yet in developing countries, especially in Africa and small island states—private investment is limited due to high perceived risks, including political uncertainty, currency volatility, weak regulatory frameworks, and underdeveloped financial markets. This creates a persistent financing gap that cannot be bridged by public resources alone, underscoring the importance of blended finance mechanisms, guarantees, and risk-sharing instruments to crowd in private capital.

Recent international policy developments highlight a renewed commitment to scaling up climate finance. The outcome of COP29 in Baku (2024) established a new collective goal of mobilizing at least USD 300 billion per year by 2035 for developing countries, alongside a broader ambition of reaching USD 1.3 trillion annually from all sources. This represents a significant increase compared to previous commitments and reflects growing recognition of the scale of the challenge. However, translating these commitments into actual flows will require fundamental reforms in the global financial architecture, including enhanced coordination among multilateral institutions, increased concessional resources, improved access mechanisms, and stronger alignment between climate and development finance.

In addition, there is increasing emphasis on improving the effectiveness and quality of climate finance. This includes strengthening project preparation pipelines, enhancing monitoring and evaluation frameworks, and ensuring that investments deliver measurable climate and development outcomes. The focus is also shifting toward integrating climate finance into broader national planning and budgeting processes, such as through Integrated National Financing Frameworks (INFFs) and climate budget tagging systems. These approaches aim to improve coherence between climate objectives and macroeconomic policies, thereby enhancing the overall impact of climate finance.

Ultimately, the global climate finance landscape is characterized by rapid growth but persistent gaps, both in scale and distribution. While significant progress has been made, particularly in mobilizing mitigation finance, the underfunding of adaptation and the limited access of vulnerable countries to affordable finance remain critical challenges. Addressing these imbalances is essential not only for achieving global climate goals but also for strengthening economic resilience and supporting sustainable development, particularly in countries most exposed to climate risks.

3. CLIMATE FINANCE IN RWANDA: SCALE, STRUCTURE, AND GAPS

Rwanda's climate finance landscape reflects both notable progress in mobilization and persistent structural constraints in meeting the scale of investment required for climate-resilient and low-carbon development. While comprehensive, consolidated national estimates of total climate finance flows remain evolving, Rwanda has positioned itself among the more proactive countries in Sub-Saharan Africa in terms of climate policy, institutional frameworks,

and financing innovation. Key mechanisms such as the Rwanda Green Fund (FONERWA), climate budget tagging, and the integration of climate priorities into national planning frameworks (including NST2 and Vision 2050) have strengthened the country's ability to attract and manage climate finance. Nevertheless, the overall volume of resources remains insufficient relative to investment needs, particularly in adaptation and resilience.

The structure of climate finance in Rwanda is characterized by a strong reliance on external public financing. Multilateral development banks, bilateral partners, and global climate funds, including the Green Climate Fund (GCF) and the Global Environment Facility (GEF), play a central role in financing climate-related investments. FONERWA has been particularly instrumental as a national financing vehicle, mobilizing and channeling resources into priority sectors such as renewable energy, climate-smart agriculture, sustainable land management, and green urbanization. However, similar to broader regional patterns, private sector participation in climate finance remains relatively limited. Constraints include perceived investment risks, relatively high cost of capital, limited availability of bankable projects at scale, and still-developing domestic financial markets.

From a macro-fiscal perspective, this financing structure has important implications. The reliance on external financing, often denominated in foreign currency, introduces exchange-rate risk and contributes to external debt accumulation. While Rwanda has maintained a moderate risk of debt distress, continued scaling of climate investments through non-concessional borrowing could increase debt-service pressures, particularly in the context of a structurally high current account deficit and significant import needs for capital goods and infrastructure. At the same time, domestic resource mobilization for climate finance remains constrained, with competing fiscal priorities under NST2 and a tax-to-GDP ratio that, while improving, still limits fiscal space. This creates a delicate balance between financing necessary climate investments and maintaining debt sustainability.

Rwanda is also highly exposed to climate risks, which amplifies the urgency of scaling climate finance. The economy remains partly dependent on climate-sensitive sectors, particularly agriculture, which employs a large share of the population and is vulnerable to rainfall variability, droughts, and floods. Climate shocks have direct implications for food security, rural incomes, inflation dynamics, and export performance. In addition, infrastructure systems, such as roads, energy, and urban settlements, face increasing risks from extreme weather events, leading to higher maintenance and reconstruction costs. These vulnerabilities translate into fiscal pressures through increased public spending needs and potential revenue shortfalls, thereby reinforcing the link between climate risk and sovereign creditworthiness.

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Despite these challenges, Rwanda has made important strides in strengthening its climate finance architecture. Climate budget tagging has been fully institutionalized, with approximately 8.4% of public expenditure in FY2024/25 identified as climate-related, enhancing transparency and alignment between climate priorities and fiscal policy. The country has also been successful in mobilizing climate finance from external sources, including grants and concessional loans, and in piloting innovative financing approaches through blended finance and public-private partnerships. However, the scale of investment required to meet Rwanda's climate and development objectives remains substantial. Estimates from SDG and climate financing analyses suggest that Rwanda faces an annual financing gap equivalent to approximately 8–9% of GDP, reflecting the combined costs of adaptation, mitigation, and broader development priorities.

Closing this gap will require a significant scaling up of climate finance from both public and private sources. On the external side, this implies greater access to concessional resources, more predictable and programmatic funding, and enhanced engagement with global climate funds. On the domestic side, it requires strengthening revenue mobilization, deepening financial markets, and creating incentives for private sector participation in green investments. Equally important is the need to improve the pipeline of bankable climate projects, strengthen public investment management systems, and enhance coordination across institutions.

Rwanda's climate finance landscape is characterized by strong institutional foundations and growing mobilization capacity, but also by structural financing gaps and continued reliance on external resources. Addressing these gaps is critical not only for achieving climate and development objectives but also for safeguarding macroeconomic stability and strengthening the country's sovereign credit profile in an increasingly climate-constrained global environment.

4. TRANSMISSION CHANNELS: CLIMATE FINANCE AND SOVEREIGN CREDIT RISK

The relationship between climate finance and sovereign credit risk operates through a set of interconnected macroeconomic, fiscal, and financial channels. These channels determine how climate shocks, financing responses, and policy choices translate into measurable impacts on debt sustainability, growth performance, external stability, and ultimately sovereign credit ratings. For countries such as Rwanda, where climate vulnerability intersects with development financing needs and structural transformation objectives, these transmission mechanisms are particularly pronounced.

4.1 Fiscal Impact and Debt Sustainability

Climate change exerts both direct and indirect pressures on public finances. Direct costs arise from disaster response, rehabilitation of damaged infrastructure, and increased spending on social protection to support affected populations. Indirect costs emerge through reduced economic activity, which lowers tax revenues, and through the need for higher long-term investment in resilient infrastructure systems. In Rwanda, climate-related shocks, particularly droughts and floods, have historically affected agricultural output, rural incomes, and food prices, thereby creating fiscal pressures through both expenditure increases and revenue shortfalls.

In the absence of sufficient climate finance, governments are often forced to reallocate budgetary resources or resort to additional borrowing to meet these costs. This can widen fiscal deficits and increase public debt levels, particularly in countries already pursuing ambitious development agendas under frameworks such as NST2. Rwanda's public debt, estimated at around 68% of GDP, remains sustainable but requires careful management, especially as climate-related investment needs continue to grow.

Access to concessional climate finance plays a critical mitigating role. Grants and low-interest loans can finance adaptation and mitigation investments without significantly worsening debt dynamics. However, the structure of financing is crucial. If climate investments are financed through non-concessional external borrowing, particularly in foreign currency, this can increase debt-service obligations and expose the country to exchange-rate risk. Moreover, the benefits of such investments, such as increased productivity or reduced vulnerability, often materialize over the medium to long term, while debt servicing begins immediately, creating short-term fiscal trade-offs that are relevant for credit assessments.

4.2 Growth, Productivity, and Structural Transformation

Climate finance has a strong influence on long-term economic growth and structural transformation. Well-targeted investments in sectors such as energy, agriculture, and infrastructure can enhance productivity, reduce production costs, and support diversification, key pillars of Rwanda's development strategy. For instance, investments in reliable and affordable energy systems can reduce the cost of doing business, support industrialization, and strengthen export competitiveness. Similarly, climate-smart agriculture can improve yields, stabilize rural incomes, and reduce vulnerability to weather shocks.

These investments are particularly important in the context of Rwanda's ambition to transition toward a more diversified and export-oriented economy. Climate finance, when aligned with productive sectors, can act as a catalyst for structural transformation by enabling the development of new value chains and enhancing domestic value addition. Conversely, insufficient investment in climate resilience can undermine growth prospects. Climate shocks can lead to recurrent disruptions in agricultural production, damage to infrastructure, and increased uncertainty for private investment. This results in growth volatility, reduced productivity, and weaker job creation. Over time, such dynamics erode the economic base, limit revenue mobilization, and weaken debt-carrying capacity, all of which are key determinants of sovereign creditworthiness.

4.3 External Sector and Balance of Payments

Climate finance also affects the external sector through its impact on foreign exchange flows, trade balances, and external financing needs. Inflows of climate finance, particularly in the form of grants and concessional loans, can provide valuable foreign exchange resources to finance imports of capital goods, technology, and infrastructure required for climate and development projects. For Rwanda, which maintains a structurally high current account deficit driven by strong import demand for investment goods, such inflows are critical for maintaining external stability.

However, the reliance on external financing introduces vulnerabilities. Climate finance in the form of loans increases external debt, while foreign-currency-denominated obligations expose the country to exchange-rate fluctuations. Depreciation of the domestic currency can increase the local currency cost of debt servicing, thereby putting pressure on fiscal and external accounts.

In addition, climate shocks can directly affect trade performance. For example, adverse weather conditions can reduce the production and export of key commodities such as coffee, tea, and horticultural products, while increasing imports of food and energy. This can widen the trade deficit and increase the need for external financing. In Rwanda's case, where exports remain concentrated and the trade deficit is structurally large, climate-related disruptions can exacerbate existing external imbalances, with implications for sovereign risk.

4.4 Financial Market Perception and Sovereign Spreads

Financial markets are increasingly incorporating climate-related risks into the pricing of sovereign debt. Investors assess not only current macroeconomic indicators but also forward-looking risks, including exposure to climate shocks and the adequacy of policy responses. Countries perceived as highly vulnerable to climate risks may face higher borrowing costs, reflecting concerns about growth stability, fiscal sustainability, and repayment capacity.

Empirical evidence supports this relationship. Studies by the IMF indicate that higher climate vulnerability is associated with wider sovereign bond spreads, particularly in emerging and developing economies. For countries like Rwanda, which are considering or preparing for greater engagement with international capital markets, this implies that climate risk management and climate finance strategies will increasingly influence borrowing costs and market access. At the same time, effective mobilization and use of climate finance can improve market perceptions. Investments in resilience, credible climate policies, and transparent reporting can signal reduced risk and strengthen investor confidence. Instruments such as green bonds and sustainability-linked financing can also enhance visibility in global capital markets, provided they are supported by robust governance and reporting frameworks.

4.5 Institutional Capacity and Policy Credibility

Institutional strength and policy credibility are critical in determining how effectively climate finance translates into improved credit outcomes. Countries with strong public financial management systems, clear policy frameworks, and effective coordination mechanisms are better able to mobilize, allocate, and utilize climate finance efficiently.

Rwanda has made notable progress in this area. The institutionalization of climate budget tagging, the operationalization of FONERWA, and the integration of climate priorities into national planning frameworks demonstrate a high level of policy commitment and coordination. These measures enhance transparency, improve resource allocation, and strengthen accountability, all of which are positive signals for investors and credit rating agencies. Moreover, credible policy frameworks reduce uncertainty and encourage private sector participation. When investors perceive that climate policies are stable, well-coordinated, and aligned with broader economic objectives, they are more likely to invest in climate-related projects. This, in turn, helps to diversify financing sources and reduce reliance on public and external funding.

However, capacity constraints remain a challenge, particularly in project preparation, implementation, and monitoring. Strengthening these areas is essential to ensure that climate finance translates into tangible economic and resilience outcomes. Failure to effectively utilize available financing can weaken policy credibility and limit the positive impact on credit ratings.

5. CLIMATE RISK IN SOVEREIGN CREDIT RATINGS

Credit rating agencies are increasingly integrating climate-related risks into sovereign credit assessments, reflecting a fundamental shift in how long-term economic and fiscal sustainability is evaluated. Climate risk is now recognized as a material and cross-cutting determinant of creditworthiness, influencing core rating pillars such as economic strength, fiscal performance, external resilience, and institutional effectiveness. Rather than being treated as a peripheral or purely environmental issue, climate risk is being embedded within the broader analytical frameworks used to assess sovereign default risk and debt sustainability.

At the core of this shift is the growing recognition that physical climate risks can have immediate and measurable macroeconomic consequences. Extreme weather events, including floods,

droughts, landslides, and temperature shocks, can cause substantial damage to infrastructure, disrupt agricultural production, and reduce economic output. In countries such as Rwanda, where agriculture remains a significant contributor to employment and livelihoods, rainfall variability and climate shocks can translate into fluctuations in GDP growth, food prices, and rural incomes. These effects, in turn, influence fiscal balances through increased public spending and reduced revenue collection. Recurrent climate shocks can therefore weaken economic resilience and create persistent pressures on public finances, which are key considerations in sovereign rating assessments.

In addition to physical risks, transition risks are becoming increasingly relevant, even for low-emission economies. Transition risks arise from global efforts to decarbonize economic systems, including changes in trade policies (such as carbon border adjustment mechanisms), shifts in consumer preferences, and technological advancements. For Rwanda, while direct exposure to carbon-intensive industries is relatively limited, transition risks may emerge indirectly through trade linkages, energy systems, and competitiveness in export markets. For example, the cost and reliability of energy, particularly the transition toward cleaner and more efficient energy sources, will influence industrial competitiveness and the ability to integrate into regional and global value chains. Failure to adapt to these changes could affect export performance, investment flows, and long-term growth prospects.

A key development in sovereign credit analysis is the increasing use of forward-looking climate indicators. Rating agencies are moving beyond historical data to incorporate projections of climate vulnerability, exposure, and resilience. These include indices measuring susceptibility to climate shocks, adaptive capacity, and policy readiness. For instance, countries with high exposure to climate hazards but limited adaptive capacity may be assessed as facing elevated long-term risks, even if current macroeconomic indicators appear stable. Conversely, countries that demonstrate strong climate policies, effective adaptation strategies, and credible financing frameworks may be viewed more favorably, as these factors signal an ability to manage future risks.

Importantly, climate risk is not assessed in isolation but as part of an integrated evaluation of sovereign fundamentals. Rating agencies examine how climate risks interact with existing macroeconomic conditions, institutional capacity, and policy frameworks. For example, a country with strong fiscal buffers, diversified economic structure, and effective governance may be better able to absorb climate shocks without significant deterioration in its credit profile. In contrast, countries with limited fiscal space, high debt levels, and structural vulnerabilities may experience more pronounced credit impacts from similar shocks.

For Rwanda, this integrated perspective is particularly relevant. The country has demonstrated strong institutional capacity, consistent policy implementation, and a clear strategic vision under frameworks such as Vision 2050 and NST2. Initiatives such as climate budget tagging, the operationalization of FONERWA, and efforts to mobilize climate finance contribute positively to policy credibility and institutional strength, factors that are increasingly valued in credit assessments. At the same time, Rwanda's exposure to climate risks, combined with its development financing needs and external imbalances, underscores the importance of sustained investment in resilience and careful management of climate-related fiscal and external pressures.

Another important dimension is the growing alignment between climate risk and financial market perception. Investors are increasingly using environmental, social, and governance (ESG) criteria to guide investment decisions, with climate risk being a central component. This has implications for sovereign borrowing costs and market access. Countries perceived as highly vulnerable to climate risks may face higher risk premiums, while those demonstrating strong climate governance and credible transition pathways may benefit from improved investor confidence and access to sustainable finance instruments.

Furthermore, rating agencies are beginning to reflect climate risks in rating outlooks and qualitative assessments, even when immediate rating changes are not warranted. This suggests that climate considerations are becoming embedded in the trajectory of credit ratings over time. As data availability improves and methodologies evolve, the influence of climate risk on ratings is likely to become more explicit and quantifiable.

In summary, climate risk is increasingly a defining feature of sovereign credit analysis. Its influence extends across multiple dimensions of creditworthiness, from growth and fiscal stability to external resilience and institutional capacity. For countries like Rwanda, the challenge is not only to manage climate risks but also to demonstrate credible, forward-looking strategies that integrate climate considerations into macroeconomic policy. Doing so will be essential for maintaining and strengthening sovereign credit ratings in an increasingly climate-sensitive global financial environment.

6. CLIMATE FINANCE INSTRUMENTS AND CREDIT IMPLICATIONS

The type and structure of climate finance instruments play a critical role in determining their impact on credit risk:

- **Concessional finance and grants:** Grants and highly concessional loans are the most favorable forms of climate finance from a credit perspective. They reduce the need for borrowing and limit the impact on debt sustainability, while supporting critical investments in resilience and mitigation.
- **Blended finance and risk-sharing instruments:** Blended finance mechanisms combine public and private capital to reduce investment risks and attract private sector participation. Instruments such as guarantees, insurance, and first-loss capital can improve project viability and reduce the fiscal burden on governments.
- **Climate-Resilient debt instruments:** Innovations such as climate-resilient debt clauses allow countries to temporarily suspend debt service in the event of climate shocks. These instruments enhance liquidity resilience and provide fiscal space for recovery.
- **Green and sustainability bonds:** Green bonds and sustainability-linked bonds provide an opportunity to access international capital markets while signaling commitment to climate objectives. However, these instruments require strong governance, transparency, and reporting frameworks to ensure credibility and avoid reputational risks.

7. RISKS AND CHALLENGES

While climate finance presents significant opportunities for strengthening resilience, accelerating structural transformation, and enhancing long-term growth, it also introduces a range of macroeconomic, fiscal, and institutional risks. For countries such as Rwanda, these risks are not merely theoretical, they directly interact with existing development financing constraints, external imbalances, and capacity limitations. Effectively managing these challenges is therefore essential to ensure that climate finance contributes positively to economic stability and sovereign creditworthiness rather than creating new vulnerabilities.

A primary concern relates to debt sustainability risks, particularly when climate investments are financed through non-concessional borrowing. Although climate-related infrastructure and resilience investments are essential, their financing structure matters significantly. Borrowing at commercial or semi-concessional terms, especially in foreign currency, can increase public debt levels and debt-service obligations in the short to medium term. In Rwanda's case, where

public debt remains at moderate levels but is already elevated due to large-scale development investments, additional borrowing for climate purposes must be carefully sequenced and aligned with debt management strategies. The challenge lies in balancing the urgency of climate investment with the need to maintain fiscal discipline and preserve debt sustainability.

Another critical constraint is implementation capacity, which affects the ability to translate climate finance into tangible outcomes. Climate projects, particularly in areas such as renewable energy, climate-resilient infrastructure, and water management, often require complex technical design, strong coordination across institutions, and robust procurement and monitoring systems. Limited capacity in project preparation, appraisal, and execution can lead to delays, cost overruns, or underperformance. For Rwanda, despite strong institutional frameworks, scaling up climate investments to meet growing needs will require continued strengthening of technical capacity, especially at decentralized levels and within implementing agencies.

The volatility and unpredictability of external climate finance flows also pose significant challenges. A large share of Rwanda's climate finance is sourced from external partners, including multilateral institutions and bilateral donors. While these flows are critical, they are often subject to changing global priorities, donor conditionalities, and lengthy approval processes. This unpredictability complicates medium-term planning and budgeting, particularly when climate investments are integrated into national development strategies such as NST2. Delays or shortfalls in expected financing can disrupt project implementation and create gaps in critical resilience investments.

Closely linked to this is the issue of currency and refinancing risks. Much of the external climate finance accessed by developing countries is denominated in foreign currency, primarily USD or EUR. This exposes countries to exchange-rate fluctuations, which can significantly increase the local currency cost of debt servicing in the event of depreciation. For Rwanda, which operates in a context of persistent current account deficits and import dependence, exchange-rate pressures are an ongoing concern. Additionally, as climate-related borrowing accumulates, refinancing risks may emerge, particularly if global financial conditions tighten or concessional financing becomes less available.

Governance and transparency challenges represent another important dimension. As climate finance flows increase, so too does the need for robust systems to ensure accountability, effective allocation, and measurable results. Weak governance can lead to inefficiencies, misallocation of resources, or delays in implementation. Moreover, there is a growing global concern around greenwashing, where investments are labeled as "green" without delivering genuine climate benefits. For countries seeking to access international climate finance or issue green bonds, maintaining credibility through strong monitoring, reporting, and verification (MRV) systems is essential. Rwanda has made important progress in this area, particularly through climate budget tagging and institutional frameworks such as FONERWA, but continued strengthening of transparency and reporting systems will be critical as financing volumes grow.

Finally, there is a broader strategic coordination challenge. Climate finance intersects with multiple sectors, energy, agriculture, infrastructure, urban development, and requires alignment across ministries, agencies, and levels of government. Without strong coordination mechanisms, there is a risk of fragmented investments, duplication of efforts, or misalignment with national priorities. Integrating climate finance into broader macro-fiscal frameworks, including the Medium-Term Expenditure Framework (MTEF) and Integrated National Financing Framework (INFF), is essential to ensure coherence and maximize impact.

In summary, while climate finance offers a pathway to enhanced resilience and sustainable growth, it also introduces complex risks that must be actively managed. Addressing these challenges requires a combination of prudent fiscal policy, strengthened institutional capacity, improved

governance and transparency, and more predictable and concessional financing flows. For Rwanda, the ability to navigate these risks effectively will be critical not only for achieving climate and development objectives but also for maintaining macroeconomic stability and strengthening its sovereign credit profile.

8. POLICY IMPLICATIONS FOR SOVEREIGN CREDIT STRENGTHENING

To maximize the benefits of climate finance and strengthen sovereign creditworthiness, countries must adopt a comprehensive, integrated, and strategically sequenced approach that aligns climate objectives with macroeconomic management, fiscal sustainability, and long-term development priorities. Climate finance should not be treated as a standalone funding stream, but rather as an integral component of national financing strategies, embedded within broader policy frameworks such as medium-term expenditure plans, debt strategies, and growth transformation agendas.

First, it is essential to integrate climate finance into macro-fiscal and debt management frameworks. This involves systematically incorporating climate-related expenditures and investments into national budgets, Medium-Term Expenditure Frameworks (MTEFs), and debt sustainability analyses. By doing so, Rwanda can better assess trade-offs between climate investment needs and fiscal constraints, ensure alignment with debt sustainability objectives, and avoid the accumulation of unsustainable liabilities. In countries like Rwanda, where climate budget tagging is already operational, this provides a strong foundation for linking climate spending with fiscal planning and performance monitoring.

Second, Rwanda should prioritize concessional and innovative financing instruments to minimize fiscal risks while scaling up investment. Grants, highly concessional loans, and climate funds (such as the Green Climate Fund) should be leveraged as primary sources of financing, particularly for adaptation and public-good investments. At the same time, innovative instruments, such as blended finance, guarantees, climate-resilient debt clauses, and results-based financing, can help crowd in private capital and reduce the cost of financing. This is particularly important in contexts where fiscal space is limited and external borrowing needs to be carefully managed.

Third, strengthening public investment management systems is critical to ensure that climate finance translates into tangible economic and resilience outcomes. This includes improving project identification, appraisal, prioritization, and execution, as well as strengthening procurement and monitoring systems. High-quality project pipelines not only improve the effectiveness of climate investments but also enhance the country's ability to attract external financing and private sector participation. Weak implementation capacity, by contrast, can undermine the impact of climate finance and weaken investor confidence.

Fourth, Rwanda needs to enhance transparency, accountability, and climate-related disclosure frameworks. Robust monitoring, reporting, and verification (MRV) systems are essential for tracking the use and impact of climate finance, ensuring alignment with national priorities, and maintaining credibility with development partners and investors. Expanding climate budget tagging, adopting international reporting standards, and strengthening data systems can improve transparency and support better-informed credit assessments. For sovereign issuers, clear and credible climate reporting can also facilitate access to sustainable finance instruments such as green and sustainability bonds.

Fifth, there is a need to mobilize and deepen private sector participation in climate finance. Public resources alone will be insufficient to meet the scale of investment required. Governments should therefore focus on creating an enabling environment for private investment, including strengthening regulatory frameworks, reducing policy uncertainty, improving risk-sharing mechanisms, and developing domestic financial markets. Instruments such as public-private partnerships, green

credit lines, and risk guarantees can help unlock private capital, particularly in sectors such as renewable energy, sustainable agriculture, and green infrastructure.

Sixth, Rwanda should pursue resilience-oriented and diversification-driven growth strategies. Climate finance should be directed toward sectors that not only reduce vulnerability but also enhance productivity and competitiveness. In the case of Rwanda, this includes investments in reliable and affordable energy systems, climate-smart agriculture, and resilient infrastructure. By linking climate finance to structural transformation objectives, countries can simultaneously address climate risks and strengthen their economic base, thereby improving long-term creditworthiness.

Finally, effective institutional coordination and governance are essential to ensure coherence and maximize impact. Climate finance cuts across multiple sectors and institutions, requiring strong coordination mechanisms at both central and decentralized levels. Aligning the roles of ministries of finance, environment, planning agencies, and implementing institutions is critical for ensuring that climate finance is strategically allocated and efficiently utilized. Embedding climate finance within Integrated National Financing Frameworks (INFFs) can further enhance coordination and ensure alignment with national development priorities.

Maximizing the benefits of climate finance requires a holistic approach that combines sound macroeconomic management, strategic financing choices, strong institutions, and a clear focus on resilience and transformation. Countries that succeed in implementing such an approach are more likely to strengthen their fiscal and economic fundamentals, enhance investor confidence, and improve their sovereign credit profiles in an increasingly climate-constrained global economy.

9. CONCLUSION

Climate finance has become a central pillar of macroeconomic management and a defining factor in sovereign creditworthiness. As climate risks intensify, their impacts are increasingly transmitted through fiscal pressures, growth volatility, external imbalances, and financial market perceptions. For countries such as Rwanda, the challenge is not only the scale of climate vulnerability but also the ability to mobilize and deploy financing in a way that strengthens resilience without undermining debt sustainability. In this context, climate finance is no longer peripheral, it is integral to maintaining macroeconomic stability and safeguarding long-term development outcomes.

The analysis highlights that the relationship between climate finance and credit ratings is fundamentally two-sided. On one hand, inadequate financing for adaptation and resilience can amplify economic shocks, weaken fiscal positions, and increase borrowing costs. On the other hand, well-structured climate finance, particularly when concessional, predictable, and aligned with productive investment, can enhance growth, reduce vulnerability, and improve fiscal and external stability. The structure, quality, and effectiveness of climate finance are therefore as important as its volume in shaping credit outcomes.

For Rwanda, strong institutional frameworks, proactive climate policies, and ongoing efforts to integrate climate finance into national planning provide a solid foundation. Initiatives such as climate budget tagging, the operationalization of FONERWA, and alignment with NST2 and Vision 2050 demonstrate a clear commitment to leveraging climate finance for sustainable development. However, persistent financing gaps, reliance on external resources, and exposure to climate shocks underscore the need for continued strategic management, particularly in balancing investment needs with debt sustainability and external stability considerations.

Looking ahead, the trajectory of sovereign creditworthiness will increasingly depend on how effectively countries navigate the intersection of climate risk and financing capacity. Countries that successfully mobilize concessional and private climate finance, strengthen institutional capacity, and channel investments toward resilience and structural transformation will be better positioned to maintain or improve their credit profiles. Conversely, those that remain highly exposed, underfinanced, or reliant on costly borrowing may face growing credit pressures.

In an increasingly climate-constrained global economy, climate finance is not simply a development imperative, it is a strategic tool for economic resilience, fiscal sustainability, and credit strength. Its effective management will be critical in shaping both the stability and the long-term prosperity of countries such as Rwanda.

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