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# **Banking on a Green Future: How can Ugandan banks address climate-related risks and opportunities?**

**UBA Research Department**

Working Paper Series

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## Working Paper Series

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## 1.0 INTRODUCTION

Banks and Financial Institutions (FI) are increasingly recognizing the urgent impact of climate-related risks on their financial and operational stability. These risks demand a strategic recalibration, considering their profound implications on other traditional risks while also driving opportunities for innovation within a low-carbon transition. Climate change poses a critical challenge for banks, fueled further by increasing regulatory scrutiny and rapidly evolving market expectations around sustainability. Understanding the unique nature of climate-related risks and opportunities is now essential, providing the foundation for navigating the challenges and seizing the transformative potential posed by global climate change.

### 1.1 Climate-related Financial Risks

Climate change potentially poses severe financial risks for banks. Extreme weather events can damage infrastructure, cause loan defaults, and devalue assets. On the other hand, the shift towards a low-carbon economy would create stranded assets and impact banks with investments in carbon-intensive sectors. Proactive risk assessment, innovative financial products, and robust climate-risk management frameworks are crucial for banks to mitigate these impacts and embrace the opportunities within a changing climate.

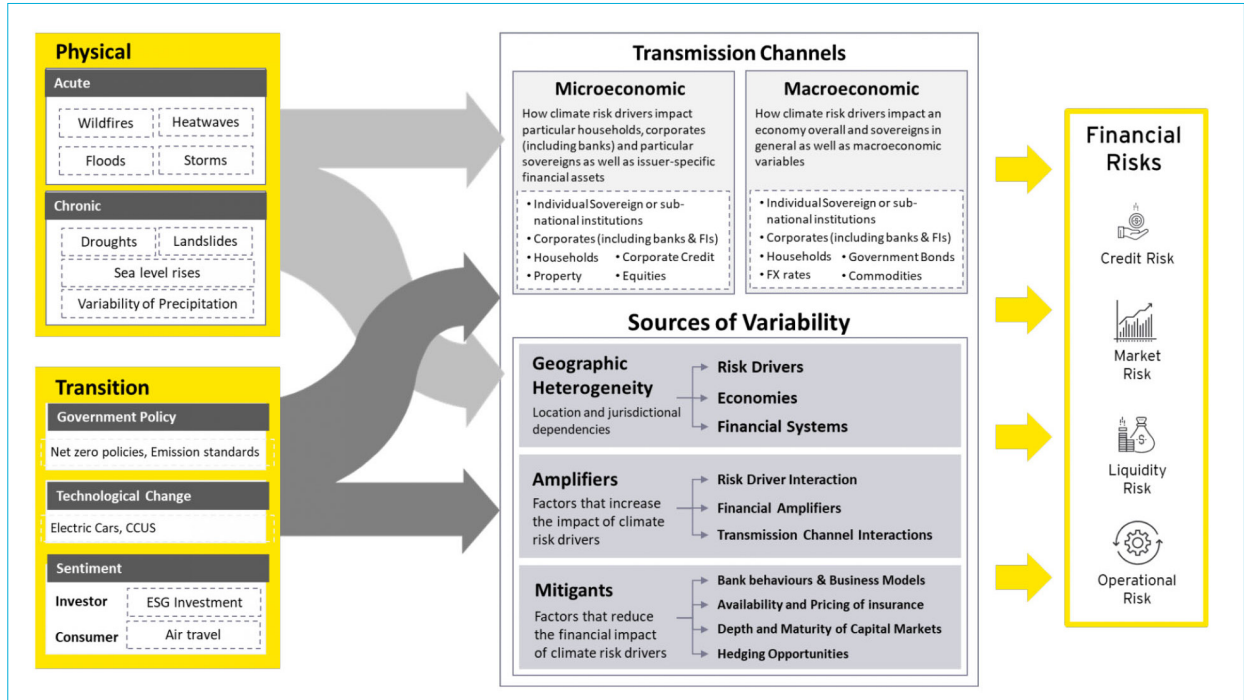
Climate risk has two main parts: transition risks, linked to the shift to a low-carbon economy, and physical risks, caused by extreme weather events.

- **Transition risks** emanate from policy shifts towards a greener future, technological advancements, and evolving consumer preferences, exposing banks to potential loan defaults, asset devaluations, and volatile market conditions.
- **Physical risks** arise due to consequences of extreme weather events, rising sea levels, and resource scarcity that impact tangible collateral and the capacity of borrowers to fulfil their financial obligations.

Physical and transition risks unfold through a network of drivers and channels. Policy shifts, market reactions, and technological advancements all play a role in how these climate forces translate into financial risks for banks.

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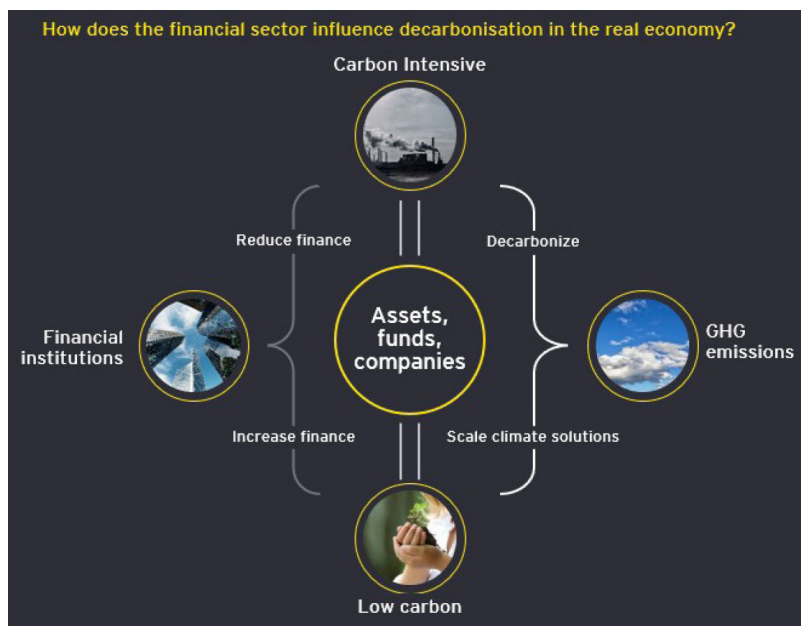
Significance of climate risk for banks is reflective of their deep entanglement with a multitude of financial channels, ranging from loan books and asset holdings to investment management.



Financial risks from climate risk drivers (source: Basel Committee on Banking Supervision)

## 1.2 Climate-related Opportunities

Financial institutions occupy a pivotal position in addressing climate risks. They can direct capital towards transformative green investments while simultaneously fortifying their own balance sheets against the adverse impacts of climate change. Embracing opportunities for sustained growth within environmentally responsible industries serves not only a bank's long-term interest but also aligns them with the broader global commitment to decarbonization.



Several promising avenues of opportunity exist for banks seeking to tackle the climate crisis, including transition finance, green finance, and the financing of carbon markets. These channels empower banks to actively propel the transition to a greener economy. They open avenues for supporting initiatives that reduce carbon emissions and foster the development of systems that effectively price and trade carbon credits.

Transition and green finance offer banks a powerful tool to accelerate sustainability efforts. By strategically funding clean technology innovations and investing in energy-efficient infrastructure projects, banks play a direct role in the reduction of carbon emissions. This proactive approach aligns banks with a changing market landscape and allows them to reap the financial and reputational benefits of being vanguards of sustainable development.

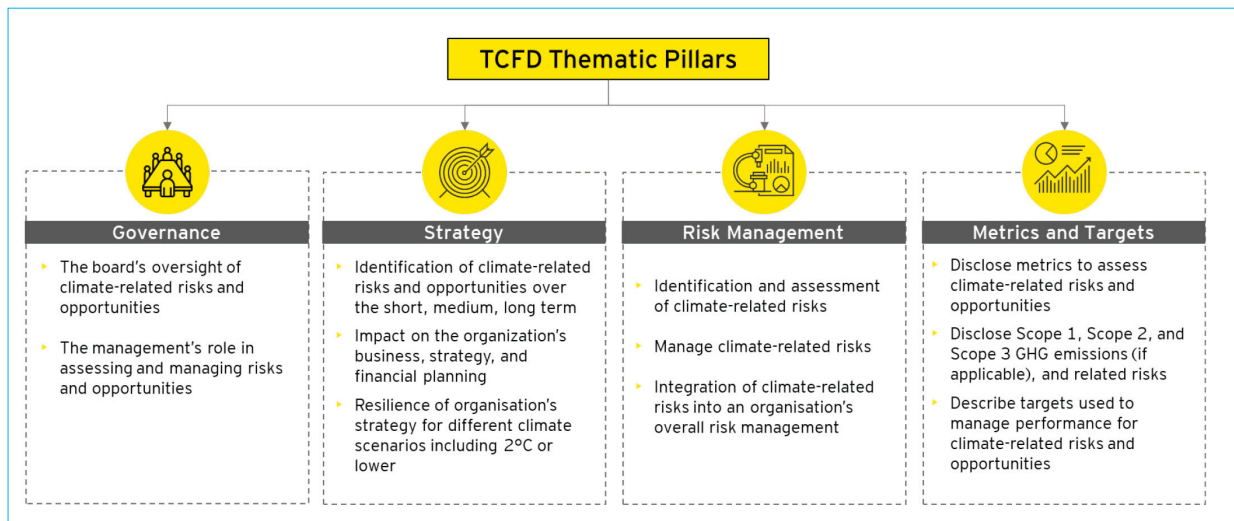
## 2.0 REGULATORY LANDSCAPE

The climate risk regulatory landscape is rapidly evolving to support the accelerated shift towards a sustainable future and manage the challenges it presents. These regulations act as a roadmap, guiding banks in effectively addressing sustainability issues and promoting environmentally responsible practices. With Europe at the forefront, a global wave of climate risk regulations is emerging, pushing banks to embrace a sustainable future and manage the challenges of the transition. This trend is finding traction across Africa, with many African countries adopting or developing similar frameworks. To navigate this dynamic landscape, financial institutions need to be proactive in monitoring regulatory developments, both globally and within their specific African markets. By embedding action plans that ensure compliance, banks can position themselves to capitalize on new opportunities and become leaders in sustainable finance.

### 2.1 Key climate risk-related global standards



The Task Force on **Climate-related Financial Disclosures (TCFD)** emerged in 2015 as a groundbreaking initiative. This voluntary framework became the first global standard for companies to disclose climate-related information to investors, lenders, and insurers. The TCFD's recommendations focused on four key areas: governance, strategy, risk management, and metrics and targets. By encouraging transparency and standardized reporting, the TCFD played a crucial role in raising awareness and prompting action on climate issues within the financial sector.





Building upon this success, the International Financial Reporting Standards (IFRS) Foundation established the **International Sustainability Standards Board (ISSB)** in 2022. The ISSB's inaugural standards were subsequently launched in 2023 which explicitly incorporated the TCFD recommendations, marking the culmination of the TCFD's work and paving the way for a more comprehensive framework for sustainability-related financial disclosures. The inaugural sustainability disclosure standards included: IFRS S1 General Requirements for Disclosure of Sustainability-related Financial Information and IFRS S2 Climate-related Disclosures.



**Network of Central Banks and Supervisors for Greening the Financial System (NGFS)** is a network of 83 members and 13 observers, including 7 African members covering 14 countries. NGFS published its first comprehensive report, "A Call for Action," in 2019, proposing six recommendations to facilitate the financial sector's role in achieving the objectives set out in the 2015 Paris Agreement. The network members commit to developing and sharing best practices (commitments 1 – 4) and encouraging action from policymakers (commitments 5 & 6).



NGFS has also released a set of hypothetical scenarios which provide a common and up-to-date reference point for understanding how climate change (physical risk) and climate policy and technology trends (transition risk) could evolve in different futures. Each scenario was chosen to show a range of higher and lower risk outcomes.

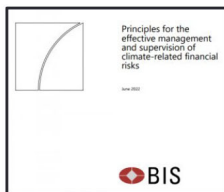
<b>Commitment 1</b>	Integrating climate-related risk into financial stability monitoring and micro-supervision
<b>Commitment 2</b>	Integrating sustainability factors into own-portfolio management
<b>Commitment 3</b>	Bridging the data gaps
<b>Commitment 4</b>	Building awareness and intellectual capacity and encouraging technical assistance and knowledge
<b>Commitment 5</b>	Achieving robust and internationally consistent climate and environment-related disclosure
<b>Commitment 6</b>	Supporting the development of a taxonomy of economic activities



**The Principles for Responsible Banking (PRB)** is a global sustainability framework and initiative of UNEP FI. They encompass a distinct set of frameworks for guaranteeing that each signatory bank’s strategy and practice aligns with the vision for society set out in the SDGs and Paris Agreement.

- ✔ Business strategy to contribute to individual’s needs/societal goals and to be aligned to UN SDGs, Paris Agreement and local regulations
  - ✔ Continuous increase of positive impact and manage risks to people and environment
  - ✔ Proactively and responsibly consult, engage and partner with relevant stakeholders
  - ✔ Ensure effective governance and culture of responsible banking
  - ✔ Review commitment to the principles periodically and be transparent and accountable for positive and negative impacts
- 1st Disclosure within 18 months of joining  
Annual Disclosures post 18 months

Other significant climate risk frameworks include:



Principles for the effective management and supervision of climate-related financial risks (2022)

by *Basel Committee on Banking Supervision (BCBS)*



Guidance on Climate-related Risk Management

by *Central Bank of Kenya*



Principles for Climate-Related Financial Risk Management for Large Financial Institutions

by *Office of the Comptroller of the Currency (OCC)*

## 2.2 Climate finance-related regulatory landscape



The International Capital Market Association's (ICMA) Green Bond Principles (GBP) act as a roadmap for navigating the green bond market. These voluntary guidelines promote transparency, disclosure, and integrity by simplifying the issuance process for institutions. The GBP which can also be applied to green loans, outlines key components for launching a credible green bond, ensuring investors have confidence that their capital is directed towards genuine environmental projects.

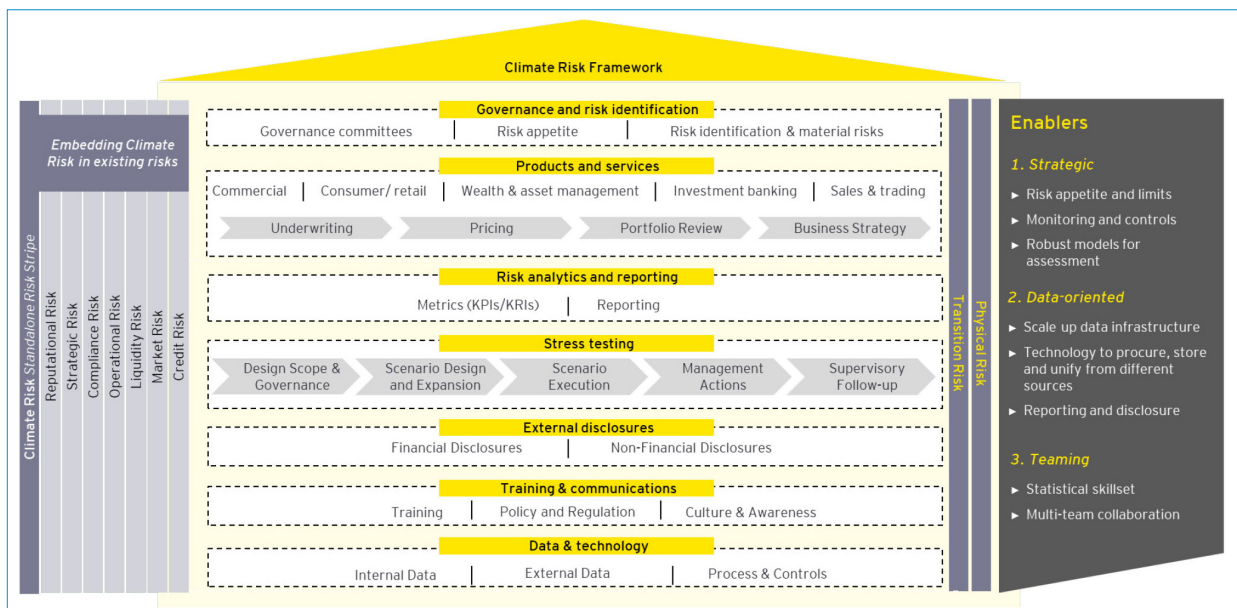


Launched by the Climate Bonds Initiative, the Climate Bonds Standard is a robust framework rooted in international best practice in green finance which outlines the processes to be followed and Sector Criteria that must be met to obtain certification under the Standard.

ENERGY					INDUSTRY				
Solar	●	●	●	●	Cement production	●	●	●	●
Wind	●	●	●	●	Steel production	●	●	●	●
Geothermal	●	●	●	●	Basic chemicals production	●	●	●	●
Hydropower	●	●	●	●	Specialist & intermediate chemicals	●	●	●	●
Marine renewables	●	●	●	●	Hydrogen production, storage & transport	●	●	●	●
Electricity grids & storage	●	●	●	●	Critical raw materials	●	●	●	●
Mixed energy (utilities)	●	●	●	●	Carbon capture storage	●	●	●	●
Bioenergy	●	●	●	●					
Nuclear	●	●	●	●					

### 3.0 CLIMATE RISK FRAMEWORK

Climate risk isn't a siloed issue. It touches every part of the business, impacting traditional risks from credit to operational resilience. An integrated climate risk framework is essential. This approach weaves climate considerations into all business decisions, from front-office lending to back-office operations. By taking a holistic view, we can effectively mitigate climate risks across all timeframes, safeguarding our short, medium, and long-term profitability.



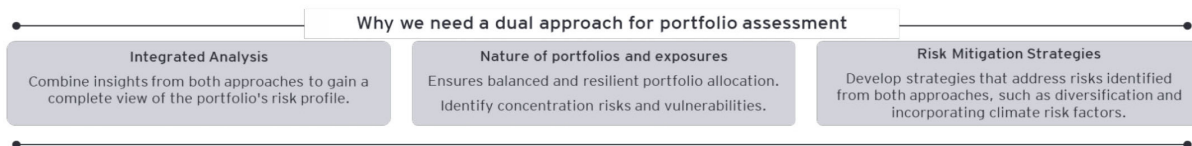
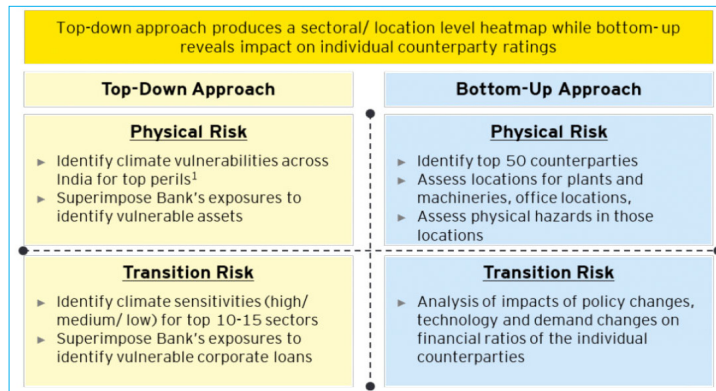
*An illustrative climate risk framework*

### 3.1 Risk Management

Understanding climate risks early and measuring their impact is the cornerstone of a bank's risk strategy. It lays the groundwork for effective climate risk management. For optimal results, banks need a tailored approach that aligns with their specific strategy, products, and strengths:

- **Bank's portfolio mix:** e.g., banks with higher mortgage portfolio would benefit from a stronger physical risk framework, whereas banks with higher concentration of corporate loans would derive higher payback for a robust transition risk and client transition framework.
- **A phased approach:** Identifying sectors and portfolios with greater vulnerability to climate risk through a heatmapping exercise would enable the bank to take a gradual integration of climate risk framework.
- **A client-focused framework:** To facilitate client transition towards a low-carbon future, banks need to create a robust framework that bridges climate expertise across their lending, investment, and operational teams.

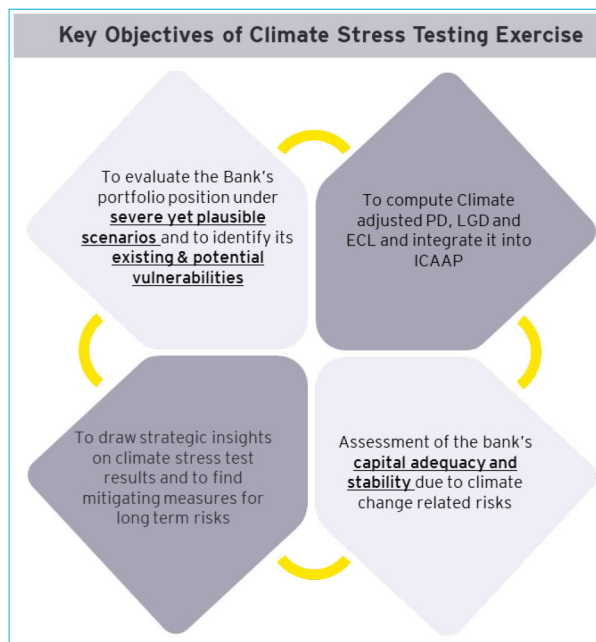
Banks can utilize multiple approaches to manage climate risk at various levels such as a thorough portfolio assessment using a top-down approach while integrating climate risk into credit lifecycle using a bottom-up approach, especially in the hard-to-abate industry sectors.



### 3.2 Climate Risk Scenario Analysis & Stress Testing

Unlike traditional risks, climate risks are non-linear, meaning their impact can escalate rapidly and unexpectedly. Additionally, these risks vary greatly across geographies, with some regions facing a disproportionate burden. Further complicating the picture is the interplay of social and macroeconomic factors that can either exacerbate or mitigate the effects of climate change.

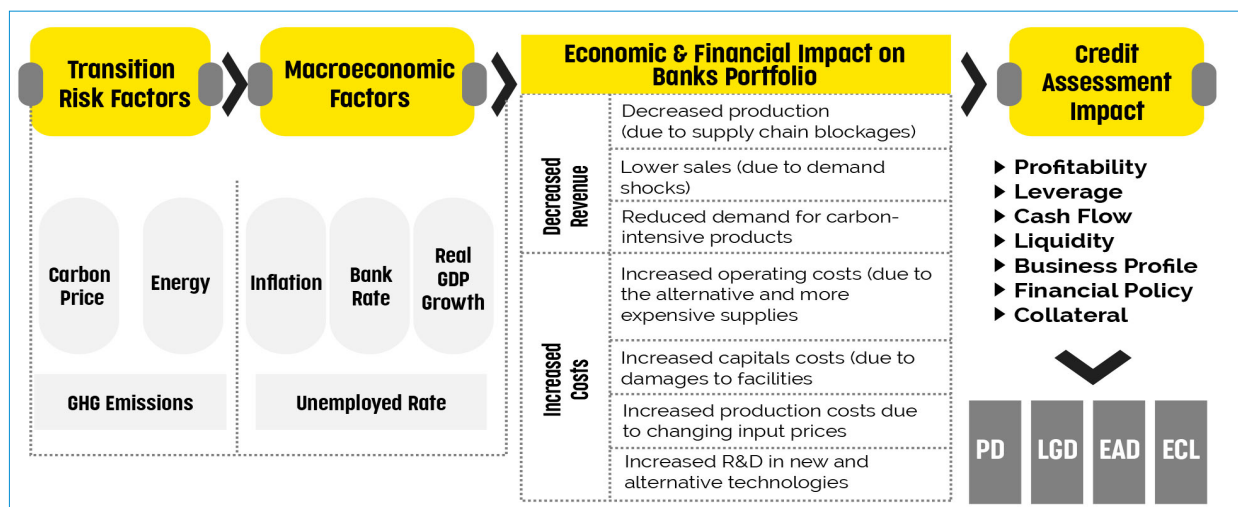
To quantify the potential impact on our business, banks can stress test their loan portfolios and investments through various climate scenarios. By analyzing the transmission channels - the pathways through which climate change affects financial stability – banks can gain valuable insights into the magnitude and distribution of these risks.



Key considerations related to the development and implementation of climate models:

Considerations	Mitigative Actions
Scope of Climate Impact is Extensive	<ul style="list-style-type: none"> <li>Alignment of modelling scope to regulatory requirements and standards for clarity on scenario narrative and granularity of reporting requirement.</li> <li>Alignment to Firm’s strategy, investments, and credit portfolio management.</li> <li>Identification and streamlining to key economic spots affected by climate risks.</li> </ul>
Ensure appropriate management actions are taken	<ul style="list-style-type: none"> <li>Define Board and Senior Management’s participation across the key steps of the exercise.</li> <li>Define roles and responsibilities of the teams involved and target operating model for collaboration across teams</li> </ul>
Nascency of Climate risk-related modelling	<p>Identify Planning inputs before setup:</p> <ul style="list-style-type: none"> <li>Identify portfolios more susceptible to climate risk and necessary data infrastructure.</li> <li>Gain understanding of climate ecosystem such as vendor, regulators, research institutes.</li> <li>Identify talent and training requirement.</li> </ul>
Evolving modelling methodologies challenge effective Scenario design	<ul style="list-style-type: none"> <li>NGFS scenario framework provides a good starting point to design both transition and physical risk specific scenarios.</li> <li>Clearly define and disclose relationships between transition/physical risk drivers and pathway variables (Carbon prices, economic damages from weather events) to Micro- and Macroeconomic variables</li> <li>Always account for sources of variability, for e.g., factors that increase or decrease the impact of climate risk drivers</li> </ul>
Lack of Suitable Data	<ul style="list-style-type: none"> <li>Reliance on vendors for data and modelling: Understand vendor landscape and explore model pipeline agreements with stakeholders.</li> </ul>

*An illustrative climate risk modelling framework*



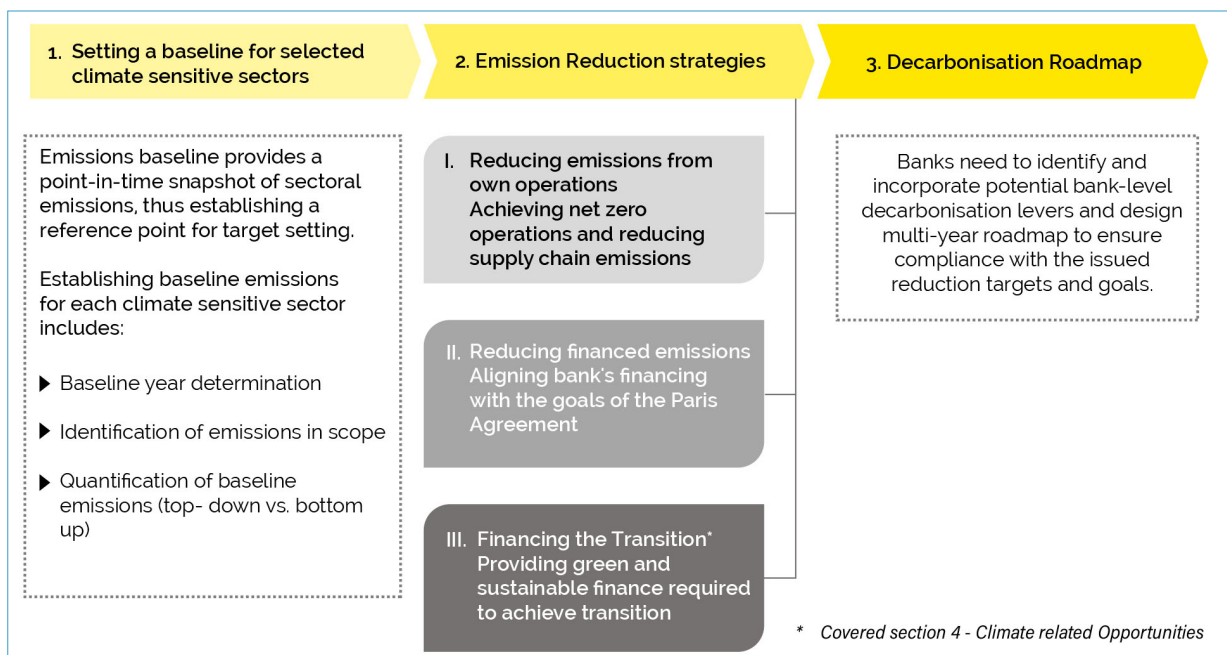
### 3.3 Net Zero and Decarbonization

Reaching net-zero emissions is a strategic shift for banks, requiring adjustments across all aspects of their operations. This includes how day-to-day business is run, the types of loans and investments made, and the products and services being offered. But achieving net-zero isn't just about environmental responsibility; it's also a forward-thinking business decision.

Net-zero has become a global target, embraced by policymakers and financial institutions alike. It signifies a commitment to minimizing carbon

footprint across the value chain through ongoing efforts, not simply relying on external solutions. By taking a proactive approach to achieving net-zero, banks can ensure long-term sustainability for both them and customers.

A bank's journey to net-zero starts with a thorough baseline assessment of its emissions. This data-driven approach will guide its emission reduction strategies and the development of a comprehensive decarbonization roadmap.



#### Step 1: Baseline Scope 1, Scope 2 & Scope 3 emissions

Setting the baseline emission levels would be the first and most important step in a bank's Net Zero journey. For setting up baseline emissions banks need to ensure:

- **Baseline year determination:** As per Science Based Targets initiative (SBTi) guidelines, it is good practice use same base years for all near-term targets. SBTi also recommends the choice of base year to be no earlier than 2015 for accurate representation of emission reduction efforts.

- **Establish an emissions baseline:** Banks will need to calculate Scope 1, 2, and 3 emissions. Scope 1 (direct emissions) and Scope 2 (indirect from purchased energy) are relatively straightforward. Data on fuel use, energy bills, and emission factors are key. However, Scope 3 (other indirect emissions) is the most complex and includes a bank's financed emissions—the carbon footprint of its loans and investments.

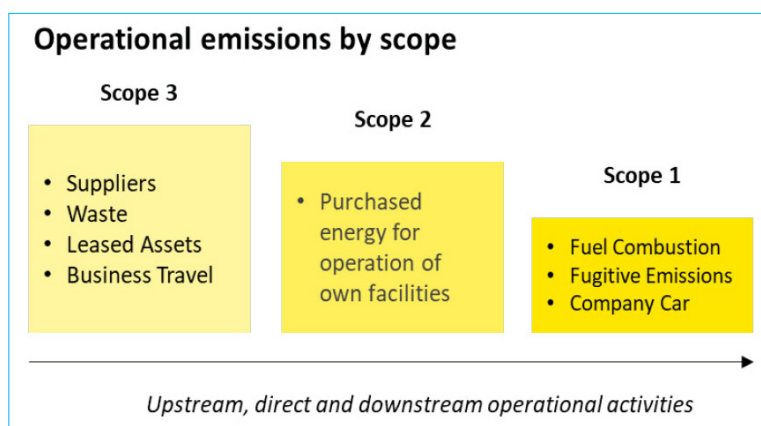
Calculating financed emissions requires specialized methodologies like the Partnership for Carbon Accounting Financials (PCAF) standard. Other Scope 3 sources (employee travel, supply chain) can be estimated with varying degrees of accuracy. The Greenhouse Gas Protocol (GHG Protocol) provides a foundational framework for these calculations.

Data quality is of paramount importance, and banks should clearly define which operations are included in their baseline. This is an initial step as methodologies and data collection will need ongoing refinement. Consultants specializing in sustainability can offer valuable support throughout the process.

*Note: In the absence of disclosed/reported emissions, emissions may be estimated, and the estimation methodology may be defined and disclosed for better transparency.*

## Step 2: Emission Reduction Strategies

- **Reducing emissions from own operations:** To achieve reduction in emissions from own operations and supply chain, the Bank may:
  - Increase **share of renewable energy** consumed and reduce reliance on fossil fuels.
  - Increase **energy efficiency of buildings**, data centres, electric vehicles as a part of fleet.
  - Compensating any remaining emissions by **purchasing carbon credits**, etc.
- **Reducing financed emissions:** Banks will need to work together with their clients to reduce financed emissions:
  - Engage pro-actively with clients in hard-to-abate and high transition risk sectors via a **Client Transition Framework** to understand their decarbonization goals and challenges.
  - **Develop financial incentives** through innovative loan and investment products with favourable terms tied to achieving specific sustainability benchmarks.



- **Focus on new sectors** such as renewable energy, energy efficiency projects, and sustainable infrastructure development.
- Explore **implementation of an internal carbon price** to reflect the cost of emissions in lending and investment decisions.
- **Encourage clients** to adopt robust environmental & climate reporting standards to assess their emissions and track progress.

### Step 3: Decarbonization Roadmap

A bank's decarbonization roadmap requires careful consideration of several factors. It must aid banks in aligning their climate targets to the trajectory of the Paris Agreement while factoring in regional regulations and industry-best practices. Determining the availability of sustainable technologies and the financial implication of their adoption is crucial. Additionally, banks should assess their capacity to innovate with climate-smart products and services. A successful roadmap balances ambition with realism, setting clear interim targets and milestones while also building in flexibility to adapt to a dynamic regulatory landscape and evolving technological landscape.



## 4.0 CLIMATE-RELATED OPPORTUNITIES

A wave of global climate finance is rising in response to the growing urgency of climate action. Estimates suggest climate finance flows reached a significant \$850-940 billion in 2021, with the global carbon credit market also surging to \$760 billion. Projections point towards continued strong growth (over 21%) in the carbon credit market from 2023 to 2028 (Climate Policy Initiative, 2022). The issuance of green bonds also reflects an escalating awareness of sustainability - surpassing \$1.2 trillion in the first half of 2023 alone (Climate Bonds Initiative, 2023).

However, despite these positive trends, the available funding remains insufficient. Climate finance reaching developing countries in 2019, for instance, only amounted to \$70 billion, falling well short of the estimated annual need of \$100-300 billion. Despite being the world's least polluting continent and bearing the brunt of climate change's harshest effects, Africa faces a staggering climate finance deficit. By 2030, the gap is projected to reach a colossal \$2.5 trillion. This lack of funding is particularly concerning given Africa's urgent need for clean energy solutions. While the continent requires \$2.8 trillion for sustainable energy by 2030, a mere 2% of global clean energy investments currently flow there.

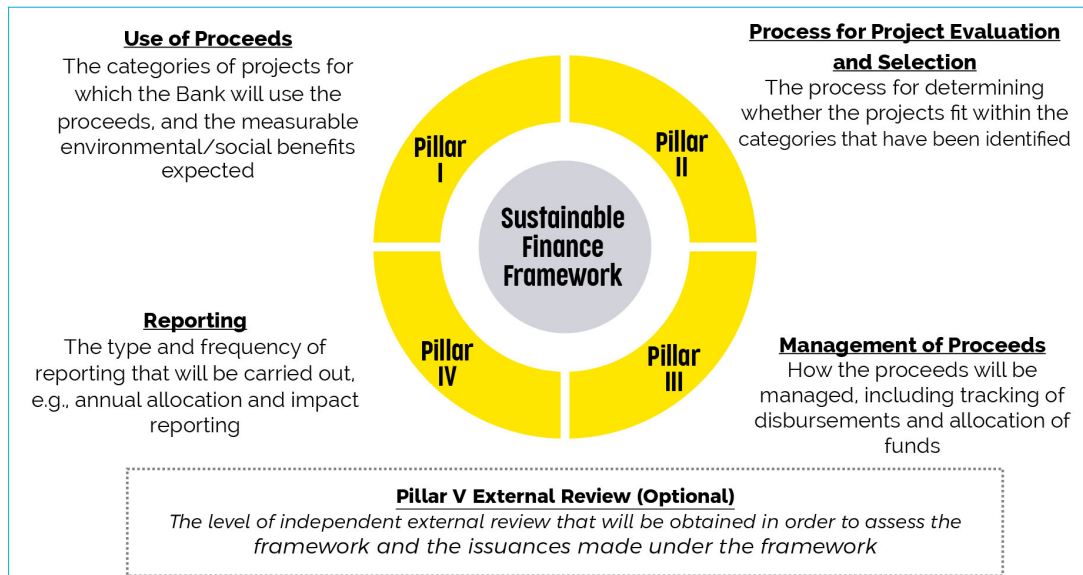
The burden of this financial gap isn't evenly distributed. While Southern Africa faces the largest absolute funding deficit, Central and East Africa are most impacted proportionally. On average, countries in these regions require 26% and 23% of their GDP, respectively, to address climate change, compared to a much lower 3% for North African nations.

This underinvestment exacerbates the already significant costs of climate change, which are estimated to drain 5% of Africa's GDP annually. Stakeholders must urgently address the vast discrepancy between Africa's climate finance needs and current inflows. The annual shortfall is estimated at a staggering \$277 billion, hindering the continent's ability to implement its Nationally Determined Contributions (NDCs) and achieve its 2030 climate goals.

### 4.1 Climate Finance Framework

A climate finance framework is vital for banks as it fosters responsible investments, mitigates risks, meets regulatory standards. It helps banks thrive in a changing financial landscape while contributing positively to the environment and society.

Given the prevalence of ICMA and LMA Green bond/loan frameworks, and adoption of the same by regional frameworks (such as AfDB Green Bond Framework), the Climate Finance Framework has 4 core components as per the ICMA Green Bond Principles and LMA Green Loan Principles:



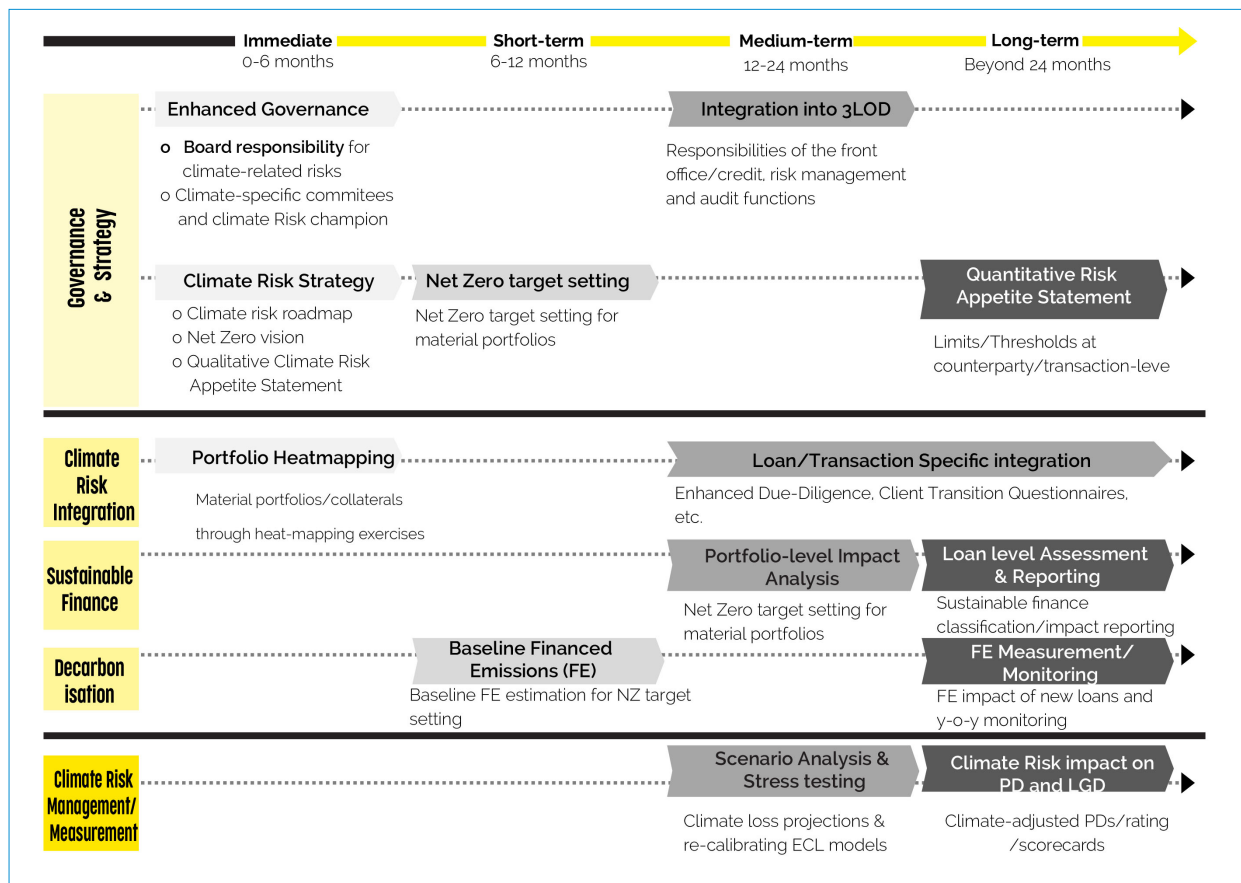
## 4.2 Overview of global climate finance products

Banks play a crucial role in providing and accelerating climate finance through the development and offering of climate finance products. Various climate finance products have been developed to support environmental sustainability and combat climate change. These products are designed to incentivize and facilitate investments in green projects and technologies.

- **Green Bonds:** One of the most common climate finance products, banks facilitate the issuance of green bonds by corporates, municipalities, and development institutions. These bonds fund environmentally beneficial projects (e.g., renewable energy, clean transportation). Green bond sales from corporates and governments reached \$575 billion in 2023, surpassing sales in 2022 and demonstrating a continued commitment to sustainable investments.
- **Transition bonds** represent an emerging category of financial instruments tailored for sectors that are traditionally high in greenhouse gas emissions, often referred to as 'brown industries'. They differ from green bonds as they target sectors like manufacturing, utilities, and transport that are essential for economic growth but need to reduce their carbon footprint. These bonds support the crucial shift towards greener practices and help prevent investments in fossil fuels from becoming obsolete as the world transitions to cleaner energy.
- **Sustainability Bonds:** Like green bonds, there is also a focus on sustainability bonds which stand out for their versatility, as they can finance a broad array of environmental and social initiatives. The proceeds from these bonds are used for both environmental and social projects.
- **Sustainability-linked loans** that offer a financial incentive for borrowers to meet specific sustainability benchmarks, with interest rates that may fluctuate based on the borrower's success in achieving these goals.
- **Carbon finance** is another key area, encompassing tools associated with carbon trading and credits, which enable companies to counterbalance their emissions by funding emission reduction efforts in other locations.

## 5.0 MULTI-YEAR JOURNEY FOR BANK

Building a robust climate risk and opportunities framework is a strategic, multi-year endeavor. It requires collaboration across all levels of the bank – from credit and risk management to technology and operations. As climate change touches every aspect of the business, and the solutions require a range of expertise, it is imperative to prioritize foundational elements in the initial phases. This phased approach ensures building a strong foundation before tackling more complex areas. As the capabilities and understanding mature within a bank, they can seamlessly integrate more sophisticated elements into the framework as illustrated below.



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