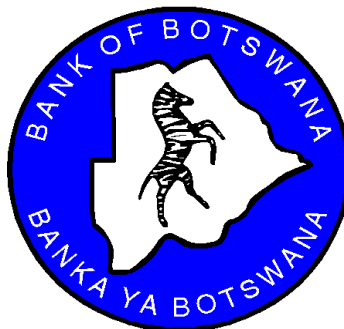


BANK OF BOTSWANA

PRUDENTIAL AUTHORITY AND PAYMENTS OVERSIGHT DEPARTMENT



GUIDELINES ON MANAGEMENT OF CLIMATE-RELATED FINANCIAL RISKS

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Guidelines on Management of Climate-Related Financial Risks

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1. **AUTHORITY, PURPOSE AND SCOPE**

(a) **Authority**

- 1.1 These guidelines are issued by the Bank of Botswana (Bank), pursuant to its authority set forth in Section 4C (1) of the Bank of Botswana (Amendment) Act, 2022 (Cap. 55:01).

(b) **Purpose**

- 1.2 The purpose of these guidelines is to provide guidance on the implementation of principles on management of climate risks by commercial banks, statutory banks and deposit-taking institutions (DTIs) in line with international best practice to

- (i) enhance the resilience of banks and DTIs to climate-related financial risks.
- (ii) ensure that banks and DTIs have appropriate governance, strategy and risk management frameworks for managing climate-related risks.
- (iii) ensure that banks and DTIs disclose information and metrics on their climate-related risk exposures, in accordance with the Task Force on Climate-related Financial Disclosure (TCFD) requirements.

(c) **Scope of Authority**

- 1.3 These guidelines apply to a bank/DTI licensed by the Bank under the Banking Act, 2023 (Banking Act), and statutory banks established under separate Acts of Parliament but falling within the purview of the Bank's supervision in terms of Section 3 (2) of the Banking Act. Therefore, banks and DTIs will be referred to as regulated institutions in these guidelines.
- 1.4 The principle of proportionality will guide the application of these guidelines, ensuring that the sophistication of climate-risk management practices align with each regulated institutions' size, complexity, risk profile, and exposure to climate risk.

2. **DEFINITION OF TERMINOLOGY**

- (a) **Anthropogenic emissions:** emissions resulting from human activities, such as deforestation, process of land-use changes, livestock production, industrial processes, and burning of fossil fuels.
- (b) **Climate:** the average of weather patterns in a specific area over a long period, usually 30 or more years, that represent the overall state of the climate system.
- (c) **Climate change:** a change in the climate system caused by significant changes in the concentration of greenhouse gases arising from human activities, in addition to natural climate variability observed over considerable periods.
- (d) **Climate-related financial risk:** risks that may arise from climate change or from efforts to adjust to a lower-carbon economy (transitional risk), including related

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impacts and economic and financial consequences resulting from extreme climate-related weather events and longer-term gradual shifts of the climate (physical risk). The terms climate risk and climate-related risks are used interchangeably in this document.

- (e) **Climate risk adaptation:** anticipation of adverse effects of climate change and taking actions to prevent or minimise damage or capitalise on opportunities, including infrastructure changes and behavioural shifts.
- (f) **Climate-risk mitigation:** making the impacts of climate change less severe by preventing or reducing emission of greenhouse gases into the atmosphere, achieved by reducing the sources of these gases or enhancing their storage.
- (g) **Environmental risk:** risks posed by the exposure of regulated institutions to activities that may cause or be affected by environmental degradation, such as air pollution, water pollution and scarcity, land contamination and desertification, biodiversity loss, and deforestation, and the loss of ecosystem services. Environmental degradation could cascade into risks for regulated institutions.
- (h) **Greenhouse gases:** these gases include water vapour, carbon dioxide, nitrous oxide, methane, and ozone, which are the primary greenhouse gases in the atmosphere.
- (i) **Macroeconomic transmission channels:** mechanisms by which climate-risk drivers affect macroeconomic factors, such as labour productivity and economic growth, and how these, in turn, affect regulated institutions through the economy. These channels also capture the effects on macroeconomic market variables like risk-free interest rates, inflation, commodities, and foreign-currency exchange rates.
- (j) **Materiality:** an item would be material if its omission or misstatement could change or influence the assessment or decision of a user relying on that information for the purpose of making informed and/or economic decisions.
- (k) **Microeconomic transmission channels:** mechanisms through which climate-risk drivers affect a regulated institution's individual counterparties, potentially resulting in climate-related financial risk to regulated institutions and the financial system. The effects can be both direct—affecting a regulated institution's own operations and funding ability, and indirect—affecting specific financial assets.
- (l) **Physical risk:** potential economic costs and financial losses resulting from the increasing severity and frequency of extreme climate change-related weather events, such as heatwaves, landslides, floods, wildfires and storms (acute physical risks), and longer-term gradual shifts in the climate, such as changes in precipitation, extreme weather variability, ocean acidification, and rising sea levels and average temperatures (chronic physical risks), and indirect effects of climate change, such as loss of ecosystem services (e.g., desertification, water shortage, degradation of soil quality or marine ecology). Physical-risk drivers can directly result in, for example, damage to property or reduced productivity, or indirectly lead to subsequent events, such as disruption of supply chains.

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- (m) **Scope 1 emissions:** greenhouse gas emissions generated by an institution's own operations such as use of company-owned motor vehicles.
- (n) **Scope 2 emissions:** greenhouse gas emissions from purchased or acquired inputs of production, for example, purchase of electricity for use by the reporting entity.
- (o) **Scope 3 emissions:** greenhouse gas emissions generated by the entity's value chain; in the case of regulated institutions, it is emissions generated by activities financed by regulated institutions.
- (p) **Stranded assets:** assets that lose their value prematurely owing to factors, such as new regulations, technological obsolescence, market shifts, or climate-change policies, thus becoming unable to generate expected economic returns and needing to be written off or converted into liabilities.
- (q) **Transition risk:** potential financial loss that can result, directly or indirectly, from the process of adjustment towards a lower-carbon and more environmentally sustainable economy. The risk could be triggered by the adoption of climate and environmental policies, technological progress, or changes in market sentiment and preferences. Transition-risk drivers affect economic activities, which in turn affect the financial system, through impacts like lower corporate profitability, asset impairment, or technological obsolescence.
- (r) **Weather:** atmospheric conditions at a particular time in a particular location, including temperature, humidity, precipitation, cloudiness, wind, and visibility.

3. INTRODUCTION

- 3.1 Climate change is widely recognised as a major global phenomenon that threatens to alter the natural environment, disrupt the well-being of society, hinder socio-economic development, and to negatively affect the financial system. Impact on the financial system comes in the form of physical risks, which arise from climate- and weather-related events, such as droughts, floods, wildfires and a rise in the sea level, categorised as acute physical risk, and as chronic when it is caused by progressive shifts in climate and weather patterns, such as increasing temperatures. On the other hand, efforts to reduce greenhouse gas (GHG) and anthropogenic emissions, owing to the adoption of climate-related and environmental policies, technological developments, and changes in consumer preferences and market sentiment, generate transition risks.
- 3.2 Physical and transition risks affect the resilience of regulated institutions' business models over the medium to longer term, particularly for regulated institutions reliant on sectors and markets that are vulnerable to climate-related and environmental risks. Moreover, physical- and transition climate-risk drivers affect regulated institutions' financial risks, including credit, operational, market, and liquidity.
- 3.3 Botswana has experienced the adverse effects of climate change over the years. The most recent extreme flooding experienced at the beginning of 2025, following incidents of

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drought, heat waves and wildfires that were experienced across the country bear testament to the phenomena.

- 3.4 Countries worldwide have put a lot of effort towards finding solutions to risks resulting from climate change, among them, the 2015 Paris Agreement, where countries have committed to keeping global warming below 2 degrees Celsius, preferably at 1.5 degrees Celcius.¹ Each country is expected to develop an action plan for reducing GHG emissions to align with the Paris Agreement recommendations. For its part, Botswana has declared to reduce carbon emissions by 15 percent by 2030 (using 2010 carbon dioxide baseline emissions of 8 307 gigagrams). At the institutional level, the Bank is a member of the Network for Greening the Financial System (NGFS)—a network of central banks and supervisors dedicated to accelerating development of green finance, as well as strengthening international standards and practices for green finance and climate-risk management.
- 3.5 Against this background, and consistent with the Bank’s mandate of maintaining a safe, sound and stable financial system, the Bank issues these guidelines for regulated institutions to embed climate risks in their risk-management frameworks. The guidelines are based on the recommendations of NGFS in its Guide for Supervisors, “Integrating Climate-related and Environmental Risks into Prudential Supervision” issued in 2019; the Task Force on Climate-related Financial Risk Disclosures of the Financial Stability Board; the Basel Committee on Banking Supervision; and benchmarking supervisory expectations of other regulators, such as the South African Reserve Bank and Reserve Bank of Zimbabwe.

4. SPECIFIC REQUIREMENTS

- 4.1 The Bank expects regulated institutions to develop a comprehensive and forward-looking approach to climate-related financial-risk management, integrating it into their core operations and risk-management frameworks.

A. GOVERNANCE

- 4.2 A regulated institution is required to establish a comprehensive governance framework, which outlines the enterprise-wide approach to identifying, managing, monitoring and reporting climate-related financial risks to which the institution is exposed. The governance domain comprises three elements: responsibilities of the board and senior management, development of climate goals and risk-appetite statement, and oversight of strategy development and implementation in addressing climate-related risks.

(i) Board Responsibilities

- 4.3 The board of directors holds the ultimate responsibility for a regulated institution’s business strategy, financial soundness, and overall governance, including climate-risk management. The board therefore should have adequate understanding and knowledge of climate-related financial risks to assess the potential impact of climate-related risks on

¹ Source: United Nations Audiovisual Library of International Law

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the regulated institution's strategy, including an understanding of the potential ways in which these risks could evolve over various time horizons and scenarios.

4.4 The board is responsible for establishing appropriate structures for timely reporting to senior management and the board on the identification, assessment, and management of climate-related risks.

4.5 The board should

- (a) ensure that the regulated institution's risk appetite and risk-management frameworks adequately address material climate-related financial risks.
- (b) approve and periodically review the strategies, policies, procedures and risk management frameworks for climate-related financial risks.
- (c) clearly set the roles and responsibilities of senior management and internal organisational structures for the management of climate-related financial risks.
- (d) ensure relevant capacity development and training programmes on climate-related financial risks.

(ii) Management Responsibilities

4.6 Senior management is responsible for implementing the climate-risk management strategy and ensuring that the regulated institution's activities are consistent with the board-approved risk appetite and policies.

4.7 Management should

- (a) develop and implement climate-related financial risk strategies, policies and frameworks approved by the board.
- (b) regularly review the effectiveness of the strategies, policy frameworks, tools and controls.
- (c) understand the regulated institution's exposure to structural changes in the economy, financial system, and competitive environment as a result of climate-related-risk drivers.
- (d) be involved in all relevant stages of the risk-management process based on the approach established by the board, which should be communicated to all employees.
- (e) clearly define and explicitly assign roles and responsibilities associated with identifying and managing climate-related financial risks throughout its organisational structure, and that the internal structures responsible for managing climate-related financial risks have adequate resources, skills and expertise.

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- (f) provide the board with the climate-related information it requires to carry out its responsibilities, through periodic reports to the board on climate-related financial risks.
- (g) ensure that staff have awareness and understanding of climate change, the microeconomic and macroeconomic transmission channels, and how climate-related risks can feed into risks faced by regulated institutions. Management is therefore expected to provide training for staff on climate change to facilitate identification of the potential risks by employees.
- (h) ensure that material climate-related financial risks are addressed in a timely manner.

(iii) Internal Control Framework

- 4.8 Regulated institutions must put in place an adequate and appropriate internal control framework, across the three lines of defence, to ensure that there is effective identification, measurement, monitoring, mitigation and management of risks to which they are exposed.
- 4.9 Consistent with the usual risk-governance framework, the responsibilities of managing climate-related risks could be allocated among three lines of defence as follows:
 - (a) the first line of defence, frontline staff, should undertake assessment of climate-related financial risks, for instance, during customer on-boarding, credit application and credit review process.
 - (b) the second line of defence, the risk-management function, should identify, monitor, and conduct climate-related financial risks, and ensure that the roles and responsibilities of the first line of defence and those charged with managing climate-related risks are executed according to the applicable rules and regulations. The compliance function should ensure adherence to applicable rules and regulations.
 - (c) the third line of defence, internal audit function, should perform regular reviews of the adequacy, appropriateness and effectiveness of the risk-management and internal control framework for climate-related financial risks.
- 4.10 A regulated institutions shall formulate a policy for management of climate-related financial risks, which at a minimum shall include
 - (a) roles and responsibilities of the board and senior management in managing climate-related financial risks.
 - (b) roles and responsibilities of frontline staff, risk management, compliance and internal audit functions in climate-related financial risks management.
 - (c) a framework for identification, measurement, monitoring, and control of climate-related financial risks.
 - (d) lines of authority and responsibility for managing climate-related financial risks.
 - (e) contents and frequency of management reports to the board on managing climate-related financial risks.

- 4.11 A regulated institution shall ensure that management of climate-related financial risks is embedded in policies, processes and controls across all relevant functions and business units.

B. RISK MANAGEMENT PROCESS

- 4.12 A robust risk-management process is fundamental for regulated institutions to effectively navigate the complexities of climate-related financial risks. The risk-management process should be integrated into an institution's overall risk-management framework. It should have the following elements:

Assessment of Climate-related Financial Risks

- 4.13 A regulated institution is required to regularly conduct a comprehensive assessment of climate-related financial risks. The assessment should include setting clear thresholds for materiality, and the risk-management framework should enable a regulated institution to recognise all material risks with an integrated firm-wide perspective on risk. A regulated institution should decide on its own thresholds for determining materiality, thereby establishing a clear approach of identifying and managing its most significant risks.
- 4.14 The assessment shall at a minimum comprise a robust process for the identification of climate-related financial risks deemed to be material. The identification must be conducted at granular levels, including individual counterparty, business lines, industry, economic sectors and geographical locations.
- 4.15 The assessment should include an analysis of risk concentrations, particularly those related to specific industries, economic sectors, and geographic regions that are highly susceptible to climate-related physical and/or transition risks.
- 4.16 Further, a regulated institution should develop appropriate key risk indicators (KRIs) for effective management of material climate-related financial risks that align with the regulated institution's regular monitoring and escalation arrangements. KRIs should support comprehensive risk ratings, including metrics for severity, probability, and financial impacts.
- 4.17 The process for assessing the impact of climate change on a regulated institution's business should
- (a) include clear board-approved criteria and thresholds for determining materiality of climate-related financial risks.
 - (b) consider the potential impact of such material risks in the short, medium and long term.
 - (c) incorporate results of climate-related financial risks stress testing and scenario analysis to assess the resilience of a regulated institution's business model and portfolios under various plausible future climate pathways. Regulated institutions may use frameworks, such as those provided by the NGFS, supporting a forward-looking approach to risk management.
 - (d) consider the impact of material climate-related financial risks on the internal capital adequacy assessment process (ICAAP).

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- (e) ensure that material climate-related financial risks are duly assessed across all relevant risk categories (for example, credit, market, operational, liquidity) and at all stages of the risk-management life cycle. For credit risk, this includes rigorous assessment at the loan origination stage, during subsequent reviews, and in collateral valuations.
- 4.18 In using scenario analysis, regulated institutions may refer to scenarios developed by international organisations, for example, the NGFS. NGFS has developed scenarios to provide a common starting point for analysing climate risks to the economy and financial system. The use of the scenarios could provide a framework for regulated institutions to assess the potential impacts of a transition to an environmentally friendly economy on the regulated institution's portfolios and operations, thus enabling the entities to better manage climate-related risks and opportunities. The link: <https://www.ngfs.net/ngfs-scenarios-portal/> provides additional information on climate-risk scenarios.
- 4.19 Climate-related risks can amplify and create new exposures within a regulated institution's existing risks as indicated below

(i) **Credit Risk**

- 4.20 The effect of extreme weather events (physical risks), for example, floods on properties pledged as collateral against loans could affect the value of the collateral, thus heightening credit risk. Further, a regulated institution's exposure to borrowers whose business activities have high GHG emission are likely to be affected by the key drivers of transition risks (policy, technological advances and shifts in consumer preferences towards green economy, low-carbon products and services changes), thus resulting in stranded assets, which also lead to an increase in credit risk. Therefore, the following measures shall be followed in managing the risk:

Identification

- 4.21 A regulated institution should identify climate-related risks, encompassing both physical and transition risks, that could directly or indirectly affect the creditworthiness of borrowers. The identification includes assessing how extreme weather events or chronic climate shifts could impair a borrower's operations or assets, and how transition risk—policy changes (e.g., imposition of a carbon tax) or technological advances could affect the borrower's business model and ability to repay loans.

Assessment

- 4.22 A regulated institution is required to evaluate the impact of climate-related risk drivers on the credit-risk profiles of its portfolio and integrate these risks into credit-risk management systems and processes.
- 4.23 A regulated institution should analyse potential impacts of climate-related risks on collateral values, particularly for real estate and assets in climate-vulnerable sectors or regions. This includes assessing the risk of loss of property value due to physical events and the potential for assets to become stranded as a result of transition risks.

*Guidelines on Management of Climate-Related Financial Risks**Measurement and Monitoring*

- 4.24 A regulated institution should develop a framework for managing its credit exposures to facilitate a comprehensive measurement and monitoring of variables that can affect the creditworthiness of borrowers. The measurement and monitoring process requires granular analysis of exposures to specific geographies and economic sectors that are highly susceptible to physical and/or transition risk.
- 4.25 A regulated institution shall continuously monitor credit exposures to climate-sensitive sectors and regions, using KRIs to track changes in risk profiles over time. The process includes monitoring the performance of climate-sensitive assets and the evolving climate-risk profiles of individual clients. Further, changes in borrower creditworthiness directly attributable to climate-related factors must be monitored, and regulated institutions are required to develop and implement robust, forward-looking early-warning indicators specifically designed for climate-related credit risks.
- 4.26 Supervisors shall collect climate risk-related data from supervised institutions to facilitate assessment of a regulated institution's exposure to climate risk and the potential losses at the portfolio, client and operational level. Assessment of a regulated institution's exposure to physical risks requires data on, among others, a regulated institution's exposure by sector and industry, the activities of a regulated institution's customers, their geographical locations, exposure tenors and whether these exposures are insured. Therefore, a regulated institution must report on an annual basis, exposure tenor and the precise geographical location of customer activities, properties, assets and collateral.
- 4.27 A regulated institution is also required to report data on carbon intensity of the loans and investments financed by regulated institutions, that is, carbon emissions of the activities to facilitate assessment of their exposure to transition risks. The carbon emission may be reported at three different levels as guided by the International Sustainability Standards Board: direct emission (Scope 1), indirect emission (Scope 2) and those derived from an entities value chain (Scope 3).
- 4.28 The Bank is aware that Botswana has no laws requiring companies to disclose comprehensive information on climate risk, which has the potential to hinder regulated institutions' effort to source emissions data directly from their customers. That notwithstanding, regulated institutions are required to provide data on their exposure to transition risks in the format provided in Table 1. Given that methodology for computing greenhouse gas (GHG) emissions is evolving and data is not readily available, regulated institutions can use guidance by standards setting bodies.

Table 1: Emission Intensity Metric of Financed Activities

Type of Asset	By sector	Counter party	Geography	Maturity	Exposure amount	Attributed scope 1, 2 absolute emissions (kton CO ₂ e)
Listed equity and corporate bonds						
Business loans and advances, and unlisted equity						
Investments (corporate instruments)						
Motor vehicles						
Commercial real estate						
Mortgages						
Motor vehicle loans						

Source: The Global GHG Accounting and Reporting Standard for the Financial Industry by the Partnership for Carbon Accounting Financials

- 4.29 Regulated institutions should engage proactively with customers to gather information for updating customers' climate-risk profiles, fostering resilience and supporting transition efforts of customers. The engagement should aim to mitigate potential future credit deterioration.

Mitigation

- 4.30 A regulated institution should establish and maintain clear credit policies and processes that address material climate-related credit risks, including frameworks to identify, measure, evaluate, monitor, report and manage concentrations of climate-related financial risks within a regulated institution's credit portfolios. These policies must define how climate risks are factored into lending decisions, risk appetite, and portfolio management strategies.
- 4.31 A regulated institution should integrate material climate-related financial risks into credit policies and processes across the entire credit life cycle. Mitigation strategies include
- (a) client due diligence: rigorous assessment of a customer's exposure and resilience to climate risks as part of the on-boarding process must be conducted.
 - (b) contractual agreements and pricing: appropriate reflection of climate-related risks in loan terms, covenants, and pricing mechanisms to influence climate resilience and account for increased risk.
 - (c) ongoing monitoring: assessment of customers' evolving climate-risk profiles and their impact on creditworthiness, including the use of classification systems (for example, heatmaps) to identify and monitor customer exposure to climate-related and environmental-risk drivers, such as biodiversity loss, water stress, and pollution, which can exacerbate physical and transition risks.

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- (d) collateral valuation: conduct regular evaluation of collateral values to account for climate-related depreciation or uninsurability risks, to ensure that asset valuations appropriately reflect these evolving risks.

- (ii) **Liquidity risk**

- 4.32 Climate-risk drivers can affect a regulated institution's liquidity directly by impairing the ability to raise funds or liquidate assets and indirectly through customer demand for liquidity, increase in borrowing, and high withdrawal of deposit as well as credit lines, following a climate-related disaster, to finance recovery from the incident. Further, consumer and investor preference for low carbon products and services, change in policy and technological advances towards the green economy may result in a sudden decrease in the value of assets held by a regulated institution, making it difficult to liquidate these assets, which could heighten a regulated institution's liquidity risk. Therefore, just as for credit risk, the following measures shall be followed in managing liquidity risk:

Identification

- 4.33 A regulated institution should identify and quantify the impact of climate-related financial risks on its capital and liquidity position and incorporate those assessed as material over relevant time horizons into its internal capital and liquidity adequacy assessment processes. The identification process will require understanding of how climate-risk drivers (physical and transition) can translate into increased credit losses, market value adjustments, operational disruptions, and reputational damage, thereby affecting capital requirements and liquidity buffers.

Assessment

- 4.34 A regulated institution should incorporate the identified and quantified material climate-related financial risks over relevant short-, medium-, and long-term horizons in its ICAAP. Incorporating the risks into ICAAP will ensure that capital and liquidity planning adequately reflects the potential financial impacts of climate change on the regulated institution's resilience.

Measurement and Monitoring

- 4.35 A regulated institution should develop and implement robust metrics and KRIs to continuously monitor the impact of climate-related risks on the regulated institution's capital and liquidity profiles. The monitoring activities include tracking changes in funding availability, asset values, and potential net cash outflows directly attributable to climate-related events or market reactions to such events.

Mitigation

- 4.36 A regulated institution should ensure that its capital adequacy framework adequately accounts for material climate-related financial risks, enabling the regulated institution to absorb potential losses from the crystallisation of climate-related risks, including losses from the reduced creditworthiness of borrowers, higher insurance claims, and significant reductions in asset values. Therefore, a regulated institution should reflect climate-risk

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drivers in the calculation of risk-weighted assets (RWAs) and incorporate the RWAs into its ICAAP.

- 4.37 A regulated institution must develop, implement, and regularly test robust contingency-funding plans and liquidity-management strategies specifically designed to address potential liquidity shortfalls or increased net cash outflows caused by climate-related events. Plans should consider various climate scenarios and their potential impact on funding markets and customer behaviour, ensuring the regulated institution's ability to meet its obligations under adverse climate-related conditions.

(iii) **Market Risk**

- 4.38 A regulated institution's exposure to climate risks may arise from a movement in price of assets due to sudden change in policy, for example, imposition of a carbon tax or changes in technology that accelerate transition to low-carbon intensity products and services, leading to stranded assets, which could result in price fluctuation for the equity of companies in carbon-intensive sectors. Therefore, just as for the credit and liquidity risk, the following measures shall be followed in managing the risk:

Identification

- 4.39 A regulated institution should identify climate-related risks that could materially affect the value of financial instruments and investment portfolios. The identification requires a comprehensive understanding of how both physical- and transition-risk drivers can lead to rapid repricing of assets, increased market volatility and the potential for stranded assets in carbon-intensive sectors.

Assessment

- 4.40 A regulated institution should evaluate how climate-related financial-risk drivers could affect the value of financial instruments in its portfolios and must assess the potential risk of losses stemming from increased volatility and sudden market shifts. The assessment should incorporate forward-looking climate scenarios to identify vulnerabilities.
- 4.41 A regulated institution is required to evaluate the specific impact of transition risks on investments in carbon-intensive sectors, including the potential for repricing, impairment, or obsolescence of assets as the economy shifts towards lower-carbon emissions.

Measurement and Monitoring

- 4.42 A regulated institution should continuously monitor the performance of climate-sensitive assets and changes in market-risk exposures due to climate-related factors. Monitoring requires developing and applying appropriate metrics and indicators to track the exposures.
- 4.43 A regulated institution is expected to develop and use stress-testing scenarios that explicitly incorporate climate-related risks to assess the resilience of their market portfolios under various plausible future climate situations.

*Guidelines on Management of Climate-Related Financial Risks**Mitigation*

- 4.44 A regulated institution should implement measures to mitigate potential losses from climate-related market events. The measures may include adjusting portfolio allocations, applying larger haircuts to assets materially exposed to physical or transition risks, or using hedging instruments where appropriate and feasible.
- 4.45 A regulated institution should actively diversify investment portfolios to reduce concentrated exposures to climate-related risks, particularly in highly vulnerable sectors or geographies, thereby enhancing overall portfolio resilience.

(iv) Operational and Reputational Risks

- 4.46 Given that there is limited research on regulated institutions' operational risks arising from physical risks, parallels can be drawn from regulated institutions' responses to other natural disasters. For example, disruption in transportation and telecommunications after a severe climate-related disaster is likely to reduce a regulated institution's operational ability.
- 4.47 Regulated institutions and the corporations they finance are exposed to increasing compliance, liability and reputational risks arising from their investments and lending in carbon-intensive sectors. The risks are amplified by pressure and campaigns from investors, non-governmental organisations and climate activists, potentially increasing bank-credit risk or even precipitate a corporation's default.
- 4.48 Market expectations of how adequately a regulated institution responds to climate change are growing. A regulated institution's association with projects viewed as socially or environmentally damaging may create negative publicity that may adversely affect the customer base or even revenue. Therefore, in a similar approach to the credit, liquidity and market risk, the following measures shall be followed in managing the operational risk:

Identification

- 4.49 A regulated institution should proactively identify all material climate-related events and their associated physical risks that could directly or indirectly disrupt the regulated institution's operations. The potential events identification should include both acute physical risks, such as floods, storms and wildfires, and chronic physical risks, such as extreme heat, which can affect critical infrastructure, information technology (IT) systems, data centers, physical property (e.g., branches, offices, automated teller machines), and personnel.

Assessment

- 4.50 Risks arising from events like floods, storms, or wildfires can disrupt institutions' operations, including IT systems, property, and supply chains. A regulated institution should therefore assess the potential impact of identified climate-related events on its operational resilience. The assessment must evaluate how the disruptions could affect business continuity, critical functions, and service delivery, and evaluate if existing

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business continuity plans and disaster recovery strategies are sufficiently robust to address such scenarios.

- 4.51 A regulated institution is required to consider and assess potential legal and reputational risks stemming from climate-related events or their own activities related to climate change. Thus, a regulated institution should assess risks arising from litigation, public backlash for perceived contributions to climate change or inadequate risk management, and regulatory fines for non-compliance with climate-related expectations.

Measurement and Monitoring

- 4.52 A regulated institution shall design frameworks to continuously track the frequency and severity of climate-related operational disruptions and monitor effectiveness of existing business continuity plans and operational resilience measures and develop KRIs to provide early warnings for potential vulnerabilities.

Mitigation

- 4.53 A regulated institution should develop, implement, and regularly test comprehensive business continuity plans and disaster recovery strategies specifically designed to address climate-related operational disruptions. Further, a regulated institution should enhance the resilience of its physical, digital and critical infrastructure against climate impacts, and ensure availability of alternative operational sites and remote-work capabilities.

Scenario Analysis and Stress Testing

- 4.54 A regulated institution should conduct scenario analysis to evaluate the potential impacts of different climate scenarios, including both physical and transition risks, on its financial condition to test the resilience of the institution to climate risks. The objective of climate scenario analysis should reflect the regulated institution's overall climate-risk management objectives as set out by its board and senior management. The objectives could include, for example, exploring the impacts of climate change and the transition to a low-carbon economy on the regulated institution's strategy and the resilience of its business model; identifying relevant climate-related risks; measuring vulnerability to climate-related risks and estimating exposures and potential losses; diagnosing data and methodological limitations in climate-risk management; and informing adequacy of the regulated institution's risk-management framework, including risk-mitigation options.
- 4.55 Scenario analysis should employ a range of time horizons, from short to long term to address different risk-management objectives, for example, shorter time frames may be used to analyse the crystallisation of risk within a regulated institution's typical business planning horizon at a lower level of uncertainty, whereas longer time frames, which carry higher levels of uncertainty, may be used to evaluate the resilience of existing strategies and business models to structural changes in the economy and financial system.
- 4.56 Stress testing should be used to assess the impact of severe but plausible climate-related events on their capital and liquidity positions. The results of the scenario analysis and stress-testing exercises should inform risk-management strategies and capital planning.

C. RISK MONITORING AND REPORTING

4.57 A regulated institution should

- (a) establish robust internal reporting systems to monitor climate-related financial risks and provide timely information to management and the board.
- (b) develop data collection and aggregation processes to track climate-related exposures and risk concentrations.
- (c) use appropriate qualitative and quantitative tools to monitor climate-related risks.
- (d) engage with clients and counterparties to gather information on their climate risk profiles and transition plans.

4.58 A regulated institution is required to report its exposures to climate-related financial risks in its ICAAP for supervisory review. In the reporting, a regulated institution must

- (a) document and explain the methods used to identify, assess, measure, monitor, and report climate-related risks, including the specific transmission channels (for example, how physical and transition risks link to credit, market, operational and liquidity risks) and the treatment of risk correlation.
- (b) explicitly detail the impact of the identified climate-related risks on the determination of total internal capital, ensuring the regulated institution's capital adequacy is commensurate with its risk profile.
- (c) report on the type and nature of the forward-looking scenario analysis and stress tests adopted to assess climate-related risks.
- (d) report on challenges identified in the process of assessing climate-related risks and how these could be addressed in the future and the risk management and risk mitigation strategies employed to manage these risks. The link: www.bis.org provides additional information on climate-risk scenarios.

4.59 A regulated institution should on an annual basis provide data to the Bank on its exposure to transition risks according to the emission intensity metric template provided at Table 1 (paragraph 4.28).

D. DISCLOSURES

4.60 A regulated institution should disclose in its Pillar III disclosures under the Basel Capital Accord, exposures emanating from climate-related financial risks.

4.61 A regulated institution should disclose climate-related risks and opportunities in a clear, consistent, and transparent manner to stakeholders in alignment with disclosure recommendations of the TCFD.

Guidelines on Management of Climate-Related Financial Risks

4.62 At a minimum, a regulated institution should disclose information on the following:

- (a) Governance: board and management oversight of climate-related risks, that is, governance of climate-related risks and opportunities.
- (b) Strategy: impact of climate-related risks and opportunities on the regulated institution’s business, strategy, and financial planning. The disclosure entails a description of climate-related risks and opportunities identified by the institution over the short, medium, and long term; the impact of climate-related risks and opportunities on the institution’s businesses, strategy, and financial and planning; and the resilience of its strategy, taking into consideration different climate-related scenarios.
- (c) Risk management: the processes used by the institution to identify, assess, and manage climate-related risks and how processes for identifying, assessing, and managing climate-related risks are integrated into its overall risk management.
- (d) Metrics and targets: The metrics and targets used to assess and manage relevant climate-related risks and opportunities in line with its strategy and risk management process; and the targets used, as well as performance against targets. Metrics may relate to credit exposure, equity and debt holdings, or trading positions, broken down by industry, geography, credit quality, average tenor.

5. EFFECTIVE DATE

- 5.1 The guidelines shall come into effect six months from the date of issue.
- 5.2 Any question pertaining to the interpretation and application of the guidelines should be addressed to the director responsible for banking supervision.

Issued this 13 August 2026 day of 13 August 2026 2026



DIRECTOR

PRUDENTIAL AUTHORITY AND PAYMENTS OVERSIGHT