

# CLIMATE RISK MANAGEMENT

**BANGKOK BANK PUBLIC COMPANY LIMITED**

## Climate Risk Management

Globally, we are facing extreme climate-change such as storms, floods, heat waves and droughts that are more frequent and severe. Therefore, more sectors are concerned and give priority to the reduction of greenhouse gas emissions and the transition to a low-carbon society to alleviate potential impacts and build resilience to climate change for both business sector and household sector. This change can be viewed as both risk and opportunity for businesses while businesses that can adapt well will be immune to risks and are able to cash in on opportunities compared with their competitors. The Bank realizes the criticality in understanding, monitoring and assessing the situation and climate change risks as well as enhancing capabilities in climate risk assessment both for physical and transition risks.

**Physical Risks** are defined as risks that may cause damage to assets, businesses, agricultural products and people's wellbeing as a result of acute natural disasters such as storms, floods, heat waves and chronic climate change such as higher temperature, higher sea level and change in rainfall.

**Transition Risks** are risks that may affect asset values, competitiveness, financial positions and businesses of related sectors due to key factors including rules and policies related to climate from the government and counterparties in the supply chain, development of low-carbon technology to replace existing high-carbon technology, change in consumer behavior and more attention from investors on environment and climate change.

The Bank is aware that in the medium to long term, climate change is likely to impact different sectors in the economic system, directly and indirectly including banking industry. Therefore, proper management for climate risk is required while the Bank is in pursuit of studying and developing risk assessment tools to evaluate both physical risks and transition risks to analyze risks and impacts of climate change as well as conducting stress tests in different scenarios. In addition, we offer employees in related functions skill and knowledge development on a regular basis. Note that the Bank has a plan to prepare reports according to the Task Force on Climate-related Financial Disclosures (TCFD) for our 2023 Sustainability Report covering 4 key components which are governance, strategy, risk management and metric and targets.

## Core Elements of Recommended Climate-Related Financial Disclosures



### Governance

The organization's governance around climate-related risks and opportunities

### Strategy

The actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning

### Risk Management

The processes used by the organization to identify, assess, and manage climate-related risks

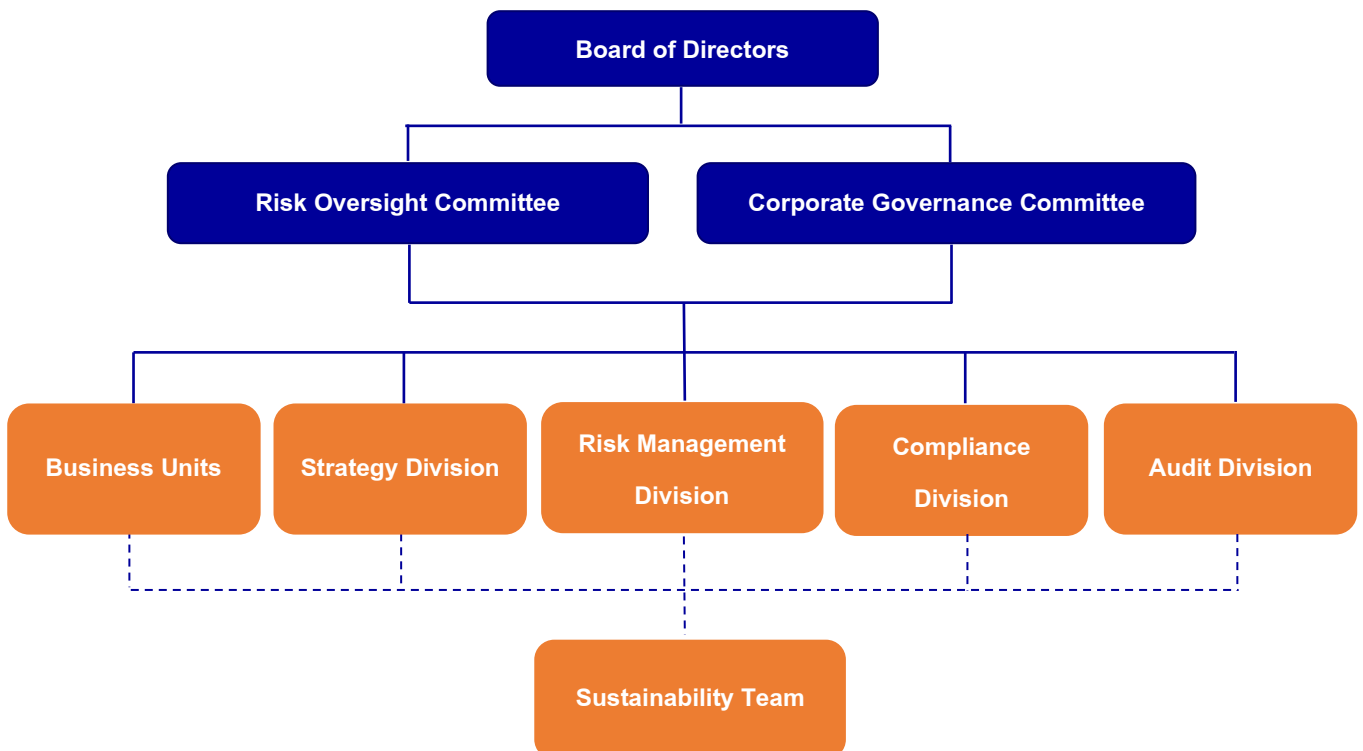
### Metrics and Targets

The metrics and targets used to assess and manage relevant climate-related risks and opportunities

Source: Task Force on Climate-related Financial Disclosures

### 1. Governance

The Bank designed organization structure to support ESG performance including those related to climate as well as defining roles and responsibilities from the Board level to operational level by adopting three lines of defense principle as a risk management framework per following:



**Board of Directors** is responsible for formulating and reviewing vision, policies, business directions, business goals and strategies as well as overseeing all risks in the organization by playing a key role in formulating the risk management policy and strategy and monitoring the Bank's risks to be within acceptable levels.

**Risk Oversight Committee** has a duty to ensure that risk management is properly and continuously undertaken with efficiency and effectiveness in accordance with overall risk management policy and strategy.

**Corporate Governance Committee** is responsible for upholding good corporate governance and sustainability in the Bank by ensuring that the principles of good corporate governance and sustainability are practiced. The committee is also responsible for considering a sustainability strategy that suits the Bank's business operations, driving and monitoring progress as well as giving opinions to the Board of Directors on the risks and opportunities relating to environmental, social and governance issues including climate change.

**Business Units** are responsible for managing risks to their own units to be within the approved levels and in accordance with the risk management policy of the Bank.

**Strategy Division** has a duty to formulate policies and strategic plans to drive business according to policies, strategies and business plans as well as monitoring business performance.

**Risk Management Division** has a duty to evaluate, monitor and control material risks of the Bank including climate risk.

**Compliance Division** has a duty to oversee and monitor all units under the Bank to comply with laws, rules, practices and regulations of the government including internal policies and practices of the Bank.

**Audit Division** is responsible for review and audit of units of the Bank to ensure prudent and effective internal control.

**Sustainability Team** has a duty in sustainability planning and driving related activities including climate to attain specified goals through communication, support, collaboration with related internal and external parties.

## 2. Strategy

Realizing potential opportunities, risks and impacts from climate through funding support provided to the business sector, the Bank is committed to offering credits and investing in activities or businesses that create positive impacts on the environment and the society. Moreover, we support the transition to a low-carbon society under Thailand's roadmap as well as promoting renewable energy, BCG and electronic vehicle industry according to the roadmap to attain carbon neutrality by 2050 and net zero greenhouse gas emissions by 2065. In addition, the Bank places importance on the reduction of greenhouse gas emissions from the Bank's direct activities and electricity consumption.

For the initial stage of the process to transition to a low-carbon society, awareness and understanding of related businesses are fundamental. Therefore, the Bank intends to build awareness and promote understanding on

opportunities, risks and impacts from climate change for business customers especially SME to help prepare them to plan ahead to properly embrace potential change in the future to maintain or create competitive advantage in the long run. Furthermore, we put employee readiness first to ensure that employees can provide useful advice to customers through the arrangement of knowledge training for employees in related functions on a continuous basis. Besides, the Bank also established BU Champion project for development of high-potential talent with the objective to develop employees to have required expertise to become specialists in each department and to pass on knowledge to other employees in the same departments.

#### Assessment of opportunities related to environment and climate change

Climate Opportunity	Incident	Opportunity
1. Resource Efficiency	<ul style="list-style-type: none"> <li>- Efficient use of resources such as replacement with energy/water-saving equipment, campaigns to save energy and water, wastewater treatment and reuse, garbage sorting and recycling.</li> </ul>	<ul style="list-style-type: none"> <li>- Reduction of operating costs of the Bank in the long run.</li> <li>- Support for customers to transition to low-carbon businesses.</li> <li>- Engagement and motivation for employees to conserve the environment and reduce greenhouse gas emissions at work and at home to make employees feel inclusive and proud of the Bank's environmental and climate efforts.</li> <li>- Building positive image of the Bank related to environmental conservation and reduction of greenhouse gas emissions.</li> </ul>
2. Energy Source	<ul style="list-style-type: none"> <li>- Use of equipment that reduces greenhouse gas emissions.</li> <li>- Installation of solar rooftops as sources of clean energy to save electricity charges and reduce electricity consumption from transmission lines.</li> </ul>	
3. Product and Service	<ul style="list-style-type: none"> <li>- Development of products and services that support green businesses and activities.</li> <li>- Credit support for transition or reduction of greenhouse gases to mitigate impacts from climate change.</li> <li>- Adoption of technology to promote easier access to financial services and broader customer coverage.</li> </ul>	<ul style="list-style-type: none"> <li>- Support for customers to transition to low-carbon businesses.</li> <li>- Higher revenue and broader customer base of the Bank.</li> <li>- Knowledge sharing and support for customers to utilize carbon market for trading carbon credits and renewable energy.</li> <li>- Building of business partner networks to create business opportunities and enhance competitiveness of the Bank and our partners.</li> <li>- Risk diversification for the Bank's financial assets.</li> </ul>
4. Market	<ul style="list-style-type: none"> <li>- Extension of customer base to green businesses and businesses with technology</li> </ul>	

Climate Opportunity	Incident	Opportunity
	<p>that help with adaptation to climate change.</p> <ul style="list-style-type: none"> <li>- Support for carbon credit market and renewable energy to generate business opportunities for customers.</li> </ul>	<ul style="list-style-type: none"> <li>- Accumulation of knowledge and understanding on sustainability and climate change to serve customers as “Puan Koo Kit” (a trusted partner).</li> <li>- Engagement with customers, employees and other sectors to drive toward greenhouse gas emission reduction goals at organization level and national level.</li> <li>- Building of good image of the Bank.</li> </ul>
5. Resilience	<ul style="list-style-type: none"> <li>- Adaptation to embrace impacts from climate change either related to rules and regulations or technology and market demand.</li> </ul>	<ul style="list-style-type: none"> <li>- Maintenance of leader position on sustainability and trust building for stakeholders.</li> <li>- Market value enhancement of the Bank.</li> </ul>

### Climate Change Adaptation

The Bank implements important adaptation measures as follows:

- For branches and buildings located in repeatedly flooded areas the Bank equips those branches and buildings with flood protection solutions such as flood barriers and water pump to prevent potential damages. The bank also has Emergency Response Plan for flood and non-life insurance covering losses from flood.
- For branches, buildings, and ATMs located in areas experiencing frequent power outage due to severe storm, the Bank makes sure that uninterruptible power supply (UPS) and electricity generators are in place.

### 3. Metric and Targets

The Bank set forth metric and targets for both our internal operation and financial support provided to customers to mitigate environmental and social impacts as well as promoting adaptability to climate change. Please see scope 1 and 2 emission data and targets in the Sustainability Report 2022. We regularly monitor and assess our undertaking while performance according to the targets is considered as one of the factors in the performance evaluation, which in turn, determines compensation of employees in relevant units.

### 4. Risk Management

The Bank is fully aware of risks and opportunities related to the environment and climate change both physical risks and transition risks which will affect the Bank’s operations directly including operational risk and reputational risk as

well as indirectly through the Bank's customers or other external factors such as credit risk, market risk, liquidity risk and reputational risk.

#### Risk transition and environmental and climate change impact on existing risks of the Bank

Traditional Risk Type	Risk and Impact
Credit Risk	<ul style="list-style-type: none"> <li>- Physical and transition risks may affect debt payment ability of customers due to higher defaults on debts which can deteriorate the overall credit quality of the Bank's portfolio.</li> <li>- Physical risks can potentially cause values of collaterals of customers at the Bank to deteriorate.</li> <li>- Risks may arise from risk burden in the sectors that emit high volume of greenhouse gases or in countries with higher risk from natural disasters.</li> </ul>
Market Risk	<ul style="list-style-type: none"> <li>- Physical and transition risks may affect the enterprise value, price and price fluctuations in securities that the Bank holds.</li> </ul>
Liquidity Risk	<ul style="list-style-type: none"> <li>- Risks can arise from withdrawals of deposits, uses of credit lines or additional credit lines from customers for their investments in low-carbon businesses or technology or improvement or maintenance of assets affected by natural disasters.</li> <li>- Physical and transition risks may cause customers to be unable to fulfill their debt obligations within specified periods or unable to sell securities placed as collaterals to pay debts which can potentially affect the Bank's liquidity.</li> <li>- Physical and transition risks may lead to lower liquidity of securities the Bank holds as there is no demand in the market for those securities.</li> </ul>
Operational Risk	<ul style="list-style-type: none"> <li>- Physical risks may disrupt customer services or assets or in case that the Bank's operation systems are damaged by natural disasters.</li> <li>- Physical risks can potentially affect health, work and wellbeing of the Bank's employees.</li> </ul>
Regulatory Risk	<ul style="list-style-type: none"> <li>- Risks can arise from non-compliance with environmental or climate requirements imposed by regulatory agencies or government which can result in fines or reputational damage.</li> </ul>
Reputational Risk	<ul style="list-style-type: none"> <li>- Impact on reputation is possible from being the financial sponsor for businesses or projects that severely impact the environment and the society or emit high volume of greenhouse gases.</li> <li>- Inadequate management of climate risks may affect trust of the Bank's stakeholders such as shareholders, investors and customers.</li> </ul>
Strategic Risk	<ul style="list-style-type: none"> <li>- Strategic formulation that is not aligned with risks and opportunities related to climate and expectations of stakeholders may impact the Bank's competitiveness, ability to generate returns and investment attractiveness for investors.</li> </ul>

The Bank assesses risks and opportunities related to environment and climate change to understand how they will impact customers and the Bank and in which forms as well as estimating timing of those risks classified as short term (ST), medium term (MT) and long term (LT) as follows:

#### Assessment of risks and impacts related to environment and climate change

Climate-related Risk	Incident	Risk and Impact	Time Horizon <sup>1</sup>
<b>1. Transition Risk</b>			
1.1 Policy and Legal Risk	<ul style="list-style-type: none"> <li>- Non-compliance with requirements from regulatory agencies or applicable laws on environment and climate change</li> <li>- Tighter regulations and laws related to environment and climate change including reporting on greenhouse gas emissions, information disclosure on climate for organizations according to international standards, carbon tax and international trade measures.</li> </ul>	<ul style="list-style-type: none"> <li>- Higher business expenses to improve operations or be prepared under imposed requirements and laws such as additional investments.</li> <li>- Potential fines and reputational damage resulted from non-compliance with requirements and laws.</li> <li>- Risks and impacts on financial positions and business performance of customers which may affect quality of assets and values of collaterals of the Bank including debt payment ability of customers.</li> </ul>	ST - LT
1.2 Technology Risk	<ul style="list-style-type: none"> <li>- Development of technology with low greenhouse gas emissions such as renewable energy technology, Carbon Capture, Utilization and Storage (CCU), energy storage technology and energy efficiency management technology to replace traditional technology</li> </ul>	<ul style="list-style-type: none"> <li>- Customers using technology with high greenhouse gas emissions may lose market shares to competitors using technology with low greenhouse gas emissions.</li> <li>- Transition of business models to low carbon emissions can potentially be uncertain and incur high costs. Customers who invest in new technology may face higher</li> </ul>	MT - LT

<sup>1</sup> Definition of time frame for environmental and climate-change risks and impacts analysis:

- Short term (ST) = 1-3 years
- Medium term (MT) = 3-10 years
- Long term (LT) = 10+ years



Climate-related Risk	Incident	Risk and Impact	Time Horizon <sup>1</sup>
	<p>with high greenhouse gas emissions.</p> <ul style="list-style-type: none"> <li>- Failure in investment in new technology with low greenhouse gas emissions.</li> </ul>	<p>R&amp;D costs and high capital expenditure which can lead to losses in case of failure.</p> <ul style="list-style-type: none"> <li>- Risks and impacts on financial positions and business performance of customers which may affect quality of assets and values of collaterals of the Bank.</li> </ul>	
1.3 Market Preference	<ul style="list-style-type: none"> <li>- Behaviors in using products and services that are concerned with impacts on the environment and climate change; for example, discontinuance of certain types of products such as single use plastic and use of products with green labels despite higher costs.</li> </ul>	<ul style="list-style-type: none"> <li>- Changing consumer behaviors and needs may negatively affect performance of customers which can affect quality of assets and values of collaterals of the Bank.</li> </ul>	ST - LT
1.4 Reputation Risk	<ul style="list-style-type: none"> <li>- Higher expectations from various stakeholders to ensure that the Bank conducts business with environmental and social responsibility and plays a role in mitigating risks and impacts from climate change especially businesses that have potential to make a severe impact on the environment or the society or emit high volume of greenhouse gases.</li> <li>- Expectations for the Bank to be a financial intermediary that is involved in the mitigation of risks and</li> </ul>	<ul style="list-style-type: none"> <li>- Businesses that are unable to meet expectations of stakeholders may lead to negative impacts on sales revenue of products and services, ability to access funds (from lower weighting on equity or debt instruments of investors) including organization image and ability to attract and retain talent especially new generations.</li> <li>- Impacts on financial positions and performance of customers resulted from reputational damage which may affect quality of assets and values of collaterals of the Bank.</li> </ul>	MT - LT

Climate-related Risk	Incident	Risk and Impact	Time Horizon <sup>1</sup>
	impacts related to the environment and climate change.		
<b>2. Physical Risk</b>			
2.1 Acute	- Acute natural disasters such as storms, floods, and heat waves.	- Impact on assets of businesses, manufacturing of products and service offering, transportation and supply chain disruption.	ST - LT
2.2 Chronic	- Chronic natural disasters such as increase in temperature, higher sea level and change in rainfall.	- Higher expenses from business and service improvements, maintenance of assets and remedies for customers and employees including higher insurance expenses. - Lower value of assets and collaterals from assets located in the areas with high risk of natural disasters. - Impacts on financial positions and performance of customers which may affect quality of assets and values of collaterals of the Bank.	LT

The Bank integrated key physical risk factors such as flood that happened often and caused damage to many businesses and households as a part of operational risk management with proper risk assessment and monitoring to set out measures, manage and control risks to be within acceptable levels. In addition, contingency plans are in place in case of flood to be prepared to prevent and mitigate damage to life and assets. Moreover, we follow closely for changes in policies, rules and regulations related to the transition to a low-carbon economy while keeping abreast of technological advancement pertaining to low carbon and adjustment of businesses in industries with high risk. The Bank is under study and testing phase to conduct a scenario analysis on transition of climate change in order to analyze credit risk in our credit portfolio in high-risk industries.

Note that businesses that the Bank expected to be affected by transition risks are likely to be concentrated in high carbon emission industries with the potential to pay higher costs to offset for carbon emissions in the future. Besides,

in case that businesses have to transition to a low-carbon business model, high investment is expected for new assets and machineries which may lead to worsened financial positions in the short to medium term.

Industry	Potential Impact from Transition Risk
Oil and Gas	Very High
Power Generation	High
Agriculture	Medium
Real Estate	Medium
Metals and Mining	Medium
Industrials	Medium
Transportation	Medium
Service and Technology	Low