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TCFD Report
2023



 **CIMB THAI**
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Welcome to the TCFD Report of CIMB Thai Bank PCL.

CIMB Thai Bank PCL. has reported in accordance with the Task Force on Climate-related Financial Disclosure (TCFD) Recommendations for the period 1 January 2023 to 31 December 2023.

We have taken conscious efforts to manage and minimize the environmental impact of our TCFD Report and related processes. This TCFD Report is only available in digital format. The Food and Agriculture Organization of the United Nations (UN FAO) estimated that over the decade since 2010, the net loss in forests globally was 4.7 million hectares (almost 30 million rai) per year due to various reasons. Let's play our part to reduce paper consumption and digitalize sustainably.

View our TCFD Report 2023 and other information about CIMB Thai Bank PCL at www.cimbthai.com.

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Message from our President and Chief Executive Officer

Dear Stakeholders,

I am proud to present our inaugural Task Force on Climate-related Financial Disclosures (TCFD) Report which is an extension of the annual Sustainability Report that addresses all material sustainability matters of the Bank. This milestone represents our commitment to transparency and proactive management of climate-related risks and opportunities. By aligning with TCFD recommendations, we are taking a significant step towards integrating climate considerations into our strategic planning and risk management processes, ensuring the long-term resilience of our business and supporting the transition to a low-carbon economy.

CIMB Thai's sustainability strategy is built on our core strengths: our extensive network, innovative financial solutions, and deep understanding of the local market. We have leveraged these strengths to develop a comprehensive approach to climate-related management that aligns closely with TCFD recommendations. Additionally, this is also a step forward on achieving Bank of Thailand's expectations laid out in its Policy Statement - Internalizing Environmental and Climate Change Aspects into Financial Institution Business ("Standard Practice").

Climate change presents both challenges and opportunities for the financial sector, and CIMB Thai recognizes its crucial role in facilitating the transition to a sustainable future. Through this report, we aim to provide our stakeholders with a clear understanding of how we are addressing climate-related issues across our operations and portfolio. We have conducted comprehensive assessments of our climate-related risks and opportunities, developed strategies to mitigate risks and capitalize on opportunities, and established robust governance structures to oversee our climate initiatives. Our approach includes scenario analysis to assess the resilience of our strategy under different climate-related scenarios, as recommended by TCFD.

Looking ahead, we are committed to continuously improving our climate-related disclosures and enhancing our management approach to climate risk and opportunities.

We have been working closely with our clients, partners, and other stakeholders to drive sustainable practices across our value chain and contribute to Thailand's national climate goals. This includes expanding our sustainable finance offerings, enhancing our climate risk assessment capabilities, and further integrating climate considerations into our decision-making processes at all levels of the organization.

As we navigate the complexities of climate change, CIMB Thai remains dedicated to creating long-term value for our shareholders while positively impacting the environment and society. We invite you to engage with us through this report and join us on our journey towards a more sustainable and resilient future.

“Thank You from Tomorrow”



Paul Wong Chee Kin
President and Chief Executive Officer



Part 1
Introduction to
CIMB Thai's
TCFD Report 2023

Introduction to CIMB Thai's TCFD Report 2023

The Task Force on Climate-related Financial Disclosures (TCFD) was established by the Financial Stability Board (FSB) to develop a set of voluntary, consistent disclosure recommendations for companies to use when providing information to investors and shareholders, lenders, insurers, and other stakeholders. These recommendations aim to address the financial impact of climate change, offering a framework for companies to disclose their climate-related risks and opportunities comprehensively and consistently. The TCFD Report serves as a crucial tool for organizations to communicate how they are integrating climate-related risks and opportunities into their governance, strategy, risk management, and metrics and targets. By following TCFD recommendations, companies can provide stakeholders with transparent and comparable information, helping them understand the potential financial impacts of climate change on the organization and the steps being taken to mitigate these risks and capitalize on emerging opportunities.

The TCFD recommendations are structured around four thematic areas that represent core elements of how organizations operate:

- Governance:** Disclosures in this pillar focus on the organization's governance around climate-related risks and opportunities. This includes the board's oversight of climate-related risks and opportunities and management's role in assessing and managing these risks and opportunities.
- Strategy:** This pillar requires organizations to disclose the actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning. It includes discussing how climate-related issues are integrated into the organization's strategy and financial planning.
- Risk Management:** Under this pillar, organizations are expected to disclose how they identify, assess, and manage climate-related risks. This includes describing the processes for identifying and managing these risks and how they are integrated into the organization's overall risk management.
- Metrics and Targets:** This pillar focuses on the metrics and targets used to assess and manage relevant climate-related risks and opportunities. It includes disclosing the metrics used to assess these risks and opportunities, Scope

1, 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the targets used to manage climate-related risks and opportunities.

TCFD's Supplemental Guidance for the Financial Sector has also stated the FSB's aspirations to, "provide a source of data that can be analyzed at a systemic level, to facilitate authorities' assessments of the materiality of any risks posed by climate change to the financial sector, and the channels through which this is most likely to be transmitted."

For financial institutions in Thailand, such as CIMB Thai Bank PCL, the significance of TCFD Reports is multi-faceted. Firstly, Thailand is highly vulnerable to climate change impacts such as extreme weather events and rising sea levels, which can have profound implications on the financial stability of banks. By publishing a TCFD report, CIMB Thai demonstrates its commitment to identifying, assessing, and managing climate-related risks, aligning with global best practices and the regulatory expectations such as those set forth by the Bank of Thailand (BOT).

BOT's Policy Statement - Internalizing Environmental and Climate Change Aspects into Financial Institution Business ("Standard Practice")

The Bank of Thailand (BOT) has issued a policy statement on integrating environmental and climate change

considerations into financial institutions' operations. Recognizing the intensifying impacts of climate change and Thailand's commitments to carbon neutrality by 2050 and net zero emissions by 2065, the BOT's policy guides financial institutions to assess climate-related opportunities and risks appropriately. The policy applies to all financial institutions and companies within financial business groups, with expectations to align with their organizational structure, size, business complexity, and environmental risk materiality. The BOT will commence progress evaluation from 2024, encouraging a self-assessment exercise to support the practical adoption of the policy.

The BOT's "Standard Practice" provides comprehensive guidelines on how financial institutions should integrate climate-related risks into their governance, strategy, risk management, and disclosures. This aligns with TCFD recommendations and emphasizes the importance of assessing and disclosing exposures to climate-related risks, including physical and transition risks. It also encourages banks to adopt scenario analysis and stress testing to evaluate the potential impacts of climate change on their portfolios.

The inaugural TCFD Report 2023 by CIMB Thai is a strategic move to align with these regulatory expectations, enhance its risk management framework, and support Thailand's transition towards a low-carbon economy.

NGFS Climate Scenarios and Their Application in this TCFD Report

The Network for Greening the Financial System (NGFS) provides a set of forward-looking climate scenarios to help financial institutions explore the potential impacts of climate change on the economy and financial system. These scenarios offer insights into various plausible futures and are regularly updated to reflect the latest economic and climate data. As of 2023, the NGFS scenarios have been expanded to include new pathways and more detailed modeling of physical risks.

The NGFS, in collaboration with climate scientists and economists, has designed a set of hypothetical scenarios, now available in the expanded 2023 version. These scenarios 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 presents a range of outcomes, from higher to lower risks, and is categorized based on different levels of policy response and associated physical risks.

In CIMB Thai's TCFD Report 2023, the NGFS climate scenarios are utilized to assess and manage climate-related risks and opportunities, thereby informing the Bank's strategy. This approach is consistent with the bank's commitment to integrating climate considerations into its overall sustainability strategy.

The NGFS scenarios used in CIMB Thai's TCFD Report are aligned with the climate pathways outlined by the Intergovernmental Panel on Climate Change (IPCC). This alignment ensures that the bank's climate risk assessments are grounded in the latest scientific understanding of climate change and its potential impacts. By aligning with IPCC scenarios, CIMB Thai can provide stakeholders with credible and scientifically robust information on the risks and opportunities associated with different climate futures.



• Orderly – Net Zero 2050 Scenario

This scenario assumes that stringent climate policies and technological innovations are implemented to limit global warming to 1.5°C whereby warming of 1.4°C is modelled for the end of the century. This requires global net-zero CO₂ emissions to be reached around 2050.

For CIMB Thai, adopting the Net Zero 2050 scenario helps illustrate a pathway where the bank can smoothly integrate climate-related considerations into its operations and investment strategies. It also provides a framework for assessing how proactive policies can mitigate risks and enhance opportunities in sustainable finance.



• Disorderly – Delayed Transition Scenario

This scenario represents a future where significant emission reductions are delayed until 2030, requiring more abrupt and stringent policies later to limit warming to below

2°C – end-of-century is modelled at 1.7°C warming. This leads to higher transition risks due to the necessity of rapid and disruptive changes.

For CIMB Thai, analyzing the Delayed Transition scenario is crucial for preparing for potential shocks and disruptions that may arise from these abrupt policy shifts and market changes. This scenario underscores the importance of building resilience and flexibility into the bank's risk management strategies, as well as the need to be prepared for heightened transition risks.



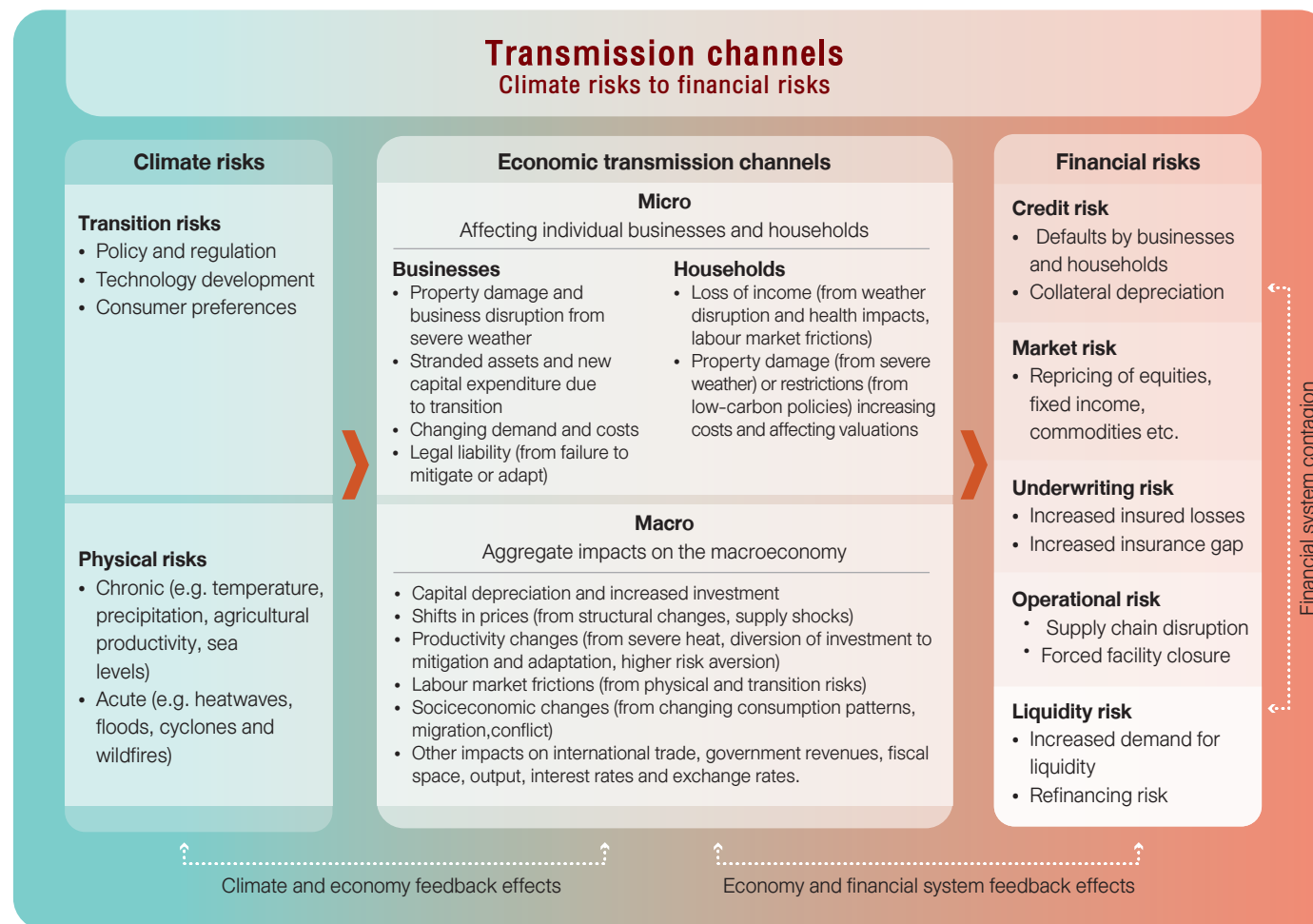
• Hot House World – Nationally Determined Contributions (NDCs) Scenario

This scenario envisions a future where current policy pledges are implemented fully, but they are insufficient to prevent significant global warming, resulting in severe physical risks, including a rise in global temperatures by around **2.4°C** by the end of the century.

For CIMB Thai, this scenario highlights the critical importance of robust physical risk assessments and adaptation strategies to safeguard assets and operations in the face of worsening climate conditions. It also emphasizes the need for the bank to support initiatives that enhance community and ecosystem resilience.

The NGFS has indicated that climate risks under the various scenarios could affect the economy and financial system through a range of different transmission channels.


CIMB Thai's TCFD Report 2023 utilizes references to NGFS scenarios and financial risks to analyze the Bank's climate-related risk, opportunities and strategies.





NZBA Priority Sectors and Their Application in this TCFD Report

The **Net Zero Banking Alliance (NZBA)** is a global coalition of leading banks committed to aligning their lending, investment, and capital markets activities with the goal of achieving net-zero greenhouse gas emissions by 2050. Established under the auspices of the United Nations Environment Programme Finance Initiative (UNEP FI) and operating within the broader framework of the Glasgow Financial Alliance for Net Zero (GFANZ), the NZBA provides a structured pathway for financial institutions to set and achieve ambitious decarbonization targets


The **NZBA** identified several priority sectors where banks can significantly impact emissions reduction. CIMB Thai Bank, a part of CIMB Group which is a member of the NZBA, integrates the NZBA priority sectors into its strategy for managing financed emissions and promoting sustainable finance.

1.  **Agriculture:** Agriculture is vital to Thailand's economy, contributing about 10% of GDP and employing a large portion of the population. However, it is also a major source of greenhouse gas emissions, particularly methane from rice paddies and livestock. Banks can help by financing sustainable agricultural practices, promoting deforestation-free supply chains, and investing in low-emission farming technologies.


2.  **Aluminum:** Aluminum production is energy-intensive and significantly contributes to carbon emissions. Although not as large as in some other countries, Thailand's aluminum industry presents opportunities for emissions reduction. Banks can fund projects aimed at improving energy efficiency, promoting recycling, and investing in low-carbon production methods.

3.  **Cement:** The cement industry is significant in Thailand's industrial sector, contributing to both economic growth and emissions. Cement production is one of the largest industrial sources of CO₂ emissions. Banks can support the transition to low-carbon alternatives by financing research into new materials and developing carbon capture and storage (CCS) technologies, and encouraging more efficient production processes.


4.  **Coal:** Thailand has been working to reduce its reliance on coal, but it still plays a role in the energy mix, especially for power generation. Banks can help by financing renewable energy projects, supporting the decommissioning of coal-fired power plants, and investing in cleaner energy technologies.


5.  **Commercial and Residential Real Estate:** The construction and real estate sectors in Thailand are expanding rapidly, increasing energy consumption and emissions. Buildings contribute significantly to greenhouse gas emissions through their energy use. Banks can promote sustainability by financing

energy-efficient building projects, retrofitting existing buildings with green technologies, and supporting policies that mandate energy efficiency standards.

6.  **Iron and Steel:** The iron and steel industry is a vital part of Thailand's industrial sector, contributing significantly to both the economy and emissions. Banks can support the transition to more sustainable practices by funding innovations in low-carbon steel production, investing in recycling and waste reduction technologies, and promoting alternative materials.

7.  **Oil and Gas:** Although not a major oil and gas producer, Thailand relies heavily on these resources for its energy needs. The major oil and gas company in Thailand is also a state-owned enterprise, whereby the government has some fiscal reliance on. Banks can influence this sector by financing renewable energy projects, supporting the development and deployment of CCS technologies, and encouraging energy companies to diversify into low-carbon energy sources.

8.  **Power Generation:** Power generation in Thailand is a significant source of emissions, primarily from fossil fuel-based plants. The country is gradually shifting towards renewable energy sources to reduce emissions. Banks can help by financing renewable energy projects such as wind, solar, and hydroelectric power, supporting grid modernization efforts, and promoting energy efficiency.

9.  **Transport:** The transport sector in Thailand is a major contributor to greenhouse gas emissions, largely due to reliance on fossil fuels for road transport. Banks can help mitigate these emissions by financing the development and adoption of electric vehicles (EVs), supporting infrastructure projects for EV charging stations, investing in public transport systems, and promoting policies that encourage the use of cleaner fuels.

In Thailand, “brown sectors” in the context of the BOT refers to industries that are characterized by high greenhouse gas emissions and are less environmentally sustainable, whereby the transition from brown to “less brown” sectors is a crucial aspect of Thailand’s broader economic strategy. In this aspect, CIMB Thai refers directly to NZBA’s priority sectors when identifying and managing “brown sectors”.

Transition from TCFD to IFRS S2 Reporting

The International Financial Reporting Standards (IFRS) S2, developed by the International Sustainability Standards Board (ISSB), represents the next step in the evolution of climate-related financial disclosures. The IFRS S2 standards build upon the framework established by the TCFD, integrating its core elements while enhancing the granularity and comprehensiveness of climate-related disclosures.

The transition from TCFD to IFRS S2 reporting is significant for several reasons. Firstly, IFRS S2 provides a standardized global framework that enhances the comparability of climate-related disclosures across different jurisdictions. The adoption of IFRS S2 is expected to play a crucial role in regulatory reporting, especially in Asia. Governments and regulatory bodies across the region are increasingly recognizing the importance of standardized climate-related disclosures to ensure financial stability and support sustainable development goals.

For instance, in Singapore, the Monetary Authority of Singapore (MAS) has been proactive in integrating sustainability considerations into financial regulation. The MAS has issued guidelines encouraging financial institutions to align their disclosures with international standards, including the TCFD and the forthcoming IFRS S2.

Similarly, in Japan, the Financial Services Agency (FSA) has emphasized the need for enhanced climate-related disclosures to support the country’s transition to a low-carbon economy. The FSA is working closely with financial institutions to implement the IFRS S2 standards, aiming to improve the quality and consistency of climate-related information available to investors and shareholders and regulators.

In Thailand, the Stock Exchange of Thailand (SET) has also been moving towards greater transparency and accountability in climate-related disclosures. By adopting the IFRS S2 standards, Thai financial institutions can enhance their reporting practices, providing stakeholders with clearer insights into how climate risks and opportunities are managed.

This inaugural TCFD Report is CIMB Thai’s first step towards transitioning to IFRS S2 reporting in the very near future, in alignment with CIMB Group. Preparations are already underway by various divisions including the Sustainability Team, as well as Finance Department and Risk Department to identify and address potential gaps between current TCFD reporting and the IFRS S2 requirements.



What this means for CIMB Thai's Stakeholders

• Regulators

The TCFD Report offers significant benefits to regulators, particularly the Bank of Thailand (BOT), by providing a detailed and transparent overview of how CIMB Thai manages climate-related risks and opportunities. This transparency is crucial for regulatory oversight, ensuring that the bank complies with both national and international standards. By disclosing its climate-related financial risks and strategies, CIMB Thai enhances regulatory bodies' ability to monitor and mitigate potential threats to the financial system's stability.

Moreover, the alignment with BOT's "Standard Practice" and the TBA's "Industry Handbook" ensures that CIMB Thai is not only meeting but exceeding the expectations set forth by regulatory authorities. This proactive approach aids in the development of more robust regulatory frameworks, as the insights gained from the bank's disclosures can inform future policy-making and regulatory adjustments. It also provides a benchmark for other financial institutions, promoting a higher standard of climate-related management across the industry.

The BOT's "Standard Practice," officially titled "Policy Statement of the Bank of Thailand Re: Internalizing Environmental and Climate Change Risks in the Financial Sector" (2023), outlines comprehensive guidelines for financial institutions. These guidelines emphasize integrating

climate-related risks into governance, strategy, risk management, and disclosures, encouraging banks to adopt scenario analysis and stress testing to evaluate potential impacts.

• Investors and Shareholders

Investors and shareholders are increasingly prioritizing environmental, social, and governance (ESG) factors in their decision-making processes. The TCFD Report provides investors and shareholders with critical insights into CIMB Thai's exposure to climate-related risks and its strategic responses. This information is invaluable for making informed investment decisions, as it allows investors and shareholders to assess the bank's long-term viability and resilience.

The detailed disclosures also help mitigate concerns about potential future liabilities and regulatory penalties related to climate risks. Furthermore, the bank's proactive stance on climate-related issues can enhance its reputation, leading to a potential increase in share value and shareholder confidence.

The alignment with internationally recognized frameworks such as the TCFD and the forthcoming IFRS S2 ensures that the information provided is credible, consistent, and comparable across different jurisdictions. This global standardization is particularly beneficial for CIMB Group as our single largest shareholder who require reliable data to assess CIMB Thai's sustainability and financial health.

• Customers

For customers, the TCFD Report signifies CIMB Thai's commitment to sustainability and responsible banking. This commitment is reflected in the bank's efforts to support environmentally friendly projects and reduce its business-related emissions. Customers increasingly prefer to engage with institutions that prioritize sustainability, and CIMB Thai's transparent disclosures can enhance customer trust and loyalty, especially corporate customers that align with the TCFD recommendations themselves.

The report also highlights the bank's initiatives to promote green financing and support projects that contribute to environmental conservation and climate resilience. By doing so, CIMB Thai not only aids in the transition to a low-carbon economy but also provides customers with opportunities to invest in sustainable ventures. This dual approach benefits both the bank and its customers, fostering a more sustainable financial ecosystem.

Moreover, the Bank's emphasis on climate risk management and sustainability aligns with the broader societal goals of reducing environmental impact and enhancing resilience to climate change. This alignment can attract customers who are committed to these values, further strengthening the Bank's customer base.

• Employees

For employees, the TCFD Report underscores CIMB Thai's dedication to sustainable and responsible business practices. This dedication can enhance employee morale and engagement, as staff members take pride in working for an institution that prioritizes environmental stewardship and social responsibility.

The bank's comprehensive approach to sustainability and climate action can also provide employees with opportunities for professional growth and development. By engaging in initiatives related to climate resilience and sustainable finance, employees can acquire valuable skills and knowledge that are increasingly in demand in the financial industry.

Furthermore, the report can serve as a tool for internal communication, helping employees understand the bank's strategic direction and their role in achieving its sustainability goals. This clarity can enhance job satisfaction and retention, as employees feel more connected to the bank's mission and values.

• Broader Community Impact

The TCFD Report also has significant implications for the broader community. By transparently disclosing its climate-related risks and strategies, CIMB Thai contributes to raising awareness about the importance of climate resilience and sustainable finance. This awareness can

inspire other organizations to adopt similar practices, leading to a more widespread commitment to addressing climate change.

Moreover, the bank's support for green and sustainable projects and initiatives can have a positive impact on local markets and communities. By investing in renewable energy, conservation efforts, and sustainable development projects, CIMB Thai can help create jobs, stimulate economic growth, and improve environmental quality.



CIMB Thai's inaugural TCFD Report 2023 represents a significant milestone in its journey towards integrating climate considerations into its business operations. This report not only meets the regulatory expectations of the Bank of Thailand but also positions CIMB Thai as a leader in sustainable finance within the region. By providing transparent and comprehensive climate-related disclosures, CIMB Thai aims to foster trust among stakeholders, drive sustainable growth, and contribute to the global effort to combat climate change.

This report emphasizes directly the context of CIMB Thai as a financial institution that is operating in Thailand, complying and submitting to Thailand's unique climate-related policy, legal, regulatory, and market expectations. Additionally, as a part of the larger CIMB Group, CIMB Thai abides with Group-wide targets, strategies, frameworks, and commitments such as UNEP FI Principles for Responsible Banking.

The transition to IFRS S2 reporting will further enhance the bank's ability to provide high-quality, standardized climate-related information, aligning with global best practices and regulatory requirements. By adopting IFRS S2, CIMB Thai is well-positioned to navigate the evolving landscape of climate-related financial reporting, ensuring resilience and sustainability in the face of climate change.

For more information relating to other material Sustainability matters of CIMB Thai, please refer to CIMB Thai's Sustainability Report 2023.



Part 2

“TONE FROM THE TOP”

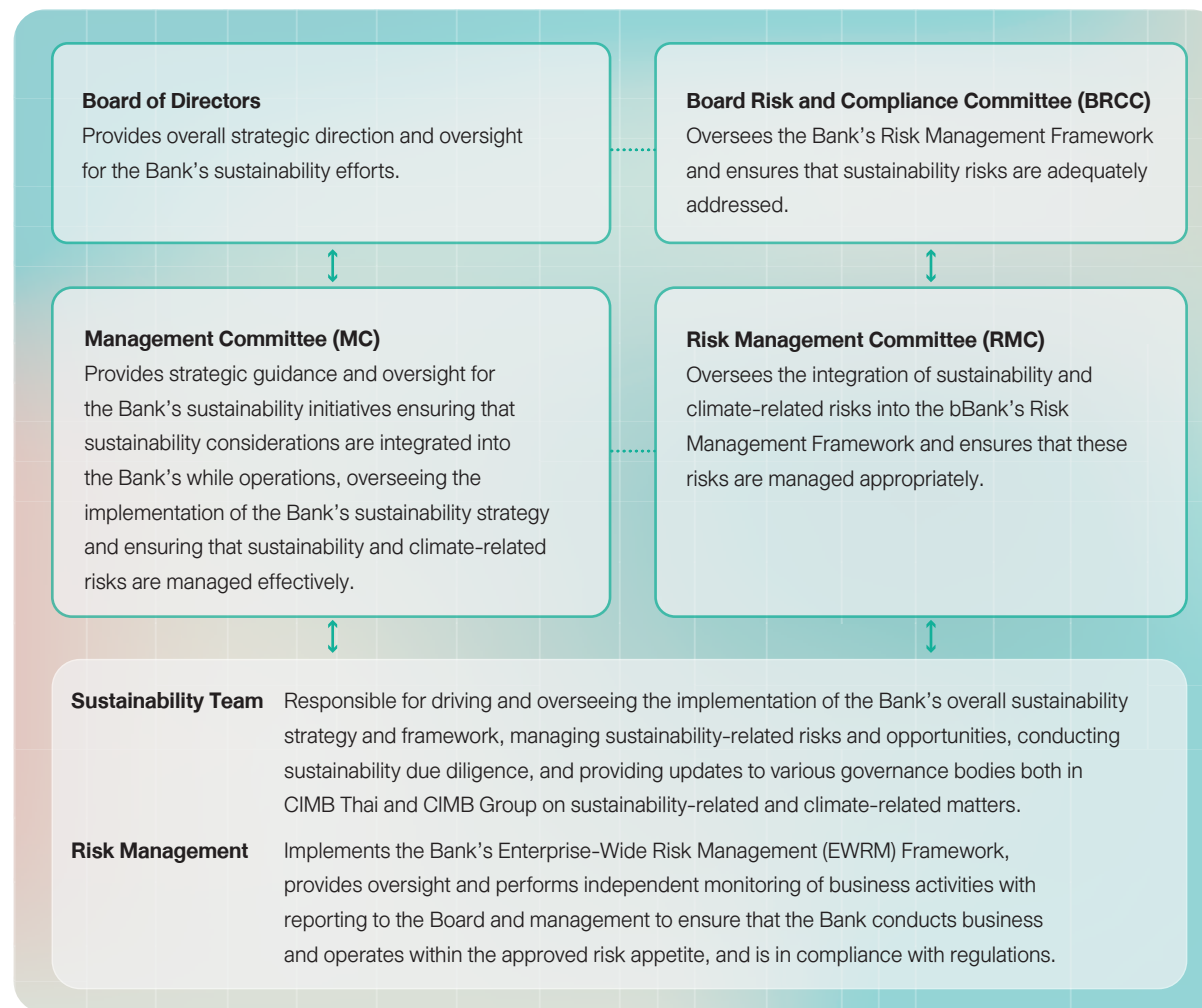
Our Climate-related
Governance

“Tone from the Top” - Our Climate-related Governance

CIMB Thai’s governance structure is designed to provide comprehensive oversight of climate-related risks. At the apex is the Board of Directors, which provides ultimate oversight and ensures the integration of climate-related risks into the Bank’s strategic planning. The Board Risk and Compliance Committee (BRCC) oversees risk management and compliance functions, including climate-related risks, ensuring that these issues are integrated into the bank’s risk management framework. The Risk Management Committee (RMC) focuses on specific risk areas, supporting the BRCC in its oversight role.

The Bank has clearly assigned climate-related responsibilities to various management-level positions and committees, ensuring that climate-related issues are addressed at the highest levels of the organization. The Board of Directors has delegated the responsibility for the overall business and day-to-day management of the Bank to the Chief Executive Officer (CEO). The CEO is supported by the Management Committee (MC) and other management sub-committees, which report regularly to the Board Sub-Committees on various governance issues, including climate-related matters.

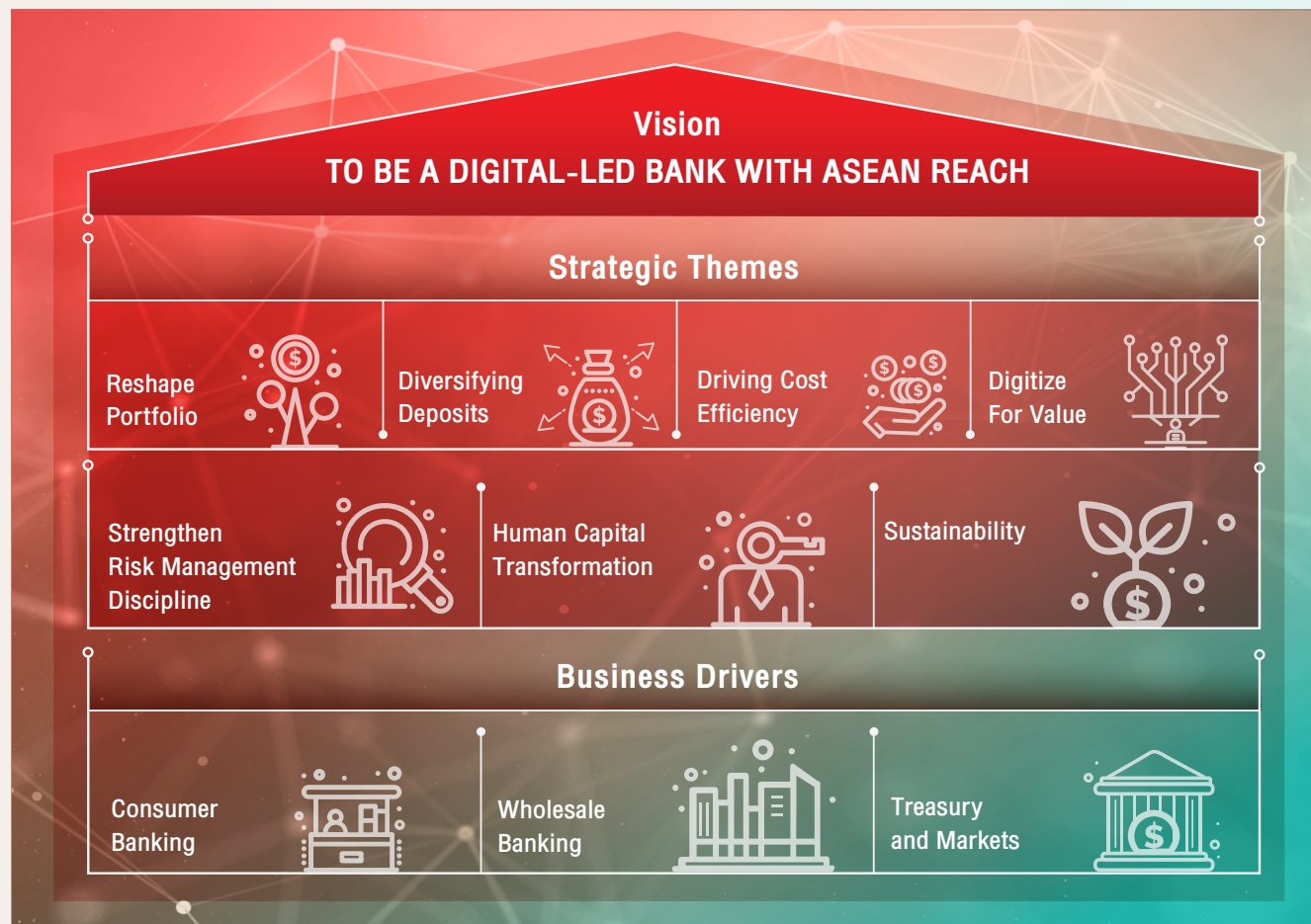
Furthermore, the Sustainability Team, guided by the Head of Sustainability, plays a pivotal role in informing management about climate-related issues. The team provides updates to governance committees on policy matters, risks, and areas of concern identified periodically. They also oversee the implementation of the overall sustainability framework and strategy, ensuring alignment with the bank’s goals and regulatory requirements.



The Board receives regular updates on climate-related risks and opportunities through comprehensive reports and assessments. These reports include the Risk Hotspots and Risk Appetite Metrics, which is periodically updated to reflect the latest developments, including climate-related risks. Additionally, the Board and its committees are informed about climate-related issues during their regular meetings and strategy sessions. This ensures that the Board remains informed about significant environmental trends and can integrate these insights into the Bank's strategic planning.

The Bank employs a structured approach to ensure that the Board is kept abreast of climate-related developments. This includes scheduled briefings by the Head of Sustainability, the Bank's Sustainability Team, and other senior executives responsible for business risks and opportunities, and compliance with regulations in these areas. By maintaining a regular flow of information, the Board is well-positioned to make informed decisions that align with the Bank's sustainability goals.

In addition to internal reports and briefings, CIMB Thai Bank also engages with external experts and stakeholders to gather diverse perspectives on climate-related issues. For instance, the annual The Cooler Earth Conference enables the Board to engage directly with external Sustainability and climate experts from representatives from intergovernmental bodies, local and national government representatives, and academic and NGO representations. By incorporating external insights, the Board can better understand emerging risks and opportunities and ensure that the Bank's strategies are aligned with global best practices.



• Consideration of Climate-Related Issues in Strategic Review

CIMB Thai Bank's Board and its committees actively consider climate-related issues when reviewing and guiding the Bank's strategy, major plans of action, risk management policies, annual budgets, and business plans. This integration ensures that climate-related risks and opportunities are embedded into the Bank's overall strategic framework. The Bank's strategic planning process involves identifying key environmental risks and opportunities and incorporating them into business objectives and operational plans.

The Bank aligns its climate-related risk management with the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD). This alignment includes assessing both physical risks (such as floods and wildfires) and transition risks (such as regulatory changes and market shifts), that is also a major concern of the Bank of Thailand. The Bank uses forward-looking methods, including internal scenario analysis, to evaluate the impacts of climate-related risks. These assessments inform the Bank's business strategy, risk management, and internal capital adequacy assessments. By aligning with TCFD recommendations, the Bank ensures that it meets international standards for transparency and accountability in climate risk management.

The Board's involvement in setting the organization's performance objectives, monitoring implementation and performance, and overseeing major capital expenditures, acquisitions, and divestitures, ensures that climate-related considerations are factored into all significant business decisions. For instance, the BRCC reviews and provide recommendations on policies related to credit, market, liquidity, and operational risks, all of which are directly or indirectly influenced by climate-related factors as advised by the Sustainability Team. This comprehensive approach ensures that climate risks are integrated into the Bank's risk appetite and management frameworks.

In addition to risk management, the Board also considers climate-related opportunities in its strategic planning. This includes identifying sectors and projects that can benefit

from the transition to a low-carbon economy. For example, the Bank has increased its financing and capital raising in renewable energy projects and real-economy decarbonization projects, which not only mitigate climate risks but also capitalize on the growing market for sustainable finance. By identifying and investing in such opportunities, the Bank aims to enhance its resilience and profitability in a changing economic landscape. These are captured under the Bank's Green, Social, Sustainable Impact Products and Services (GSSIPS) Framework.

The Board also considers the potential impact of climate-related regulations on the Bank's operations and strategy. This involves staying informed about evolving regulatory frameworks and engaging with policymakers to advocate for policies that support sustainable finance. By proactively addressing regulatory risks and opportunities, the Board ensures that CIMB Thai Bank remains compliant with legal requirements and well-positioned to benefit from these regulatory initiatives. A good example would be the Thai Taxonomy which has been implemented throughout the banking landscape in Thailand, reducing greenwashing and building credibility towards green and sustainable financing.

Moreover, the Board recognizes the importance of integrating climate-related considerations into the Bank's corporate culture. This involves fostering a culture of sustainability across all levels of the organization, from senior management to frontline employees. By promoting awareness and education on climate-related issues, the Board ensures that all employees understand their role in

achieving the Bank's sustainability goals and are motivated to contribute to these efforts.

- **Monitoring and Oversight of Progress Against Climate Goals**

CIMB Thai Bank has established robust mechanisms for monitoring and overseeing progress against its climate-related goals and targets. Sustainability and climate-related agendas are submitted to the board more than once every quarter to oversee the implementation of the Bank's sustainability and climate change strategy. The Board ensures that the Bank is proactively creating a net positive impact on its material matters, including climate-related issues. The committee reviews progress reports, monitors key performance indicators, and ensures that the Bank's climate goals are aligned with its overall strategic objectives.

The Bank's commitment to achieving Scope 1 and Scope 2 operational net zero by 2030, and overall net zero emissions by 2050 in exemplifies its dedication to addressing climate-related challenges. Additionally, the Bank has been formulating targets for carbon-intensive segments of its portfolio, in key sectors including coal, cement, power, palm oil, oil and gas and real estate. These targets are developed in consultation with industry experts and stakeholders along with CIMB Group, ensuring that they are ambitious yet achievable. The Bank also benchmarks its performance against industry standards, peers and best practices to continuously improve its sustainability initiatives.

The Bank drives the Bank to leverage technology and data analytics to monitor its progress towards climate goals. Advanced tools are used to track carbon emissions, assess climate risks, and identify areas for improvement. These tools provide on-the-go insights and enable the Bank to make data-driven decisions. By harnessing the power of technology, CIMB Thai Bank enhances its ability to manage climate risks and to achieve its sustainability targets. One example is Project Helios, driven by the Sustainability Team with the support of the Building Administration and Consumer Banking Teams, increasing the usage of renewable energy in the Bank's operational boundaries with live monitoring of daily solar power generation outputs.

In addition to leveraging technology, the Bank also engages in collaborative efforts with industry peers, regulators, and other stakeholders to advance its climate goals. For example, CIMB Thai Bank as part of CIMB Group participates in the Glasgow Financial Alliance for Net Zero (GFANZ) and Net Zero Banking Alliance (NZBA), which brings together Banks worldwide to support the transition to a net-zero economy. Through this alliance, the Bank shares best practices, collaborates on innovative solutions, and commits to aligning its lending and investment portfolios with net-zero emissions by 2050.

The Bank also recognizes the importance of transparency and accountability in achieving its climate goals. To this end, CIMB Thai Bank publishes an annual Sustainability Report that details its progress on various environmental, social, and governance (ESG) metrics. This report includes

disclosures on the Bank's carbon footprint, progress towards net-zero targets, and the impact of its green and sustainable finance initiatives. By providing stakeholders with comprehensive and transparent information, the Bank builds trust and demonstrates its commitment to sustainability.

Furthermore, CIMB Thai Bank engages with its clients to support their transition to sustainable practices. This includes offering green finance products, providing advisory services on Sustainability, and collaborating on projects that reduce carbon emissions. By working closely with clients, the Bank not only supports their sustainability journeys but also mitigates its own exposure to climate-related risks.

- **Responsibilities and Skills for Climate-related Oversight**

CIMB Thai Bank's governance bodies, including the Board, and BRCC, are responsible for the oversight of climate-related risks and opportunities. The Bank ensures that these governance bodies have the appropriate skills and competencies to oversee climate-related strategies by providing regular training and development opportunities. For example, directors participate in training programs organized by the Bank, regulatory authorities, and external organizations to enhance their understanding of sustainability issues and develop visionary thinking for sustainable growth. In 2023 the Board participated in the Cambridge Institute for Sustainability Leadership (CISL) certification programme which has significantly elevated its understanding of Sustainability and climate-related oversight.

The Bank evaluates the effectiveness of its governance bodies through annual performance assessments, which include evaluations of their oversight of the Bank's risks and opportunities. These assessments help identify areas for improvement and ensure that the governance bodies are equipped to address emerging climate challenges effectively. Additionally, the Bank's Sustainability Team plays a crucial role in supporting the governance bodies by providing expertise, conducting sustainability due diligence, managing the implementation of sustainability policies and frameworks, and supporting data-driven decision-making process of the Board.

The Bank's remuneration policies include performance metrics related to climate-related risks and opportunities. The achievement of sustainability key performance indicators (KPIs) directly impacts the bonus pool funding for the Bank's top management, including the President and CEO which is also a Board member. This ensures the "tone from the top" whereby all levels are collectively focused on achieving the Bank's sustainability goals. By linking compensation to the success of sustainability initiatives, the Bank incentivizes its leadership and employees to prioritize climate-related objectives and drive positive outcomes.



The Bank's comprehensive governance structure ensures that climate-related risks and opportunities are effectively managed and integrated into the bank's strategic planning and operations. Through well-defined roles, regular reporting, and robust monitoring processes, the bank is well-positioned to navigate the challenges and opportunities presented by climate change, contributing to a sustainable future for all stakeholders.

The Bank has assigned specific climate-related responsibilities to various management-level positions and committees, ensuring comprehensive oversight and management of climate-related issues.

• **President and CEO**

The President and CEO of CIMB Thai plays a crucial role in driving the bank's sustainability vision and strategy across the organization. As the chairman of the Management Committee, the President and CEO ensures that the bank's sustainability objectives align with the overall group strategy and are embedded in the business operations and culture. The President and CEO also provides strategic guidance and oversees the integration of sustainability considerations into the bank's risk management and business planning processes.

The President and CEO's responsibilities include:

- Setting the tone at the top by emphasizing the importance of sustainability and climate-related issues in all business operations.

- Engaging with stakeholders, including investors, customers, and regulatory bodies, to communicate CIMB Thai's commitment to sustainability.
- Ensuring that sustainability and climate-related risks are considered in strategic decision-making processes, including mergers, acquisitions, and major investments.
- Overseeing the development and implementation of sustainability policies and practices across the bank.

• **Management Committee (MC)**

The MC, chaired by the President and CEO, is tasked with overseeing and driving CIMB Thai's sustainability vision and strategies. Key responsibilities of the MC include:

- **Embedding Sustainability and Climate-related Management:** The MC ensures the implementation of sustainability frameworks, policies, methodologies, and controls to manage sustainability and climate-related risks. The MC institutionalizes sustainability across all levels and geographies of CIMB Thai, ensuring that environmental and social factors are considered in both internal operations and customer-related areas
- **Performance Monitoring:** The committee monitors the performance of business divisions, reviews financial and management reports, and advises on strategic, business, and capital management plans.
- **Regulatory and Policy Oversight:** The MC reviews and approves internal policies related to administration, operations, and other areas, ensuring they align with

regulatory requirements and the bank's sustainability objectives.

- **High Sustainability Risk Sector Guides and High-Risk Transactions:** The MC approves sector guides outlining expectations for clients in high-risk sectors and reviews business activities with elevated sustainability risks to ensure compliance with regulatory guidelines and the bank's risk appetite.
- **Monitoring global trends and developments in sustainability and climate-related risks** to ensure the bank's policies and practices remain current and effective.
- **Providing guidance and support to business units** in implementing sustainability initiatives and integrating sustainability considerations into their operations.
- **Reviewing and approving sustainability-related disclosures and reports** to ensure transparency and accountability in the bank's sustainability practices.
- **Overseeing the development and implementation of sustainability training and capacity-building programs** for employees to enhance their understanding of sustainability and climate-related issues

• **Risk Management Committee (RMC)**

The RMC is a critical component of CIMB Thai's governance structure, responsible for overseeing various risk areas, including sustainability and climate-related risks. The committee's key functions include:

- Policy and Framework Recommendations: The RMC reviews and recommends risk management policies and frameworks to the Board Risk and Compliance Committee (BRCC) and the Board.
- Risk Appetite and Metrics Monitoring: The RMC reviews and endorses the sustainability risk appetite, monitors the sustainability and climate risk profile of the bank's business activities, and ensures appropriate frameworks, policies, and controls are in place to mitigate these risks.
- Specialized Support: The RMC receives functional support from the Risk Management Division, which develops and maintains risk management policies and strategies, and assists in managing inherent risks.
- Ensures that the bank's risk management policies and frameworks incorporate sustainability and climate-related considerations.
- Reviews and approves risk assessments and mitigation plans for significant sustainability and climate-related risks.
- Provides oversight and guidance on the integration of sustainability and climate-related risks into the bank's overall risk management processes.
- Ensures that the bank's risk management practices are aligned with international best practices and regulatory requirements related to sustainability and climate-related risks.

• The Sustainability Team (ST)

The Sustainability Team at CIMB Thai, established under the Strategy and CEO's Office, is integral to the bank's governance and oversight of sustainability and climate-related matters. The team's responsibilities include:

- Framework and Strategy Implementation: Driving and overseeing the implementation of the overall sustainability strategy and framework across the bank.
- Policy, Procedures and Controls: Ensuring the adequacy and effectiveness of sustainability policies and key controls, and providing updates to the MC and other governance bodies on policy-related matters and risks.
- Due Diligence and Investigations: Conducting sustainability due diligence, in-depth investigations, and making recommendations to appropriate authorities for approval.
- Regulatory Alignment and Reporting: Monitoring regulatory developments, ensuring alignment, and facilitating internal and external sustainability reporting.
- Engagement and Capacity Building: Engaging with stakeholders, including the Bank of Thailand and other regulatory bodies, and participating in industry initiatives to enhance sustainability practices and standards.
- Conducting regular sustainability and climate-related risk assessments for the bank's business activities, including lending, investment, and procurement processes, to identify and manage potential environmental, social, and governance (ESG) risks.

- Developing and implementing sustainability policies, guidelines, and tools to support the integration of sustainability considerations into the bank's operations and decision-making processes.
- Providing training and capacity-building programs for employees to enhance their understanding of sustainability and climate-related issues and ensure that they are equipped to manage these risks effectively.
- Engaging with stakeholders, including investors, customers, regulators, and industry groups, to gather feedback and insights on sustainability and climate-related issues and ensure that the bank's policies and practices remain current and effective.
- Participating in industry initiatives and collaborations to promote sustainable finance and responsible banking practices and contribute to the development of industry standards and best practices.
- Participate directly in climate-related projects initiated by the central bank of Thailand (Bank of Thailand) and indirectly in climate-related projects initiated by the central bank of Malaysia (Bank Negara Malaysia) through CIMB Group, including Climate Scenario Analysis and Climate Stress Test.
- Reporting regularly to the Board of Directors, the MC, and the RMC on sustainability and climate-related risks, including updates on the bank's risk profile, progress on sustainability initiatives, and any significant issues or developments.



Governance of Climate-related Risks through the Sustainable Financing Policy and Procedures.

The Sustainable Financing Policy and Sustainable Financing Procedures at CIMB Thai are key components of the bank's commitment to integrating sustainability into its financing activities. The Sustainable Financing Policy sets out the bank's approach to managing environmental, social, and governance (ESG) risks, with a strong emphasis on climate-related risks. It provides guidance on how the bank can incorporate sustainability considerations into its risk assessments and decision-making processes, particularly in its lending and capital-raising activities. The Sustainable Financing Procedures complement this policy by detailing the specific steps and processes that must be followed to ensure these risks are effectively identified, managed, and mitigated. This includes conducting due diligence, assessing high-risk sectors, and implementing necessary controls to manage the environmental and social risks associated with the bank's clients and activities.

Using these foundational documents, the governance of climate-related risks is implemented at all levels of management within CIMB Thai to ensure that these risks are effectively managed and integrated into the bank's overall strategy.

At the highest level, the Board of CIMB Thai Group holds the ultimate responsibility for overseeing the governance of climate-related risks. This involves approving the Sustainable Financing Policy, which outlines the bank's approach to managing environmental and social risks, with a strong emphasis on climate-related impacts. The Board ensures that climate-related risks are incorporated into the bank's broader risk management framework and that the policies are aligned with regulatory requirements and international best practices. Through regular reviews and updates, the Board monitors the effectiveness of these policies, ensuring they remain relevant as climate risks evolve. The Board's involvement ensures that climate considerations are embedded in the bank's culture and decision-making processes.

The MC plays a critical role in implementing the governance of climate-related risks at the operational level. The MC is responsible for translating the Board's strategic directives into actionable policies and procedures across the bank's business units. This includes overseeing the integration of climate-related risks into the bank's financing and investment decisions. The MC ensures that the Sustainable Financing Policy is effectively applied, particularly in sectors that are highly exposed to climate risks, such as those involving fossil fuels or industries vulnerable to extreme weather events. The MC also plays a crucial role in escalating issues to the Board when necessary, ensuring that high-risk decisions receive appropriate scrutiny at the highest levels of management.

The Head of Sustainability, is responsible for the day-to-day management of the Sustainable Financing Policy, with a specific focus on climate-related risks. This role involves ensuring that the bank's policies are effectively implemented across all business units and that they remain aligned with evolving regulatory and market expectations regarding climate change. The Head of Sustainability is also responsible for evaluating requests for policy dispensations that may involve climate-sensitive sectors. This involves conducting rigorous due diligence and providing recommendations to the MC and Board. By staying informed about the latest developments in climate-related regulations and best practices, the Head of Sustainability ensures that the bank's policies remain current and effective in mitigating climate-related risks.

Credit Risk Management acts as an independent layer of oversight, ensuring that all climate-related risks are thoroughly assessed before any financing decisions are made. This function reviews the due diligence conducted by the business units and ensures that any identified risks are either mitigated or escalated as necessary. In situations where significant climate-related risks are present, Credit Risk Management works closely with the Sustainability Team to develop appropriate responses, ensuring that the bank's exposure to these risks is minimized.

The Business Units within CIMB Thai are on the front lines of implementing the Sustainable Financing Policy, ensuring that climate-related risks are integrated into their client and transaction assessments. These units are responsible for conducting initial due diligence to identify any environmental or social risks, including those related to climate change. If climate-related risks are identified, the business units must ensure that these are addressed appropriately, either through mitigation strategies or by escalating the risks to higher levels of management for further review. The Sustainability Team support these efforts by ensuring that the necessary operational processes are in place to manage these risks effectively, and by escalating any unresolved issues to the appropriate governance authorities within the Bank.



Part 3

WEATHERING RISKS, CAPTURING OPPORTUNITIES

- Our Climate-related Strategy
and Risk Management

Weathering Risks, Capturing Opportunities

–Our Climate-related Strategy and Risk Management



CIMB Thai has embraced the Task Force on Climate-related Financial Disclosures (TCFD) framework, positioning itself as a leader in sustainability and responsible finance within the ASEAN region. The Bank has meticulously woven climate-related risk considerations into its broader Enterprise-Wide Risk Management (EWRM) Framework, ensuring that climate risks are not only identified but also actively managed, mitigated, and disclosed in line with global best practices. This section begins with an in-depth analysis of CIMB Thai's climate-related risk management approach, focusing on TCFD's key areas: risk identification and assessment, risk management processes, and integration of climate risks into the Bank's overall risk framework.

1. Identifying and Assessing Climate-related Risks



The cornerstone of CIMB Thai's climate risk strategy is its process for identifying and assessing climate-related risks. By adopting a structured approach, the Bank ensures that both transition risks and physical risks are thoroughly evaluated, allowing for informed decision-making and strategic planning.

Transition Risks: Navigating the Shift to a Low-Carbon Economy

CIMB Thai recognizes that the transition towards a low-carbon economy presents multifaceted risks that must be addressed at both operational and strategic levels. Transition risks, as categorized by the Bank, arise from changes in policy, regulation, technology, and market preferences, all of which could have far-reaching implications for its clients, portfolios, and overall financial stability.

- **Regulatory and Policy Risks:** CIMB Thai is acutely aware of the potential financial impacts stemming from the tightening of climate-related regulations. These include new carbon pricing mechanisms, stricter emission targets, and enhanced reporting requirements. The Bank acknowledges that sectors such as Power, Oil and Gas, and Transportation are particularly vulnerable to sudden regulatory shifts. CIMB Thai's internal risk assessment framework accounts for these regulatory risks, and scenario analyses are conducted to gauge their potential impact.
- **Technological Risks:** The Bank has identified technology-related risks as another significant component of transition risk. Rapid advancements in green technologies, while promising, also carry the potential for stranded assets—particularly for clients in industries such as coal, where older technologies may become obsolete. CIMB Thai actively monitors these sectors to manage exposure to businesses that may struggle to transition to cleaner energy sources.

- **Market and Reputation Risks:** Changes in consumer preferences toward sustainable products and services are influencing market dynamics across industries. CIMB Thai understands that failure to adapt could lead to significant reputational risks, as stakeholders—investors, consumers, and regulatory bodies—expect heightened environmental responsibility from financial institutions. The Bank mitigates these risks by engaging clients on their sustainability practices, incentivizing sustainable transitions, and supporting green initiatives.

Physical Risks: Preparing for Climate Impacts

In addition to transition risks, CIMB Thai is exposed to physical risks, which are divided into acute and chronic risks:

- **Acute Physical Risks:** These include short-term, high-impact events such as severe storms, floods, and droughts. As Thailand is highly vulnerable to extreme weather events, CIMB Thai takes a proactive approach to mitigating these risks by supporting resilient infrastructure investments and incorporating climate considerations into credit assessments for sectors most at risk of physical disruption.
- **Chronic Physical Risks:** These refer to longer-term changes in climate patterns, such as rising sea levels and shifting precipitation patterns. CIMB Thai integrates these risks into its stress testing and scenario analysis, ensuring that the potential long-term impacts of chronic climate shifts on business operations and loan portfolios are fully understood and accounted for.



2. Managing Climate-related Risks

CIMB Thai's approach to managing climate-related risks is grounded in the belief that addressing climate risks is not just a matter of compliance but an opportunity for innovation and resilience. The Bank employs a robust set of tools and processes to mitigate, manage, and, where possible, capitalize on climate-related risks.

Decision-making Tool for Climate Risk Management

The Sustainable Financing Policy (SFP) serves as the foundation of CIMB Thai's risk management strategy for climate-related risks. The policy outlines the Bank's commitment to sustainability and provides clear guidelines for managing high-risk financing and capital raising. CIMB Thai requires Enhanced Due Diligence for companies with controversies relating to climate-related impacts, as well as those in sectors with high climate-related risks, such as energy, manufacturing, and agriculture. This involves conducting Basic and Enhanced Sustainability Due Diligence by the Business Units and the Sustainability Team, ensuring that all financing and capital raising transactions meet the Bank's stringent environmental and social standards.

Risk Prioritization and Scenario Analysis

CIMB Thai's process for prioritizing climate-related risks is based on risk assessments that determine the significance of these risks relative to the Bank's broader risk landscape. This approach allows the Bank to focus resources on the most critical risks, ensuring that high-impact risks—both from a financial and operational perspective—are addressed with urgency. The assessments take into account the likelihood and magnitude of potential impacts, incorporating insights from stress testing and scenario analysis.

A key aspect of CIMB Thai's climate risk management approach is the use of scenario analysis to project the impact of various climate scenarios on its business. These analyses are designed to assess the potential financial outcomes under different regulatory, market, and environmental conditions, ranging from moderate to extreme climate change scenarios. This forward-looking approach enables the Bank to plan for a range of outcomes, ensuring that it remains resilient in the face of uncertainty.



3. Integration into Overall Risk Management

CIMB Thai has fully integrated climate-related risks into its Enterprise-Wide Risk Management Framework, ensuring that these risks are managed in conjunction with traditional risk categories, such as credit, liquidity, operational, and reputational risks. This holistic approach enables the Bank to align its climate risk strategy with its broader business objectives.

Non-retail Credit Risk Integration

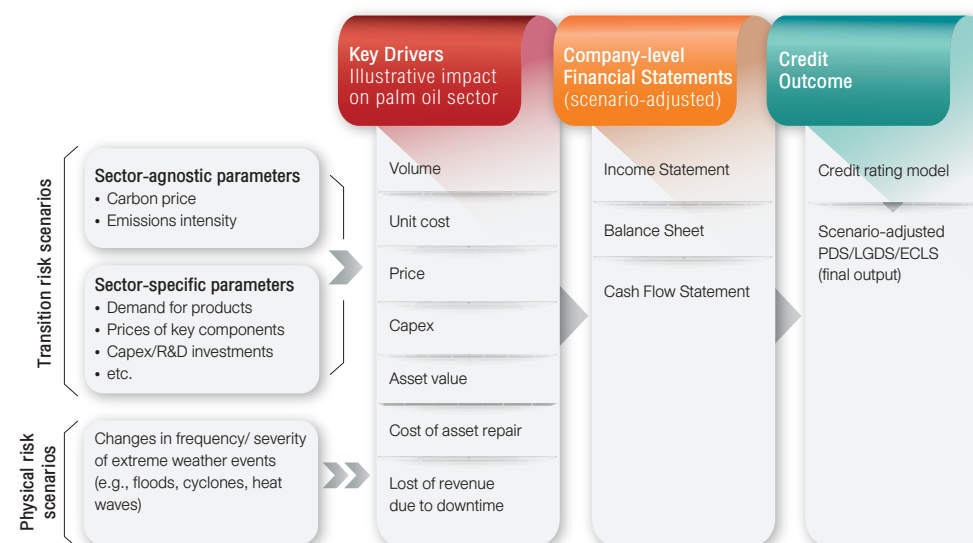
Climate-related risks are embedded within CIMB Thai's credit risk framework, with specific policies in place to assess the sustainability performance of clients. The Bank's Sustainable Financing Policy sets clear criteria for lending to high-risk sectors, ensuring that all clients meet minimum sustainability standards. These criteria include compliance with environmental regulations, the implementation of climate mitigation strategies, and transparent disclosure of climate-related data.

CIMB Thai conducts portfolio reviews to monitor the concentration of climate-related risks across sectors and geographies. By regularly reviewing its exposure to high-risk sectors, the Bank can adjust its banking practices to mitigate potential losses associated with climate impacts.

Operational and Reputational Risk Management

CIMB Thai's business continuity plans are designed to address operational risks associated with climate change. The Bank has implemented measures to ensure that critical operations can continue during extreme weather events, thereby reducing the likelihood of business disruptions due to physical climate risks. Additionally, CIMB Thai actively engages with stakeholders, including clients, investors, and regulators, to maintain a positive reputation in the face of growing climate-related scrutiny.

CIMB Thai's climate-related risk management strategy is a testament to its commitment to sustainability and responsible banking. By aligning with the TCFD Framework, the Bank has established a comprehensive approach to managing both transition and physical risks, ensuring that it remains resilient in the face of climate change. Through rigorous risk assessment, scenario analysis, and governance oversight, CIMB Thai is well-positioned to navigate the complexities of a rapidly changing climate landscape while contributing to a low-carbon future.



CIMB Thai's Transition Risk

CIMB Thai operates within an increasingly complex financial environment, where the global transition to a low-carbon economy is presenting new risks and opportunities. As climate change becomes a more pressing concern, financial institutions must adapt to a world where carbon-intensive industries are subject to stringent regulations, shifting market preferences, and rapid technological advancements. For CIMB Thai, managing these transition risks is critical, particularly given its exposure to high-carbon sectors such as Oil and Gas, power generation, agriculture, and cement manufacturing.

This section explores these transition risks within the NGFS scenarios: Orderly, Disorderly, and Hot House World. The analysis also delves into how the climate risks of the Bank's customers are transmitted through Thailand-based microeconomic and macroeconomic channels, with a focus on their implications for CIMB Thai's credit risk, market risk, liquidity risk, operational risk, and reputational risk.



Climate Risks across CIMB Thai's Key Customer Sectors



The analysis of CIMB Thai's financial exposure and environmental impact for Fiscal Years 2022 and 2023 reveals a strong justification for focusing on four specific sectors: Oil and Gas, Power Generation, Agriculture, and Cement (Manufacturing). This focus is supported by the data across both the Bank's loan and bond portfolios, as well as their associated carbon emissions. Additionally, understanding the Thai context is crucial, as these sectors play significant roles in the country's economy and environmental landscape.

1. In the context of Thailand, the Oil and Gas sector is vital due to the country's reliance on both domestic and imported fossil fuels for energy production. CIMB Thai's financial exposure to this sector is substantial in both FY2022 and FY2023. In the loan portfolio, the exposure stands at 4.68% in FY2022 and 4.46% in FY2023, with significant carbon emissions of 102,336 tCO₂e and 99,774 tCO₂e, respectively. In the bond portfolio, the sector's exposure is 2.57% in FY2022 and 2.65% in FY2023, with carbon emissions of 10,005 tCO₂e and 4,555 tCO₂e. This sector is critical for Thailand's energy security but also poses environmental challenges due to its carbon-intensive nature. The Bank's substantial involvement highlights the importance of managing both financial and environmental risks in this key sector.

2. The Power Generation sector is another cornerstone of Thailand's energy infrastructure, heavily influencing the country's ability to meet growing electricity demands. In CIMB Thai's portfolio, this sector shows some of the highest financial exposures. For FY2022, the loan exposure to "Utilities - Power Generation" is 10.18%, increasing to 12.08% in FY2023. The associated carbon emissions are extremely high, at 629,099 tCO₂e in FY2022 and 807,467 tCO₂e in FY2023. In the bond portfolio, the exposure in FY2022 is 10.92%, rising to 14.72% in FY2023, with emissions of 120,764 tCO₂e and 130,163 tCO₂e, respectively. The sector's prominence in CIMB Thai's financial activities, coupled with its significant environmental footprint, underscores the critical role of power generation in Thailand's economic and energy landscape. The Bank's exposure to this sector reflects the broader energy challenges faced by Thailand, especially in balancing energy security with sustainability goals.

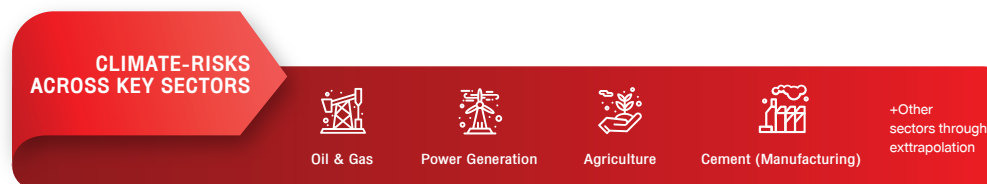
3. Agriculture remains a cornerstone of the Thai economy, contributing significantly to GDP and employment, particularly in rural areas. CIMB Thai's exposure to the Agriculture sector is notable in both FY2022 and FY2023. In the loan portfolio, exposure is 11.96% in FY2022 and slightly increases to 12.11% in FY2023. The carbon emissions associated with these loans are 71,698 tCO₂e in FY2022 and 75,688 tCO₂e in FY2023. The bond portfolio shows exposure of 3.36% in FY2022 and 3.71% in FY2023, with emissions of 3,547 tCO₂e and 3,065 tCO₂e, respectively. Given Thailand's significant agricultural output, particularly in rice, rubber, and sugar, the Bank's exposure to this sector is understandable. However, it also highlights the environmental impact of agricultural practices, including deforestation and methane emissions, which are critical concerns in the country's broader sustainability efforts.

4. Cement manufacturing is closely linked to Thailand's infrastructure development, which is a key driver of economic growth. The Cement sector, while having relatively lower financial exposure compared to others, is still crucial due to its carbon-intensive production processes. In FY2022, CIMB Thai's loan exposure to the Cement sector is 0.16%, decreasing slightly to 0.10% in FY2023. The carbon emissions associated with these loans are 2,211 tCO₂e in FY2022 and 1,309 tCO₂e in FY2023. In the bond portfolio, the exposure is 0.97% in FY2022, increasing to 1.63% in FY2023, with emissions of 44,843 tCO₂e and 42,371 tCO₂e, respectively. Given Thailand's ongoing infrastructure projects, including transportation networks and urban development, the demand for cement remains strong, making this sector a significant contributor to both economic activity and carbon emissions. The Bank's involvement in this sector reflects its role in financing the nation's infrastructure growth, while also needing to manage the environmental impact of such investments.

Focusing on the Oil and Gas, Power Generation, Agriculture, and Cement sectors in CIMB Thai's portfolio is justified by their substantial financial exposure and significant environmental impact across FY2022 and FY2023. These sectors are not only integral to Thailand's economic development but also represent key areas where the Bank's financial interests intersect with substantial environmental challenges. The Thai context further

amplifies the importance of these sectors, as they are critical to the country's energy security, agricultural productivity, and infrastructure growth. Balancing financial performance with sustainability goals in these sectors will be essential for CIMB Thai as it navigates the complexities of the Thai economy and its environmental responsibilities.

This section evaluates CIMB Thai's exposure to transition risks across these key sectors using three scenarios developed by the Network for Greening the Financial System (NGFS): Orderly - Net Zero 2050, Disorderly - Delayed Transition, and Hot House World - NDCs. Each scenario explores how transition risks are transmitted through microeconomic and macroeconomic channels, ultimately affecting the Bank's financial stability. The analysis is supported by updated statistical data from 2022 and 2023, focusing on the Bank's on-balance sheet exposure and the attributed financed emissions, measured in terms of customers' carbon emissions.



Orderly – Net Zero 2050 Scenario



In the Orderly scenario, global efforts to combat climate change proceed as planned, with countries implementing stringent policies to achieve net-zero emissions by 2050. This scenario assumes early and gradual introduction of climate policies, allowing businesses and financial institutions ample time to adapt. For CIMB Thai, this scenario presents moderate transition risks, as the gradual implementation of policies allows for a predictable shift to a low-carbon economy.



1. Oil and Gas

Under the Net Zero 2050 scenario, the oil and gas sector is expected to undergo significant transformation. Global demand for oil is projected to peak by 2025 and decline steadily thereafter as renewable energy sources gain prominence. According to the International Energy Agency (IEA), oil demand could decrease by approximately 25% by 2040 under this scenario. This shift is driven by increased energy efficiency, electrification of transport, and the growth of renewable energy.

In 2022, CIMB Thai's loan exposure to the oil and gas sector was significant, accounting for 4.68% of its total on-balance sheet outstanding. This exposure slightly decreased to 4.46% in 2023. The Bank's attributed emissions for this sector were notable, with a sum of attributed absolute carbon Scope 1 and 2 emissions at 102,336.34 tonnes of CO₂e in

2022, 99,773.99 tonnes in 2023. The attributed Scope 3 emissions saw an increase from 586,389.05 tonnes in 2022 to 1,086,841.33 tonnes in 2023. This data underscores the importance of managing transition risks within this sector, particularly as the industry adapts to new regulations and market demands.

At the microeconomic level, the transition to a low-carbon economy would necessitate substantial investments in cleaner technologies, such as carbon capture and storage (CCS). These investments are estimated to cost the industry over USD1 trillion by 2050, straining the financial resources of companies and potentially leading to an increase in non-performing loans (NPLs) within CIMB Thai's loan portfolio. However, the gradual nature of the transition allows companies to manage their costs effectively, reducing the likelihood of abrupt financial distress.

From a macroeconomic perspective, the orderly transition would lead to stable economic conditions. As industries gradually adapt to new regulations and market preferences, global GDP is expected to grow at a steady pace, supported by the expansion of renewable energy industries. The World Bank estimates that global GDP could increase by 2.3% annually through 2050 under this scenario, driven by investments in clean energy and green infrastructure. Inflation would remain controlled, as the gradual increase in energy costs would be offset by technological advancements and efficiency gains. For CIMB Thai, this

stable economic environment would help mitigate some of the financial risks associated with its exposure to the Oil and Gas sector.

Overall, the credit risk associated with the Oil and Gas sector in this scenario is moderate. While there is a clear risk of asset devaluation and increased costs, the predictability of the transition reduces the likelihood of sudden market shocks and unexpected stranded assets. Market risk is similarly low, as the gradual revaluation of assets minimizes volatility. Liquidity risk is manageable, as companies in the Oil and Gas sector have sufficient cash reserves time to secure financing for their transition efforts.



2. Power Generation

The Power Generation sector is expected to undergo a significant transformation under the Net Zero 2050 scenario. Renewables are projected to account for up to 90% of electricity generation by 2050, driven by technological advancements and supportive government policies. The International Renewable Energy Agency (IRENA) estimates that global renewable energy capacity will need to increase by over 300% to meet these targets, requiring investments of approximately USD 4 trillion annually.

CIMB Thai's loan exposure to the power generation sector was 10.18% of its total on-balance sheet outstanding in 2022, which increased to 12.08% in 2023. The Bank's bond exposure also grew from 10.97% of its total on-balance sheet outstanding in 2022, to 14.72% in 2023. The increase in exposure highlights the need for careful management of transition risks in this sector as it shifts from fossil fuels to renewable energy.

At the microeconomic level, utilities would need to make significant investments in renewable energy infrastructure, supported by regulatory incentives. The transition from fossil fuels to renewables would be gradual, allowing companies to manage the costs associated with these investments. This reduces the immediate financial strain on utilities, lowering the likelihood of defaults and minimizing credit risk for CIMB Thai.

From a macroeconomic perspective, the transition to renewable energy would contribute to stable economic growth. As renewables become more cost-effective, energy prices would stabilize, supporting GDP growth. Inflation would remain controlled, as the gradual phase-out of fossil fuels would prevent sudden spikes in energy costs. The International Monetary Fund (IMF) projects that global inflation could be kept below 2% annually through 2050 if the transition is managed in an orderly fashion. For CIMB Thai, this stable economic environment would help mitigate the financial risks associated with its exposure to the power generation sector.

In this scenario, the credit risk associated with the Power Generation sector is moderate. While there is a risk of asset devaluation, particularly for fossil fuel-based assets, the gradual transition allows utilities to adapt and remain profitable. Market risk is low, as the predictable shift to renewables reduces volatility. Liquidity risk is also low, as utilities benefit from stable cash flows generated by renewable energy investments.



3. Agriculture

The Agriculture sector is expected to experience a more controlled transition under the Net Zero 2050 scenario. The adoption of sustainable farming practices, driven by technological advancements and supportive policies, is projected to reduce agriculture-related emissions by up to 20% by 2050, according to the Food and Agriculture Organization (FAO). For CIMB Thai, which had an 11.96% loan exposure to the agricultural sector in 2022, this transition represents a moderate risk. In 2023, this exposure slightly increased to 12.11%, reflecting a shift in the Bank's portfolio strategy. The attributed absolute carbon emissions for this sector were 71,697.89 tCO₂e (Scope 1 and 2) in 2022, increasing to 75,687.74 tCO₂e in 2023.

At the microeconomic level, the transition to sustainable practices would increase operational efficiency and reduce emissions in the Agricultural sector. Farmers would need to

invest in new technologies, such as precision agriculture tools and sustainable inputs, to comply with new regulations. The global precision agriculture market is expected to grow to USD 12.9 billion by 2027, with an annual growth rate of 12.2%. While these investments would lead to a controlled rise in production costs, they would also enhance productivity, reducing the financial strain on farmers and minimizing the risk of defaults within CIMB Thai's loan portfolio.

On a macroeconomic scale, the stable demand for sustainable agricultural products would support steady GDP growth. As the sector gradually transitions to sustainable practices, inflation would remain low, with food prices stabilizing due to improved efficiency and reduced waste. For CIMB Thai, this stable economic environment would help mitigate the financial risks associated with its exposure to the agricultural sector.

In this scenario, the credit risk associated with the agricultural sector is moderate. While there is a risk of increased costs due to the transition, the gradual adoption of sustainable practices reduces the likelihood of financial distress. Market risk is low, as the stable demand for sustainable products supports steady prices. Liquidity risk is also low, as farmers can plan and secure financing for their transition efforts.



4. Cement (Manufacturing)

The Cement Manufacturing sector, known for its high carbon intensity, is expected to gradually transition to cleaner technologies under the Net Zero 2050 scenario. The Global Cement and Concrete Association outlined the reduction in emissions of 25% associated with concrete by 2030, driven by the adoption of low-carbon technologies. For CIMB Thai, which had a 0.97% bond investment exposure to the cement sector in 2022. In 2023, the exposure increased to 1.63%. The Bank's attributed absolute carbon emissions for this sector were 44,843.10 tonnes of CO₂e (Scope 1 and 2) in 2022, with a decrease to 42,371.33 tonnes in 2023 marking the sector's gradual movement towards decarbonization especially in terms of Scope 1 direct emissions.

From a microeconomic perspective, cement manufacturers would need to invest in low-carbon technologies, such as alternative fuels and clinker substitutes, to comply with new regulations. These investments, while significant, would be phased in over time, allowing companies to manage their costs and reduce financial strain.

At the macroeconomic level, the transition to cleaner technologies in the Cement sector would contribute to GDP growth, supported by investments in new infrastructure and technology. Inflation would remain controlled, as

technological advancements reduce long-term production costs, preventing sudden price increases. For CIMB Thai, this stable economic environment would help mitigate the financial risks associated with its exposure to the Cement Manufacturing sector.

In this scenario, the credit risk associated with the cement sector is moderate. While there is a risk of increased costs due to the transition, the gradual adoption of new technologies reduces the likelihood of financial distress. Market risk is low, as the orderly transition minimizes asset devaluation risks. Liquidity risk is also low, as companies can secure capital and financing for their technology transition.

Disorderly – Delayed Transition Scenario

In the Disorderly scenario, climate policies are delayed, leading to a sudden and aggressive push for decarbonization around 2030. This scenario assumes that governments fail to act early, resulting in a need for rapid and drastic measures to meet climate targets. For CIMB Thai, this scenario presents significant transition risks, as the sudden implementation of policies can cause economic instability and financial distress, particularly for sectors heavily reliant on fossil fuels.

1. Oil and Gas

Under the Delayed Transition scenario, the Oil and Gas sector faces severe financial challenges. The sudden introduction of carbon pricing and emission regulations leads to a sharp revaluation of oil and gas assets, causing significant market disruption. According to the IEA, delaying climate action could increase the cost of achieving net-zero emissions by 50%.

At the microeconomic level, the abrupt revaluation of assets due to the sudden introduction of carbon pricing and stricter regulations could lead to significant financial strain for Oil and Gas companies. These companies would need to rapidly shift to lower-carbon operations, resulting in stranded assets and increased operational costs. This increases the likelihood of defaults within CIMB Thai's loan portfolio, elevating credit risk.

On a macroeconomic scale, the sudden transition would cause economic volatility, with a sharp decline in GDP as the Oil and Gas sector contracts rapidly. Inflation would spike as energy prices rise due to the sudden shift away from fossil fuels. For CIMB Thai, this unstable economic environment would exacerbate the financial risks associated with its exposure to the oil and gas sector.

In this scenario, the credit risk associated with the Oil and Gas sector is high. The sector faces severe financial strain, leading to a high likelihood of defaults. Market risk is also high, as rapid asset devaluation and increased volatility elevate financial risks. Liquidity risk is significant, as companies scramble to raise capital for compliance with new regulations. Operational risks, relating to the alignment of the Bank's policies with sudden policy changes, are high.

2. Power Generation

The Power Generation sector would also face significant disruption under the Delayed Transition scenario. The sudden introduction of carbon pricing and regulatory measures would significantly increase operational costs for fossil fuel-based power generation, leading to the rapid phase-out of these assets. For CIMB Thai, this scenario presents a high financial risk, as the Bank's exposure to fossil fuel-based and especially coal-based power generation could result in significant asset devaluation and even stranded assets..

At the microeconomic level, utilities would face challenges in securing financing for unplanned investments in renewable energy. The rapid shift from fossil fuels to renewables would strain the financial resources of these companies, increasing the likelihood of defaults within CIMB Thai's loan portfolio. This would elevate the Bank's credit risk.

From a macroeconomic perspective, the Energy sector would experience a sharp economic contraction, contributing to impacts in GDP. Inflation would spike as energy prices increase due to the rapid transition. High carbon prices impacting power generation companies will impact electricity tariffs (for commercial and household) as these companies will utilize cost pass-through mechanisms to project their margins which will then face consumer objections. For CIMB Thai, this unstable economic environment would exacerbate the financial risks associated with its exposure to the power generation sector.

In this scenario, the credit risk associated with the Power Generation sector is high. Utilities face heightened financial risks as they struggle to transition and maintain profitability. Market risk is also high, as increased market volatility and rapid asset revaluation exacerbate financial risks. Liquidity risk is significant, as companies require substantial capital to transition to renewables. Operational risks for CIMB Thai are high, as the Bank must quickly adapt its strategies to manage the sudden changes.

3. Agriculture

The Agriculture sector would face severe challenges under the Delayed Transition scenario. The sudden introduction of stringent climate policies would require rapid changes in farming practices, leading to significant financial strain for farmers and agricultural businesses. For CIMB Thai, this scenario presents a high financial risk, as the Bank's exposure to the agricultural sector could result in a surge of non-performing loans.

At the microeconomic level, the abrupt policy shift would lead to a significant increase in production costs, particularly for smaller operators. The rapid adoption of sustainable technologies without adequate planning would result in operational inefficiencies and financial strain, increasing the likelihood of defaults within CIMB Thai's loan portfolio.

On a macroeconomic scale, the Agricultural sector would face economic instability, contributing to a decline in GDP. Inflation would rise as food prices increase due to disrupted supply chains and higher production costs. For CIMB Thai, this unstable economic environment would exacerbate the financial risks associated with its exposure to the agricultural sector.

In this scenario, the credit risk associated with the agricultural sector is high. Farmers and agricultural businesses face severe financial strain, leading to a high likelihood of defaults. Market risk is also high, as the

sector experiences significant price volatility and market uncertainty. Liquidity risk is significant, as farmers seek urgent cash flow to cover increased costs. Operational risks for CIMB Thai are high, as the Bank must manage a surge in non-performing loans of smaller corporates and adjust its agricultural loan portfolio.

4. Cement (Manufacturing)

The Cement Manufacturing sector would face severe financial challenges under the Delayed Transition scenario. The sudden increase in carbon pricing and the need for rapid adoption of cleaner technologies would lead to significant cost increases for cement manufacturers. For CIMB Thai, this scenario presents a high financial risk, with exposure to bond investments in this sector increasing from 0.97% in 2022 to 1.63% in 2023, even though there is a slide decline in loan exposure.

At the microeconomic level, the abrupt transition would lead to significant cost increases and asset devaluation as companies struggle to comply with new regulations. Unplanned technological shifts would create supply chain bottlenecks and financial strain, increasing the likelihood of defaults within CIMB Thai's loan portfolio.

On a macroeconomic scale, the Cement sector would contribute to economic instability, leading to a decline in GDP. Inflation would rise as production costs increase due to the

rapid and unplanned transition. For CIMB Thai, this unstable economic environment would exacerbate the financial risks associated with its exposure to the cement manufacturing sector.

In this scenario, the credit risk associated with the Cement sector is high. Cement manufacturers face substantial financial risks due to increased costs and operational disruptions, leading to a high likelihood of defaults. Market risk is also high, as rapid asset revaluation and market volatility exacerbate financial risks. Liquidity risk is significant, as companies struggle to secure financing for their technology upgrades. Operational risks for CIMB Thai are high, as the Bank faces increased challenges in managing defaults and adjusting its exposure to the sector.

Hot House World – NDCs Scenario



In the Hot House World scenario, global efforts to mitigate climate change are insufficient, with countries only implementing their Nationally Determined Contributions (NDCs) without additional actions to achieve net-zero emissions. This scenario assumes that regulatory changes will eventually tighten, leading to inconsistent policy implementation and market volatility. For CIMB Thai, this scenario presents moderate to high transition risks, as the slow pace of regulatory change creates uncertainty and financial instability.

1. Oil and Gas

Under the NDCs scenario, the Oil and Gas sector would experience a gradual decline in fossil fuel demand, coupled with increasing regulatory risks as policies eventually tighten. For CIMB Thai, this scenario presents a moderate financial risk.

At the microeconomic level, the slow revaluation of assets would occur as carbon pricing and regulations are introduced inconsistently. Companies would face increasing costs as they attempt to comply with new regulations while maintaining profitability. This would create financial strain for some companies, increasing the likelihood of defaults within CIMB Thai's loan portfolio.

On a macroeconomic scale, the energy sector would experience uneven economic growth, with periods of stagnation as the global economy adjusts to the reality of insufficient climate action. Inflation would remain volatile due to inconsistent energy prices and regulatory changes. For CIMB Thai, this uncertain economic environment would increase the financial risks associated with its exposure to the oil and gas sector.

In this scenario, the credit risk associated with the Oil and Gas sector is moderate. Companies face growing operational challenges and potential asset write-downs, increasing the risk of defaults. Market risk is also moderate, as the sector's exposure to regulatory risks leads to potential volatility in asset values. Liquidity risk is moderate, as companies do not require additional financing to adapt to regulatory changes. Operational risks for CIMB Thai are high, as the Bank must manage the long-term effects of inconsistent regulatory changes on its portfolio.

2. Power Generation

The Power Generation sector would also face challenges under the NDCs scenario. The slow transition to renewable energy, coupled with inconsistent policy implementation, would create operational inefficiencies and financial strain for utilities. For CIMB Thai, this scenario presents a moderate financial risk, as the Bank's exposure to the power

generation sector could result in asset devaluation and increased credit risk.

At the microeconomic level, utilities companies would face difficulties in securing steady financing for planned transitions to renewable energy. The inconsistent policy environment would lead to volatile costs and operational inefficiencies, increasing the likelihood of defaults within CIMB Thai's loan portfolio.

On a macroeconomic scale, the Power Generation sector would experience uneven economic growth, contributing to periods of sectoral stagnation. Inflation would fluctuate due to inconsistent energy policies and price volatility. For CIMB Thai, this uncertain economic environment would increase the financial risks associated with its exposure to the Power Generation sector.

In this scenario, the credit risk associated with the Power Generation sector is moderate. Utilities face growing financial risks as they struggle with operational inefficiencies and higher costs. Market risk is also moderate, as the sector's vulnerability to regulatory risks leads to potential asset devaluations. Liquidity risk is moderate, as companies may need to raise capital to address regulatory changes. Operational risks for CIMB Thai are high, as the Bank faces increased challenges in managing the long-term impacts of regulatory changes on its portfolio.

3. Agriculture

The Agriculture sector would remain exposed to significant transition risks under the NDCs scenario due to insufficient climate action and inconsistent regulatory changes. For CIMB Thai, this scenario presents a moderate to high financial risk, as the Bank's exposure to the agricultural sector could result in increased defaults and market volatility.

At the microeconomic level, inconsistent policy implementation and regulatory changes would lead to operational inefficiencies and increased production costs for farmers. Smaller operators would struggle to adapt to fluctuating regulatory requirements, increasing the likelihood of defaults within CIMB Thai's loan portfolio.

On a macroeconomic scale, the Agricultural sector would experience economic instability, contributing to periods of economic stagnation. Inflation would remain volatile as food prices fluctuate due to inconsistent supply chains and regulatory changes. For CIMB Thai, this uncertain economic environment would increase the financial risks associated with its exposure to the agricultural sector.

In this scenario, the credit risk associated with the agricultural sector is moderate to high. Agricultural businesses face increasing financial strain due to inconsistent regulatory changes and responses, leading to

a higher likelihood of defaults. Market risk is also moderate, as the sector experiences significant volatility in commodity prices due to inconsistent policy implementation. Liquidity risk is moderate to high, as farmers seek financing to cover operational disruptions. Operational risks for CIMB Thai are high, as the Bank must manage the long-term effects of inconsistent regulatory changes on its agricultural portfolio.

4. Cement (Manufacturing)

The Cement Manufacturing sector would face moderate to high financial risks under the NDCs scenario. The slow transition to low-carbon technologies, coupled with varying cross border regulatory enforcement (such as Carbon Border Adjustment Mechanisms), would lead to increased operational costs and asset devaluation risks. For CIMB Thai, this scenario presents a significant financial risk, as the Bank's exposure to the cement sector could result in increased defaults and market volatility.

At the microeconomic level, cement manufacturers would struggle with the uneven transition to low-carbon technologies due to inconsistent regulatory enforcement. This would lead to increased operational costs including insurance and adaptation costs, as well as the risk of asset devaluation.

On a macroeconomic scale, the cement sector would experience uneven economic growth, contributing to

the instability of construction costs. Inflation would remain volatile as production costs fluctuate due to inconsistent regulatory changes in response to global warming towards 2.6°C. For CIMB Thai, this uncertain economic environment would increase the financial risks associated with its exposure to the cement manufacturing sector.

In this scenario, the credit risk associated with the Cement sector is moderate to high. Cement manufacturers face rising costs and operational disruptions due to inconsistent regulatory changes and climate change, leading to increased credit risks for CIMB Thai. Market risk is also moderate to high, as the sector's exposure to risks associated with global warming results in potential asset repricing and devaluations. Liquidity risk is moderate, as companies may need to secure financing to adapt to physical risks. Operational risks for CIMB Thai are high, as the Bank faces increased challenges in managing the long-term impacts of inconsistent regulatory changes on its portfolio.

Overall CIMB Thai faces significant transition risks across its loan and bond portfolios, particularly in carbon-intensive sectors such as Oil and Gas, Power Generation, Agriculture, and Cement Manufacturing. These transition risks, driven by evolving regulatory landscapes, market shifts, and technological advancements, have the potential to impact the Bank's financial stability through various microeconomic and macroeconomic channels.

In the **Orderly – Net Zero 2050 scenario**, the gradual and predictable implementation of climate policies allows businesses and financial institutions to adapt in a controlled manner. This scenario presents moderate risks for CIMB Thai, as companies in carbon-intensive sectors can plan and secure the necessary financing to transition to lower-carbon operations. The orderly transition is likely to result in stable economic conditions, with controlled inflation and steady GDP growth. For CIMB Thai, the main challenge will be managing the gradual revaluation of assets in sectors such as Oil and Gas, Power Generation, Agriculture, and Cement Manufacturing, while capitalizing on opportunities in the growing renewable energy and sustainable agriculture markets.

In the **Disorderly – Delayed Transition scenario**, the delayed implementation of climate policies results in a sudden and aggressive decarbonization push, leading to significant economic volatility and financial distress for companies in carbon-intensive sectors. For CIMB Thai, this scenario presents high risks, as the abrupt revaluation of assets and increased operational costs could lead to a surge in non-performing loans and asset devaluations. The Bank will need to quickly adapt its risk management strategies and operations to handle the sudden changes by the end of the decade, while also addressing the potential liquidity challenges faced by companies in sectors such as Oil and Gas, Power Generation, Agriculture, and Cement Manufacturing.

In the **Hot House World – NDCs scenario**, the insufficient implementation of climate policies results in inconsistent regulatory changes and market volatility. For CIMB Thai, this scenario presents moderate to high risks, as companies in carbon-intensive sectors face increasing operational challenges and potential asset write-downs due to the slow transition to low-carbon technologies. The Bank will need to manage the long-term effects of inconsistent regulatory changes on its portfolio, particularly in sectors such as Oil and Gas, Power Generation, Agriculture, and Cement Manufacturing. In this scenario, the Bank may also face increased market and liquidity risks as companies seek additional financing to adapt to regulatory changes.

The data from 2022 and 2023 shows that CIMB Thai's exposure to high-carbon sectors remains significant, with notable increases in both the exposure to total on-balance sheet outstanding (loans and bonds) as well as the attributed carbon emissions for several sectors. Total Financed Emissions in the loan assets increased from 987,809.72 tCO₂e in 2022, to 1,155,511.65 tCO₂e in 2023, and bond assets increased from 215,367.53 tCO₂e in 2022 to 233,137.85 tCO₂e in 2023. These trends highlight the importance of robust management strategies to mitigate the transition risks associated with these sectors as the global economy transitions to a low-carbon future.

To enhance its resilience to transition risks, CIMB Thai continues to integrate climate-related financial risk assessments into its overall Risk Management Framework. This includes conducting regular scenario analyses and stress testing to evaluate the potential impacts of different climate scenarios on its loan and bond portfolios. The Bank also considers diversifying its portfolio by increasing its exposure to low-carbon and sustainable investments, thereby reducing its reliance on carbon-intensive sectors.

In CIMB Thai, the Sustainability Team and the Business Units have begun setting sector targets towards decarbonization of "Brown Sectors" in terms of tracking both the financed emissions and carbon intensities of each sector, as well as developing its transition plan towards decarbonizing these sectors in an orderly fashion.

Furthermore, CIMB Thai engages with its clients in the Brown Sectors to support their transition to lower-carbon operations. This involves providing financing for investments in cleaner technologies, offering advisory services to help clients navigate the regulatory landscape, and collaborating with industry stakeholders to promote the adoption of best practices in sustainability. By proactively managing transition risks and supporting the global shift to a low-carbon economy, CIMB Thai can enhance its financial stability and contribute to a more sustainable future.

In conclusion, the transition to a low-carbon economy presents both risks and opportunities for CIMB Thai. The Bank's ability to navigate these challenges will depend on its capacity to adapt to changing market conditions, manage its exposure to carbon-intensive sectors, and capitalize on the growing demand for sustainable investments. By taking a proactive approach to risk management and sustainability, CIMB Thai can position itself as a leader in the transition to a low-carbon economy, ensuring its long-term financial stability and success.

CIMB Thai's Physical Risk



This section provides an in-depth analysis of the acute and chronic physical risks posed by climate change, leveraging worst-case scenario projections from the IPCC's Sixth Assessment Report (AR6). The objective is to prepare CIMB Thai for potential impacts, ensuring resilience and sustainability in its operations and lending practices.

Physical climate risks are categorized into two main types: acute and chronic. Acute risks manifest as extreme weather events such as floods, hurricanes, heatwaves, and wildfires. Chronic risks refer to longer-term changes in climate patterns, including sea-level rise, temperature increases, and prolonged droughts.

The IPCC AR6 outlines several scenarios, with the worst-case scenario (SSP5-8.5) projecting a global temperature rise of approximately 4.4 °C by the end of the century. This scenario foresees severe and widespread impacts, including more frequent and intense extreme weather events, substantial sea-level rise, and significant disruptions to ecosystems and human systems.

Impact on CIMB Thai's Branch Network

CIMB Thai's branch network, particularly those in coastal, flood-prone, drought-prone, and wildfire-prone areas, is at significant risk from both acute and chronic climate impacts. A detailed analysis of the branch locations, coupled with climate projections, highlights the vulnerability of these assets:

Bangkok and Central (30 Branches): Bangkok is highly susceptible to flooding due to its low elevation and proximity to the Chao Phraya River. Recent studies indicate that Bangkok could experience sea-level changes ranging from 0.11 to 3.9 meters by 2100 due to the combined effects of sea level rise, land subsidence, and storm surges. The city's infrastructure is under threat, with significant flooding projected to impact key locations as early as 2050. According to the World Bank, urban expansion in flood-prone areas has outpaced safe development, exacerbating risks. Currently, around 11% of Bangkok's built-up land is located in high flood risk zones.

East (8 Branches): Branches located in eastern regions, such as those in the Eastern Economic Corridor (EEC), face rising sea levels and increased storm surges. By 2100, these areas could experience sea-level changes of up to 3.9 meters, exacerbating the risks of storm surges and coastal erosion. The rapid industrialization in this region has led to the reduction of natural flood barriers, further increasing vulnerability.

Northeast (4 Branches): Branches in northeastern Thailand, including Khon Kaen and Udon Thani, are highly vulnerable to both flooding and drought. These areas have seen a significant increase in extreme weather events, with droughts affecting agricultural productivity and water availability. The 2016 drought, for instance, led to a 20% decrease in rice production in the region, impacting local economies and loan repayments.

Northern (5 Branches): Branches in northern Thailand, including Chiang Mai and Chiang Rai, face specific physical risks from climate change. These regions are prone to flash floods, prolonged droughts, and severe wildfires. For example, the 2018 floods in Chiang Mai caused extensive damage to properties and businesses, and the 2020 wildfires burned through over 120,000 rai of land. The increase in temperature and prolonged dry seasons have contributed to the severity and frequency of these wildfires.

South (5 Branches): Branches in the southern region, such as those in Phuket, are at risk from typhoons and rising sea levels, leading to severe flooding and storm surges. The region's vulnerability to extreme weather events is expected to increase with projected sea-level rise. Typhoons have become more frequent and intense, with the 2017 Typhoon Damrey causing significant damage to coastal infrastructure.

West (2 Branches): Branches in the western region face less severe climate risks compared to other regions but may still experience impacts from extreme weather events. Localized flooding and other climate-related disruptions can affect these areas periodically.

Financial Implications - Significant Physical Risk Impacts on the Bank's Credit Risk and Operational Risk

The financial implications of physical climate risks for CIMB Thai include:

1. Credit Risk: Increased default rates as borrowers in affected areas struggle to meet loan repayments due to disrupted income streams from agricultural losses or business interruptions.
2. Operational Risk: Physical damage to branches and IT infrastructure leading to increased maintenance costs and potential service outages.

3. Market Risk: Depreciation of asset values in high-risk areas leading to reduced collateral value and higher provisioning needs.
4. Liquidity Risk: Potential increase in withdrawals and reduced deposits in times of crisis affecting the Bank's liquidity position.

Climate change poses substantial risks to CIMB Thai's credit and operational stability. These impacts can be categorized into short-term, mid-term, and long-term effects based on the severity and timing of climate-related events.

Short-Term Impacts: Acute weather events, such as floods and typhoons, can cause immediate disruptions. The 2011 floods in Bangkok caused extensive damage to infrastructure, leading to temporary branch closures and service interruptions. These events can result in higher default rates as businesses and households face unexpected financial strains. According to a report by Swiss Re, the 2011 floods in Thailand resulted in economic losses of approximately \$USD45.7 billion, highlighting the potential financial impact of such events.

Mid-Term Impacts: Repeated exposure to extreme weather events can lead to cumulative damage and increased operational costs. For instance, areas affected by frequent floods may require constant repairs, straining the Bank's resources. Additionally, climate-induced economic downturns can increase credit risk across various borrower segments. A study by the Bank of Thailand indicated that prolonged droughts in the northeast have led to a 30% increase in non-performing loans (NPLs) in the Agricultural sector.

Long-Term Impacts: Long-term changes in climate patterns, such as rising temperatures and sea levels, can fundamentally alter the economic landscape. Coastal branches may become unviable due to persistent flooding, while increased temperatures can reduce agricultural productivity and disrupt supply chains. The World Bank projects that by 2100, the GDP of countries like Thailand could decrease by up to 2.4% annually due to climate-related impacts.

Strategies for Managing Physical Climate Risks

To effectively manage these risks, CIMB Thai must adopt a comprehensive climate Risk Management Framework incorporating the following strategies:

1. **Risk Assessment and Monitoring:** Implement advanced climate risk assessment tools to regularly evaluate the vulnerability of branch locations and loan portfolios. Use Geographic Information System (GIS) mapping to identify high-risk areas. Regular risk assessments can help the Bank stay ahead of potential threats and adapt its strategies accordingly.
2. **Enhancing Risk Appetite Framework:** Integrate climate risk into the Bank's existing risk appetite framework, setting clear thresholds and limits for climate-related exposures. This approach ensures that the Bank's risk management policies are aligned with emerging climate risks.
3. **Diversification of Lending Portfolios:** Diversify lending portfolios to reduce concentration in high-risk sectors and regions. By investing in environmentally friendly projects, CIMB Thai can contribute to overall climate resilience while mitigating risks.
4. **Resilience Building and Adaptation:** Invest in enhancing the resilience of physical assets, including flood defenses for branches and robust IT systems. Encourage borrowers to adopt climate-resilient practices. For example, supporting the installation of flood barriers and promoting water-efficient irrigation systems can reduce vulnerability to climate impacts.
5. **Insurance and Risk Transfer:** Utilize insurance products to transfer part of the climate risk, covering physical damage and business interruption losses. Insurance can provide a safety net, allowing the Bank to recover more quickly from climate-related disruptions.
6. **Engagement and Collaboration:** Collaborate with government bodies, NGOs, and other stakeholders to support community resilience projects and share best practices in climate risk management. Partnerships with local authorities can enhance the effectiveness of the Bank's climate risk strategies.

Possible Solutions for Specific Regions

• Bangkok Branch Network

Investing in basic flood defense systems, including levees and pumping stations, can help protect branch infrastructure. Relocating branches from vulnerable areas to higher ground or less flood-prone regions can minimize disruptions. Developing robust communication channels to keep customers informed during flood events and providing temporary financial relief can enhance customer trust and loyalty.

Flood defense systems in Bangkok could include the construction of barriers and retention basins. The city has already implemented several flood prevention measures, such as the Chao Phraya River's flood control gates, which could be expanded to further protect vulnerable areas.

• Coastal Branches

Implementing coastal protection measures, such as sea walls and mangrove restoration, can help buffer against storm surges and erosion. Designing branch buildings to withstand high winds and floodwaters can reduce damage during typhoons and storm surges. Engaging with local communities to develop and implement disaster preparedness plans can enhance overall resilience.

Mangrove restoration projects, initiated under CSR or volunteering initiatives in collaboration with the local communities, can serve as natural barriers against coastal erosion and storm surges. These projects not only protect infrastructure but also support biodiversity and local livelihoods.

- **Northern and Northeastern Branches**

Implementing flood barriers and improved drainage systems for flood-prone areas, as well as water conservation technologies for drought-prone areas, can mitigate risks. Enhancing early warning systems, emergency response plans, and supporting reforestation projects can address wildfire risks. Developing and regularly updating disaster preparedness plans tailored to specific regional risks can enhance resilience.

Reforestation projects in northern Thailand can help reduce the risk of wildfires and improve water retention in the soil. These projects also contribute to carbon sequestration, helping to mitigate climate change.

The worst-case climate scenarios outlined by the IPCC present significant challenges for CIMB Thai. By proactively addressing both acute and chronic physical risks, the Bank can safeguard its operations, support its customers, and contribute to broader climate resilience efforts. Implementing the recommended strategies will not only mitigate risks but also position CIMB Thai as a leader in sustainable Banking, capable of thriving in a rapidly changing climate landscape.

By integrating comprehensive risk assessments, enhancing resilience, and promoting sustainable practices, CIMB Thai can navigate the complexities of climate change. The Bank's proactive approach will not only protect its assets but also support the broader community in adapting to and mitigating climate risks.

Deep Dive into Business Sectors with Significant Transition Risks

1. Oil and Gas Sector



The Oil and Gas sector remains one of the most critical yet vulnerable industries in the face of climate change. As global efforts intensify to mitigate climate change, financial institutions like CIMB Thai must evaluate the potential climate risks that their clients in the Oil and Gas sector may face under different climate scenarios.

CIMB Thai must take a proactive and multi-faceted approach to managing these risks, including enhancing risk assessments, engaging with clients, diversifying the portfolio, and advocating for stable climate policies. By taking these steps, CIMB Thai continues to position itself as a leader in sustainable finance, supporting the transition to a low-carbon economy while safeguarding its financial stability.



• Orderly - Net Zero 2050 Scenario

Short-Term Horizon (2024–2030)

In the Orderly Transition scenario, Thailand, along with other nations, is expected to implement stringent climate policies aligned with the goal of achieving net-zero carbon

dioxide (CO₂) emissions by 2050. This period will see the introduction of carbon pricing mechanisms, stricter emission standards, and incentives for adopting cleaner technologies, leading to an immediate impact on the Oil and Gas sector.

Recent data from the NGFS scenarios portal indicate that carbon prices could rise to USD 75 per metric ton by 2030, significantly affecting the cost structure of Oil and Gas companies. These companies will need to invest heavily in Carbon Capture and Storage (CCS) technologies and other emissions-reducing measures to comply with new regulations. Additionally, the International Energy Agency (IEA) projects that global energy demand will increasingly shift towards renewables, reducing the market share of fossil fuels gradually over this period.

For CIMB Thai, the financial impact on its Oil and Gas clients will be marked by tighter profit margins due to the increased costs of compliance. However, the orderly nature of the transition provides predictability, allowing these companies to adjust their strategies over time. Credit risks for the Bank may remain stable in the short term as these companies begin adapting to the new regulatory environment.

Mid-Term Horizon (2030–2040)

By 2030, the transition to a low-carbon economy will be well underway. The regulatory environment will become increasingly stringent, pushing Oil and Gas companies to further reduce their carbon footprints. This period will also

witness a more pronounced shift in energy demand towards renewables, driven by technological advancements and decreasing costs.

According to the latest IRENA report, the cost of renewable energy technologies, particularly solar and wind, is expected to continue its downward trajectory, making them more competitive with fossil fuels. This will accelerate the decline in demand for Oil and Gas, forcing companies to diversify their energy portfolios to include more renewable energy projects. Companies that fail to adapt may face significant financial instability and a loss of market share.

For CIMB Thai, the mid-term horizon presents a more complex risk environment. The credit risks associated with clients who are slow to diversify will increase, necessitating close monitoring of their transition strategies. Conversely, companies that successfully integrate renewables into their portfolios will likely maintain or improve their financial stability, providing more secure investment opportunities for the Bank.

Long-Term Horizon (2040–2050)

By 2050, the transition to a low-carbon economy will have largely reached maturity, with fossil fuels playing a minimal role in the global energy mix. The regulatory framework will have fully transitioned away from supporting fossil fuels, leaving renewable energy as the dominant energy source.

The IEA's "Net Zero by 2050" roadmap suggests that oil demand could fall by as much as 75% by 2050, with gas demand falling by 55%, leading to a significant contraction of the Oil and Gas sector. Companies that have not transitioned to renewables or other low-carbon technologies will likely face business decline, leading to a highly consolidated market dominated by a few large, diversified energy companies.

For CIMB Thai, the long-term horizon will see a reduction in credit risks as the sector stabilizes around renewable energy. However, the Bank will need to manage the legacy risks associated with stranded assets and ensure that its portfolio is fully aligned with the low-carbon economy. CIMB Thai's focus will shift towards financing the growth of renewable energy projects, supporting the broader transition to a sustainable energy system.



• Disorderly - Delayed Transition Scenario

Short-Term Horizon (2024–2030)

The Disorderly scenario is characterized by a delayed response to climate change, resulting in a sudden and aggressive implementation of climate policies after 2030. In the short term, the Oil and Gas sector may experience a period of relative stability, with fewer regulatory pressures compared to the Orderly Transition scenario. However, this stability is deceptive, as it masks the impending risks associated with abrupt policy shifts.

During this period, Oil and Gas companies may continue to operate under the assumption that the status quo will persist, investing in traditional fossil fuel projects and delaying investments in low-carbon technologies. This complacency will increase their vulnerability to the severe regulatory and market shocks expected to occur in the mid-term.

For CIMB Thai, the short-term financial outlook for its Oil and Gas clients may appear stable, with continued profitability from fossil fuel operations. However, the Bank must be cautious of the hidden risks associated with this scenario, as the delayed transition will likely result in a more volatile and unpredictable market environment in the years to come.

Mid-Term Horizon (2030–2040)

The mid-term horizon under the Disorderly scenario is marked by the sudden and aggressive implementation of climate policies. Governments, recognizing the urgency of addressing climate change, will impose stringent regulations almost overnight, leading to significant disruptions in the Oil and Gas sector.

The abrupt nature of these regulatory changes will catch many companies off guard, forcing them to rapidly adapt their operations. The costs associated with compliance, such as retrofitting infrastructure and adopting new technologies, will be substantial. The European Union's Emissions Trading System (ETS), for instance, could see carbon prices soar to over EUR 200 per metric ton by 2035, putting immense fi-

ancial pressure on companies unprepared for such changes.

For CIMB Thai, this period will be challenging, as the financial stability of its Oil and Gas clients will be severely tested. The sudden increase in operational costs and the potential for stranded assets will heighten credit risks. Companies that are unable to adapt quickly enough may default on their loans, leading to financial losses for the Bank. It will be crucial for CIMB Thai to closely monitor its clients' ability to respond to the rapid policy shifts and adjust its risk management strategies accordingly.

Long-Term Horizon (2040–2050)

By 2050, this scenario will have left the Oil and Gas sector in a weakened state. The sector will have undergone a significant contraction, with only a few companies surviving the transition. These companies will have either fully transitioned to renewable energy or diversified their portfolios to include other low-carbon technologies.

The regulatory environment will remain unstable, with frequent changes and adjustments as governments continue to refine their climate policies. This ongoing instability will deter long-term investments in the Oil and Gas sector, further weakening its financial position.

For CIMB Thai, the long-term outlook under the scenario is fraught with risks. The Bank will need to manage the fallout from a sector struggling to maintain profitability and

stability. Credit risks will remain elevated, and the potential for further asset stranding will persist. CIMB Thai may need to consider strategic divestment from high-risk assets and focus on supporting clients that have successfully transitioned to low-carbon energy sources.



• Hot House World - NDCs Scenario

Short-Term Horizon (2024–2030)

The Hot House World scenario assumes that global climate policies remain insufficient to prevent significant global warming, leading to severe physical risks. In the short term, the Oil and Gas sector in Thailand may continue to operate with minimal regulatory constraints, but the physical impacts of climate change will begin to manifest more frequently and with greater intensity.

The sector will face increasing disruptions from extreme weather events, such as floods and storms, which can damage infrastructure and disrupt operations. According to a report by Maplecroft (2021), approximately 40% of global Oil and Gas reserves are located in regions highly vulnerable to physical climate risks. These physical risks will result in higher operational costs as companies invest in resilience measures and repair damages. Despite these challenges, demand for Oil and Gas may remain relatively stable in the short term, as the world continues to rely on fossil fuels for energy.

For CIMB Thai, the short-term financial impact will be characterized by increased operational risks for its clients. The costs associated with repairing and maintaining infrastructure will rise, leading to tighter profit margins. The Bank will need to account for these physical risks in its credit assessments and consider the potential for increased insurance costs and other financial liabilities.

Mid-Term Horizon (2030–2040)

As the world moves further into the Hot House World scenario, the physical impacts of climate change will become more severe. Rising sea levels, more frequent and intense storms, and prolonged droughts will have a profound impact on the Oil and Gas sector. Companies with operations in vulnerable regions will face constant threats to their infrastructure and supply chains.

The market dynamics will begin to shift as the physical risks associated with climate change become impossible to ignore. While demand for fossil fuels may persist, the costs of maintaining and protecting infrastructure will continue to escalate, eroding profitability. Additionally, public pressure for climate action will grow, leading to potential reputational risks for companies that are perceived as contributing to the climate crisis.

For CIMB Thai, the mid-term horizon presents a complex risk environment. The Bank will need to closely monitor the physical risks faced by its clients and assess the potential

impact on their financial stability. Credit risks will increase as companies struggle to maintain operations in the face of escalating physical challenges. CIMB Thai may need to consider enhancing its due diligence processes to account for the increased physical risks and potentially higher default rates.

Long-Term Horizon (2040–2050)

In the long term, the Hot House World scenario leads to catastrophic physical impacts that significantly challenge the viability of the Oil and Gas sector. The frequency and severity of extreme weather events will increase, resulting in massive infrastructure losses and prolonged operational downtimes. The sector will struggle to sustain production levels, leading to supply shortages and heightened market volatility.

The World Economic Forum estimates that global economic losses due to climate-related disasters could reach USD 23 trillion annually by 2050 if current trends continue. The Oil and Gas sector, heavily reliant on physical infrastructure, will be among the hardest hit. Companies that have not diversified into more resilient energy sources or failed to invest in climate adaptation measures will likely face bankruptcy.

For CIMB Thai, the long-term horizon under the Hot House World scenario presents severe challenges. The Bank will need to manage a high level of credit risk and potential asset

write-downs as the Oil and Gas sector contracts. The focus will need to shift towards financing climate-resilient projects and supporting clients in transitioning away from fossil fuels.



• Sector Strategy and Management Approach

Given the significant risks outlined in this scenario analysis, CIMB Thai is undertaking several strategic actions to manage and mitigate climate-related risks in its Oil and Gas portfolio:

1. Enhance Due Diligence and Risk Monitoring:

CIMB Thai has been implementing robust due diligence processes under its Sustainable Financing Policy, focusing on clients' climate strategies and preparedness for transition and physical risks. This will ensure that the Bank supports clients committed to sustainable practices and reduces the risk of stranded assets. The Bank also implements continuous risk monitoring processes, utilizing updated scenario analysis to evaluate the potential impacts on the business in this sector. This proactive approach will help anticipate and mitigate adverse outcomes.

2. Engage with Clients on Transition Strategies:

The Bank has been actively engaging with its clients to understand their transition plans and support their efforts to adopt sustainable practices. This includes encouraging investments in renewable energy and low-carbon technologies. The Corporate Banking Team

works in collaboration with the Sustainability Team to engage with clients on a more granular level, comprising actual decarbonization levers.

3. Diversify Portfolio: CIMB Thai considers diversifying its portfolio to reduce exposure to high-risk and carbon-intensive sectors. Investing in industries with strong growth potential in a low-carbon economy will help balance risks and returns.

4. Advocate for Stable Climate Policies: The Bank should advocate for clear and consistent climate policies that reduce market uncertainties and support a smooth transition to a low-carbon economy.

5. Invest in Climate Risk Data and Analytics: The Bank should invest in advanced data and analytics tools to improve the accuracy and granularity of climate risk assessments, enabling better-informed decision-making.

2. Power Generation



The Bank has analyzed the climate risks faced by CIMB Thai's power sector customers under various NGFS scenarios. The analysis integrates these scenarios with Thailand's Power Development Plan (PDP) for 2018–2037, providing a comprehensive understanding of how these scenarios align with national energy strategies across short-term (2024–2030), mid-term (2030–2040), and long-term (2040–2050) horizons.



• Orderly: Net Zero 2050 Scenario

The Net Zero 2050 scenario envisions a steady and coordinated pathway to achieving net-zero CO₂ emissions by 2050, aligning well with the objectives of Thailand's PDP.

Short-Term Horizon (2024–2030)

During this period, Thailand will continue laying the groundwork for a low-carbon economy. The PDP 2018–2037 (Revision 1) emphasizes increasing the share of renewable energy in the electricity mix, with a clear target to reduce reliance on fossil fuels, particularly coal. By 2030, Thailand aims to significantly increase the integration of renewable energy sources such as solar and wind into the grid. This aligns with the NGFS's Orderly Transition scenario, where early adoption of renewable energy technologies will mitigate the impacts of rising carbon prices. Companies investing in

renewable energy projects, especially those supported by initiatives like the Energy for All program, will benefit from a stable regulatory environment and reduced risks related to carbon pricing. This scenario supports a gradual and planned transition, minimizing disruptions and providing a predictable pathway for investors and stakeholders in the power sector. The anticipated carbon pricing in this period will also encourage the adoption of cleaner technologies, aligning with Thailand's strategic goals as outlined in the PDP.

Mid-Term Horizon (2030–2040)

By 2040, Thailand's Power sector is expected to have made significant strides toward the integration of renewable energy. The PDP projects a substantial increase in renewable energy capacity, aiming for 35% of electricity generation from renewables by 2040. Technological advancements and declining costs of renewable energy technologies will drive this transition, further supported by escalating carbon pricing as projected by the NGFS scenario. Companies that fail to transition away from fossil fuels will likely face stranded assets and increased operational costs. The PDP's focus on enhancing grid infrastructure to accommodate renewable energy sources will be crucial during this period, ensuring stability in the power supply despite the variable nature of renewable energy sources. The integration of energy storage systems and smart grid technologies will be essential to balance supply and demand, especially as renewable penetration increases.

Long-Term Horizon (2040–2050)

In the long-term horizon from 2040 to 2050, Thailand's power generation landscape is expected to be dominated by renewable energy sources. The PDP's goal of a 50% renewable energy share by 2037 will likely expand, driven by the anticipated high carbon prices under the NGFS Orderly Transition scenario. The PDP's strategy to modernize the grid, incorporating smart grid technologies and energy storage, will be essential in ensuring that the power system remains resilient and capable of handling a predominantly renewable energy mix. The orderly transition will also necessitate significant investments in infrastructure and technology, particularly in areas like energy storage and grid management systems, to support the integration of large-scale renewable energy projects.



• Disorderly: Delayed Transition Scenario

The Delayed Transition scenario assumes delayed climate action, resulting in abrupt and stringent policy measures later in 2030, leading to significant economic and regulatory disruptions. This scenario highlights potential risks if Thailand fails to adhere to its energy transition timelines as outlined in the PDP.

Short-Term Horizon (2024–2030)

In this period, Thailand's Power sector may continue relying heavily on fossil fuels due to delayed policy actions. The PDP

outlines plans to reduce fossil fuel dependence, but if these are delayed, the sector could face sudden policy shifts around 2030. The Disorderly scenario predicts abrupt increases in carbon pricing, which could destabilize the market and create financial risks for companies that have not diversified their energy portfolios. The PDP's focus on maintaining energy security through existing fossil fuel plants, such as the planned extensions of the Mae Moh units, could be challenged by these abrupt policy changes, leading to potential financial distress and operational disruptions. Companies that rely heavily on fossil fuels will face heightened risks of stranded assets and increased costs associated with compliance to new regulations.

Mid-Term Horizon (2030–2040)

By 2040, the PDP aims for significant integration of renewable energy, but the scenario suggests that delayed actions could result in severe disruptions. The rapid introduction of stringent regulations, such as high carbon taxes and mandatory closures of coal plants, would force a hasty transition away from fossil fuels. Companies that have not invested in renewable energy infrastructure could face stranded assets and financial losses. The PDP's plans for new gas-fired plants in the Northeast and Central regions may become economically unsustainable under these conditions, leading to premature shutdowns and increased reliance on imported electricity or emergency power generation solutions. This scenario could also trigger a rise in energy prices, impacting both businesses and consumers.

Long-Term Horizon (2040–2050)

In the long-term, the scenario predicts ongoing regulatory pressures and heightened physical risks due to climate change. The delayed transition will lead to more severe climate impacts, including higher global temperatures, increased frequency of extreme weather events, and significant disruptions to water availability. These physical risks will have profound implications for the operational stability and financial performance of power generation companies in Thailand. The PDP's emphasis on building new power plants, including those dependent on natural gas, could be undermined by escalating operational risks and reduced access to capital due to stringent climate policies. The need for resilient infrastructure, as highlighted in the PDP, will be more urgent under this scenario, with significant financial implications for companies that are unprepared for the rapid transition. The disorderly nature of the transition may also result in social and economic instability, particularly if energy costs rise sharply or supply becomes unreliable.



• Hot House World - NDCs Scenario

The NDCs scenario assumes implementation of all pledged targets even if not yet backed up by effective policies, leading to severe physical impacts from climate change. This scenario presents significant challenges for Thailand's Power sector, which may struggle to adapt to the escalating environmental and operational risks.

Short-Term Horizon (2024–2030)

The PDP's focus on gradually increasing renewable energy capacity aligns with the need to mitigate the physical risks outlined in this scenario. However, if global climate action remains insufficient, Thailand's reliance on fossil fuels, particularly natural gas and coal, could exacerbate the physical impacts of climate change. The PDP's plans to expand gas-fired power plants and extend the operational life of coal plants may increase the sector's vulnerability to extreme weather events, such as floods and heatwaves, which could disrupt operations and damage infrastructure. Companies in the Power sector will face rising operational costs and potential supply chain disruptions as climate impacts intensify. The lack of global coordination on climate policies could also lead to trade barriers and reduced investment flows into Thailand's Power sector, further complicating efforts to transition to cleaner energy sources.

Mid-Term Horizon (2030–2040)

As climate impacts become more severe, the scenario predicts significant operational challenges for the power sector. The PDP's reliance on gas-fired power plants and the continued use of coal could lead to increased exposure to climate risks, such as water scarcity and extreme weather events. The need for resilient infrastructure, including advanced cooling systems and flood defenses, will be critical. However, the PDP's current emphasis on fossil fuels may limit the sector's ability to adapt, leading to higher costs and reduced reliability. The growing physical

risks could also deter investment in new power projects, particularly those reliant on fossil fuels, as investors become more cautious about climate-related financial risks. The Power sector may also face increased competition for resources, particularly water, which could further strain operations during periods of extreme weather.

Long-Term Horizon (2040-2050)

In the long-term, the scenario will result in catastrophic climate impacts that could severely disrupt Thailand's Power sector. The PDP's focus on expanding natural gas capacity may be insufficient to address the extreme weather events and rising sea levels predicted under this scenario. Power plants located in coastal areas or reliant on water-intensive cooling processes will be particularly vulnerable. The economic costs of these physical impacts could threaten the stability and viability of power generation companies, leading to widespread insolvency and market exits. The PDP's goals of maintaining energy security and affordability may be compromised, with significant implications for Thailand's economic and social stability. The scenario also raises concerns about the long-term sustainability of Thailand's energy infrastructure, particularly if investments in adaptation measures are delayed or inadequate.



• Sector Strategy and Management Approach

Integrating Thailand's Power Development Plan (PDP) with the NGFS scenarios reveals that while the PDP outlines

a structured approach to increasing renewable energy and maintaining energy security, significant risks remain, particularly under scenarios where climate action is delayed or insufficient. Across all scenarios, it is evident that Thailand's Power sector will need to undergo substantial transformation to navigate the challenges posed by climate change and the transition to a low-carbon economy.

1. Accelerate the Transition to Renewable Energy:

CIMB Thai's Power sector customers should prioritize investments in renewable energy technologies to reduce reliance on fossil fuels. Aligning with the PDP's goals and the NGFS Orderly Transition scenario will mitigate exposure to carbon pricing and regulatory risks. Accelerating the deployment of renewable energy, particularly solar and wind, will be essential to meeting Thailand's emissions targets and reducing the sector's vulnerability to carbon pricing and regulatory changes.

2. Invest in Climate-Resilient Infrastructure: As the physical impacts of climate change become more pronounced, the Bank and its customers must both invest in infrastructure that can withstand extreme weather events, rising temperatures, and water scarcity. The PDP's focus on modernizing the grid and integrating smart grid technologies will be crucial. Ensuring that power plants, transmission networks, and other critical infrastructure are resilient to climate impacts will be essential for maintaining reliable operations and minimizing disruptions. The Power Generation sector must prepare for a future where climate-related risks are central to business strategy and operations.

3. Aligning with National Policy and Strategy Shifts:

Active engagement with policymakers and stakeholders is crucial for shaping supportive regulatory frameworks and ensuring a just transition to a low-carbon economy. Engaging with policymakers and staying abreast of national developments can help ensure that strategies are designed towards the transition to renewable energy and address the specific challenges faced by the Power sector. Thailand has been developing a new Power Development Plan (PDP) 2024-2037 and the National Energy Plan (NEP) 2024 which will be officially implemented in the near future.

- a. The new PDP is anticipated to raise the share of renewable energy in the electricity generation mix to more than 50% by 2037, up from 36% in the existing PDP 2018. This includes potential contributions from solar (24,412 MW), wind (5,345 MW), biomass (1,045 MW), and other renewable sources.
- b. The new plan significantly reduces the projected reliance on fossil fuels. By 2037, coal's share is expected to drop to 7%, down from 20% in the existing plan, while gas will decrease from 57% to 41%.
- c. There is an expected introduction of nuclear energy and a focus on hydrogen as an alternative fuel source to further diversifies the energy mix, promoting cleaner energy solutions.

3. Agriculture



Thailand's Agriculture sector is a vital component of the nation's economy, contributing approximately 8-10% to GDP and employing around 30% of the population. However, the sector is increasingly vulnerable to the adverse effects of climate change, which threaten its productivity, sustainability, and resilience. Financial institutions, such as CIMB Thai, are significantly exposed to these risks through their agricultural customer base. The NGFS (Network for Greening the Financial System) scenarios provide a robust framework for assessing these risks, helping stakeholders understand how different climate pathways might impact the sector.

This report examines the risks faced by CIMB Thai's agriculture customers under three distinct NGFS scenarios: "Orderly - Net Zero 2050," "Disorderly - Delayed Transition," and "Hot House World - NDCs." Each scenario is analyzed across three time horizons: short-term (2024-2030), medium-term (2030-2040), and long-term (2040-2050).



• Orderly: Net Zero 2050 Scenario

In this scenario, the global community takes early and coordinated action to mitigate climate change, aiming to limit global warming to below 1.5°C. This scenario envisions a gradual and structured transition to a low-carbon economy, presenting moderate physical and transition risks to the agriculture sector.

Short-Term Horizon (2024-2030)

During the short-term horizon, Thailand's Agriculture sector will begin to experience the initial impacts of climate policies. These policies will likely promote a shift toward more sustainable agricultural practices, supported by government incentives and financial assistance from institutions like CIMB Thai. For instance, the Thai government has already initiated projects like the "Thailand 4.0" policy, which emphasizes technological advancements and sustainable practices in agriculture.

Physical risks during this period include increased frequency of droughts and heatwaves, which will stress water resources and reduce crop yields, particularly for water-intensive crops like rice. In Thailand, rice production is a critical sector, with around 10 million hectares dedicated to rice farming, accounting for 55% of the total agricultural land. Early adoption of adaptive measures such as drought-resistant crops and advanced irrigation systems will help mitigate these risks. The orderly nature of the transition allows farmers to gradually adjust to new regulations, minimizing economic disruptions.

Transition risks primarily stem from the costs associated with complying with new regulations aimed at reducing greenhouse gas emissions. These may include restrictions on the use of certain fertilizers and mandates for adopting low-emission technologies. The gradual implementation of these policies, supported by financial institutions like CIMB

Thai, provides predictability, allowing farmers to manage these costs effectively.

Medium-Term Horizon (2030-2040)

As the world moves closer to the 2050 net-zero target, the physical risks associated with climate change become more pronounced. The Agriculture sector in Thailand will face increasing challenges from more frequent and severe weather events such as floods and storms, which will disrupt crop cycles and damage infrastructure. A study by the Thailand Development Research Institute (TDRI) predicts a 10-20% reduction in agricultural productivity by 2040 due to climate-induced disasters.

The sector's resilience during this period will depend heavily on continued investments in climate-resilient infrastructure such as flood defenses and advanced irrigation systems. The role of CIMB Thai will become increasingly important in providing the financial products and services that enable farmers to make these necessary investments.

Transition risks will also escalate during this period as climate policies become more stringent. Farmers and agribusinesses will face higher compliance costs and greater pressure to reduce emissions. This could lead to significant restructuring within the sector, with some traditional farming practices becoming economically unviable. The Thai government has indicated that by 2040,

it aims to reduce greenhouse gas emissions in the Agriculture sector by 30%, which will require substantial investments in sustainable practices. Financial institutions will need to support this transition by offering loans and other financial products tailored to the needs of the Agriculture sector during this critical period.

Long-Term Horizon (2040–2050)

By the long-term horizon, the Thai agriculture sector is expected to have fully integrated sustainable practices and technologies, positioning it as a resilient and stable component of a low-carbon global economy. However, physical risks associated with climate change will persist, particularly in coastal regions vulnerable to sea level rise and salinity intrusion. The Mekong Delta, for instance, is projected to experience a sea level rise of up to 1 meter by 2050, severely impacting rice production.

The ongoing evolution of climate policies will require the Agriculture sector to remain flexible and innovative. As new technologies and practices are developed, they will need to be rapidly adopted to maintain competitiveness and sustainability. CIMB Thai will have a crucial role in financing these innovations and supporting the sector's ongoing transition to a low-carbon future. By providing long-term financing solutions and risk management products, the bank can help ensure the resilience of Thailand's agriculture sector in the face of ongoing climate challenges.



Disorderly: Delayed Transition Scenario

The scenario envisions a future where significant delays in implementing climate policies lead to a sudden and disruptive shift toward stringent measures. This scenario is characterized by high transition risks due to the abrupt nature of policy implementation, coupled with moderate physical risks as adaptation measures lag behind.

Short-Term Horizon (2024–2030)

In the short term, the Thai Agriculture sector will continue to operate under existing policies with minimal changes. The lack of early climate policy interventions will create a period of relative stability, but this will also mean that the sector is not adequately prepared for the abrupt changes that will come later. Physical risks such as increased frequency of droughts and heatwaves will continue to grow, but without significant adaptation efforts, these risks will have a more pronounced impact on agricultural productivity. The absence of immediate policy changes may lead to complacency among farmers, delaying necessary investments in resilience and sustainability.

Transition risks during this period will be low as no new regulations will be introduced. However, this period of inaction will set the stage for significant disruptions in the medium term when climate policies are finally implemented. The lack of early investment in sustainable practices and technologies will leave farmers vulnerable to the sudden

increase in compliance costs and market volatility that will follow the delayed policy implementation.

Medium-Term Horizon (2030–2040)

The medium-term horizon under the Disorderly Scenario represents a period of high transition risks as delayed climate policies are suddenly and stringently implemented. The Thai Agriculture sector will face significant challenges in adapting to these new regulations, which will require rapid changes in farming practices, land use, and emissions management. The sudden introduction of stringent climate policies will lead to substantial costs for farmers, who will need to invest heavily in sustainable technologies and practices to comply with the new regulations. This rapid transition is likely to cause financial strain and operational disruptions, particularly for small-scale farmers and agribusinesses that lack the resources to quickly adapt.

Physical risks will also continue to escalate during this period, with more frequent and intense climate-related events such as droughts, floods, and storms. The lack of early adaptation efforts will exacerbate the impacts of these events, leading to significant losses in agricultural productivity and increased vulnerability for farmers. The combination of high transition risks and worsening physical risks will place immense pressure on the Agriculture sector, necessitating urgent action to build resilience and sustainability. CIMB Thai will need to provide flexible and supportive financial solutions to help customers navigate

this challenging period, including access to capital for necessary investments and advisory services to guide farmers through the transition.

Long-Term Horizon (2040–2050)

In the long term, the impacts of the Disorderly Scenario will continue to be felt, with ongoing challenges related to both physical and transition risks. The agriculture sector will be dealing with the long-term consequences of inadequate early adaptation and the rapid, disruptive transition to a low-carbon economy. Physical risks will remain a significant concern, particularly in regions vulnerable to climate change impacts such as rising temperatures, unpredictable weather patterns, and sea level rise. Coastal agriculture will be especially at risk, with salinity intrusion and erosion threatening the viability of farming in these areas.

The Agriculture sector will need to continue adapting to the stringent climate policies that were hastily implemented in the previous decade. This ongoing adaptation will require continuous innovation and investment in new technologies and practices. The sector may also face economic challenges due to the increased costs associated with compliance and the potential loss of competitiveness in global markets. CIMB Thai will need to focus on providing long-term financing solutions that support resilience and sustainability. By offering financial products and services that promote innovation and adaptation, the bank can help

the Agriculture sector overcome the challenges posed by the Disorderly Scenario and ensure its long-term viability.



• Hot House World - NDCs Scenario

This scenario assumes that the world fails to implement additional climate policies beyond those already pledged under the Nationally Determined Contributions (NDCs). This scenario is characterized by high physical risks and minimal transition risks, leading to a future where global warming continues unabated, with severe consequences for the Agriculture sector.

Short-Term Horizon (2024–2030)

In the short term, under the Hot House World scenario, the Thai Agriculture sector will begin to experience the increasing impacts of climate change due to the lack of effective climate mitigation measures. Physical risks such as rising temperatures and more frequent and severe weather events will start to take a toll on agricultural productivity. Droughts and heatwaves will become more common, leading to reduced crop yields and increased water scarcity. For instance, studies indicate that by 2030, the frequency of droughts in Thailand could increase by 20–30%, severely impacting key crops like rice and maize, which are critical to both local food security and export revenues.

The sector will struggle to cope with these challenges as the lack of additional climate policies means that there will be minimal support for adaptation efforts. The absence of stringent climate policies during this period will lead to a false sense of security among farmers, delaying necessary investments in adaptive technologies and sustainable practices.

Transition risks during this period will remain low as no new regulations will be introduced. However, the escalating physical risks will have a profound impact on the sector's viability, particularly for smallholder farmers who are most vulnerable to climate impacts. CIMB Thai should consider preparing for an increase in demand for financial products that support emergency response and resilience-building efforts as farmers seek to mitigate the effects of worsening climate conditions.

Medium-Term Horizon (2030–2040)

As the world continues on its current path without additional climate action, the medium-term outlook under the Hot House World scenario is bleak. The physical risks associated with climate change will become increasingly severe, with more frequent and intense droughts, floods, and storms wreaking havoc on agricultural systems. By this time, the impacts of climate change will be evident in declining agricultural productivity, with significant losses in crop yields and livestock production. For example, projections show that Thailand could lose up to 40% of

its rice production by 2040 if no significant adaptation measures are implemented.

Water scarcity will become a critical issue, particularly in regions that rely heavily on irrigation, such as the Chao Phraya River Basin, which is responsible for a substantial portion of the country's agricultural output. The Intergovernmental Panel on Climate Change (IPCC) projects that water demand for agriculture in Southeast Asia could increase by 50-70% by 2040 due to higher temperatures and changing precipitation patterns, putting additional strain on already stressed water resources.

Transition risks will remain low, but the absence of proactive adaptation measures will leave the sector ill-equipped to deal with the escalating physical risks. CIMB Thai will need to focus on supporting resilience-building efforts, including investments in water management, flood defenses, and climate-resilient crop varieties. The Financial sector will play a crucial role in helping the Agriculture sector navigate this increasingly hostile environment by providing access to capital for necessary adaptations and supporting long-term planning efforts.

Long-Term Horizon (2040-2050)

The long-term outlook under the Hot House World scenario is characterized by catastrophic physical risks as the impacts of climate change reach critical levels. The Thai Agriculture sector will be facing existential threats due to the

severe and irreversible effects of climate change. Rising temperatures, extreme weather events, and sea level rise will lead to widespread loss of agricultural productivity and land. Coastal regions, which are already experiencing significant challenges, will be particularly hard hit, with large areas becoming uninhabitable due to salinity intrusion and erosion.

The Mekong Delta, which is crucial for rice production not only in Thailand but also in the broader Southeast Asian region, could see a substantial reduction in arable land, exacerbating food insecurity and economic instability. According to the World Bank, without significant mitigation and adaptation efforts, up to 80% of the Mekong Delta's rice-growing areas could be affected by salinity intrusion by 2050.

In this scenario, the Agriculture sector will be in a state of crisis, struggling to survive in an increasingly hostile environment. CIMB Thai will need to focus on providing emergency funding, insurance products, and support for relocation and alternative livelihoods for those most affected. The bank will also need to engage in long-term planning to address the systemic risks posed by climate change to the Agriculture sector, including the potential for large-scale displacement and the loss of arable land. By focusing on resilience and adaptation, CIMB Thai can help ensure that the Thai Agriculture sector is able to withstand the severe challenges posed by the Hot House World scenario.



• Sector Strategy and Management Approach

Given the range of potential outcomes under the different NGFS scenarios, CIMB Thai should adopt a proactive and flexible approach to managing climate risks in the Agriculture sector. The following strategic recommendations are proposed:

- 1. Enhance Risk Assessment:** CIMB Thai should integrate climate-related risks into its existing Risk Management Frameworks. This involves identifying and assessing both physical and transition risks, evaluating their potential impacts on the Bank's portfolio, and developing strategies to mitigate these risks. The Bank should also consider conducting stress tests and scenario analyses based on the NGFS scenarios to better understand the potential impacts of climate change on its agriculture customers.
- 2. Promote Sustainable Practices:** The Bank can encourage its customers to adopt sustainable agricultural practices by offering targeted financing options and incentives. This includes providing loans for investments in climate-resilient crop varieties, sustainable farming technologies, and infrastructure improvements. The Bank should also explore opportunities to partner with government agencies and international organizations to provide additional support for sustainable agriculture initiatives. For instance, partnerships with organizations like the Asian Development Bank could leverage additional funding and technical assistance for climate adaptation projects.

3. Invest in Research and Development: Supporting research into climate-resilient crop varieties, sustainable farming practices, and innovative technologies is crucial for enhancing the resilience of the Agriculture sector. CIMB Thai can collaborate with research institutions, government agencies, and industry bodies to promote and fund relevant research initiatives. This will help ensure that the Agriculture sector is equipped with the knowledge and tools needed to adapt to the challenges posed by climate change.

4. Strengthen Stakeholder Engagement: Engaging with stakeholders, including government agencies, industry associations, and customers, is essential for building a resilient Agriculture sector. The Bank should participate in policy discussions, collaborate on climate resilience projects, and facilitate knowledge sharing among stakeholders. This will help to align efforts across the sector and ensure that all parties are working towards common goals.

5. Monitor and Adapt to Policy Changes: Staying abreast of regulatory developments and helping customers navigate compliance and adaptation requirements is critical. CIMB Thai should monitor policy changes related to climate change and agriculture, provide guidance to customers on compliance, and support their adaptation efforts. The Bank should also be prepared to adjust its risk management strategies and financial products in response to evolving regulatory landscapes.

6. Foster Innovation in Financing: Developing innovative financial products that support climate adaptation and mitigation efforts in the Agriculture sector is key. This includes green, sustainability-linked, and insurance products that cover climate-related risks. These financial products can incentivize sustainable practices and enhance the resilience of the Agriculture sector.

Climate-related risks present significant challenges for Thailand's Agriculture sector, impacting productivity, profitability, and sustainability. By understanding these risks and implementing strategic measures, CIMB Thai can support its customers in navigating these challenges and building a resilient agricultural economy. The NGFS scenarios provide a valuable framework for assessing potential futures and planning for a range of outcomes. By integrating these scenarios into its risk management practices, promoting sustainability, and fostering innovation, CIMB Thai can help ensure the long-term resilience of Thailand's Agriculture sector in the face of climate change.

4. Manufacturing and Industrials



The Industrial sector, including manufacturing activities such as Aluminum production, Cement manufacturing, and Iron and Steel production, plays a critical role in Thailand's economy. These sectors are highly energy-intensive and contribute significantly to greenhouse gas (GHG) emissions, making them particularly vulnerable to climate-related risks. CIMB Thai's portfolio in these sectors saw significant changes in 2022 and 2023, and these changes are directly linked to the Attributed Financed Emissions for these years.

As of 2023, Thailand's aluminum industry has a total production capacity of 710,000 tons, with actual production at 478,000 tons, equating to 67% of its capacity. The overall market value of the Aluminum sector is approximately THB 70 billion. The Thai aluminum market has been significantly affected by the influx of cheaper aluminum products from China, pressuring local manufacturers to innovate and reduce costs. Thai producers are investing in cleaner production technologies and enhancing recycling capabilities, with Thailand boasting a 91% recycling rate for aluminum cans, the highest in the world. The aluminum market was valued at approximately THB 205 billion in 2023 (USD 5.80 billion), with expectations to reach around THB 422 billion (USD 12.19 billion) by 2030, growing at a CAGR of 10.3% from 2024 to 2030. This growth is driven by rising demand from sectors such as Construction, Automotive, and Electronics.

As of 2023, the iron and steel industry in Thailand is a critical sector for the country's infrastructure and construction needs. Thailand's steel production for 2023 is projected to reach 8.829 million tons, with a CAGR of 3.0% expected from 2023 to 2032. Thailand's steel industry has an annual production capacity of approximately 10 million tons. Approximately 70-75% of flat steel demand is met through imports, primarily from Japan, China, and South Korea. This heavy reliance on imports poses challenges for local producers. The industry faces challenges from fluctuating raw material costs and high production costs compared to regional competitors. Thailand is actively investigating and considering anti-dumping measures to protect its domestic steel industry from the adverse effects of cheap imports, particularly from China.

In 2023, Thailand's cement production is estimated to be around 35.42 million tons, a decrease from previous years. However, it is forecasted to increase to 37.01 million tons in 2024, with projections reaching 52.22 million tons by 2033, growing at a CAGR of approximately 3.9% from 2024 to 2033. The cement industry thrives on the booming Construction sector, fueled by rapid urbanization and government infrastructure projects. The expanding population and increasing investments in residential and commercial projects create sustained demand for cement. The industry is adopting advanced manufacturing technologies and sustainable practices, such as alternative fuel usage and waste heat recovery, to reduce carbon emissions and improve environmental impact.



• Orderly: Net Zero 2050 Scenario

The Orderly - Net Zero 2050 Scenario envisions a world where global efforts to limit temperature rise to below 2°C are coordinated and implemented in a timely manner. This scenario assumes the introduction of consistent carbon pricing, widespread adoption of low-carbon technologies, and gradual decarbonization of industrial processes. For CIMB Thai, this scenario represents both opportunities and challenges, particularly in managing the transition risks associated with its Manufacturing and Industrials sector customers.

Short-Term Horizon (2024-2030)

In the short term, the aluminum, cement, and iron and steel industries will begin to experience the impacts of stricter environmental regulations and the introduction of carbon pricing mechanisms. These industries are among the most carbon-intensive in CIMB Thai's portfolio, and the move towards decarbonization will require significant investments in low-carbon technologies.

Aluminum Sector: The aluminum industry, which relies heavily on electricity, faces immediate challenges in reducing its carbon footprint. The introduction of carbon pricing will increase production costs, particularly in regions where electricity is still generated from fossil fuels. Aluminum producers will need to invest in renewable energy sources and energy-efficient technologies to remain competitive. CIMB Thai will need to assess

the creditworthiness of its Aluminum sector clients, focusing on those who are proactive in adopting low-carbon solutions.

Cement Sector: Cement production is one of the most CO₂-intensive processes due to the calcination of limestone. The introduction of carbon pricing will significantly increase costs for cement producers, who will need to invest in carbon capture and storage (CCS) technologies or alternative materials to reduce their emissions. CIMB Thai's exposure to the Cement sector will require careful management, with a focus on supporting clients that are transitioning towards more sustainable practices.

Iron and Steel Sector: The iron and steel industry is also highly carbon-intensive, with CO₂ emissions resulting from both the production of steel and the use of energy-intensive processes. The transition to green steel, produced using renewable hydrogen, will be essential. However, this transition requires substantial capital investment, and CIMB Thai will need to carefully evaluate the financial health of its clients in this sector, ensuring that they are positioned to invest in the necessary technologies.

The data from 2022 to 2023 indicates that the GHG emissions attributed to these sectors remain significant. In the short term, CIMB Thai will need to support its clients in managing the financial implications of these emissions, while also encouraging the adoption of low-carbon technologies.

Mid-Term Horizon (2030–2040)

As the global transition towards net zero accelerates, the aluminum, cement, and iron and steel industries will face increasing pressure to decarbonize. By 2030, it is expected that carbon pricing will be well-established, and companies that have not yet adopted low-carbon technologies will struggle to compete in the global market.

Aluminum Sector: By the mid-2030s, aluminum producers will need to have fully transitioned to renewable energy sources to remain viable. The cost of carbon emissions will be prohibitively high for companies that continue to rely on fossil fuels. CIMB Thai should focus on lending to clients that have made significant progress in reducing their carbon intensity, as these companies will be better positioned to compete in the global market.

Cement Sector: The cement industry will need to adopt CCS technologies or alternative materials on a large scale by the mid-2030s. Companies that fail to do so will face significant financial risks, as carbon pricing will erode their profit margins. CIMB Thai will need to carefully monitor the progress of its Cement sector clients, prioritizing those that are leading the transition towards more sustainable practices.

Iron and Steel Sector: The steel industry will need to have fully transitioned to green steel production by the mid-2030s. The capital investments required for this transition are substantial, and CIMB Thai will need to

carefully assess the financial health of its clients in this sector. Companies that are unable to secure the necessary funding may face financial difficulties, increasing the credit risk for CIMB Thai.

The continued high levels of GHG emissions in these sectors suggest that the pace of transition may not be sufficient to meet mid-term climate goals. CIMB Thai must therefore take a proactive approach in managing its portfolio, ensuring that it is aligned with companies that are making substantial progress in their decarbonization efforts.

Long-Term Horizon (2040–2050)

By 2050, the goal under the Net Zero scenario is for these industries to have fully transitioned to low-carbon production methods. Companies that have successfully adopted green technologies and practices will likely dominate the market, while those that have not will struggle to survive.

Aluminum Sector: The long-term viability of aluminum producers will depend on their ability to operate with minimal carbon emissions. CIMB Thai should focus on supporting companies that have clearly defined and actionable transition plans, as these companies will be better positioned to succeed in the long term.

Cement Sector: The cement industry may see a shift towards more sustainable alternatives, with traditional methods becoming obsolete. Companies that fail to adopt these alternatives may face significant financial difficulties,

making them a higher credit risk for CIMB Thai. The Bank should align its lending practices with companies that are at the forefront of sustainable cement production, ensuring that its portfolio is resilient to the long-term risks associated with the transition to a low-carbon economy.

Iron and Steel Sector: The adoption of green steel technologies will be crucial for the long-term success of the steel industry. Companies that fail to transition will likely face Bankruptcy, presenting significant financial risks for CIMB Thai if not managed properly. The Bank should ensure that its portfolio is not overly exposed to companies reliant on outdated technologies and should instead focus on supporting clients that are leading the way in adopting green steel technologies.

Overall, the long-term outlook suggests a significant reduction in GHG emissions as companies transition to sustainable practices. For CIMB Thai, this means that the Bank must continue to align its portfolio with companies that are at the forefront of the transition to a low-carbon economy. This will not only help mitigate long-term risks but also position the Bank to capitalize on the opportunities presented by the transition.

• Disorderly - Delayed Transition Scenario

In the Disorderly - Delayed Transition Scenario, the transition to a low-carbon economy is characterized by abrupt and uncoordinated policy changes, leading to market volatility

and increased operational costs. This scenario presents significant challenges for the Manufacturing and Industrial sectors, as companies may be caught off guard by sudden regulatory shifts and may struggle to adapt to the new landscape.

Short-Term Horizon (2024–2030)

In the short term, the aluminum, cement, and iron and steel industries will face immediate challenges as a result of abrupt policy changes.

Aluminum Sector: The aluminum industry, for example, may experience sudden increases in carbon pricing without having the necessary technologies in place to mitigate these costs. This could lead to financial instability for aluminum producers, as they struggle to absorb the increased costs and remain competitive. For CIMB Thai, this presents a significant credit risk, as companies that are unable to adapt quickly may face financial difficulties.

Cement Sector: The cement industry may also be caught off guard by sudden regulatory changes, leading to spikes in production costs and potential disruptions in supply chains. Companies that are slow to adapt may find themselves at a competitive disadvantage, as they struggle to comply with new regulations and maintain profitability. CIMB Thai should therefore be prepared for potential short-term defaults in this sector and should consider providing flexible financial solutions to help clients navigate the transition.

Iron and Steel Sector: Similarly, the iron and steel industry could experience market disruptions as a result of sudden policy shifts. The increased costs associated with carbon pricing and regulatory compliance may strain the financial health of steel producers, particularly those that are slow to adopt new technologies. For CIMB Thai, this presents a significant credit risk, as companies that are unable to adapt quickly may face financial difficulties. The Bank should therefore focus on providing flexible financial solutions to support clients through this transition.

Mid-Term Horizon (2030–2040)

In the mid-term horizon, the disorderly transition scenario will likely result in higher operational costs and market volatility as companies scramble to comply with new regulations.

Aluminum Sector: The aluminum industry, for example, may face financial strain due to the need for rapid investment in new technologies. Companies that are unable to secure the necessary funding may struggle to remain competitive, leading to potential financial difficulties. For CIMB Thai, this means that the Bank must closely monitor the financial health of its clients and provide targeted support where necessary.

Cement Sector: The cement industry may see increased competition from more agile companies that can quickly adapt to new regulations. Companies that are slow to transition may find themselves at a competitive disadvantage, as they struggle to comply with new regulations and maintain

profitability. CIMB Thai should therefore prioritize lending to companies with clear strategies for compliance and should be prepared to manage the risks associated with those that are slower to adapt.

Iron and Steel Sector: The iron and steel industry may experience significant restructuring as companies scramble to comply with new regulations. The increased costs associated with carbon pricing and regulatory compliance may strain the financial health of steel producers, leading to potential Bank ruptcies. For CIMB Thai, this presents a significant credit risk, as companies that are unable to adapt quickly may face financial difficulties. The Bank should therefore assess the credit risk associated with these companies and adjust its portfolio accordingly.

Long-Term Horizon (2040–2050)

Over the long term, the disorderly transition scenario could lead to significant market consolidation, with only the most resilient companies surviving.

Aluminum Sector: The aluminum industry, for example, may see a reduction in the number of players, with only the most efficient producers remaining viable. This will create opportunities for CIMB Thai to build long-term relationships with companies that have successfully navigated the transition, while also managing the risks associated with companies that have not.

Cement Sector: The cement industry could become more

fragmented as new entrants challenge established players. Companies that have successfully transitioned to low-carbon production methods will be better positioned to succeed in this new landscape, while those that have not may struggle to remain competitive. CIMB Thai should therefore consider diversifying its exposure to include these emerging companies, while also managing the risks associated with those that are slower to adapt.

Iron and Steel Sector: The iron and steel industry may see a shift towards smaller, more flexible companies that can adapt quickly to changing market conditions. Companies that have successfully transitioned to green steel production methods will be better positioned to succeed in this new landscape, while those that have not may struggle to remain competitive. CIMB Thai should therefore focus on building relationships with these companies to mitigate long-term risks and capitalize on the opportunities presented by the transition.



• Hot House World - NDCs Scenario

The Hot House World scenario presents a grim outlook where global efforts to mitigate climate change fail, and the world experiences severe physical risks from climate change, such as extreme weather events, rising sea levels, and resource scarcity. This scenario presents significant challenges for the Manufacturing and Industrial sectors, particularly in regions like Thailand, which are highly vulnerable to the impacts of climate change.

Short-Term Horizon (2024–2030)

In the short term, the aluminum, cement, and iron and steel industries will face immediate challenges as a result of extreme weather events and resource scarcity.

Aluminum Sector: The aluminum industry, for example, may experience disruptions in supply chains and production processes due to the increased frequency of extreme weather events. This could lead to higher operational costs and reduced profitability for aluminum producers, making them a higher credit risk for CIMB Thai. The Bank should therefore consider the physical risk exposure of its clients and adjust its lending practices accordingly.

Cement Sector: The cement industry could also face significant challenges due to water scarcity and extreme weather events. These disruptions could increase production costs and reduce profitability, making it difficult for companies to maintain their financial health. CIMB Thai should therefore assess the physical risks associated with this sector and provide support for necessary investments in climate-resilient infrastructure and processes.

Iron and Steel Sector: Similarly, the iron and steel industry may experience similar disruptions as a result of extreme weather events and resource scarcity. The increased costs associated with these disruptions could strain the financial health of steel producers, making them a higher credit risk for CIMB Thai. The Bank should therefore consider the resilience of its clients to these risks when making lending

decisions and provide support for necessary investments in climate-resilient infrastructure and processes.

Mid-Term Horizon (2030–2040)

As physical climate impacts worsen, the Manufacturing and Industrial sectors will face increasing challenges in maintaining production and profitability.

Aluminum Sector: The aluminum industry, for example, may face significant challenges in sourcing raw materials and maintaining production levels, leading to increased costs and reduced profitability. Companies that are unable to adapt to these challenges may struggle to remain competitive, making them a higher credit risk for CIMB Thai. The Bank should therefore consider the long-term viability of its clients in this sector and adjust its lending practices accordingly.

Cement Sector: The cement industry could see increased costs due to the need for climate-resilient infrastructure and processes. Companies that are unable to invest in these necessary adaptations may struggle to maintain profitability, making them a higher credit risk for CIMB Thai. The Bank should therefore assess the resilience of its clients and provide support for necessary investments in climate-resilient infrastructure and processes.

Iron and Steel Sector: The iron and steel industry may face similar challenges as a result of physical climate impacts. The increased costs associated with these disruptions could strain the financial health of steel producers, making them

a higher credit risk for CIMB Thai. The Bank should therefore consider the long-term resilience of its clients in this sector and provide support for necessary investments in climate-resilient infrastructure and processes.

Long-Term Horizon (2040–2050)

In the long term, the Hot House World scenario presents significant risks to the Manufacturing and Industrial sectors, with the potential for widespread disruption and market instability.

Aluminum Sector: The aluminum industry, for example, may struggle to maintain production levels and profitability in the face of severe physical climate impacts. Companies that are unable to adapt to these challenges may find themselves at a competitive disadvantage, making them a higher credit risk for CIMB Thai. The Bank should therefore consider the long-term viability of its clients and adjust its lending practices accordingly.

Cement Sector: The cement industry could face significant challenges in maintaining production levels and profitability, with increased costs and reduced demand due to the physical impacts of climate change. Companies that are unable to invest in climate-resilient infrastructure and processes may struggle to remain competitive, making them a higher credit risk for CIMB Thai. The Bank should therefore assess the long-term viability of its clients and provide support for necessary investments in climate-resilient infrastructure and processes.

Iron and Steel Sector: The iron and steel industry may face similar challenges in maintaining production levels and profitability in the face of severe physical climate impacts. Companies that are unable to adapt to these challenges may find themselves at a competitive disadvantage, making them a higher credit risk for CIMB Thai. The Bank should therefore consider the long-term resilience of its clients in this sector and provide support for necessary investments in climate-resilient infrastructure and processes.

CIMB Thai's exposure to the Manufacturing and Industrial sectors, particularly in aluminum, cement, and iron and steel, presents significant climate-related risks under the NGFS scenarios. An orderly transition offers the best opportunity for these industries to adapt and thrive, while a disorderly or a Hot House World scenario could lead to significant financial risks for both the Bank and its clients. CIMB Thai should consider incorporating these risks into its credit assessments and portfolio management strategies, supporting clients in their transition to low-carbon production methods and enhancing their resilience to physical climate impacts. By doing so, the Bank can not only mitigate long-term risks but also position itself to capitalize on the opportunities presented by the transition to a low-carbon economy.

Climate-related Opportunities

Climate-related opportunities for financial institutions encompass enhancing resource efficiency, transitioning to low-emission energy sources, innovating with new products and services, accessing new markets, and bolstering resilience to climate-related impacts. The focus will be on identifying how CIMB Thai can leverage these opportunities within Thailand's specific climate and economic context. Thailand's Power Development Plan (PDP) 2018–2037, its national commitments to net-zero emissions by 2065, and the emerging policies from the Bank of Thailand (BOT) regarding environmental risk management provide crucial context for this report.



Resource Efficiency: Improving Operational Efficiency within CIMB Thai

One of the most significant climate-related opportunities for CIMB Thai is to enhance its internal resource efficiency, particularly in terms of energy, water, and waste management. By optimizing its operations, the Bank can reduce its overall carbon footprint while also cutting operational costs, which aligns with the focus on resource efficiency.

Internally, CIMB Thai can adopt energy-efficient lighting, heating, ventilation, and air conditioning (HVAC) systems, and automated energy management solutions. For example, by upgrading to smart building technology, the Bank can monitor and manage energy consumption in real time, identifying areas for improvement and achieving direct cost savings. Additionally, by implementing water conservation techniques, such as smart irrigation systems and rainwater harvesting, the Bank can further reduce its environmental impact. The Bank has been exploring LEED Certification for its HQ, so that it can systematically upgrade the building to be more resource efficient and resilient.

In 2023, CIMB Thai launched Project Helios, aimed at increasing the use of renewable energy within its buildings. This initiative leverages solar panels installed across the Bank's offices, reducing energy consumption from non-renewable sources. The live monitoring system integrated with the project allows the Bank to measure solar power output and track its energy savings in real time. Please refer to the Bank's Sustainability Report for more details on its strategy and increasing utilization of renewable energy.

Resource Efficiency: Financing Resource Efficiency for Customers

CIMB Thai's business with customers presents significant opportunities for financing resource efficiency initiatives across various sectors, such as Manufacturing, Agriculture, and Real Estate. For instance, the Bank can offer green loans to companies investing in energy-efficient technologies whereby energy efficiency is covered in the Thai Taxonomy.

In the Real Estate sector, CIMB Thai can finance the development of green buildings that meet international environmental standards such as LEED (Leadership in Energy and Environmental Design) or BREEAM (Building Research Establishment Environmental Assessment Method). These buildings are designed to optimize energy usage, improve water efficiency, and reduce waste. By offering favorable loan terms to real estate developers committed to sustainability, CIMB Thai can play a key role in fostering Thailand's transition to energy-efficient infrastructure.

In agriculture, financing precision farming technologies and sustainable irrigation systems can enhance water efficiency while boosting crop yields. Given the importance of agriculture to Thailand's economy, particularly in rural areas, supporting resource-efficient farming practices will not only benefit the environment but also improve the Bank's lending portfolio.

The Power Development Plan (PDP) 2018–2037 sets out a comprehensive roadmap for Thailand's transition towards renewable energy, aiming for 30% of the national energy mix to come from renewable sources by 2037. CIMB Thai can capitalize on this national goal by increasing its investment in solar, wind, biomass, and hydropower projects. Financing large-scale solar farms or off-grid renewable energy systems for rural communities presents substantial business opportunities while also contributing to Thailand's decarbonization.

Thailand's floating solar farms on reservoirs, combining solar power with existing hydropower infrastructure, represent another promising investment opportunity. CIMB Thai can offer project financing for these hybrid renewable energy systems, which are expected to play a significant role in reducing Thailand's dependence on fossil fuels.

Products and Services: Driving Climate Mitigation with GSSIPS

Under its Green, Social, Sustainable Impact Products and Services (GSSIPS) Framework, CIMB Thai has a unique opportunity to develop and expand its range of green financial products, such as green bonds, green loans, and sustainability-linked loans (SLLs). These products not only support customers' efforts to reduce their carbon footprints but also align the Bank's lending portfolio with sustainable investments.

Green bonds and loans can be issued to finance projects with environmental benefits, such as renewable energy generation, energy-efficient buildings, or any others covered under the Thai Taxonomy. Similarly, SLLs can incentivize companies to improve their environmental performance by offering lower interest rates tied to achieving sustainability targets.

As Thailand works toward achieving net-zero emissions by 2065, there is an increasing demand for carbon offsetting

products. CIMB Thai can offer financial products that facilitate the purchase of carbon credits from carbon offset projects such as reforestation, afforestation, carbon sequestration, or carbon capture projects. The Bank can also engage in carbon trading, helping customers offset their emissions by investing in these credits.

CIMB Thai can diversify its portfolio by expanding into new markets that prioritize climate resilience and sustainability. One area of opportunity is clean technology (Cleantech), which includes innovations in renewable energy, energy storage, and electric vehicles (EVs). By investing in cleantech startups and providing financing for the electric vehicle (EV) infrastructure in Thailand, the Bank can position itself as a leader in sustainable finance. Thailand's growing EV market, driven by government policies aimed at reducing greenhouse gas emissions from the Transport sector, presents an excellent opportunity for CIMB Thai. The Bank can offer EV loans or leasing options for businesses looking to purchase electric vehicles, as well as provide financing for the development of EV charging infrastructure.

The Bank of Thailand's (BOT) push for greater transparency in green finance creates a favorable regulatory environment for CIMB Thai to provide green loans or underwrite green bonds that finance infrastructure projects aimed at grid modernization, energy efficiency, and public transport systems. These financing and capital raising activities can fund critical projects that not only reduce emissions but also enhance the resilience of Thailand's infrastructure against climate impacts.

Products and Services: Driving Climate Adaptation with GSSIPS

As Thailand faces the impacts of rising sea levels, extreme weather events, and flooding, the demand for climate-resilient infrastructure is expected to grow. CIMB Thai can play a pivotal role in financing projects that enhance the resilience of Thailand's urban infrastructure, particularly in flood-prone areas like Bangkok. Financing for flood defense systems, sea walls, and stormwater management infrastructure will be critical in protecting Thailand's urban centers from the effects of climate change.

In addition to new infrastructure projects, CIMB Thai can also offer financing for the retrofitting of existing infrastructure. This includes upgrading older buildings, bridges, and transport networks to improve their resilience to climate risks such as extreme heat, heavy rainfall, or sea-level rise.

Beyond infrastructure, CIMB Thai can support its corporate clients in building resilience to climate-related risks. For example, the Bank can provide advisory services and sustainability-linked financial products that help companies enhance their supply chain resilience, reduce reliance on vulnerable resources, and develop contingency plans for extreme weather events.

Leveraging Data and Technology for Climate-related Management

CIMB Thai's approach to climate-related opportunities is also underpinned by its use of data and technology. Through

Project Helios, the Bank has already begun leveraging real-time data analytics to monitor its progress in renewable energy usage and resource efficiency. This type of technology can also be applied to better understand the environmental risks faced by customers in various sectors, enabling the Bank to proactively offer financial products that enhance sustainability and resilience.

The integration of Taxonomy, sector target and scenario analysis tools, is another critical step in identifying climate opportunities. By using climate scenarios developed by the Network for Greening the Financial System (NGFS), CIMB Thai can assess how different climate futures might impact its lending portfolio, investment strategies, and operational activities. These scenarios, such as Orderly (Net Zero 2050), Disorderly (Delayed Transition), and Hot House World (Nationally Determined Contributions), provide a forward-looking lens to explore potential climate-related opportunities, particularly in sectors like Renewable Energy, Sustainable Infrastructure, and Electric Mobility.

Setting Clear Climate Opportunity Targets

To capitalize on climate-related opportunities, CIMB Thai must establish clear and measurable targets for its climate goals. The Bank is already committed to achieving operational net zero emissions (Scope 1 and 2) by 2030 and overall net zero emissions by 2050. However, the Bank can also set more specific targets for increasing its exposure to green finance products, such as increasing green bond issuances by 25% annually or targeting a 50% reduction in financed emissions from high-carbon sectors by 2030.

CIMB Thai's annual Sustainability Report is a critical tool for tracking progress toward these targets. The report provides transparency to stakeholders, detailing the Bank's progress on its environmental, social, and governance (ESG) metrics, including its carbon footprint, financed emissions, and contributions to Thailand's climate goals.

Through initiatives like green financial products, renewable energy financing, and climate-resilient infrastructure investments, CIMB Thai is well-positioned to support Thailand's transition to a net-zero emissions economy by 2065. At the same time, the Bank can achieve its own operational sustainability goals, reducing its carbon footprint and enhancing its reputation as a responsible financial institution.

By continuing to set ambitious targets, leveraging data and technology, and integrating climate opportunities into its governance and Risk Management Frameworks, CIMB Thai can capitalize on the many climate-related opportunities available. In doing so, the Bank not only enhances its own financial performance but also contributes to Thailand's broader environmental and economic sustainability goals.

For more information on the Bank's GSSIPS Performance in 2023, please refer the CIMB Thai's Sustainability Report 2023.



Part 4

TRACKING PROGRESS, DEFINING SUCCESS

- Our Metrics and Targets

Tracking Progress, Defining Success

– Our Metrics and Targets



As part of CIMB Thai's ongoing commitment to the Task Force on Climate-related Financial Disclosures (TCFD) framework and Thailand's national climate goals, we have established a robust approach to tracking and managing climate-related metrics and targets. This chapter presents a comprehensive view of the Bank's efforts to measure, monitor, and reduce its greenhouse gas (GHG) emissions, assess climate-related risks and opportunities, and deploy capital toward green and sustainable initiatives. The Bank's disclosures align with international best practices such as the Greenhouse Gas Protocol (GHG Protocol) and the Partnership for Carbon Accounting Financials (PCAF) methodologies to ensure transparency, consistency, and comparability.

1. Greenhouse Gas Emissions (GHG) Disclosure



CIMB Thai reports its absolute gross GHG emissions across all three scopes: Scope 1 (direct emissions), Scope 2 (indirect emissions from purchased electricity), and Scope 3 (financed emissions from its lending and investment activities). These emissions are disclosed in metric tons of CO₂ equivalent (tCO₂e), offering stakeholders a clear understanding of the Bank's carbon footprint throughout its value chain.

1.1 Scope 1, 2, and 3 Emissions (tCO₂e)

Scope 1 Emissions (Direct Emissions)

Scope 1 emissions arise from energy use in the Bank's owned facilities and vehicles. In 2023, the total Scope 1 emissions amounted to 503.55 tCO₂e, down from prior years due to enhanced energy efficiency and reduced fuel consumption.

Scope 2 Emissions (Indirect Emissions from Purchased Electricity)

Scope 2 emissions are derived from the electricity purchased to power the Bank's facilities. CIMB Thai calculates these emissions using both location-based and market-based methods:

- **Location-Based Emissions:** For 2023, the Bank's location-based Scope 2 emissions totaled **4,443.4 tCO₂e**, calculated using Thailand's national grid emission factor of **0.499 tCO₂e/MWh**.
- **Market-Based Emissions:** The Bank proactively reduces its market-based emissions by purchasing **1000 Renewable Energy Certificates (RECs)**, representing 1000 MWh of renewable energy from Thailand's national grid, which contributed to lowering its overall market-based carbon emissions to 3,943.63 tCO₂e.

Scope 3 Emissions (Financed Emissions)

Scope 3 emissions, which represent the largest share of the Bank's carbon footprint, result from its lending and investment activities in high-carbon sectors such as Oil and Gas, Cement, and Coal. CIMB Thai uses the PCAF methodology to accurately attribute emissions across its portfolio. For 2023, the total Scope 3 financed emissions amounted to **1,903,552.81 tCO₂e** (Scope 1 and Scope 2) an increase from the previous year, driven primarily by the Oil and Gas sector.

2. Scope 3 Financed Emissions: Asset Class Breakdown



To provide a clearer view of the Bank's financed emissions, CIMB Thai separates its emissions disclosures based on the asset classes of **Business Loans and Unlisted Equity** and **Corporate Bonds and Listed Equity**. The tables below offer a detailed breakdown of

the emissions in these asset classes for 2022 and 2023, showing both Scope 1+2 and Scope 3 financed emissions.

2.1 Financed Emissions for Business Loans and Unlisted Equity










2022 Metrics:

- **Total Outstanding:** THB 124,756.00 million
- **Sum of Attributed Absolute GHG (Scope 1 + 2):** 987,809.72 tCO₂e
- **Sum of Attributed GHG (Scope 3):** 586,389.05 tCO₂e

2023 Metrics:

- **Total Outstanding:** THB 123,309.72 million
- **Sum of Attributed Absolute GHG (Scope 1 + 2):** 1,155,511.65 tCO₂e
- **Sum of Attributed GHG (Scope 3):** 1,086,841.33 tCO₂e

Business Loans and Unlisted Equity NZBA Priority Sectors Breakdown (2023):

Sector	Exposure ('000 THB)	Sum of Attributed Absolute GHG Scope 1+2 (tCO ₂ e)	Sum of Attributed GHG Scope 3 (tCO ₂ e)
 Agriculture	14,815.42	75,687.74	-
 Aluminum	51.70	714.35	-
 Cement	121.40	1,309.28	-
 Coal	363.47	93,743.44	-
 Iron and Steel	1,215.3	6,869.19	-
 Oil and Gas	5,456.89	99,773.99	1,086,841.33
 Real Estate	17,010.58	11,152.10	-
 Transport	6,210.25	3,971.28	-
 Utilities – Power Generation	14,778.49	807,466.87	-

Key Observations (Business Loans and Unlisted Equity):

- **Significant Increase in Attributed Scope 3 Emissions:** Financed emissions for the Oil and Gas sector saw a significant increase in Scope 3 emissions from 586,389.05 tCO₂e in 2022 to 1,086,841.33 tCO₂e in 2023.
- **Attributed Scope 1 and 2 Emissions Remain High:** Utilities - Power Generation and Oil and Gas sectors continue to contribute the highest Scope 1 and 2 emissions.

2.2 Financed Emissions for Corporate Bonds and Listed Equity








2022 Metrics:

- **Total Outstanding:** THB 31,768.75 million
- **Sum of Attributed Absolute GHG (Scope 1 + 2):** 215,367.53 tCO₂e
- **Sum of Attributed GHG (Scope 3): 35,247.67 tCO₂e**

2023 Metrics:

- **Total Outstanding:** THB 23,772.66 million
- **Sum of Attributed Absolute GHG (Scope 1 + 2):** 233,137.85 tCO₂e
- **Sum of Attributed GHG (Scope 3): 23,528.24 tCO₂e**

Corporate Bonds and Listed Equity NZBA Priority Sectors Breakdown (2023):

Sector	Exposure ('000 THB)	Sum of Attributed Absolute GHG Scope 1+2 (tCO ₂ e)	Sum of Attributed GHG Scope 3 (tCO ₂ e)
 Agriculture	882.49	3,064.67	-
 Cement	387.09	42,371.33	-
 Coal	155.84	3,789.87	-
 Oil and Gas	631.66	4,555.11	23,528.24
 Real Estate	3,846.44	1,629.18	-
 Transport	5,488.87	16,399.56	-
 Utilities - Power Generation	3,498.55	130,162.87	-

Key Observations (Corporate Bonds and Listed Equity):

- **Decrease in Attributed Scope 3 Emissions:** The Scope 3 financed emissions in the coal sector decreased from 35,247.67 tCO₂e in 2022 to 23,528.24 tCO₂e in 2023, reflecting a strategic reduction in coal exposure.
- **Increase in Attributed Scope 1 and 2 Emissions:** The attributed GHG Scope 1 and 2 increased primarily in Coal and Power Generation.

Financed Emissions Metrics (2022-2023)

CIMB Thai's 2023 financed emissions report, aligned with the **Partnership for Carbon Accounting Financials (PCAF) standards**, provides a detailed assessment of the Bank's exposure to carbon-intensive activities across key asset classes. The **PCAF standard** is a global framework that allows financial institutions to measure and disclose the greenhouse gas (GHG) emissions associated with loans and investments, following a consistent methodology. It categorizes emissions into **Scope 1** (direct emissions), **Scope 2** (indirect emissions from purchased energy), and **Scope 3** (all other indirect emissions), with **data quality scores** ranging from 1 (high quality) to 5 (low quality), indicating the reliability of the data.

Financed Emission								
Asset Class	2022			2023			2022	2023
	Attributed Scope 1	Attributed Scope 2	Weighted Data score Scope 1+2	Attributed Scope 1	Attributed Scope 2	Weighted Data score Scope 1+2	Attributed Financed Emissions (Scope 1 and 2)	Attributed Financed Emissions (Scope 1 and 2)
Business Loans and Unlisted Equity	859,168.55	128,641.17	4.17	992,083.37	163,428.28	4.33	987,809.72	1,155,511.65
Corporate Bonds and Listed Equity	190,963.09	24,404.44	4.35	207,897.04	25,240.81	4.05	215,367.53	233,137.85
Commercial real estate	21,099.72		4.01	20,566.23		4.01	21,099.72	20,566.23
Mortgages	184,949.06		4.00	126,406.63		4.00	184,949.06	126,406.63
Motor vehicle loans	375,502.24	115.03	2.61	367,821.75	108.70	2.63	375,617.27	367,930.45
TOTAL Attributed Financed Emissions (Scope 1 and 2)							1,784,843.30	1,903,552.81

Extended Financed Emissions Calculations to Include Oil and Gas Sector in "Business Loans and Unlisted Equity" and "Corporate Bonds and Listed Equity"					2022	2023
Asset Class (for Oil and Gas Sector)	2022		2023		Attributed Financed Emissions (Scope 1,2 and 3)	Attributed Financed Emissions (Scope 1,2 and 3)
	Scope 3	Weighted Data score Scope 3	Scope 3	Weighted Data score Scope 3		
Business Loans and Unlisted Equity	586,389.05	1.67	1,086,841.33	2.50	1,574,198.77	2,242,352.97
Corporate Bonds and Listed Equity	35,247.67	1.66	23,528.24	1.98	250,615.20	256,666.09

Business Loans and Unlisted Equity Portfolio Analysis



CIMB Thai's "Business Loans and Unlisted Equities" portfolio, spanning multiple sectors, plays a crucial role in shaping the Bank's financed emissions profile. Between 2022 and 2023, the Bank witnessed a **17% increase in attributed emissions (Scope 1 + 2)** despite a slight reduction in total loan exposure (2%). This reveals a growing reliance on carbon-intensive sectors and highlights the need for targeted interventions to reduce emissions. In this analysis, we dive into the emissions patterns for each sector, identify

potential drivers, and provide comprehensive recommendations for aligning the portfolio with CIMB's net-zero goals.

Business loans in accordance with PCAF Standards include all loans and lines of credit for general corporate purposes (i.e., with unknown use of proceeds as defined by the GHG Protocol) to businesses that are on the balance sheet of the Bank. Revolving credit facilities, overdraft facilities, and business loans secured by real estate such as CRE-secured lines of credit are also included.

Business loans and unlisted equity	2022				2023			
	Exposure ('000 THB)	% Exposure to total on-balance sheet outstanding	Sum of Attributed Absolute GHG S cope 1+2	Sum of Attributed GHG Scope 3	Exposure ('000 THB)	% Exposure to total on-balance sheet outstanding	Sum of Attributed Absolute GHG S cope 1+2	Sum of Attributed GHG Scope 3
Agriculture	14,918.26	11.96%	71,697.89		14,815.42	12.11%	75,687.74	
Aluminium	70.80	0.06%	978.33		51.70	0.04%	714.35	
Cement	204.67	0.16%	2,211.07		121.40	0.10%	1,309.28	
Coal	4,385.25	3.52%	97,205.47		3,363.47	2.75%	93,743.44	
Iron and Steel	1,478.12	1.18%	7,156.62		1,215.37	0.99%	6,869.19	
Oil & Gas	5,836.59	4.68%	102,336.34	586,389.05	5,456.89	4.46%	99,773.99	1,086,841.33
Real Estate	19,249.86	15.43%	15,136.51		17,010.58	13.91%	11,152.10	
Transport	2,233.80	1.79%	3,342.13		6,210.25	5.08%	3,971.28	
Utilities - Power Generation	12,702.71	10.18%	629,099.28		14,778.49	12.08%	807,466.87	
NA	63,515.21	50.91%	58,520.57		59,265.82	48.46%	54,794.42	
Utilities - Others	160.74	0.13%	125.52		20.32	0.02%	28.99	
	124,756.00	100.00%	987,809.72	586,389.05	122,309.72	100.00%	1,155,511.65	1,086,841.33

Overall Strategy and Management Approach



1

Deeper Engagement with High-Emission Sectors:

CIMB Thai should take a more **active role in guiding companies in high-emission sectors** like **Oil and Gas** and **Power Generation** toward **decarbonization strategies**, rather than solely divesting. Engaging with companies on transition plans will help mitigate long-term risks.

2

Prioritize Green Investments:

CIMB Thai should increasingly shift its portfolio toward **green energy**, **sustainable real estate**, and **low-carbon transport**. This will help not only mitigate climate-related risks but also align the Bank's portfolio with future **regulatory requirements** and **market opportunities** in green finance.

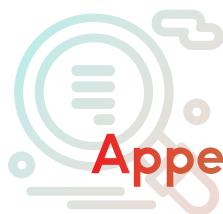
3

Portfolio Diversification:

The significant exposure to sectors like **Agriculture**, **Utilities** and **Real Estate** highlights the need for better **sectoral diversification**. Expanding investments in **emerging sectors** such as **sustainable agriculture**, **green technology**, or **circular economy businesses** could enhance both environmental sustainability and financial resilience.

Other Sustainability-related and Climate-related metrics and data:

For extensive information on other sustainability-related and climate-related metrics, our Stakeholders are encouraged to refer to the CIMB Thai Sustainability Report 2023 by visiting the Bank's dedicated website on Sustainability: <https://www.cimbthai.com/en/personal/who-we-are/sustainability/sustainability.html>



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