

GSB Climate Report

2023



Introduction

In an ever-changing world with the emerging of environmental challenges: 'Climate Change', Government Savings Bank (GSB) stands at the forefront of sustainable and green financial innovation. GSB has embraced its pivotal role in steering Thai financial landscape, as one of the key movers towards a sustainable and resilient future for citizens.

With climate change increasingly affecting economies and societies worldwide, GSB recognizes the urgency of addressing the challenges it presents. As such, we committed to achieving Net Zero emissions within operation by 2030 and Net Zero emissions throughout its value chain by 2050. This commitment contributes to support international efforts to limit global warming to well below 1.5 degrees Celsius, the Paris Agreement goals, and to accelerate the shift towards low-carbon society. It underlies our genuine dedication to abating GHG emissions and supporting Thailand's transition to achieve Net Zero by 2065 or even faster.

To secure the effective shift with less risk coming across requires forward-thinking strategic preparation, GSB has undertaken scenario analysis as an integral part of our climate risk assessment and strategy development. This analytical approach allows us to explore a range of possible future utilizing scenario models from NGFS both 'Current Policies' and 'Net Zero 2050' scenarios; and IPCC RCP2.6 and RCP8.5 scenario. Through scenario analysis, we can better understand the potential financial impacts of different climate circumstances, enabling us to make informed decisions and adapt our business operations and lending criteria accordingly.

Our scenario analysis framework encompasses a spectrum of climate scenarios, from business-as-usual trajectories to ambitious emissions reduction pathways as well as practical divestment policies. By evaluating the financial implications of these scenarios, GSB is better equipped to develop resilient strategies that can thrive in a changing climate. This analysis also enables us to engage with stakeholders, ensuring that we are collectively working towards a sustainable and greener future.

At GSB, transparency and accountability are fundamental pillars of our strategy. This climate report serves as evidence of our commitment to communicate publicly with stakeholders, including customers, investors, regulators, and the wider community. We believe that by sharing our climate-related financial information, we can build trust and foster collaboration to address the urgent challenges posed by climate change.

As we navigate the complex landscape of climate change and its financial implications, GSB remains firm in its dedication to achieving net zero emissions by 2050. We strive to actively engage with our stakeholders both internal and external, to collaborate on climate-related initiatives and share best practices. Together with our stakeholders, we look forward to pioneering a path towards a prosperous and environmentally sustainable future for Thailand and the global community.

About this Report

This is GSB's first climate report, which includes the climate-related performance of GSB. In the first climate-related report we chose to use a TCFD format to summarize our current climate-related disclosures and make **the report more accessible for stakeholders to read. This report covering the reporting period for calendar year of 2023, and aims to update the status of GSB's implementation of each TCFD pillar according to TCFD's 2021 "Annex": Governance, Strategy, Risk Management and Metrics and Targets.**

We encourage our stakeholders to review this report and offer input as we persistently work to enhance our climate-related disclosure procedures. By engaging with transparent discussions, we can collectively tackle the difficulties presented by climate change and construct a more sustainable and thriving future for society.

Please keep in mind that we will increase openness and expand report boundaries on a yearly basis in order to fully meet with the TCFD suggestion and the impending IFRS S2 and TFRS S2 standard.

TCFD Index

<p>Governance</p> <p>Disclose the organization’s governance around climate-related risks and opportunities.</p>	<p>Recommended Disclosure a)</p> <p>Describe the board’s oversight of climate-related risks and opportunities.</p>	<p>GSB Climate Report 2023</p> <p>page 5 - 7</p>
	<p>Recommended Disclosure b)</p> <p>Describe management’s role in assessing and managing climate-related risks and opportunities.</p>	<p>GSB Climate Report 2023</p> <p>page 5, 8 – 9</p>
<p>Strategy</p> <p>Disclose the actual and potential impacts of climate-related risks and opportunities on the organization’s businesses, strategy, and financial planning where such information is material.</p>	<p>Recommended Disclosure a)</p> <p>Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term.</p>	<p>GSB Climate Report 2023</p> <p>page 12-18</p>
	<p>Recommended Disclosure b)</p> <p>Describe the impact of climate-related risks and opportunities on the organization’s businesses, strategy, and financial planning.</p>	<p>GSB Climate Report 2023</p> <p>page 19-24, 26-27, 29-30</p>
	<p>Recommended Disclosure c)</p> <p>Describe the resilience of the organization’s strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.</p>	<p>GSB Climate Report 2023</p> <p>page 25, 28</p>
<p>Risk Management</p> <p>Disclose how the organization identifies, assesses, and manages climate-related risks.</p>	<p>Recommended Disclosure a)</p> <p>Describe the organization’s processes for identifying and assessing climate-related risks.</p>	<p>GSB Climate Report 2023</p> <p>page 32-34</p>
	<p>Recommended Disclosure b)</p> <p>Describe the organization’s processes for managing climate-related risks.</p>	<p>GSB Climate Report 2023</p> <p>page 25, 28, 34</p>
	<p>Recommended Disclosure c)</p> <p>Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization’s overall risk management.</p>	<p>GSB Climate Report 2023</p> <p>page 32-34</p>
<p>Metrics and Targets</p> <p>Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material.</p>	<p>Recommended Disclosure a)</p> <p>Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.</p>	<p>GSB Climate Report 2023</p> <p>page 36-37</p>
	<p>Recommended Disclosure b)</p> <p>Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.</p>	<p>GSB Climate Report 2023</p> <p>page 36-38</p>
	<p>Recommended Disclosure c)</p> <p>Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.</p>	<p>GSB Climate Report 2023</p> <p>page 39-41</p>



Governance

Effective climate governance at GSB is essential for addressing climate risks and opportunities in our business plan. The Board of Directors (BOD) has the ultimate responsibility for integrating our climate strategy into our corporate governance. Climate-related matters are regularly discussed at both board and management level.

To strengthen our climate governance, we have established dedicated Corporate Governance and Sustainability Committee at the board level to both monitor climate-related banking operation and communicate to Board of Director quarterly. Moreover, GSB climate-related committees play a vital role in swiftly transitioning to a climate-resilient business model and a low-carbon economy. Looking closer at operational level, business units have worked collectively to drive and accelerate climate action as well as collaborate with committees to seamlessly integrate climate considerations into our decision-making. Additionally, these committees allocate the resources needed to support our climate goals, working in coordination with cross-functional internal stakeholders who collaborate closely with relevant departments to integrate climate concerns across our organization and value chain.

In this introduction to GSB Bank's climate governance, we will delve into the major committees' responsibility, from the oversight provided by our Board of Directors to the practical implementation of model practices throughout by Sustainable Development Committee. Through this, we aim to shed light on how GSB aligns its values and actions with the urgent global mission to combat climate change and contribute to our society.

Governance

Summary of Climate Governance

Board of Directors

Accountable for overseeing and facilitating the implementation of GSB's sustainable development initiatives, including climate-related matters, and making final decisions.

Corporate Governance and Sustainability Committee

Accountable for deliberating strategies, goals, guidelines, and a master plan for corporate governance and sustainability, including overseeing GSB's climate strategies, policies, target, initiatives and monitoring progress.

Risk Management Committee

Establish comprehensive risk management policy, assessing, monitoring, and supervising to maintain appropriate risk levels. Review policies and strategies, ensuring acceptable risk levels.

Executive Committee

Review policies, strategies, and business plans, proposing to the Board of Directors for approval. Ensure oversight and alignment of operations with the Bank's goals. Deliberate on strategic plans, budgets, and annual performance evaluations.

Management Committee

Accountable for making specific decisions and recommendations to the CEO on matter related to GSB's sustainable development and climate-related matters.

Sustainable Development Committee

Accountable for making specific decisions and recommendations to the CEO on matter related to GSB's sustainable development and climate-related.

Eco-efficiency working group

Set eco-efficient policies and operations according to ISO 14045 standards. Implement and monitor eco-efficiency practices, reporting quarterly performance updates to the Board of Directors

Business Units

Sustainable Development Department

Encourage other departments in achieving sustainability targets, following up and reporting on the Bank's sustainability performance, including climate action.

Other Departments

Set and align operation plans with the business plan, integrating sustainable development strategies, including a roadmap for reaching net zero emissions.



Climate Governance: Roles and Responsibilities (1)

Board-Level Committee

Name of Committee	Roles and Responsibilities
Board of Directors	<ul style="list-style-type: none">• Overseeing, considering and reviewing material sustainability issues• Approving and supporting the implementation of the sustainability strategies, targets and action plans according to GSB's sustainability development policy as well as climate change aspects• Monitoring the resources allocation to enhance the efficiency and effectiveness of the process• Monitoring the progress against the strategies, targets and action plans to ensure that operating results are accordingly aligned
Corporate Governance and Sustainability Committee	<ul style="list-style-type: none">• Considering and Approving policies, regulations, and sustainable development criteria according to ESG guidelines to report to the GSB's Board of Directors• Being a part of strategies, goal and operational guidelines setting, and considering and approving the master plan for corporate governance and sustainable development as well as GSB's climate actions; this also includes following up on performance in order to present the updates to the GSB's Board of Directors on a quarterly basis• Promoting the sustainable operations towards the role of GSB as a social bank, including supporting the process of building up sustainable relationships and the cooperation with all groups of GSB's stakeholders• Providing suggestions, measures and essential guidelines regarding GSB's sustainable development to both GSB's Board of Directors and GSB's executives

Climate Governance: Roles and Responsibilities (2)

Board-Level Committee

Name of Committee	Roles and Responsibilities
Risk Management Committee	<ul style="list-style-type: none">• Determining overall risk management policy, covering the process of risk assessment, monitoring, and supervision in accordance with an appropriate risk level• Reviewing over risk management policy and strategies, including acceptable risk levels annually or once there are significant changes• Approving the overall risk management system and measurement tools in order to monitor and control a variety of risks• Reporting risk-related matters to GSB's Board of Directors about risk management efficiency, significant issues and gaps to be bridged to be in line with GSB's risk policy and risk management strategies
Executive Committee	<ul style="list-style-type: none">• Considering and recommending sustainability and climate change policies and strategies as well as sustainable business plan, and presenting such matters to GSB's Board of Directors• Considering the approval of investments and credit granting, including sustainable business operations according to assignments from GSB's Board of Directors• Controlling and following up on investment and credit granting activities, including sustainable business operations in accordance with GSB's plans and goals• Considering and scrutinizing strategic planning, budgeting and conducting annual performance evaluation Monitoring, providing recommendations and suggestions according to the strategic planning and budgeting of the bank

Climate Governance: Roles and Responsibilities (3)

Management-Level Committee

Name of Committee	Roles and Responsibilities
Management Committee	<ul style="list-style-type: none">• Examining the evaluation of the bank's performance in various aspects including sustainability and climate-related matter.• Considering and filtering the bank's various aspects, such as policies, strategies, targets, and action plans before presenting to the Board for approval.• Controlling and monitoring the operations to be in accordance with the policies, strategies, goals and plans that the GSB's Board of Directors has approved.
Sustainable Development Committee	<ul style="list-style-type: none">• Examining the operational framework and GSB's governance as well as policies, strategies, goals and operational plans towards the Sustainable Development Goals (SDGs), including climate change strategies that are appropriate to the Bank's context• Considering, deciding, solving issues, and assigning orders to drive sustainable operations according to the international sustainability framework, such as the Principles of Responsible Banking (PRB), the concept of ESG and organizational growth according to the Triple Bottom Line framework.• Reviewing and reporting sustainability-related performance to the Corporate Governance and Sustainability Committee, including giving opinions and suggestions to amend and improve bank's performance as appropriate which we expect to report on a quarterly basis
Eco-efficiency working group	<ul style="list-style-type: none">• Setting policies and plans, and managing bank's operations to create eco-efficiency in accordance with ISO 14045 standards corresponding to bank's direction <p>Impelling bank's operations according to operational success indicators to create eco-efficiency, in consonance with the memorandum of agreement to evaluate the performance of the bank</p> <p>Monitoring and evaluating GSB's operations, and reporting to GSB's Board of Directors on a quarterly basis</p>

Climate Governance: Roles and Responsibilities (4)

Related Departments

Name of Committee	Roles and Responsibilities
Sustainable Development Department	<ul style="list-style-type: none">• Developing and reviewing GSB's sustainable development policy• Promoting and supporting related departments to drive missions towards GSB sustainable development• Monitoring on GSB's sustainable development performance, including climate actions, and proposing to executives and the Corporate Governance and Sustainability Committee on a quarterly basis
Other Departments	<ul style="list-style-type: none">• Analyzing and developing goals and plans to be consistent with and linked to GSB business plan, encompassing policies, GSB's direction and strategic planning for GSB's sustainable development as well as climate actions towards net zero as mentioned in GSB's net zero Roadmap• Monitoring and evaluating outcomes according to GSB's operational plans against specified goals.





Strategy

GSB aware that a strong climate strategy is extremely crucial for long-term success in an ever-changing world. We are committed to addressing climate-related risks and capitalizing on opportunities to create a sustainable and resilient business.

GSB related functions actively identify and assess relevant risks and opportunities across our operations and value chain. Through comprehensive analyses, we examine gaps as well as evaluate emerging trends and areas where we can contribute to a low-carbon society.

In 2023, we conducted in-depth assessments to understand the physical and transition risks associated with climate change. This includes analysing potential impacts to our operations, borrowers and other stakeholders. We collaborate collectively with experts, using climate-specific data and consider different scenario models to enhance our decision-making process.

Based on lessons learned from internal risk assessments, we developed and implemented strategies to mitigate climate-related risks. This includes setting ambitious targets to reduce greenhouse gas emissions, increasing energy efficiency, adopting renewable energy sources and promoting sustainable practices throughout the value chain as well as undertaking sustainable and green financing. At GSB, we diligently track our progress, periodically reassess our strategies, and allocate resources to drive substantial positive changes. By seamlessly integrating climate considerations into our overarching banking strategy, GSB endeavours to enhance its resilience, optimize resource allocation, and contribute significantly to the pursuit of a sustainable and low-carbon future.

Overview



In 2023, GSB published an extensive update of its climate strategy, a practical plan with a dual focus : ‘Risk and Opportunity Assessments’ and ‘Adaptation and Mitigation actions’. Moreover, GSB is thrilled for the possibility to capitalize on the economic benefits arising from the transition to a more climate-conscious environment, benefiting both GSB and its stakeholders. Concurrently, GSB firmly committed to pursuing emission reduction targets aligned with the goal of limiting the global temperature increase to below 2°C comparing to pre-industrial levels by 2100.

Looking closer, our extensive approach to complete comprehensive climate-related risks and opportunities assessments consists of three major tasks.

1. identification of climate-related risks and opportunities drivers.
2. conducting scenario analysis. and
3. quantification of financial impacts. GSB strongly believes that this approach can manifest a range of potential positive and negative impacts.

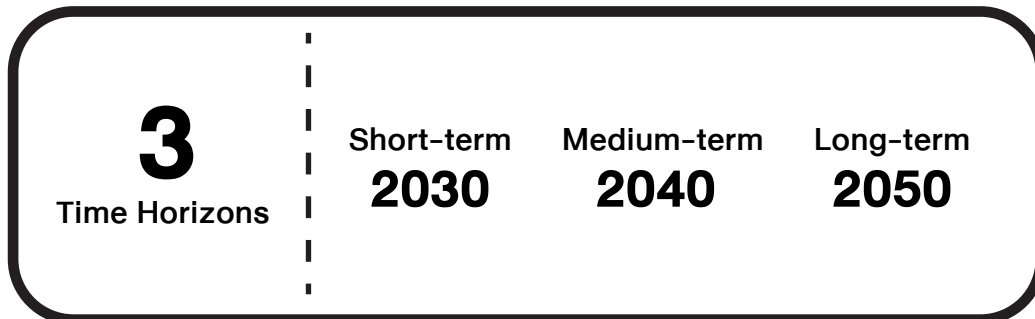
Figure 1: Climate-related risks and opportunities assessment approach 2022



Identification of climate-related risks and opportunities drivers

Assessing qualitative climate risks and opportunities involves a comprehensive examination of how environmental transformation can impact on GSB's operations, reputation, and long-term income. It encompasses evaluating vulnerabilities such as extreme weather events, regulatory changes, and shifting consumer preferences, which can pose risks to business continuity and financial stability. Additionally, qualitative assessment identifies opportunities for innovation, cost savings, and market leadership through sustainable practices, clean technologies, and green products or services. For instance, borrowers' expenses associated with the development of environmentally friendly products and services are expected to rise due to the decrease in high-carbon product demand. It contributes to the temporary decline in competitive edge and repayment capacity of businesses, and ultimately affects in financial consequences to GSB.

In the context of assessing the potential impacts of climate-related risks on GSB's financials, these impacts manifest across short-term (2030), medium-term (2040), and long-term (2050) time horizon. In the short term, GSB faces the prospect of risks tied to emerging practices and regulations introduced by Thai government. While the long-term horizon is marked by both transition and physical risks, such as the gradual rise in sea levels, the advent of carbon tax, and the increase of renewable electricity demand in Thailand, which may not become prominently evident for more than a decade.














Physical Risk – Drivers

- GSB's own Operation
- Lending and Investment Portfolio
- Both

Risk Type	Risk Driver	Timeframe of Risks	Potential Impacts across value chain	Risk Adaptation Actions
Acute	<ul style="list-style-type: none"> Increased severity of extreme weather events such as landslides and floods 	Short-term to Long-term	<ul style="list-style-type: none"> <input checked="" type="radio"/> Operational disruptions resulting in income loss (e.g. supply chain disruption, damaged assets, heat stress, etc.) <input checked="" type="radio"/> A rise in expenses and outlays aimed at safeguarding against and recovering from the consequences of natural calamities 	<ul style="list-style-type: none"> Evaluating and analysing risks stemming from natural disasters and developing strategies for mitigating their impact through emergency plans and risk appetite integration Incorporating risk evaluation standards into loan issuance criteria
Chronic	<ul style="list-style-type: none"> Shifts in precipitation trends and heightened fluctuations in weather patterns Increasing average temperatures 	Long-term	<ul style="list-style-type: none"> <input checked="" type="radio"/> Decreases of borrowers' properties value due to damage from physical climate hazards <input checked="" type="radio"/> Losses of agricultural products due to floods <input checked="" type="radio"/> Decreases in crop yield for agricultural borrowers from drought and higher temperature <input checked="" type="radio"/> Potential write off and depreciated assets lead to NPL and default 	

Transition Risk – Drivers

-  GSB's own Operation
-  Lending and Investment Portfolio
-  Both




Risk Type	Risk Driver	Timeframe of Risks	Potential Impacts across value chain	Risk Mitigation Actions
Policy and Legal	<ul style="list-style-type: none"> • Heightened charges for GHG emissions • Strengthened requirements for reporting emissions • Imposed regulations and mandates on current products and services • Vulnerability to legal actions or litigation 	Short-term to Long-term	<ul style="list-style-type: none">  Elevate operational expenses (such a carbon tax, CBAM and rising insurance premiums)  Asset write-offs, impairment, and early retirement of current assets in response to policy alterations  Escalated expenses due to fines and legal judgments and/or diminished demand for products and services 	<ul style="list-style-type: none"> • Identifying and evaluating the effects on the industrial groups within the portfolio that will be among the earliest impacted by carbon costs and CBAM • Establishing phase-out policies - adopt Thailand Taxonomy to evaluate low and high emission financing • Conducting comprehensive discussions with borrowers to outline adaptation strategy
Technology	<ul style="list-style-type: none"> • Replacement of current products and services with alternatives that have lower emissions • Expenses related to adopting lower-emissions technology 	Medium-term to Long-term	<ul style="list-style-type: none">  Write-offs and early retirement of existing assets  Decreases of demand for high-carbon products and services  Elevate of cost associated to research and development (R&D) in new and alternative technologies  Increases in capital investments in technology development (e.g. CCS, CCU, etc.)  Costs to adopt/deploy new low-carbon practices and lean processes 	<ul style="list-style-type: none"> • Monitoring the advancements in low-carbon technology and innovation (e.g. zero-carbon refrigerant, hydrogen fuel, carbon removal technology) • Assistance in research and development provided by relevant research institutions • Formulating strategies for investing in emerging technology business and projects









Transition Risk – Drivers

- GSB's own Operation
- Lending and Investment Portfolio
- Both

Risk Type	Risk Driver	Timeframe of Risks	Potential Impacts across value chain	Risk Mitigation Actions
Market	<ul style="list-style-type: none"> • Shifts in customer behaviours • Ambiguity in market indicators • Escalated raw material expenses 	Short-term to Long-term	<ul style="list-style-type: none"> <input checked="" type="radio"/> Decrease consumer demand for goods and services (e.g. coal mining and associated services) caused by a change in consumer preferences <input checked="" type="radio"/> Rising production expenses due to fluctuations in input costs (such as energy and water), and additional expenses related to output requirements (such as waste treatment) <input checked="" type="radio"/> Adjustments in asset pricing, including valuations of fossil fuel reserves, land, and securities 	<ul style="list-style-type: none"> • Develop new green financing products that are in line with GSB Net Zero goal and targets • Conduct borrower engagements to gather and analyse market
Reputation	<ul style="list-style-type: none"> • Stigmatization of sector • Growing stakeholder concerns or adverse feedback from stakeholders 	Short-term	<ul style="list-style-type: none"> <input checked="" type="radio"/> Difficulties in attracting and retaining employees <input checked="" type="radio"/> Diminishing the access to new capital resources (e.g. green bonds, green loan, etc.) <input checked="" type="radio"/> Being divested from green investors due to unmatched financing policy 	<ul style="list-style-type: none"> • Develop new green financing products that are in line with key stakeholders' perspective • The establishment of a credit policy, a list of excluded activities, and sector-specific guidelines, along with a sector strategy to manage GHG emissions in industrial groups with substantial GHG emissions • Defining targets for sustainable financing and investment growth

Transition Opportunity – Drivers

-  GSB's own Operation
-  Lending and Investment Portfolio
-  Both

Opportunity Type	Opportunity Driver	Timeframe of Risks	Potential Opportunities across value chain	Responses to Opportunities
Resource Efficiency	<ul style="list-style-type: none"> • Adoption of more effective transportation methods • Implementation of more efficient production and distribution techniques • Embracing recycling practices • Transition to more energy-efficient buildings • Decreased water consumption and usage 	Short-term	<ul style="list-style-type: none">  Lower operational expenses achieved by improving efficiency and cutting costs (e.g. grid electricity and fossil fuel)  Escalated value of fixed assets, such as energy-efficient buildings, with high ratings (e.g. LEED, BREEAM, etc.)  Better employees' health, safety and well being 	<ul style="list-style-type: none"> • Development of strategies to enhance energy and resource efficiency through green building, energy-efficiency initiatives and electricity saving program • Emphasizing customer engagement to inspire them to reconsider operational strategies and investments, aiming for improved resource efficiency • Initiating projects to raise awareness about resource efficiency both internally and externally to the organization
Energy Source	<ul style="list-style-type: none"> • Utilization of energy sources with lower GHG emissions • Utilization of supportive policy incentives • Utilization of innovative technologies • Involvement in carbon and renewable energy credit market activities • Transition to distributed energy generation 	Short-term	<ul style="list-style-type: none">  Decreased operational expenses (e.g. by employing the most cost-effective emission reduction methods)  Lowered vulnerability to potential rises in fossil fuel prices  Diminished vulnerability to GHG emissions, leading to reduced sensitivity to fluctuations in carbon costs  Profitable outcomes from investments in low-emission technology  Enhanced access to capital (e.g. investors prefer to invest in low-carbon corporate) 	<ul style="list-style-type: none"> • Establishment of goals and targets to increase the utilization of clean energy source

Transition Opportunity – Drivers

- GSB's own Operation
- Lending and Investment Portfolio
- Both

Opportunity Type	Opportunit Driver	Timeframe of Risks	Potential Opportunities across value chain	Responses to Opportunitie
Products and Services	<ul style="list-style-type: none"> • Designing climate adaptation products and solutions • Innovating and researching to introduce novel products or services • Capacity to broaden business operations • Change in consumer preferences 	Short-term to Long-term	<ul style="list-style-type: none"> <input checked="" type="radio"/> Greater income generated by the growing demand for products and services with reduced emissions <input type="radio"/> Enhanced income from innovative offerings that address adaptation requirements, such as sustainability-linked loan/bond, green loan and green bond <input checked="" type="radio"/> Improved competitive standing by catering to changing consumer preferences, leading to higher revenues 	<ul style="list-style-type: none"> • Offer green loans to facilitate the wider adoption of renewable energy solutions and green properties and projects • Exploration and design of new low-carbon products and services to increase opportunities and financing choices for borrowers
Markets	<ul style="list-style-type: none"> • Entry into untapped markets • Use of public-sector incentives • Access to new assets and investment vehicle needing financing coverage 	Short-term to long-term	<ul style="list-style-type: none"> <input checked="" type="radio"/> Increase revenues through access to new and emerging markets (e.g., partnerships with peers, authorities and governments, etc.) 	<ul style="list-style-type: none"> • Identification of new markets for promoting sustainable funding and investment • Assessing GSB capability on capturing new opportunities and quantify positive financial impacts



Transition Opportunity – Drivers

- GSB's own Operation
- Lending and Investment Portfolio
- Both

Opportunity Type	Opportunit Driver	Timeframe of Risks	Potential Opportunities across value chain	Responses to Opportunitie
Resilience	<ul style="list-style-type: none"> • Engaging in renewable energy initiatives and implementing energy -saving practices • Diversification of investment and lending portfolio 	Short-term to Long-term	<ul style="list-style-type: none"> <input type="radio"/> Improved capacity to function effectively in diverse circumstances <input type="radio"/> Heightened revenue generated from the introduction of new products and services related to climate change <input type="radio"/> Increase diversification of financial assets (e.g., green bonds/loans and low-carbon emitted infrastructure financing) 	<ul style="list-style-type: none"> • Evaluation of corporate approaches to prioritize the handling of environmental and climate circumstances • Examination of both the risks and potential business prospects associated with climate-related factors • Structuring climate frameworks, fostering employee growth, and implementing data management system dedicated to climate-related management

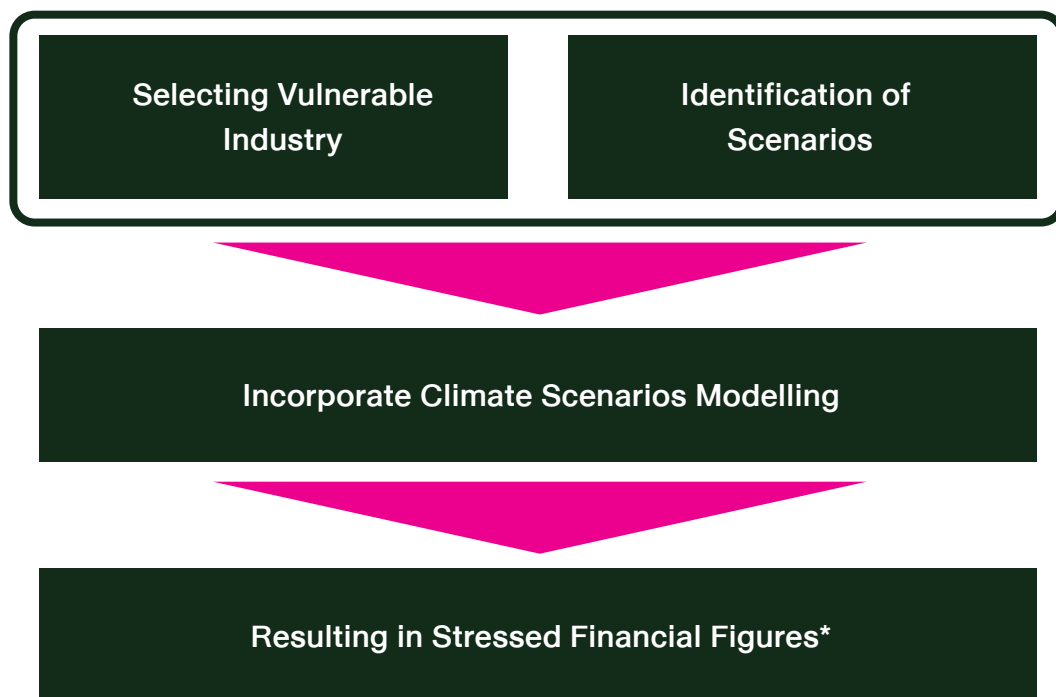


‘Conducting scenario analysis’ and ‘Quantification of financial impacts’

GSB has utilized the findings from its assessment of climate-related risks and opportunities as a key factor in shaping future strategies and action plans. This is aimed at mitigating and reducing the impacts of climate change on both GSB and its stakeholders. The goal is to enhance our ability to adapt and build resilience in the face of various future scenarios. GSB has undertaken a comprehensive climate-related scenario analysis, following the guidance of the Task Force on Climate-related Financial Disclosures (TCFD). This analysis, conducted quantitatively, serves to evaluate how climate change impacts GSB's portfolio. The results of this assessment are then applied in crafting portfolio management strategies that encompass risk management and the exploration of potential business opportunities.

The high-level process to examine financial impacts is illustrated: identification of scenarios, selecting vulnerable industry, incorporate climate scenarios modelling and quantification of financial impacts.

Figure 2: End-to-End process of financial impact quantification from climate-related risks and opportunities



Strategy

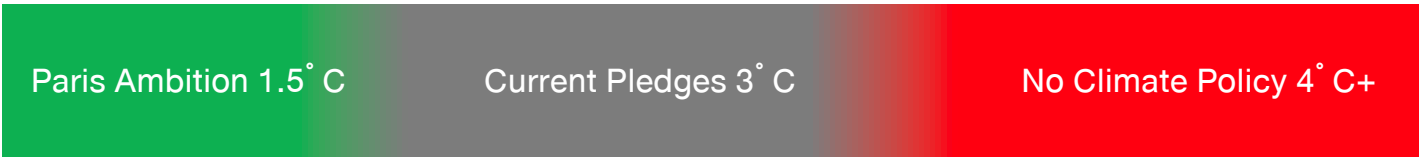
Scenario Model - Overview

Regarding scenario analyses in the alignment with TCFD recommendation, GSB utilized the scenario models from NGFS to assess transition risk and opportunity, and IPCC to assess physical risk. As it is recommended to assess using 2 extreme scenarios, GSB has chosen 1 scenario model which depicts the shift to 1.5C and another to illustrate extreme temperature scenario, implying 3C+ or 4C+.



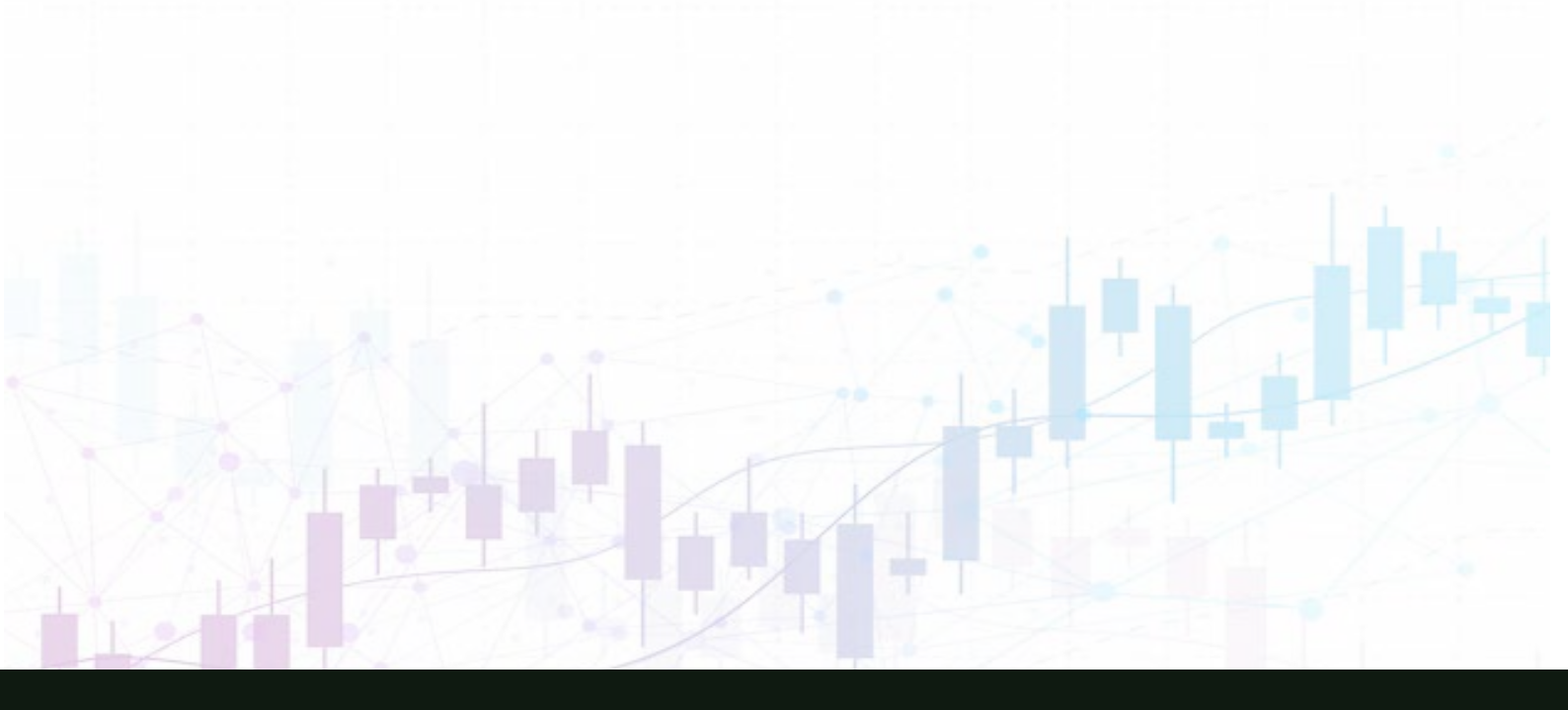
Net Zero 2050* & Divergent Net Zero

Increase 1.4° C	Below 2C & Delayed Transition Increase 1.6° C	Nationally Determined Contributions (NDCs) Increase 2.6° C	Current Policies* Increase 3° C
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RCP2.6* Increase 1.6° C	RCP4.5 Increase 2.4° C	RCP6.0 Increase 3.6° C	RCP8.5* Increase 4.3° C
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Severity Level - Increased Temperature Impacts to Global Economy



Strategy

Scenario Model – Selected



Our climate scenario analyses are based on global, Asia and Thailand-specific scenario models, widely adopted by financial institutions. The models developed by the IPCC and Network for Greening the Financial System (NGFS). A key challenge for climate scenario analyses is the availability of a variety of some transition and physical scenario modelling that manifest Thailand conditions.

Success Transition to 1.5C or Below

Severe Physical Hazard

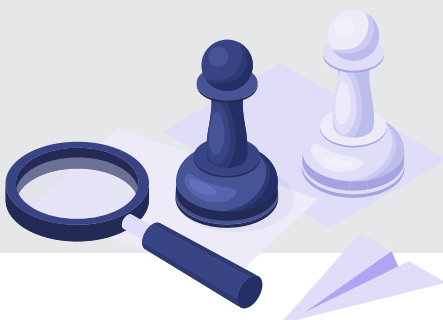
Description	Limits global warming to 1.5°C through stringent climate policies and innovation, reaching global net zero CO2 emissions around 2050	Assumes that only currently implemented policies are preserved, leading to high physical risks
Expected Temperature by 2100	1.4C – 1.6C	3.0C – 4.5C
Physical Scenarios	IPCC RCP 2.6	IPCC RCP 8.5
Transition Scenarios	NGFS Net Zero 2050	NGFS Current Policies
Severity from Climate Hazards	Low	High



Scenario Analysis Approach

Overall, this year we have assessed the resilience of power generation project finance portfolio (lending) as being identified as the most material sector to GSB. Our assessment comprises 3 parts: physical risk, transition risk, and transition opportunity. Regarding risk assessments, coal, natural gas and biomass power plants are selected as they possess the majority of financed emissions from GSB emissions inventory, whereas solar, hydro and biomass power plants are chosen to conduct opportunity assessment, illustrating the financing focus in the future. We quantified the impacts in 3 different time spot which are short-term (2030), medium-term (2040) and long-term (2050) with 2 extreme scenarios as mentioned in the previous page. A summary of our approach can be found below:

Driver	Approach
Physical Risk - Flood	<p>We adopted UNEP FI methodology using ‘IPCC RCP 8.5’ scenario to assess worst case impact and ‘IPCC RCP 2.6’ scenario to assess best case impact. We applied the increase of precipitation rate, happened in each province in Thailand to understand the development of flood severity. Regarding our research on Thailand-specific historical data, we assumed that there will be 27.2 days a year which power plants are expected to experience severe floods. Then, we calculated the loss of revenue due to the cease of operations and translate into potential defaults.</p>
Transition Risk – Carbon Pricing	<p>We adopted UNEP FI methodology using ‘NGFS Current Policies’ scenario to assess impact from lower carbon price and ‘NGFS Net Zero 2050’ scenario to assess impact from higher carbon price. We applied Carbon tax and cap-and-trade schemes to illustrate potential policy which are likely to be applied to the sector in 2025. Most importantly, carbon price in 2030, 2040 and 2050 refers to NGFS scenario model, specifically for Asia countries. Ultimately, as the Thai government is considering between Carbon tax scheme or cap-and-trade scheme, GSB will update our methodology once there are any associated updates from the government.</p>
Transition Opportunity – Renewable Electricity Supply Market	<p>We adopted UNEP FI methodology using ‘NGFS Current Policies’ scenario and ‘NGFS Net Zero 2050’ scenario to assess opportunities from renewable electricity supply in Thailand. We incorporated a variety of factors: Thailand Power Development Plan, Thailand Taxonomy, The levelized cost of electricity from IEA, etc. During the process, we incorporated the results between “Market Assessment” and “Bank Capacity Assessment” to identify the most suitable proportion for reserved loan value to be issued in short-term (2030), medium-term (2040) and long-term (2050).</p>



Strategy

The Scope of Scenario Analysis – Physical Risk

Scope of Assessment

3 Types of Power Plant:
Coal, Natural Gas, and Biomass

25 Power plants* are selected, assessing the impact from flood driver is the incorporate of 2 factors:

1. Level of Precipitation
2. Average Number of Days Affected by Floods



Climate Scenarios

3

Time Horizons

Short-term

2030

Medium-term

2040

Long-term

2050

2

Key scenarios

RCP2.6 – Limit Global Warming to around 1.6C

RCP 8.5 – Lead to 4.3C future in 2100

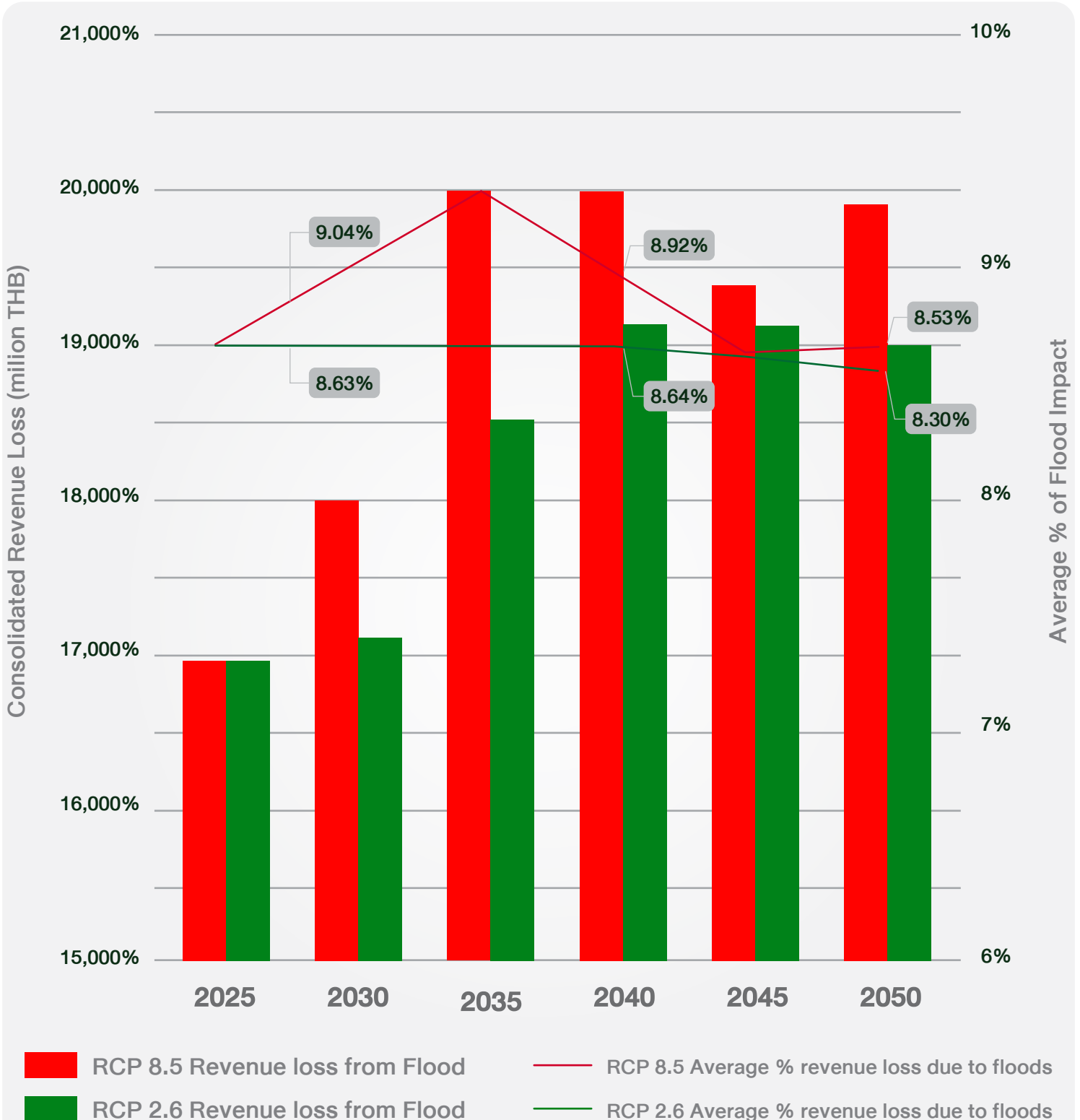
*Only power plant that GSB had exposure (remaining debt) as of 31st December 2022

Scenario Analysis Result – Physical Risk

GSB's power generation project financed portfolio is expected to have 8% to 10% loss of total expected revenue from flood during 2030 to 2050. There is no significant different of impacts in short-, medium-, and long-term time horizon. The impacts from RCP 2.6 scenario is slightly lower than RCP 8.5 scenario.

Impact from Flood

Borrowers' Revenue Loss from Flood in million THB and % of total revenue



Adaptation Actions

Climate change has the potential to impact GSB's facilities, operations and workforce resulting to the decline in financial performance. The widely accepted scientific consensus indicates that the increasing global temperatures may lead to more frequent and severe extreme weather events, particularly intense flooding. Consequently, there is an elevated likelihood of adverse financial consequences and disruptions to our employees. Furthermore, our infrastructure, including data centres and vulnerable facilities, may face various levels of risk depending on their specific geographic locations.

Diving closer into the impact to lending portfolio - although the results from physical risk assessments seemed not severe as predicted - GSB believes that the impacts from physical risk (e.g. floods and droughts) needs to be seriously assess and monitor proactively. To safeguard ourselves and our clients from such threats, we are developing a practical practice to incorporate physical risk indicators, from findings and scenario models, into our lending issuing processes. With location-specific risks, we are aware that the details in assessment are comprehensive. We strive to use province-based findings and scenario models to examine potential physical risks before issuing loans in the future.

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graph TD; A[Physical Risk Identification] --> B[Assessing Risks by Incorporating Key Findings and Scenarios]; B --> C[Implementation of Adaptation Plan];
```

Physical Risk Identification

Assessing Risks by Incorporating Key Findings and Scenarios

Implementation of Adaptation Plan

Strategy

The Scope of Scenario Analysis – Transition Risk

Scope of Assessment

3 Types of Power Plant:
Coal, Natural Gas and Biomass

25 Power plants*
are selected, assessing the impact from carbon pricing
driver into 2 schemes:

1. Carbon Tax
2. Cap-and-Trade



Climate Scenarios

3

Time Horizons

Short-term

2030

Medium-term

2040

Long-term

2050

2

Key scenarios

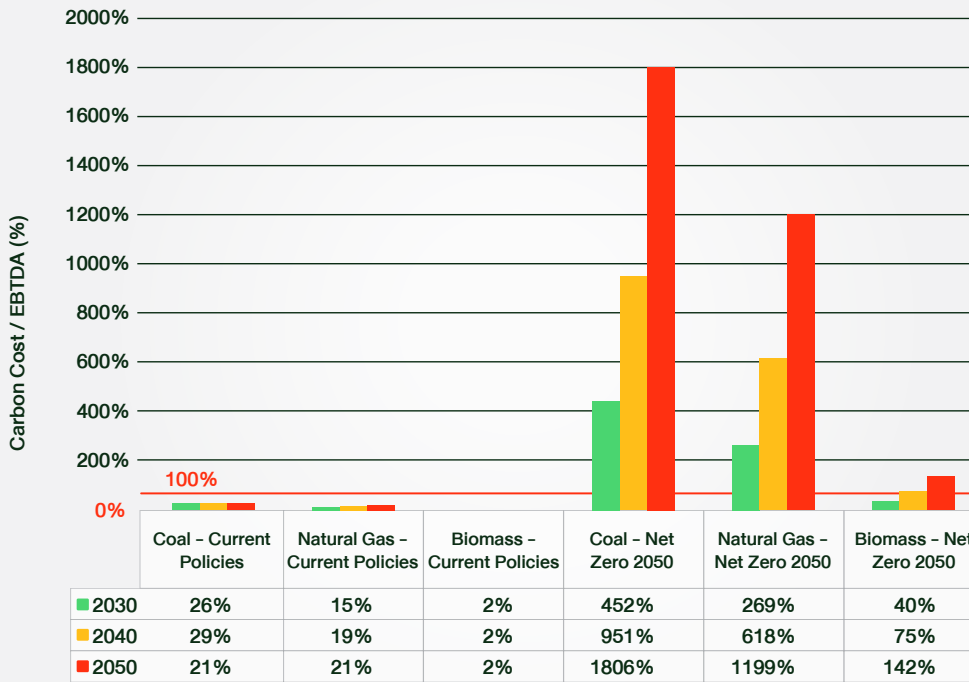
Net Zero 2050 – Limit Global Warming to 1.5C

Current Policies – No change in related policies

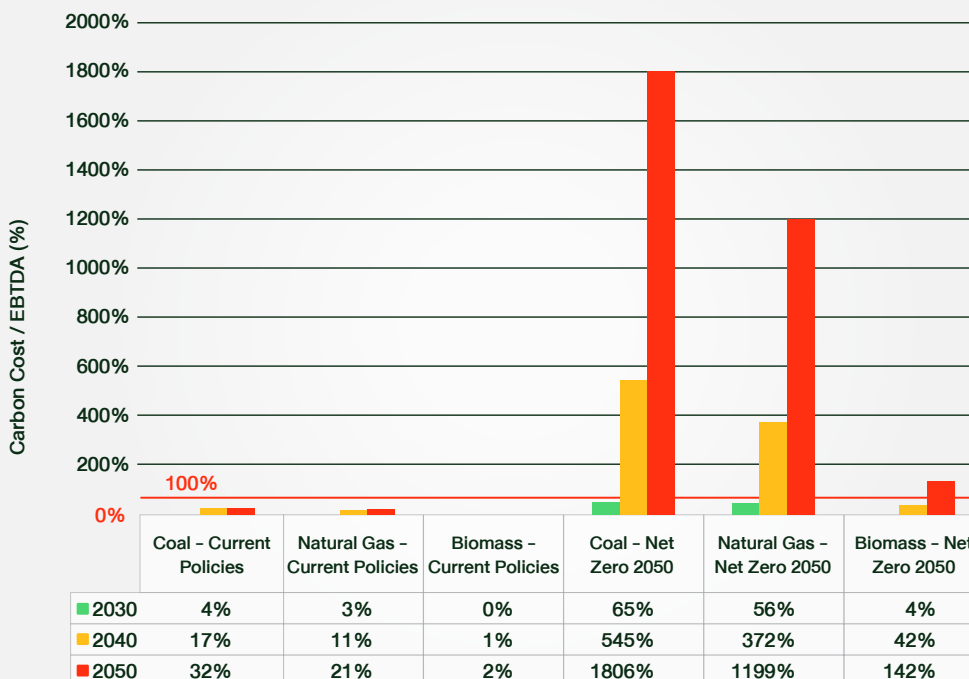
Scenario Analysis Result – Physical Risk

Regarding carbon pricing, GSB’s power generation project financed portfolio is expected to experience a broad variety of effects from carbon policies. Minor financial impacts are expected to happen to electricity suppliers under Current Policies Scenario, where as, under Net Zero 2050 Scenario, it seems to be unprofitable in 2030 onwards for both coal and natural gas power plants and to be so for biomass in 2050 onwards.

Severity of Carbon Cost – Carbon Tax Scheme



Severity of Carbon Cost – Cap-and-Trade Scheme



Strategy

Mitigation Actions

Starting this year, low-carbon transformation is taking root in GSB's strategy to mitigate the risk from carbon pricing. We are developing a valid plan to hold active engagement events, where borrowers and investees are gathered to discuss not only financial matters, but also the serious issues: The urgency of Climate Change. We believed that transparency is the first step towards transformation, and We urged our partners to annually disclose their greenhouse gas emissions, specifically Scope 1 and 2, to the public. Additionally, we plan to display a clear picture of our standpoint and the need of rapid actions from our borrowers and investees to show the power they hold as corporate giants, leading the charge toward a sustainable future.

Regarding the aimed agenda, borrowers and investee are expected to commit not only disclosing emissions but also increase the utilization of renewable energy and set ambitious decarbonization targets, with the ultimate goal of becoming net-zero companies by 2050. Their annual disclosure commitments and decarbonization are not just about business, it was about securing a future where their success was connected to the health of the planet. We are convinced that the increase in renewable energy usage and the decarbonization targets setting by both borrowers and investees can mitigate the risk from upcoming policy: Carbon tax, that may be implemented in Thailand and Laos PDR*. Ultimately, we committed to disclose the progress from engagements annually to illustrate our continuous actions towards the shift.

Engaging with Borrowers and Investees

**Influencing to Disclose Emissions
and Setting Net Zero Targets**

Disclosing Results from Engagements

Strategy

The Scope of Scenario Analysis – Transition Opportunity

Scope of Assessment

3 Types of Power Plant:
Solar, Hydro and Biomass

Type of Renewable Power plants* are selected, assessing the opportunities from renewable power plant funding which will be assessed using 2 scorecards:

1. Market Assessment
2. Bank capability



Climate Scenarios

3

Time Horizons

Short-term

2030

Medium-term

2040

Long-term

2050

2

Key scenarios

Net Zero 2050 – Limit Global Warming to 1.5C

Current Policies – No change in related policies

*Those are types of RE power plant that GSB looks forward to finance

Strategy

Scenario Analysis Result – Transition Opportunity

Category	Driver	Evaluation Criteria	Indicators	2030			2040			2050					
				Weight	Solar	Hydro	Biomass	Weight	Solar	Hydro	Biomass	Weight	Solar	Hydro	Biomass
Market Assessment	Scenario Analysis	Thailand Electricity Supply in each Scenario (NGFS)	Current Policies Scenario	20%	4.44	1.19	0.36	20%	4.56	1.17	0.27	45%	4.56	1.34	0.17
			Net Zero 2050 Scenario	20%	4.10	1.35	0.56	20%	3.76	1.39	0.84	45%	3.76	1.56	0.32
	Market Availability, Policy impact, Cost and Relative performance	Thailand PDP - Market Availability (MW)	New Power Generation	50%	4.92	0.02	1.06	50%	4.63	0.03	1.35	No data available			
			Levelized Cost of Electricity (LCOE) model from IEA (USD/MWh)	LCOE ranging from lowest to highest	10%	3.00	2.00	1.00	10%	3.00	2.00	1.00	10%	3.00	2.00
	Market Assessment					74%	12%	14%		71%	14%	15%		70%	25%
Bank Capability	Risk appetite	Alignment of bank's risk appetite with segment risk appetite	Risk statement	50%	3.00	3.00	3.00	50%	3.00	3.00	3.00	50%	3.00	3.00	3.00
	Operational capacity	Possessing tools and expertise to act on the segment opportunity	Bank's plan	50%	1.80	1.80	1.80	50%	3.00	3.00	3.00	50%	3.00	3.00	3.00
	Bank Capability					33%	33%	33%		33%	33%	33%		33%	33%





Risk Management

GSB is dedicated to effective climate-related risk management to protect our business, benefits to stakeholders and contribute to a sustainable and low-carbon future. In this section, we underly our approach to identify and address the risks associated with climate change and to integrate climate issues into our risk management framework.

We recognize that climate change concerns must be addressed in our framework in order to effectively identify and manage risks. We have been revising our risk management methods and procedures to make it clear that climate change risks are considered alongside other business concerns and are not neglected. This integration enables us to take a comprehensive approach to risk assessment, scenario analysis, and decision-making, allowing us to handle climate threats proactively and respond quickly if required.

GSB is dedicated to analysing and developing our risk management methods on a yearly basis, as well as including climate challenges into our risk identification and assessment procedures. We work collectively with stakeholders to promote cooperation, exchange best practices, and push extensive actions in the face of climate-related risks.

By effectively managing climate-related risks and integrating climate issues into our overall risk management process, GSB strives to protect shareholder value, ensure business continuity, and contribute to a more sustainable and greener future.

Risk Management

Overview

GSB has implemented a comprehensive risk management framework that encompasses risk identification, evaluation, ongoing monitoring, control, and reporting. Our commitment to enhancing this risk management process has been unwavering, ensuring its alignment with regulatory updates, emerging risks, and the evolving business landscape. Notably, we have prioritized addressing climate-related risks, seamlessly integrating them into our credit risk and market risk management procedures. These climate-related risks now play a pivotal role in credit evaluation and assessing their potential impact on GSB's credit portfolio. Moreover, GSB places great importance on proactively monitoring our risk exposure and assessing overall concentration, with an emphasis on early warning signals. We routinely assess the effectiveness and sufficiency of our risk management system through relevant committees. These evaluations consistently confirm that our overall risk management approach remains sound and appropriate.

Risk Identification

Risk Assessment

**Risk Adaptation
and Mitigation**



Risk Management

Detail

Identification Process

Function :

- Sustainable Development

Process :

- This internal process is annually conducted within management committees and Sustainable Development Committee to identify material drivers, vulnerable sectors with reliable factors, such as level of exposure, degree of emissions, etc. This process includes the consideration of relevant climate data, historical evidence, experts' opinion, scenario projections of models, insights, location-specific background and key findings from institutions like The World Bank and IEA. We believe that this extensive activities among internal stakeholders can lead to effective to insightful results to further assess the impacts in the following steps.

Assessment Process

Function :

- Risk Management Risk Oversight and Management Group
- Sustainable Development

Process :

- Specific risks from the identification process are further assessed in this step. Sustainable Development Committee conducts comprehensive assessment by combining scenario models from institutions like NGFS and IPCC to illustrate multifaceted results in the future: short-term (2030), medium-term (2040) and long-term (2050), following the guidance of the Task Force on Climate-related Financial Disclosures (TCFD). This step involves evaluating both the likelihood and severity of each risk scenario. Consequently, the vulnerability and severity of assets, infrastructure, supply chains, and operations can be identified in monetary format.



Risk Management

Detail

Physical Risk Adaptation

Function :

- Risk Management Risk Oversight and Management Group
- Sustainable Development

Process :

- As physical hazards seem to be extreme adverse effects to GSB's operation and its investees and borrowers, climate working group developed a profound adaptation process. Within GSB territories, immediate adaptation actions are expected to happen such as construction of flood barrier and relocation of ATM and ADM from flooded area. Concerning portfolio adaptation, it is to consider location-specific physical risk over time and engage with investees and borrowers to influence establishing practical plan to prevent severe impacts from physical hazards.

Transition Risk Mitigation

Function :

- Corporate, Business and Public Sector Customer Group
- Risk Management Risk Oversight and Management Group
- Sustainable Development

Process :

- Collective engagements with stakeholders take place to foster a sense of collaboration and to develop practical mitigation process. GSB went through detailed considerations developing net zero goal, targets and initiatives as well as investment and divestment policies. GHG reduction targets were set to mitigate the risk of GSB against emerging carbon tax in Thailand. Furthermore, we predicted severe impacts from carbon tax to our borrowers. We have placed divestment policies (e.g. coal phase-out) to prevent potential default items during the low-carbon shift.





Metrics & Targets

GSB is committed to achieving net zero across its value chain by 2050, with a view to reducing our impact on the environment and contributing to an equitable future. We have put in place a complete set of metrics and targets that will be used to track and monitor our progress towards this objective.

We measure and report our GHG emissions across our operations, including direct emissions (Scope 1) and indirect emissions from purchased electricity (Scope 2) and indirect emissions from corporate value chain (Scope 3) in accordance with Greenhouse Gas Protocol. Regarding financed emissions, we adopted GHG emissions calculation methodology from Partnership for Carbon Accounting Financials (PCAF) standard part A which happens to be GSB's greatest hotspot. These metrics allow us to identify a holistic view of our annual GHG emissions from our activities across value chain, prioritize reduction and removal efforts, and monitor our progress towards net zero.

In alignment with our commitment to net zero by 2050, we have set short-term reduction targets (2030) to ensure progress is made in a measurable and transparent manner. These targets are designed to drive emission reductions in line with Thailand NDC and beyond to some extent. We regularly review and update these targets as we strive to achieve our long-term net zero goal.

Risk Management

Greenhouse Gas Emissions

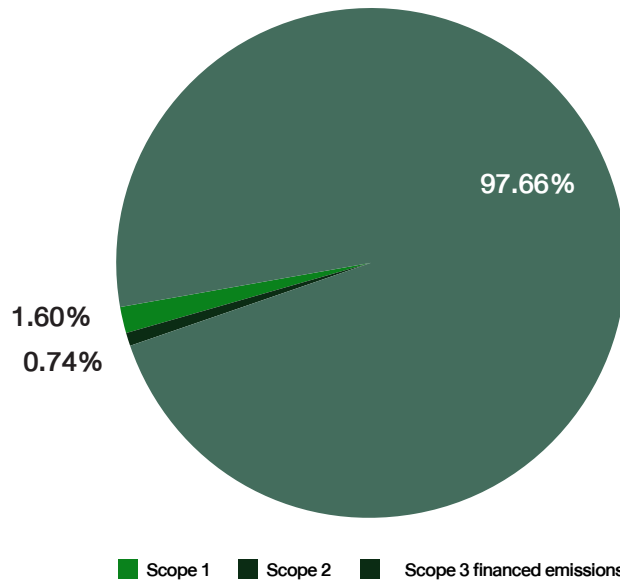
Scopes and Categories	Baseline Year Emissions (tCO2e)	Current Reporting Year Emissions (tCO2e)
Scope 1 (Total)	15,308	16,050
Scope 2 (Total)	32,194	34,525
Scope 3 (Total)	1,675,878	2,112,385
Category 1: Purchased goods	-	-
Category 2: Capital goods	-	-
Category 3: Fuel- and energy- related activities	-	-
Category 4: Upstream transportation and distribution	-	-
Category 5: Waste generated in operations	-	-
Category 6: Business travel	-	-
Category 7: Employee commuting	-	-
Category 8: Upstream leased assets	-	-
Category 9: Downstream transportation and distribution	-	-
Category 10: Processing of sold products	-	-
Category 11: Use of sold products	-	-
Category 12: End-of-life treatment of sold products	-	-
Category 13: Downstream leased assets	-	-
Category 14: Franchises	-	-
Category 15: Investments	1,675,878	2,112,385

Metrics & Targets

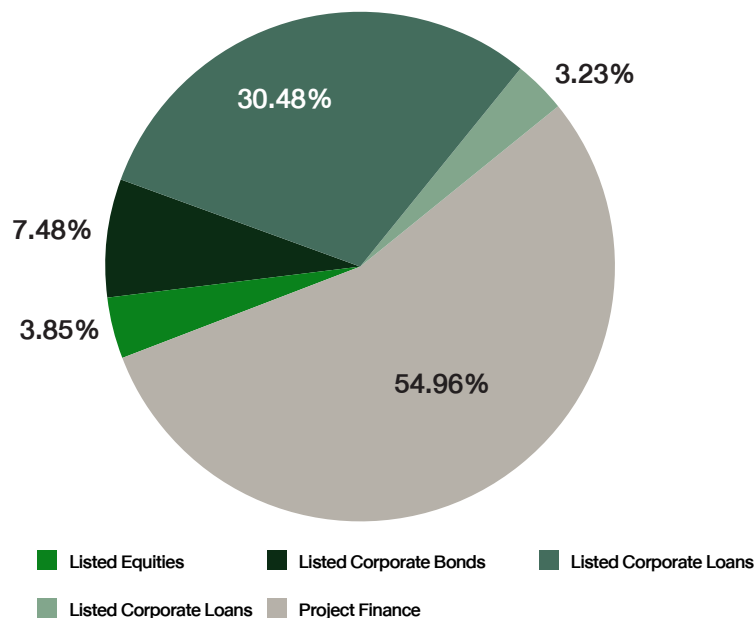
Financed Emissions

Asset Classes	Total Outstanding Amount* (million THB)	Absolute Scope 1 + 2 Financed emissions (tCO ₂ e)	Economic Emissions Intensity (tCO ₂ e/ million THB)
Listed Equities	18,395	81,248	4.42
Listed Corporate Bonds	19,873	158,044	7.95
Listed Corporate Loans	69,271	643,795	9.29
Commercial Real Estate	9,849	68,298	6.93
Project Finance	24,463	1,161,000	47.46
Total	141,853	2,112,385	14.89

Current Reporting Year Emissions



Absolute Emissions



Metrics & Targets

About Greenhouse Gas Emissions

The displayed greenhouse gas emissions figures were calculated in accordance with The Greenhouse Gas Protocol, The Thai CFO quantification standard by (TGO) and PCAF standard part A.

Reporting Boundaries :

- Direct emissions (Scope 1) emitted through activities from GSB's operations, including fossil fuel combustion and the fugitive of IPCC defined GHG emissions
- Indirect emissions (Scope 2) occur from the utilization of grid electricity throughout the reporting year, including power directly purchased from Metropolitan Electricity Authority (MEA) and Provincial Electricity Authority (PEA).
- Other indirect emissions (Scope 3) emitted by GSB's suppliers, employees, customers, investees, and borrowers.

Calculation Approach (General) :

- The calculation of direct emissions (Scope 1) was completed by the multiplication between 'activity data' (e.g. the weight or volume of diesel) and emissions factor from TGO who adopted from IPCC
- The calculation of indirect emissions (Scope 2) was completed by the multiplication between 'activity data' (e.g. kWh of grid electricity) and emissions factor from TGO CFO
- The calculation of other indirect emissions (Scope 3) was completed by the multiplication between 'activity data' (e.g. km of travelling distance by employees) and emissions factor from TGO CFO and UK Defra

Calculation Approach (Financed Emissions) :

Financed emissions or Scope 3 category 15: investment are calculated by adopting PCAF standard part A methodology. The calculation can be conducted by the multiplication between attribution fraction (%ownership over the asset) and asset's emissions in scope 1 + 2.

We are aware of the challenge in gathering asset's emissions. PCAF recommended formulas, classified by data quality scoring approach, were applied to complete our calculations.

- Listed Equities: Applying "Option 1a as score 1", "Option 1b as score 2", and "Option 3a as score 4" | PCAF Standard Part A, page 142
- Listed Corporate Bonds: Applying "Option 1a as score 1", "Option 1b as score 2", and "Option 3a as score 4" | PCAF Standard Part A, page 142
- Listed Corporate Loans: Applying "Option 1a as score 1", "Option 1b as score 2", and "Option 3a as score 4" | PCAF Standard Part A, page 143
- Commercial Real Estate: Applying "Option 2b as score 4" | PCAF Standard Part A, page 145
Project Finance: Applying "Option 2b as score 3" | PCAF Standard Part A, page 144

Note: We strive to actively improve our methodology of financed emissions calculation over time.

$$\text{Financed Emissions} = \sum \text{Attribution factor} \times \text{Emissions}$$

The attribution factor is defined as the share of both equity and debt positions within the asset (% ownership)

Emissions are defined as asset's emissions

Metrics & Targets

Unwavering Net Zero Commitment

Net Zero by 2050

GSB sees significant potential to support the shift towards low-carbon society in which influences emission reductions in line with Thailand NDC and beyond to some extent. We strongly believe that, as an industry leader, such ambitious commitment is in need to illustrate – as a role model – the unwavering steps towards more climate-conscious future.

This net zero goal and its associated targets were thoroughly reviewed and approved by Management Committee and, Corporate Governance and Sustainability Committee. Finally, in 18 August 2023, the Board of Directors conducted a comprehensive review and officially ratified the establishment of these targets.

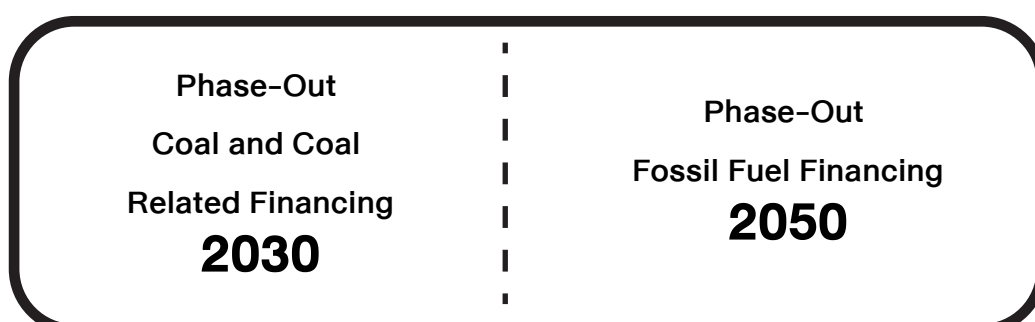
We use the following methodologies to quantify and track our GHG emissions :

- Baseline year for target: 2021 (on 31st December)
- Boundary of GHG reported: 1) GSB Headquarter 2) GSB branches in Thailand 3) Other facilities owned by GSB 4) Proprietary investment and lending assets
- Scopes included: Scope 1, 2 and 3 including financed emissions
- Relevant asset classes for financed emissions: Listed Equities, Listed Corporate Bonds, Listed Corporate Loans, Commercial Real Estate Loans and Project Finance
- Methodology source: ISO 14064-1:2018, The Greenhouse Gas Protocol, The Thai CFO quantification standard by (TGO) and PCAF Standard Part A

In 2023, GSB is electrified to show our willingness to contribute an enormous reduction and removal in scope 1 and 2 GHG emissions by 2030 to achieve zero GHG emission within our operation by 2030. Furthermore, to become green financial institution, we are thrilled to announce our challenging goal to become net zero across its value chain by 2050 including financed emissions.

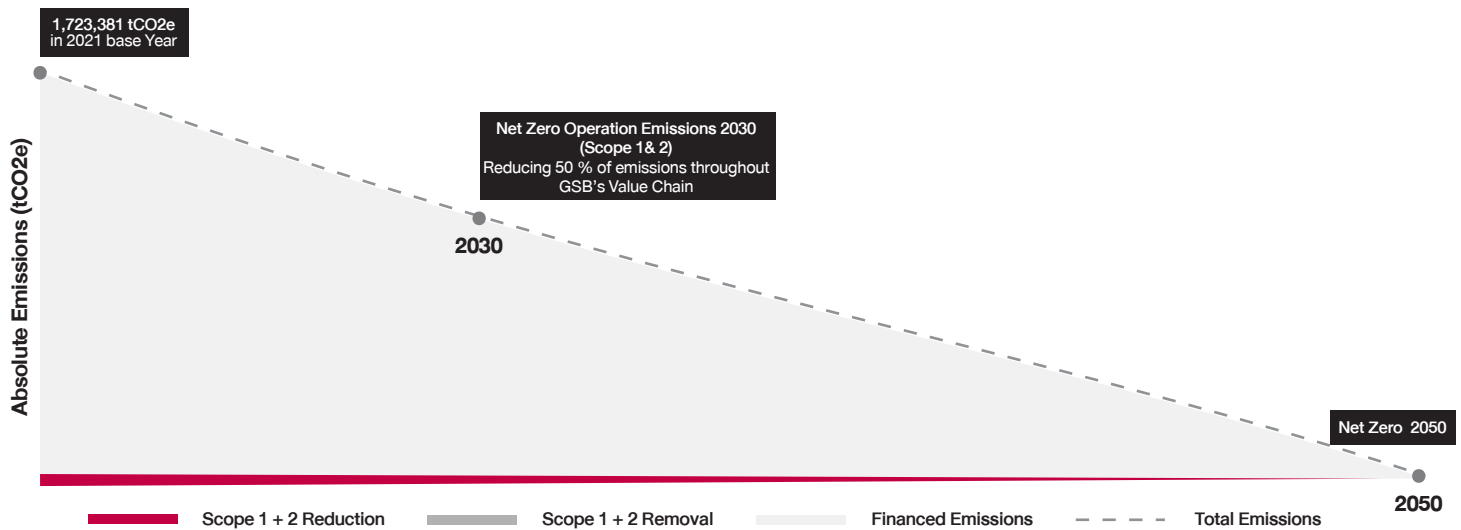
These goals can achieve by practical initiatives and actions :

- Low-carbon operation : Implementing energy saving programs, installing energy-efficiency technology, applying green building concept to owned properties, transitioning to EV fleets and vast plantations.
- Renewable Energy : Switching to bioenergy and other renewable energy, installing Solar PV, purchasing RECs and continuously monitoring the advancement of low-carbon technologies over time
- Net Zero Portfolio : Establishing investment and divestment policies, conducting investee and borrower engagements, and low-carbon fundings



GSB's Net Zero 2050

Unwavering Commitment



Low-Carbon Operation

- Implement energy saving programs
- Install energy-efficiency technology (e.g., IoT, Motion Sensor, etc.)
- Green Building design for owned HQ and branches to promote energy efficiency (e.g., LEED, USGBC, etc.)
- Transition to EV fleets
- Study on zero-carbon refrigerants
- Conduct capacity building to raising awareness for GSB employees
- Plantation 50,000 Rai

Renewable Energy

- Switch to use bioenergy fuel
- Achieve 100% renewable electricity in owned HQ and branches
 - Install solar PV on HQ and branches rooftop
 - Purchase RECs to support renewable energy generation and consumption
- Study on alternative renewable energy (e.g., Green and Blue Hydrogen fuel)

Net Zero Portfolio

- Establish GSB investment and divestment policy
- Conduct capacity building on GSB investment and divestment policy for related functions
- Implement investee and Borrower engagement to seek collaboration from clients
- Low-carbon investment and lending
- Provide green funding to support client's transition to Net Zero
- Phase-out fossil fuel companies in all selected portfolio

Metrics & Targets

Products and Initiatives

Supporting borrowers on low-carbon transition

Funding borrowers on transitioning project:

- Expanding renewable power generation portfolio size to support Thailand transitioning plan which targeted to reach 50% renewable energy share by 2050.
- Financing green building, influencing energy efficiency and renewable energy implementation in tangible assets.
- Funding Net-Zero-2050 borrowers and investees to support climate-conscious companies on low-carbon transition.
- Financing and investing in new industries, contributing to low-carbon transitions.
- Developing environmentally friendly products (e.g. green loan).
- Integrating ESG scoring into financing issuing process considering E-S-G aspects: Environment, Social and Governance.
- Providing funding incentives for positive-list borrowers with lower interest rate and higher maximum lending value. List of companies, projects and assets involved: High ESG score, BCG Economy, EV Supply Chain, Renewable Energy, Net-zero-2050 companies, Green Building, Green Home Loan, Go green projects and Clen tech (e.g. CCS, CCUS, etc.).

Policy and Engagement

- Developing phase-out policies (e.g. Coal and other fossil fuel assets).
- Actively communicate with stakeholders and public on GSB's climate-related at least on yearly basis.
- Engaging with investees and borrowers to state clearly about GSB's standpoint, climate conscious policies, goal and targets and GSB's green products to support the transition.
- Engaging with asset managers, investing on behalf of GSB, to align climate-related investment purposes.

Climate Capacity Building

To overcome challenges, GSB's climate capacity need to proactively improve by:

- Internal Climate Change training
- Investing in climate data and technologies
- Investing in partnerships, research, development and advocacy



Glossary of terms

Glossary of terms

Term	Definition
Absolute emissions	Greenhouse gas emissions, expressed in terms of weight if CO ₂ equivalent.
Climate-related opportunities	Refers to the potential positive impacts related to climate change on an organisation. Efforts to mitigate and adapt to climate change can produce opportunities for organisations, such as through resource efficiency and cost savings, the adoption and utilisation of low-emission energy sources, the development of new products and services, and building resilience along the supply chain. Climate-related opportunities will vary depending on the region, market and industry in which an organisation operates.
Climate-related risks	Refers to the potential negative impacts of climate change on an organisation. Physical risks emanating from climate change can be event-driven (acute) such as increased severity of extreme weather events (e.g. cyclones, droughts, floods, and fires). They can also relate to longer-term shifts (chronic) in precipitation and temperature and increased variability in weather patterns (e.g. sea level rise). Climate-related risks can also be associated with the transition to a lower-carbon global economy, the most common of which relate to policy and legal actions, technology changes, market responses and reputational considerations.
CO₂e	Carbon dioxide equivalent (CO ₂ e) is a measurement used to compare emissions from various greenhouse gases based on their global warming potential (GWP). Other gas amounts are converted into the equivalent amount of carbon dioxide to provide a single emissions metric.
Default	Financial assets in default represent those that are at least 90 days past due in respect of principal or interest and/or where the assets are otherwise considered to be unlikely to pay, including those that are credit-impaired.
Emissions scopes	Scope 1 covers emissions from sources that an organisation owns or controls directly – for example from burning fuel in our fleet of vehicles (if they're not electrically-powered). Scope 2 are emissions that a company causes indirectly and come from where the energy it purchases and uses is produced. For example, the emissions caused when generating the electricity that we use in our buildings would fall into this category. Scope 3 encompasses emissions that are not produced by the company itself and are not the result of activities from assets owned or controlled by them, but by those that it's indirectly responsible for up and down its value chain. An example of this is when we buy, use and dispose of products from suppliers. Scope 3 emissions include all sources not within the scope 1 and 2 boundaries.

Glossary of terms

Term	Definition
Emissions factor	An emissions factor is a representative value that attempts to relate the quantity of a pollutant released to the atmosphere with an activity associated with the release of that pollutant (e.g. tCO ₂ e/ revenue generated).
Exposures	Credit exposures represent the amount lent to a customer, together with any undrawn commitments.
Financed emissions	The emissions financed by a financial institution's loans and/or investments. They are estimated based on an attributed proportion of the financial institution's investees' and borrowers' emissions. These financed emissions are part of the GSB's scope 3 category 15.
Greenhouse gases (GHG)	Gaseous pollutants released into the atmosphere that amplify the greenhouse effect. Gases responsible include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulphur hexafluoride. The Greenhouse gases (GHG) are listed under the Kyoto Protocol: Carbon dioxide (CO ₂), Methane (CH ₄), Nitrous oxide (N ₂ O), Hydrofluorocarbons (HFCs), Perfluorocarbons (PFCs), Sulphur hexafluoride (SF ₆), and Nitrogen trifluoride (NF ₃).
Greenhouse Gas Protocol (GHG Protocol)	Comprehensive global standardised frameworks to measure and manage GHG emissions from private and public sector operations, value chains and mitigation actions. The GHG Protocol supplies the world's most widely used GHG accounting standards.
IPCC	Intergovernmental Panel on Climate Change.
Net zero by 2050	Net zero emissions refers to achieving an overall balance between greenhouse gas emissions produced and greenhouse gas emissions taken out of the atmosphere. GSB established the pathway to net zero that are aligned with limiting warming to well below 2 degrees Celsius above pre-industrial levels by 2100.
NGFS	Network for Greening the Financial System, a group of authorities willing, on a voluntary basis, to exchange experiences, share best practices, contribute to the development of environment and climate risk management in the financial sector, and to mobilise mainstream finance to support the transition toward a sustainable economy.

Glossary of terms

Term	Definition
NPLs or non-performing loans	An NPL is any loan that is more than 90 days past due or is otherwise individually impaired. This excludes Retail loans renegotiated at or after 90 days past due, but on which there has been no default in interest or principal payments for more than 180 days since renegotiation, and against which no loss of principal is expected.
The Paris Agreement	The Paris Agreement, often referred to as the Paris Accords or the Paris Climate Accords, is an international treaty on climate change. Adopted in 2015, the agreement covers climate change mitigation, adaptation, and finance. It adopted within the United Nations Framework Convention on Climate Change, commits all participating to limit global temperature rise to well-below 2C above pre-industrial levels and pursue efforts to limit warming to 1.5C. To adapt to changes already occurring, and to regularly increase efforts over time.
PCAF	PCAF is, an abbreviation of “Partnership for Carbon Accounting Financials”, a global partnership of financial institutions that work together to develop and implement a harmonized approach to assess and disclose the greenhouse gas emissions associated with their loans and investments.
Physical Risks	The risk of increased extreme weather events including flood, drought and sea level rise.
TCFD	The Financial Stability Board Task Force on Climate-related Financial Disclosures.
Transition Risks	The risk of changes to market dynamics or sectoral economics due to governments’ response to climate change.
UNEP FI	United Nations Environment Programme Finance Initiative.



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Social Bank