Climate Change Management

Climate change presents significant challenges to the banking industry, potentially affecting financing portfolios and financial stability. Climate risks are generally divided into two main categories: physical risks and transition risks. Physical risks include the direct effects of climate change, such as natural disasters that can damage customer assets or disrupt their business operations. Transition risks are linked to changes in policies, regulations, and market preferences that may impact specific sectors. In its climate change management reporting, Bank Mandiri uses Task Force on Climate-Related Financial Disclosures (TCFD) framework.

Climate Change Governance

The climate change governance structure at Bank Mandiri continues to evolve in line with a growing understanding of climate risks and progress toward achieving net zero emissions (NZE) targets. The Board of Directors holds the highest authority in managing climate-related risks and opportunities, including overseeing the implementation of NZE in operations target by 2030. The Company's Risk Management Committee (RMC) manages risks and opportunities related to climate change through the Director's Decree KEP.DIR/028/2024. Our climate risk monitoring is conducted by the Board of Directors through Board meetings, the RMC, and an ESG forum, which convenes at least six times a year. Meanwhile, oversight by the Board of Commissioners is carried out through the Risk Monitoring Committee (KPR).

In its implementation, the Board of Commissioners and the Board of Directors delegate the responsibility for managing climate change risks and opportunities to the ESG Unit, under the direct supervision of the Vice President Director and reporting to the Risk Management Committee (RMC) and the Risk Monitoring Committee. The ESG Unit's reports are regularly submitted to the Board of Directors and the Board of Commissioners. Additionally, the Board of Directors is actively engaged with climate risks, participating in discussions on climate change and ESG issues, including involvement in Climate Risk Stress Testing (CRST). [FN-CB-550a.2.]

Throughout 2024, the RMC has carried out its duties, responsibilities, and authorities by making decisions, including those related to climate issues, together with all members, covering updates on the realization of the implementation of the Sustainable Finance Action Plan (SFAP) for the period of January to April 2024 and the approval of the Sustainable Finance Framework (SFF) and Transition Finance Framework (TFF).

Additionally, Bank Mandiri has specifically held meetings related to CRST in several forums with the following details:

Date	Meeting Topic	Participant
June 11, 2024	CRST Steering Committee • Background and Scope • Impact of CRST (Credit, Market, and Operational Risks) • CRST Progress	• Vice President Director • Director of Risk Management • Credit Portfolio Risk • Environmental, Social & Governance • Market Risk • Operational Risk • Strategy & Performance Management
July 24, 2024	CRST Steering Committee • Integration of Climate Risks (Credit, Market, Operational, Liquidity) • Financed Emissions	• Vice President Director • Director of Risk Management • Credit Portfolio Risk • Environmental, Social & Governance • Market Risk • Operational Risk • Strategy & Performance Management • Credit Risk Taking Unit
July 29, 2024	CRST Steering Committee • CRST Results	• Vice Director • Director of Risk Management • Credit Portfolio Risk • Environmental, Social & Governance • Market Risk • Operational Risk • Strategy & Performance Management • Credit Risk Taking Unit
Weekly (March 2024 - December 2024)	Weekly Meetings of the CRST Project	• Credit Portfolio Risk • Environmental, Social & Governance • Market Risk • Operational Risk • Strategy & Performance Management

Climate Change Strategy

As part of its commitment to mitigating climate change, Bank Mandiri supports the Paris Agreement and Indonesia's Enhanced Nationally Determined Contribution (ENDC). Bank Mandiri is determined to reduce carbon emissions and contribute to the goal of limiting average global temperature increases to 1.5°C, with a target of achieving net zero emissions (NZE) in operations by 2030.

Bank Mandiri's climate change strategy encompasses three key approaches: reducing greenhouse gas (GHG) emissions from its operations, providing financing to support customers in transitioning to NZE, and promoting carbon absorption activities such as forest and land restoration and conservation. Bank Mandiri conducts a comprehensive materiality assessment of group-wide business risks associated with climate change, including scenario modelling or sensitivity analysis change across its operations. As part of these efforts, Bank Mandiri implements scenario modelling or sensitivity analysis based on the Network for Greening the Financial System (NGFS).

Bank Mandiri conducted a comprehensive climate resilience assessment to ensure that its strategies and business models can adapt to climate-related changes, developments, and uncertainties. This assessment considers the risks and opportunities associated with climate change. By using climate-related scenario analysis tailored to the Company's characteristics and conditions, Bank Mandiri evaluates its climate resilience and adjusts its strategic measures accordingly based on the findings.

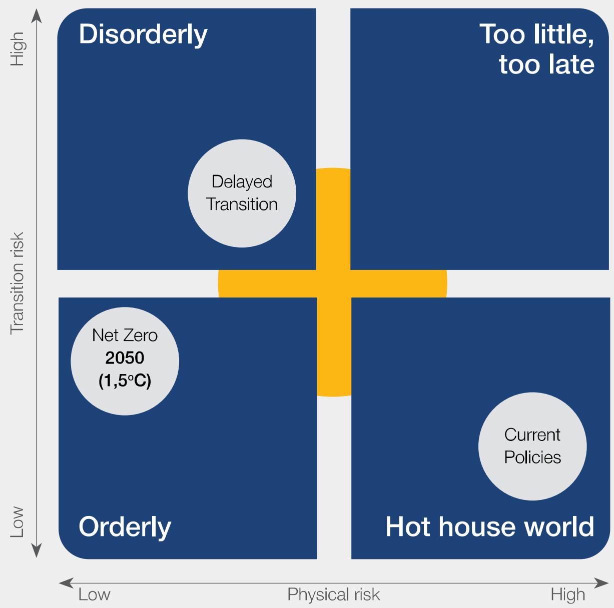
As part of its climate change strategy and support for the transition to a low-carbon economy, Bank Mandiri is developing a more integrated and strategic transition plan. This plan includes preparing strategies to address potential impacts and challenges. Additionally, Bank Mandiri will conduct regular reviews and iterations to ensure the smooth implementation of the transition plan.

Climate Risk Stress Testing

Collaboration with policymakers, specifically Indonesia's Financial Services Authority (OJK), is a key driver of Bank Mandiri's climate strategy. As a member of the Task Force on Climate-Related Financial Risk, Bank Mandiri participates in the Pilot Project on Climate Risk Management & Scenario Analysis.

The CRST analysis of Bank Mandiri in the 2024 OJK Pilot Project on Climate Risk Management & Scenario Analysis (CRMS) covers 54.09% of the portfolio, in compliance with OJK regulations, which require KBMI 3 and 4 banks to conduct CRST 2024 Pilot Project calculations covering at least 50% of the total portfolio based on priority sectors. The analysis incorporates flood and forest fire scenarios to assess physical risks and utilizes climate scenarios developed by the Network for Greening the Financial System (NGFS) to evaluate transition risks, including Current Policies, Delayed Transition, and Net Zero 2050 scenarios.

NGFS Climate Scenarios



1. **Current Policies**
Assumes that current climate policies remain unchanged, leading to an increase in physical risks as global temperatures rise above 1.5°C or 2°C. Transition risks remain low due to minimal changes in policies and technology.

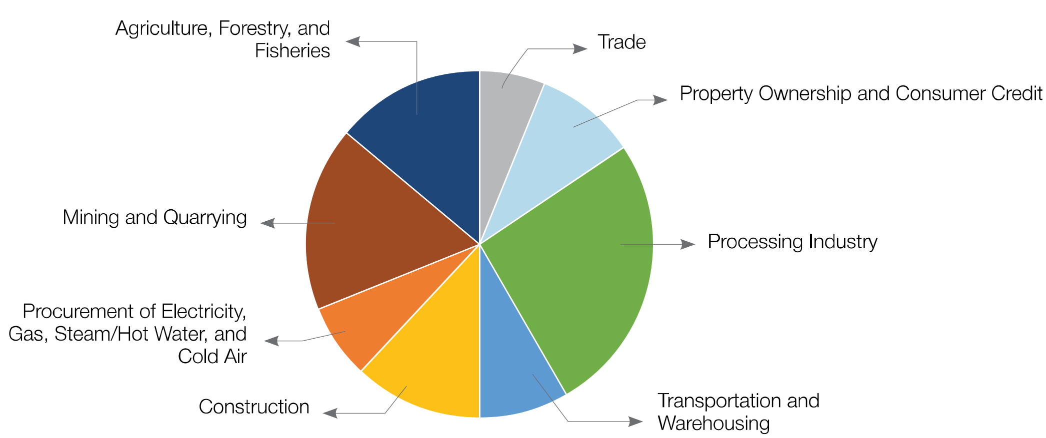
2. **Delayed Transition**
Assumes that annual emissions will not decrease until 2030. However, stricter policies will be implemented afterward to limit global warming to 2°C and control CO_2 emissions.

3. **Net Zero 2050**
Assumes aggressive measures are taken to achieve net zero emissions by 2050, with stringent policies and rapid economic changes aimed at limiting global temperature rise to below 1.5°C.

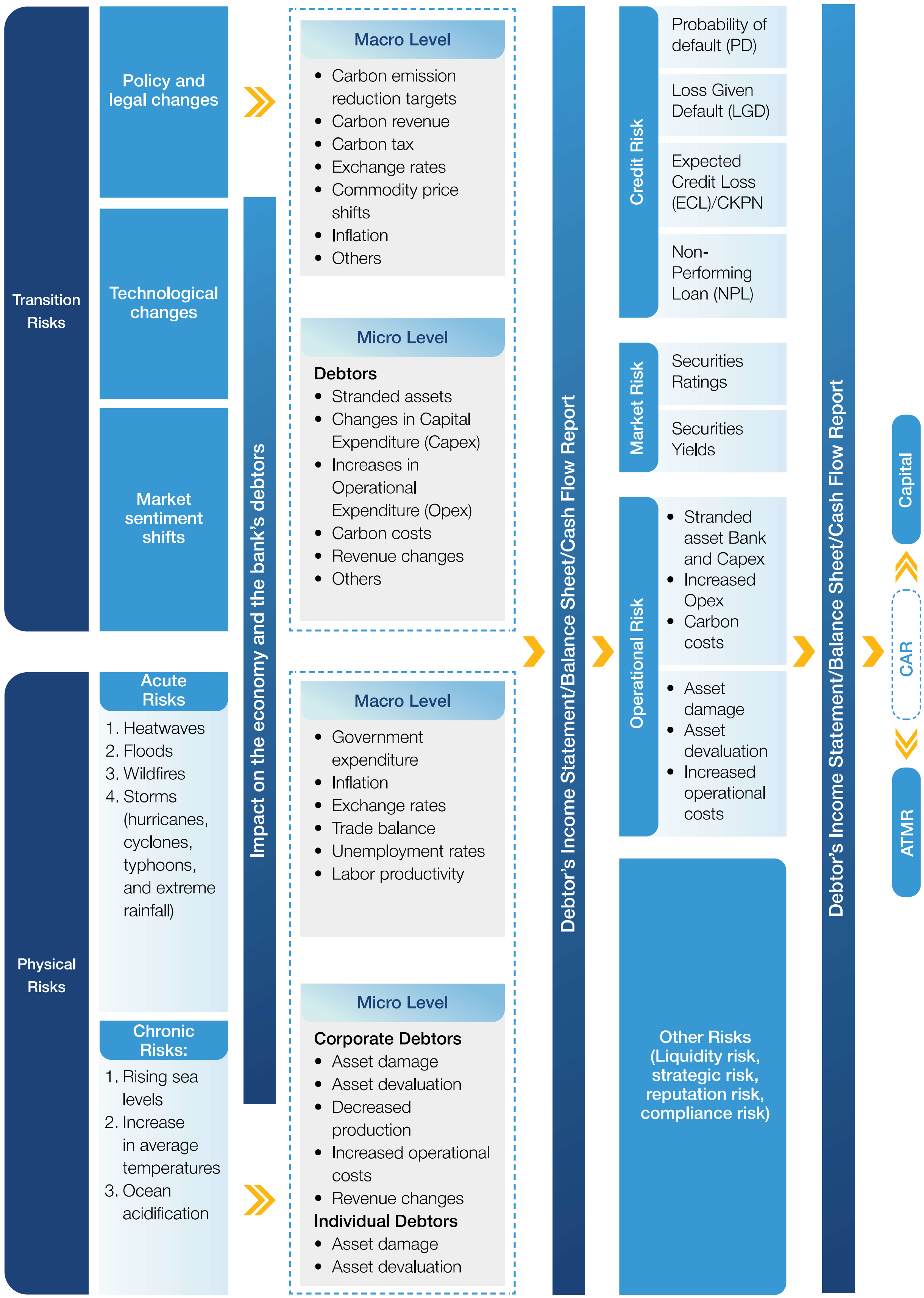
Bank Mandiri has conducted climate scenario analysis covering eight sectors, representing 54.09% of its total financing portfolio. These sectors include (1) Agriculture, Forestry, and Fisheries; (2) Procurement of Electricity, Gas, Steam/Hot Water, and Cold Air; (3) Mining and Quarrying; (4) Construction; (5) Transportation and Warehousing; (6) Processing Industry; (7) Property Ownership and Consumer Credit; and (8) Trade.

The details of the sectoral share distribution can be seen in the following diagram:

CRST Portfolio Overview



Overview of transmission for climate-related financial risks on bank financial performance:



Physical Risk Scenario Analysis

In accordance with the 2024 CRMS guidelines issued by OJK, Bank Mandiri has analyzed physical risks and projected the impact of damages caused by floods and forest fires on its asset portfolio. Bank Mandiri utilized the Representative Concentration Pathway (RCP) 8.5 scenario to evaluate the effects of climate change on its assets and operations. RCP 8.5 reflects a high-emission scenario without significant mitigation efforts, where emissions continue to rise, leading to rapid global warming and significant risks to ecosystems and infrastructure. This scenario projects a temperature increase of up to 4.2°C by the end of the century, with a range between 3.7°C and 5.0°C.

Bank Mandiri has also identified the transmission impacts of physical risks, such as floods and forest fires, on credit and operational risks. The analysis process began with collecting location data and mapping risk categories, encompassing information such as cities, provinces, postal codes, asset values, and net annual revenue. Data from the 2023 National Disaster Management Authority (BNPB), obtained through OJK, was used to categorize flood and forest fire risks at the district/city level into high, medium, and low classifications. Additionally, insights from Moody's Climate on Demand were leveraged as the basis for climate risk modeling. The RCP 8.5 scenario projections were also applied to evaluate the impact of high greenhouse gas emissions, supporting the assessment of future physical risks. Operational loss calculations focused on facilities classified under high-risk categories. For facilities with negative revenues, losses were capped at zero, and asset value losses for leased assets were also assumed to be zero.

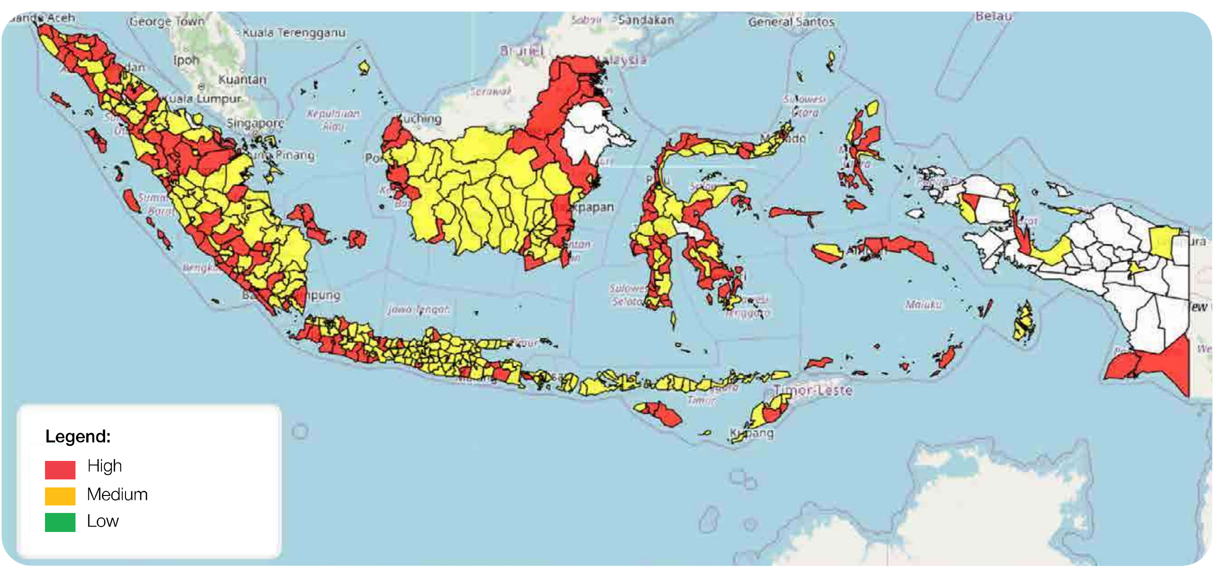
Flood Scenario

Based on the assessment results, Bank Mandiri has identified the proportion of flood risks faced by each company activity using the hazard scores generated by Moody's Climate on Demand.

The identification results for the Flood scenario indicate the risk distribution for Office Buildings (including Branch Offices, Functional Offices, Head Office, Regional Offices, and Sub-Branch Offices) as follows: 10% in the Red Flag category, 32% in the High-Risk category, 11% in the Medium-Risk category, and 47% in the Low-Risk category.

Risk Distribution of Bank Mandiri Office Buildings in the Flood Scenario

The flood risk index map below refers to the 2023 Indonesian Disaster Risk Index (IRBI):

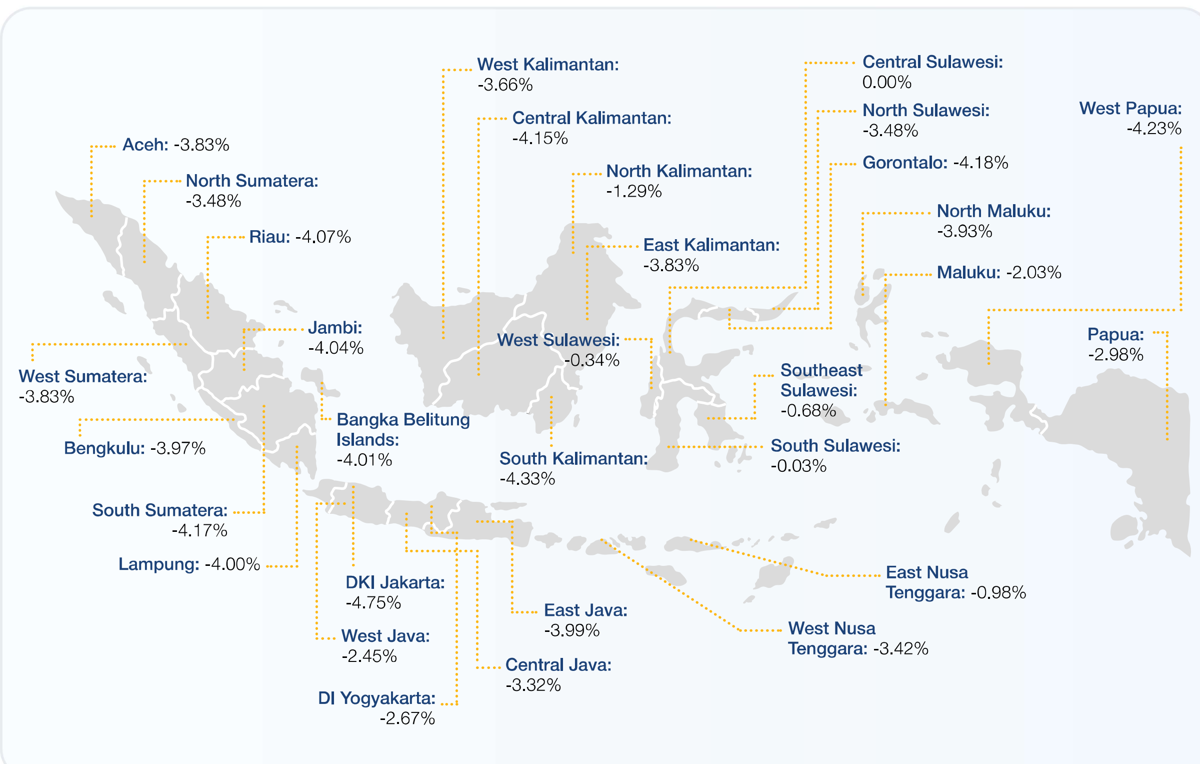


No	Regency/City	Risk Class
1	Bandung Barat, West Java	High Risk (Flood Prone)
2	Cirebon, West Java	High Risk (Flood Prone)
3	Luwu, South Sulawesi	Medium Risk (Flood Alert)
4	Garut, West Java	Medium Risk (Flood Alert)
5	Lembata, East Nusa Tenggara	Low Risk (Flood Safe)
6	East Flores, East Nusa Tenggara	Low Risk (Flood Safe)
	And so on.	

Bank Mandiri also conducted a scenario analysis for the physical risk scenario to predict the extent of damage that floods could potentially inflict on our retail mortgage portfolio. We applied the OJK climate scalar, which can impact the Loss Given Default (LGD) value and collateral valuation.

Furthermore, Bank Mandiri has calculated changes in collateral value due to flood risks in each province. The results are presented as averages through the following distribution map:

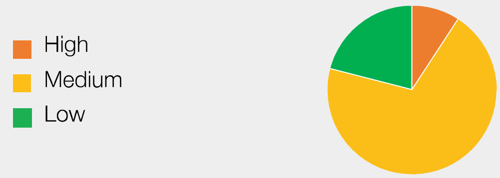
Percentage Change in Collateral Value Due to Flood Risk by Province in 2024



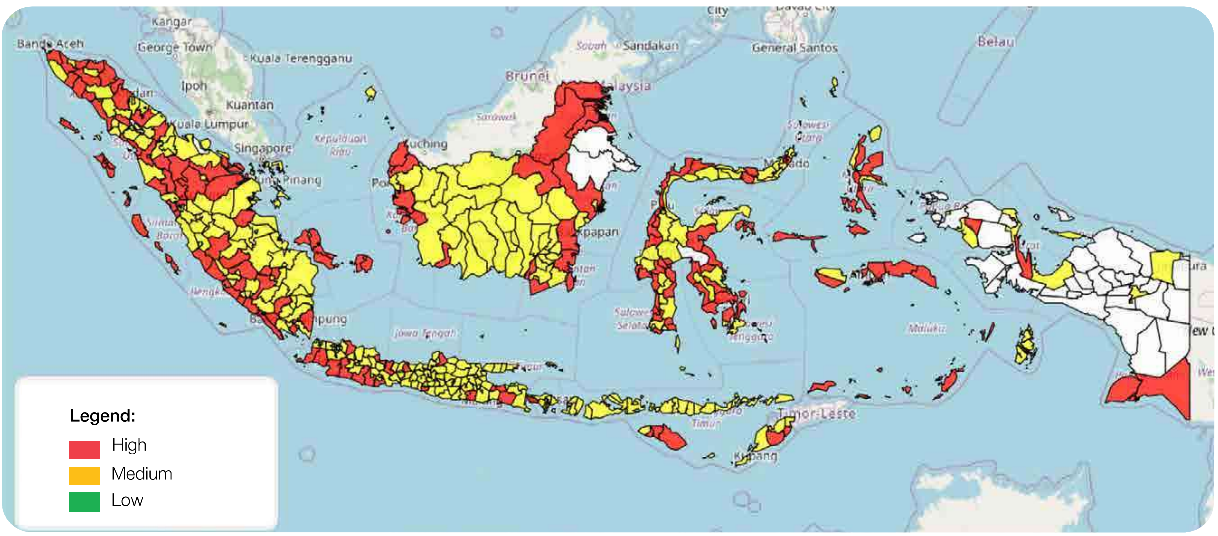
Forest and Land Fire Scenario

Based on the hazard scores generated by Moody's Climate on Demand, the identification results for the Forest Fire Scenario indicate the following risk distribution for Office Buildings (including Branch Offices, Functional Offices, Head Offices, Regional Offices, and Sub-Branch Offices) as follows: 9% in the High-Risk category, 70% in the Medium-Risk category, and 21% in the Low-Risk category. Notably, there is no risk exposure categorized as Red Flag.

Risk Distribution of Bank Mandiri Office Buildings in the Forest Fire Scenario



The forest and land fire risk index map below refers to the 2023 Indonesian Disaster Risk Index (IRBI):

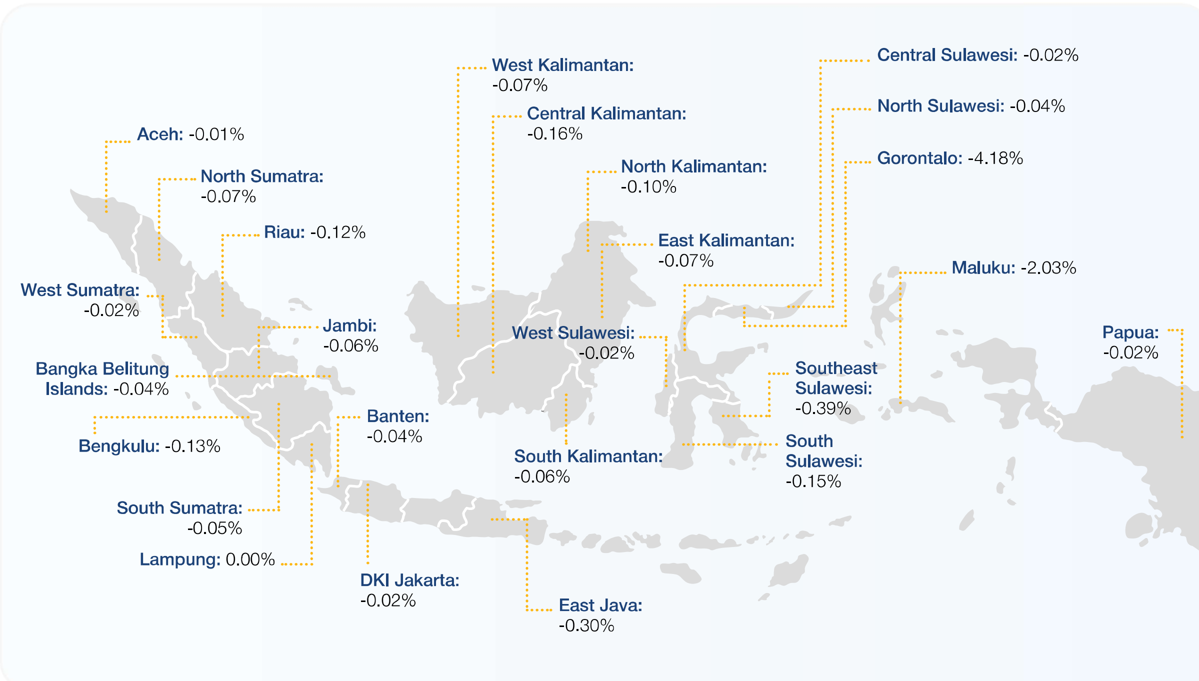


No	Regency/City	Risk Class
1	Nganjuk, East Java	High Risk (Forest Fire Prone)
2	Cimahi, West Java	Medium Risk (Forest Fire Prone)
3	Jayapura, Papua	Low Risk (Forest Fire Prone)
	And so on.	

Bank Mandiri also conducted a scenario analysis for the physical risk scenario to predict the extent of damage that forest fires could inflict on our non-retail mortgage portfolio. We applied the OJK climate scalar, which can impact the Loss Given Default (LGD) value and collateral valuation.

Furthermore, Bank Mandiri has calculated changes in collateral value due to forest and land fire risks in each province. The results are presented as averages through the following distribution map:

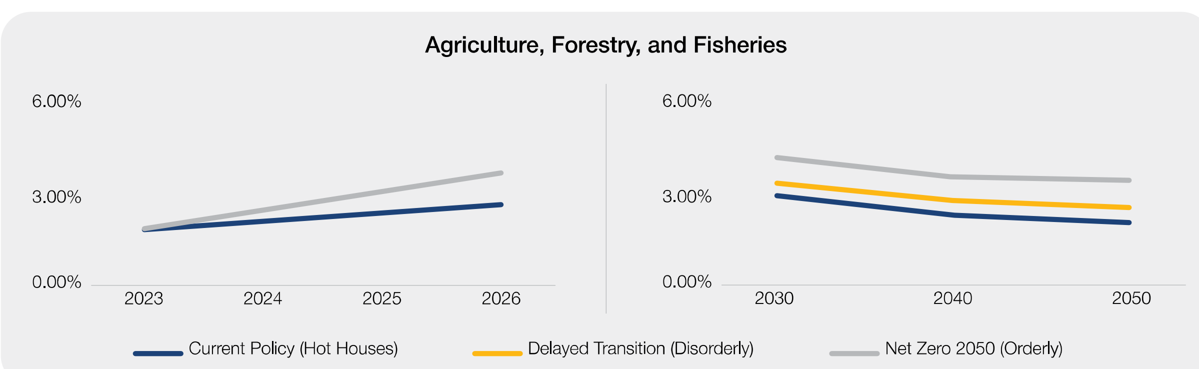
Percentage Change in Collateral Value Due to Forest Fire Risks by Province in 2024



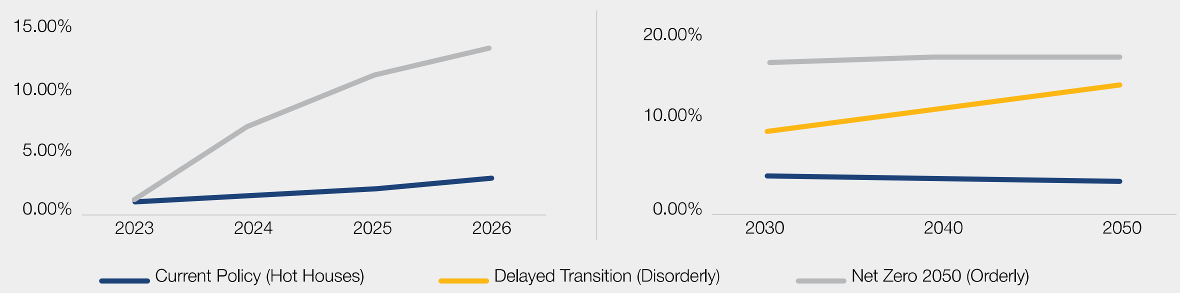
Scenario Analysis of Transition Risk

In the context of transition risks, companies face challenges and opportunities arising from carbon taxes, changes in energy prices, shifts in the energy mix, and the adoption of green technologies. To assess these transition risks, Bank Mandiri applies the Global Change Assessment Model (GCAM) and utilizes the carbon price scenarios from GCAM 6.0 NGFS.

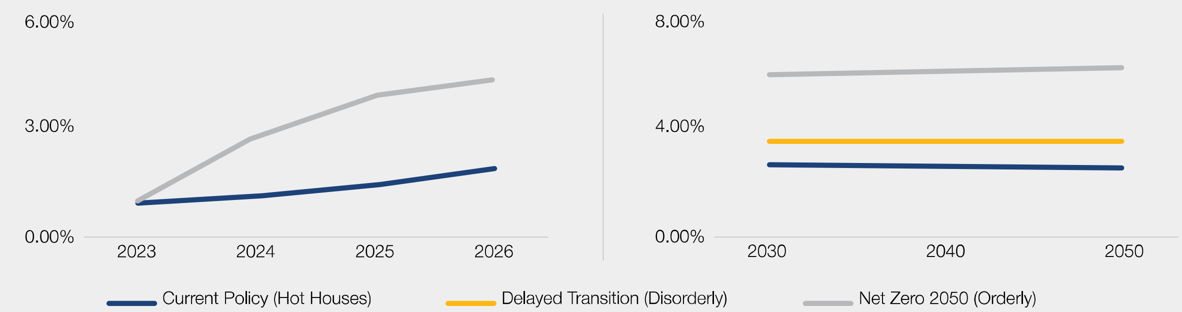
Summary of Climate-Adjusted Probability of Default (PD) Results



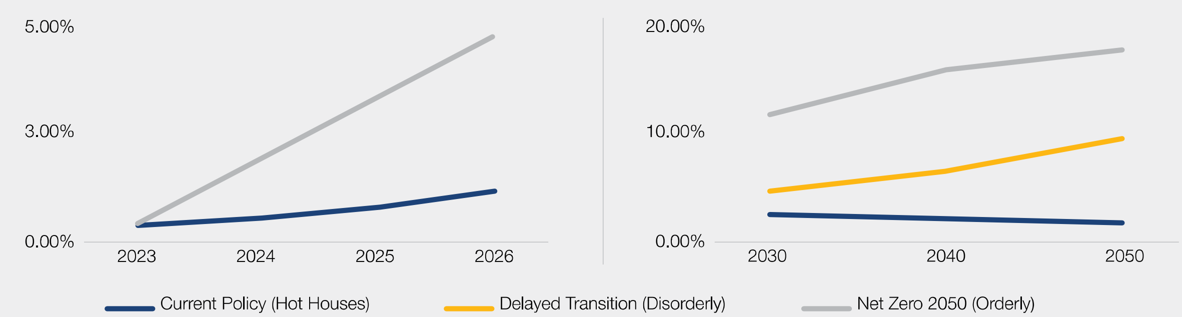
Construction



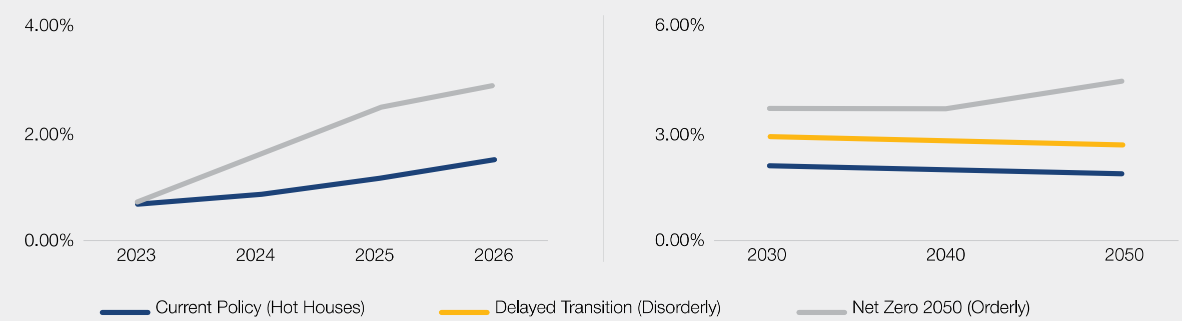
Processing Industry

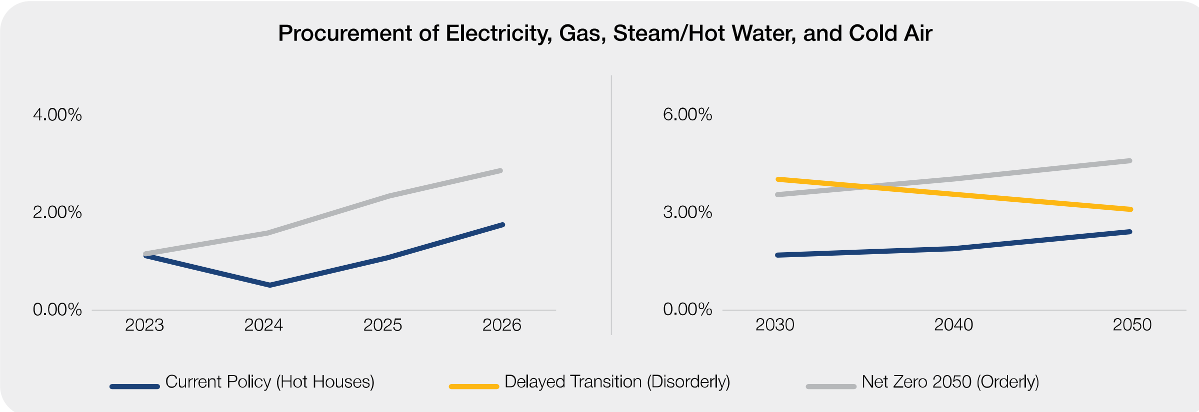


Mining and Quarrying



Transportation and Warehousing





CRST Results

The assessment results of the 2024 CRST Pilot Project indicate an increase in the Non-Performing Loan (NPL) ratio, particularly under the Net Zero 2050 (NZE) scenario. Simulations of physical and transition risks on the portfolio show that Bank Mandiri may face an increase in the NPL ratio, where in the 2025–2026 period, under the Current Policy scenario, the NPL ratio is projected to reach 1.2%.

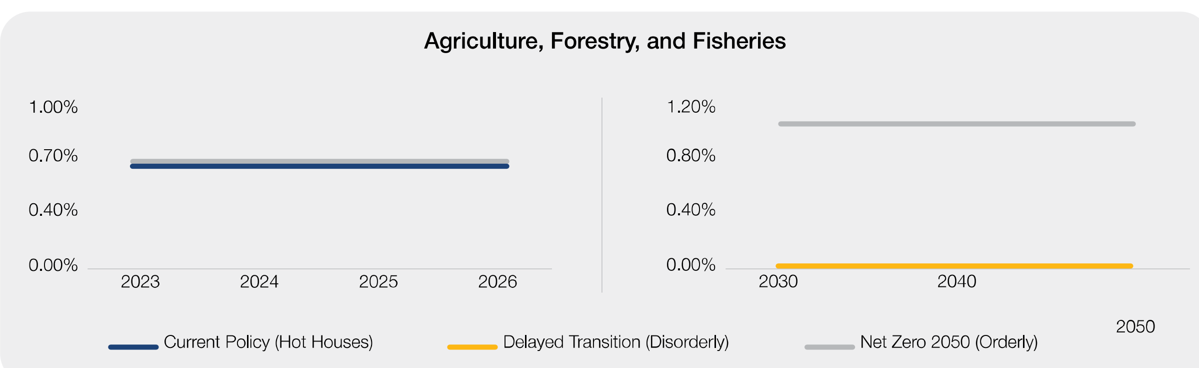
Additionally, the electricity procurement sector is a primary focus, aligned with Indonesia's international commitments to reduce emissions and transition to renewable energy. Strategies implemented in this sector reveal higher transition risks in the initial period, particularly under the Current Policy scenario. However, in the long term through 2050, transition risks are projected to increase under the NZE 2050 scenario, reflecting challenges and opportunities in managing a sustainable portfolio.

Despite the potential increase in NPL, Bank Mandiri remains capable of maintaining its capital adequacy ratio above the regulatory threshold both in the short and long term.

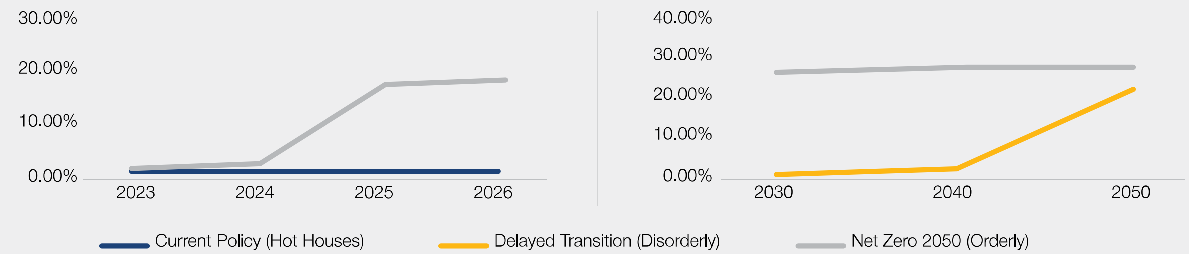
Bank Mandiri is committed to gradually transitioning its loan portfolio with a sustainable approach to support the bank's business interests and the Indonesian economy as a whole. As a state-owned enterprise (SOE), Bank Mandiri has a government mandate to support the national economy, which aligns with the transition plan toward a low-carbon economy. Based on the results of the Pilot Project Climate Risk Stress Test, we are currently developing a more comprehensive transition plan.

One of the main approaches we are considering involves collaborating with key customers particularly those in high-carbon-emission sectors, to understand their transition plans and help optimize these strategies to reduce emissions and manage transition risks. Bank Mandiri collaborates closely with key customers on ESG and sustainability issues, and we plan to further strengthen and expand these efforts by leveraging insights from the Pilot Project Climate Risk Stress Test results.

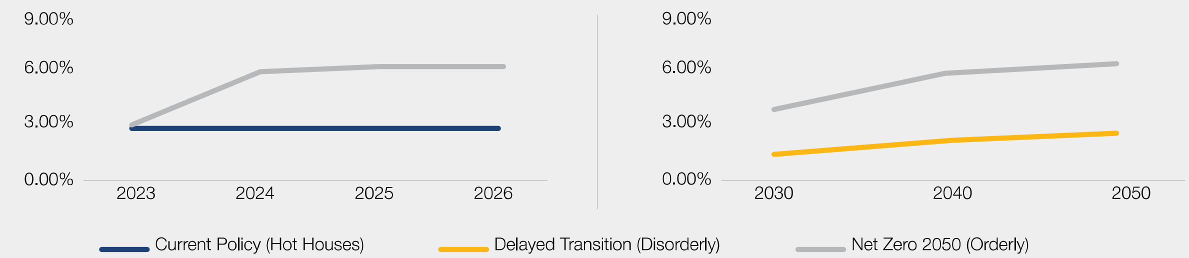
Summary of Climate-Adjusted Non-Performing Loan (NPL) Results



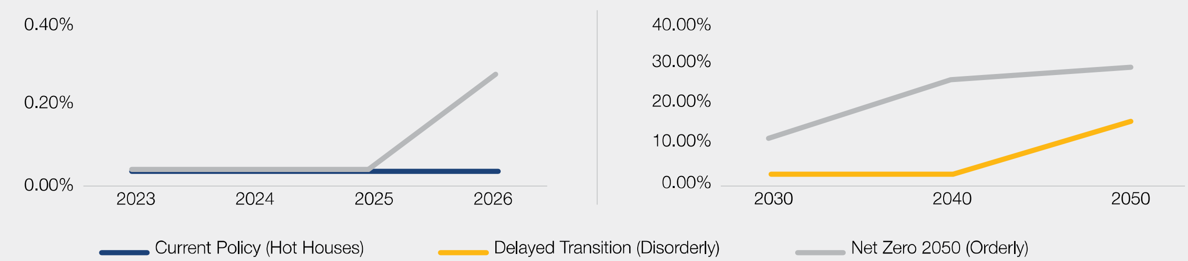
Construction



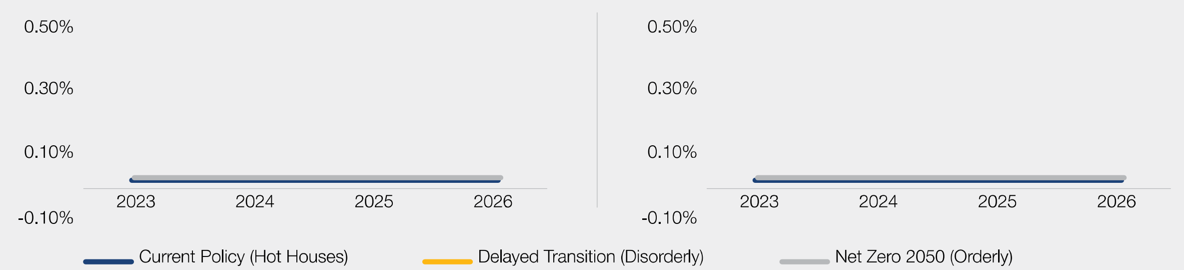
Processing Industry



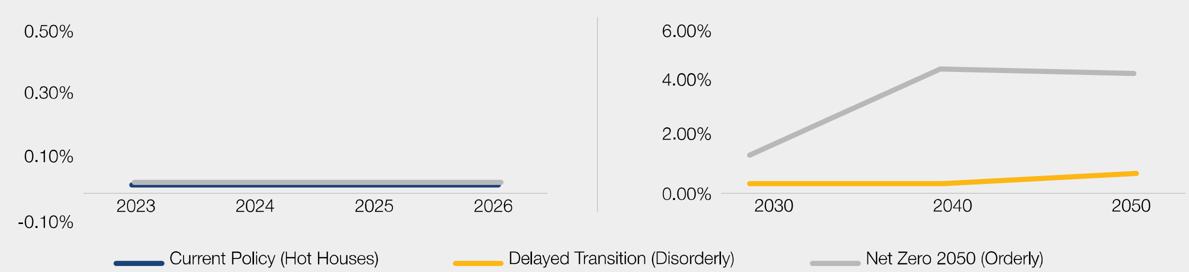
Mining and Quarrying



Transportation and Warehousing



Procurement of Electricity, Gas, Steam/Hot Water, and Cold Air



Climate Change Risk Management

Bank Mandiri has comprehensive processes and policies to identify, measure, monitor, and control climate-related risks. These processes leverage various inputs and parameters, including historical data, projections of hazards caused by climate change, and relevant information from third parties. Additionally, climate scenario analyses is used to inform the risk identification process, accounting for potential future impacts.

Climate risk monitoring is conducted regularly through internal risk oversight mechanisms. In response to environmental changes, Bank Mandiri actively adjusts its risk management processes to ensure that policies and approaches remain relevant and effective compared to the previous reporting period.

Bank Mandiri integrates quantitative and qualitative scenario analysis results related to climate change into environmental, social, and governance (ESG) risks. ESG risks are managed as part of core financial risks, including credit, market, and operational risks. The management of ESG risks is carried out in tandem with other types of risks within the Bank Mandiri framework.

Bank Mandiri has established the timeline and impact of climate risk periods as follows:

- **Short Term (1–5 years):** Focuses on completing the transition plan by 2025, strengthening credit policies for high-emission sectors, and preparing for achieving net zero emissions for Scope 1 and Scope 2 through offsetting strategies currently under internal review.

- **Medium Term (5–10 years):** Includes strategic planning to mitigate risks associated with evolving climate regulations while enhancing progress toward net zero emissions. This involves targeted investments in green technologies, collaborative partnerships, and operational adjustments to meet emerging regulatory standards.

- **Long Term (10–36 years):** Aims to achieve net-zero emissions in financing by 2060, guiding strategies to build a low-carbon economy through portfolio diversification, green product offerings for customers, and the development of a green ecosystem.

Climate-Related Risks and Opportunities [GRI 201-2]

Bank Mandiri has identified and analyzed two main types of climate-related risks: transition risks and physical risks. Transition risks are associated with the shift toward a low-carbon economy, where stricter climate policies, such as reducing greenhouse gas emissions, may affect industries that have not yet adapted. Additionally, changes in market and customer preferences that prioritize sustainability, as well as the adoption of low-emission technology, add complexity to these risks.

Meanwhile, physical risks include the direct impacts of climate change, such as increasingly intense extreme weather events, which can damage infrastructure, disrupt operations, and affect sectors within the Bank's financing portfolio. Rising temperatures and sea levels also increase the potential for damage to physical assets and impact sectors vulnerable to natural disasters, such as agriculture and fisheries.

			Impact on Bank Mandiri
Transition Risks	Policy & Legal	Compliance with climate-related policies and regulations in Indonesia.	Increased costs to comply with policies and regulations.
	Technology	Transition to low-emission products.	Significant investment costs for research and development, as well as infrastructure upgrades.
	Market	Changes in customer preferences.	Revenue loss due to changes in customer preferences.
	Reputation	Negative publicity related to climate change management.	Increased litigation costs.
Physical Risks	Acute	Extreme weather events.	Increased costs for repairing damaged physical assets, operational disruptions, and higher insurance premiums.
	Chronic	Rising temperatures and sea levels.	Decrease in asset values and increased costs for climate adaptation.

Transition Risks

Type of Risk	Likelihood	Time Horizon	Description	Financial Impact	Strategies to Respond to Risk
Policy and Legal					
Compliance with policies and regulations related to climate risks in Indonesia	Likely	Short to Medium	The enactment of Law No. 16/2016, Presidential Regulation No. 98/2021, as well as Financial Services Authority Regulation (POJK) No. 51/2017 and POJK No. 60/2017, has the potential to impact Bank Mandiri's operations concerning carbon emission reduction and the implementation of sustainability standards.	An increase in operational costs (Opex) to update internal policies and risk limits.	• Bank Mandiri implements sustainable finance in accordance with POJK 51/2017 and POJK 60/2017, and has developed the Sustainable Finance Action Plan (SFAP) 2025–2029 to support the NZE 2060 target, or sooner. • Bank Mandiri establishes an acceptable risk level (risk appetite) and industry level (industry appetite) aligned with Environmental, Social, and Governance (ESG) aspects, as outlined in the Industry Acceptance Criteria (IAC) under Internal Regulation No.B3.P1.T16. IAC. Risk assessment is conducted by each Business Unit based on the Loan Portfolio Guideline, which includes Industry Classification (IC), Industry Limit (IL), Industry Acceptance Criteria (IAC), and sectoral credit policies. This process is followed by pre-approval using credit risk tools that integrate ESG aspects. For the retail segment, assessments are conducted through the Industry Acceptance Criteria (IAC) and credit risk scorecard, tailored to the risk criteria of each product, ensuring risk management adheres to sustainability principles.

Type of Risk	Likelihood	Time Horizon	Description	Financial Impact	Strategies to Respond to Risk
Legal responsibilities arising as part of the implementation of climate change-related policies.	Likely	Short to Medium	The risk of legal action if Bank Mandiri fails to fulfill its emission reduction obligations in accordance with Law No. 16/2016 on the Paris Agreement.	Increase in operational costs (Opex) due to emerging litigation costs.	• Periodic measurement and monitoring of operational carbon emissions to achieve NZE 2030. • Internalizing a sustainable work culture among employees and enhancing understanding of customers, vendors, and stakeholders through training, workshops, and focus group discussions (FGDs) related to emission reduction initiatives.
The impact of climate change can worsen the financial condition of debtors and increase credit risks for Bank Mandiri.	Likely	Medium	The risks caused by the impacts of climate change have the potential to negatively affect debtors' businesses, which in turn may lead to more credit risk for Bank Mandiri.	Reduction in financing allocation to sensitive sectors.	• In its credit approval process, Bank Mandiri has implemented Environmental and Social Risk Management (ESRM) starting from the pre-selection (feasibility assessment), credit analysis, legal and compliance review, credit approval, to the monitoring process. The ESG risk management system in the credit process covers all Bank Mandiri's credit services, including retail, treasury, corporate finance, and consumer finance segments. • Bank Mandiri's credit policies are based on the Loan Portfolio Guideline (LPG), exclusion lists, and sectoral policies for priority sectors.
Technology					
Transition to low-emission technology in products.	Likely	Long	Technology risk can have a significant impact on the Company's business, including high technology investment costs and the potential depreciation of assets. Additionally, there is the risk of asset decommissioning due to pressure to replace services or products with lower-emission technologies.	Increase in capital expenditure (Capex) due to the procurement of low-emission technologies.	• Bank Mandiri continues to develop and integrate digital solutions that support environmentally-friendly operations, such as digital banking, branchless banking (*laku pandai*), and mobile banking services.

Type of Risk	Likelihood	Time Horizon	Description	Financial Impact	Strategies to Respond to Risk
Market					
Shifting customer preferences	Likely	Medium to Long	The risk arises when customers shift to lower-emission products, which can impact the decline in demand and company revenue.	Decrease in bank revenue	• Bank Mandiri is committed to developing environmentally friendly and sustainable financial products, including the issuance of green bonds, sustainable bonds, and ESG repo. Bank Mandiri also encourages financing in the Sustainable Business Activity Category (KKUB), which includes green and social portfolios, such as loans for MSMEs in accordance with POJK 51/2017. • Bank Mandiri is accelerating the digitalization of banking services to ease public access through digital innovations such as Livin', Kopra, and Smart Branch.
Reputation					
Negative publicity related to climate change management.	Likely	Short to Medium	Negative publicity or bad perception related to Bank Mandiri's activities and compliance with climate regulations can decrease customer trust and damage Bank Mandiri's reputation.	Increase in operational costs (Opex)	• Increasing the transparency of sustainability reporting and ESG with the ESG Group as the control tower ensuring compliance with climate change regulations. • Bank Mandiri minimizes reputational risk by analyzing negative news and public opinions and providing strategic and structured responses. • Interactive dashboards are used to monitor news and opinions across various platforms in real-time.

Physical Risk

Type of Risk	Likelihood	Time Horizon	Description	Financial Impact	Strategies to Respond to Risk
Chronic					
Rising temperatures and sea level	Likely	Long	Risk that disrupts operations and revenue of debtors in high-risk sectors, increases the LGD risk, and negatively impacts asset quality and the capital of Bank Mandiri.	Increase in Loss Given Default (LGD) and decline in asset value.	• Conducting a Pilot Project on Climate Risk Stress and creating a watchlist to regularly monitor customers impacted by climate-related issues. • The Business Continuity Management Group implements business continuity management in accordance with the international standard ISO 22301:2019, and applies our Business Continuity Management Framework to ensure organizational resilience through the readiness of buildings, equipment, technology, human resources, and third parties (BETH3). • Bank Mandiri collaborates with the Meteorology, Climatology, and Geophysics Agency (BMKG) to obtain rapid climate analysis and integrate an early disaster notification system, which is directly communicated to the Crisis Management Team. • Bank Mandiri also has alternative locations for operational units and data centers to mitigate the risk of transaction disruptions and potential data loss due to the impact of climate change.
Acute					
Extreme weather	Likely	Medium	Extreme weather can disrupt Bank operations, damage physical infrastructure, and increase recovery costs. Additionally, credit risk may rise due to disruptions to debtors, potentially increasing LGD and affecting Bank Mandiri's capital stability.	Increase in loss given default (LGD) and decline in asset value.	

Opportunity

Type of Opportunity	Likelihood	Time Horizon	Description	Financial Impact	Strategy to Realize Opportunity
Increase in portfolio diversification of the Bank	Likely	Short to Medium	Diversification of the Bank's product portfolio into green bonds and sustainable products	Increase in the Bank's revenue and access to capital	Bank Mandiri has issued the Sustainable Green Bond I Phase 1 with a total issuance value of up to Rp5 trillion, which was oversubscribed by 3.74 times in 2023. The proceeds from the issuance have been fully allocated, with 69% directed to the renewable energy sector and 31% to the management of natural biological resources and sustainable land use.

Bank Mandiri is currently assessing the financial impact of climate-related risks and opportunities on the Company's strategy and decision-making processes. Bank Mandiri's business model has transitioned toward a low-carbon economy through the launch of ESG-based products, both in funding and financing. Mitigation and adaptation efforts, direct and indirect, are being developed as part of the transition plan. Bank Mandiri is preparing a climate-related transition plan, taking into account key assumptions such as global climate policies and technological developments. Additionally, we have allocated resources to support this climate strategy, with a focus on investing in sustainable technologies and ESG-based financial products. Further details regarding the progress of this plan will be disclosed in upcoming reporting periods.

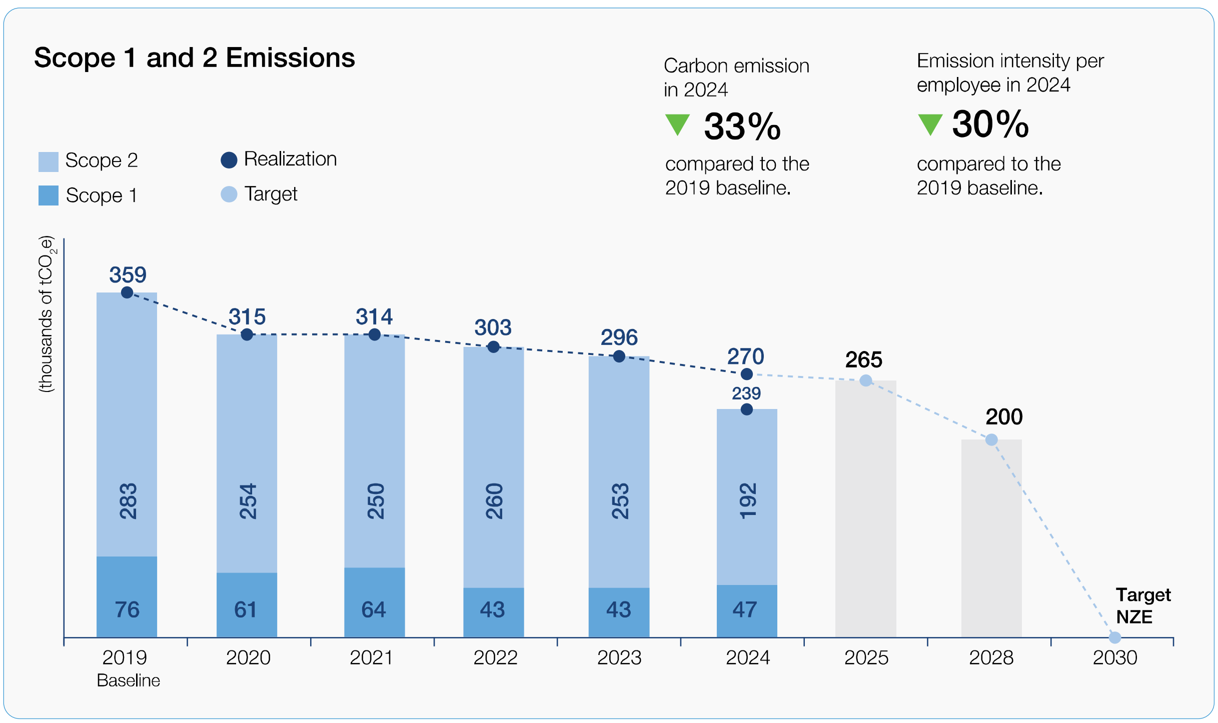
Metrics and Targets

Bank Mandiri has set a medium-term target to achieve NZE for its operations by 2030 and a long-term target to achieve NZE financing by 2060, in line with the global commitment to limit the rise in global temperatures to 1.5°C compared to pre-industrial levels.

Scope 1 and 2 Emissions

Scope 1 and 2 emissions have been reduced by 33% compared to the baseline through the implementation of energy efficiency measures, environmentally friendly operations, and the use of renewable energy with solar panels. Further information on Scope 1 and 2 emissions will be discussed in more detail in the Sustainable Operation chapter.

Operational Carbon Emissions Reduction Roadmap



Financed Emissions [GRI 305-3]

In calculating emissions from financing activities (financed emissions), Bank Mandiri refers to the technical guidelines of Scope 3 Category 15 of the GHG Protocol[1] and the CRMS OJK[2] guidelines. Additionally, Bank Mandiri applies the PCAF[3] methodology, which is the best practice standard in the financial industry for the calculation and reporting of financed emissions. [FN-CB-410b.4]

Bank Mandiri has become a PCAF signatory since 2023 and is committed to reporting financed emissions transparently and credibly. Furthermore, Bank Mandiri is the only bank in Indonesia that is part of the PCAF[4] Working Group, actively contributing input to the development of GHG Accounting methodologies in green and transition financing.

As part of Bank Mandiri's commitment to transparency regarding the impact of its financing activities, the Bank continuously strives to enhance the quality and completeness of financed emissions reporting data year after year. Additionally, Bank Mandiri consistently keeps pace with the latest regulatory developments and best practices.

In 2024, Bank Mandiri continued its commitment by engaging with customers through the active role of Relationship Managers (RMs) in collecting data and understanding customer emission profiles. As a result of these efforts, Bank Mandiri successfully increased the coverage of data considered in financed emissions, particularly Loan Asset exposure, reaching 56.1% of the bank's total financing portfolio, equivalent to Rp609.2 trillion—a 47.3% increase from the previous year.

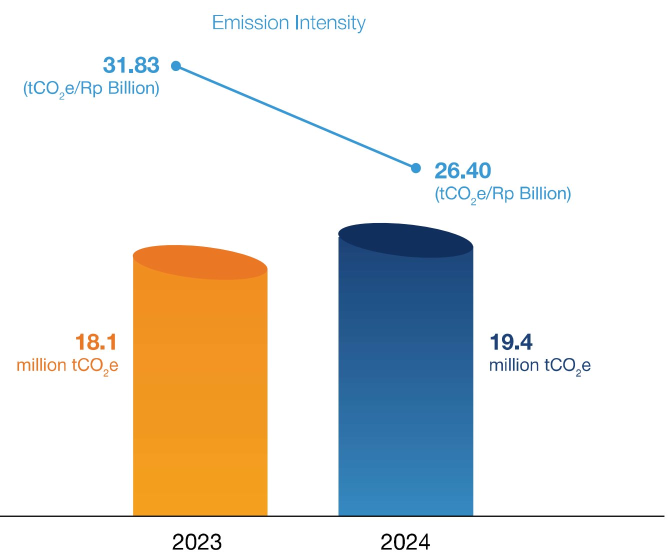
As a result of the expanded calculation coverage, in 2024, Bank Mandiri recorded total absolute financed emissions of 19.4 million tCO_2e, with emissions from Loan Assets amounting to 15.6 million tCO_2e and Other Assets contributing 3.7 million tCO_2e. However, in terms of emission intensity per billion Rupiah financed, Bank Mandiri recorded a decrease in total financed emissions intensity to 26.4 tCO_2e/Rp billion.

Furthermore, Bank Mandiri also conducted monitoring of the Business Loans and Project Finance asset classes reported in 2023 and compared them with debtor emissions in 2024 (for the same debtor population). From this monitoring, despite an 8% increase in financing exposure, absolute financed emissions declined by 13%. This further demonstrates Bank Mandiri's consistency in reducing emission intensity among its financed debtors[5]. [FN-CB-410b.2] [FN-CB-410b.3]

Scope 3 (Financed Emissions)

Financed Emissions Portfolio Coverage

2023	2024
44.4%	56.1%



Remarks:
- The calculation of Scope 3 emissions includes tCO_2e.
- In 2023, Bank Mandiri designated the calculation of financed emissions using 2022 data as the baseline year, which also marks the Bank's first year of conducting financed emissions calculations.conducting financed emissions calculations.
- The portfolio coverage refers to the financed emissions of loan assets in relation to the loan portfolio (bank only).

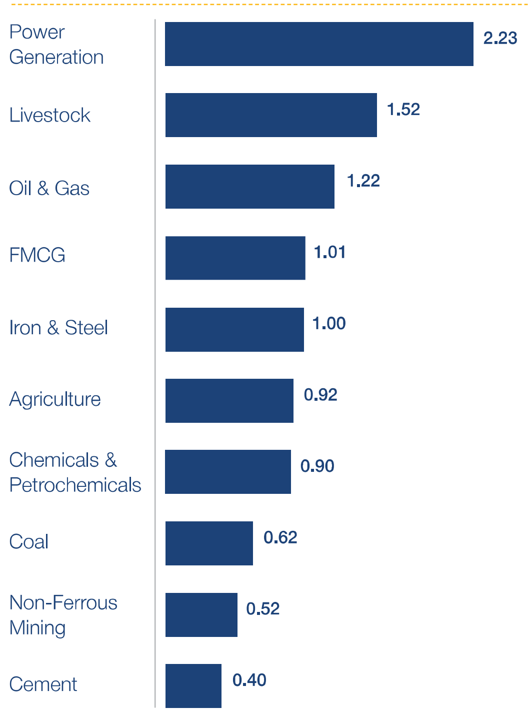
1. Greenhouse Gas (GHG) Protocol Technical Guidance for Calculating Scope 3 Emissions
2. Climate Risk Management & Scenario Analysis (CRMS) 2024 Handbook, Financial Services Authority (OJK)
3. Partnership for Carbon Accounting Financials (PCAF) Global GHG Accounting and Reporting Standard Part A: Financed Emissions
4. PCAF Standard Development Working Group 2024, Green & Transition Finance category
5. There is a potential for changes in Bank Mandiri's financed emissions profile in the future, which may be influenced by regulatory developments, methodologies/ standards, and the scope of corporate emissions reporting.

Financed Emissions by Asset Class

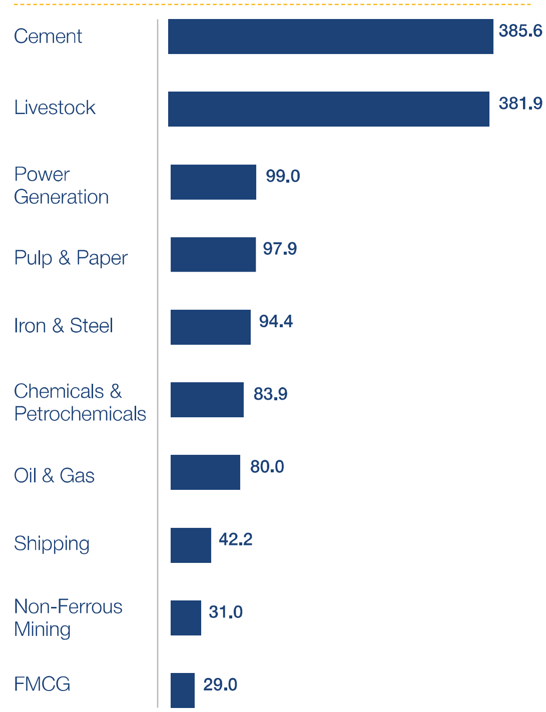
Asset Class[5]	Data Quality Score[1]	Financed Emissions (million tCO_2e)	
		2023[3]	2024[4]
Loan Asset			
Business Loans	2.0	10.7	12.3
Project Finance[2]	2.0	0.6	0.5
Sovereign Loans	2.0	1.1	1.8
Commercial Real Estate	4.0	0.3	0.2
Mortgages	4.0	0.4	0.4
Motor Vehicle Loans	4.0	0.4	0.4
Total Loan Asset		**13.5**	**15.6**
Other Asset			
Sovereign Bonds	2.0	4.5	3.7
Corporate Bonds	2.0	0.1	0.1
Total Other Asset		**4.6**	**3.8**
Total Financed Emissions		**18.1**	**19.4**

Largest Financed Emissions by Sector

By Absolute Emissions in 2024 (million tCO_2e)



By Emission Intensity in 2024 (tCO_2e/Rp Billion)



1. In accordance with the PCAF guidelines.
2. Covers Independent Power Producer (IPP) projects.
3. Based on financing data and customer emission reports as of December 2022 (baseline).
4. Based on financing data and customer emission reports as of December 2023.
5. For the Business Loans, Project Finance, and Corporate Bonds asset classes, only customers who have reported emissions (Reported Emission) are included.

In general, the sectors with the highest emissions, both in absolute terms and intensity, remain consistent with the previous year's report. However, with the expanded coverage of considered emission data, there have been some changes in sector rankings. Notably, the shipping and non-ferrous mining sectors entered the top ranks in 2024.

In addition to its ongoing efforts to enhance the coverage and quality of financed emissions reporting, Bank Mandiri is currently developing a roadmap and decarbonization strategy for priority sectors within its financing portfolio. This strategy is aligned with the national commitment to achieving Net Zero Emissions (NZE).

Products and Services Supporting Climate Change Mitigation

In response to climate change, Bank Mandiri recognizes the importance of meeting customer needs through product and service innovation. The products and services that support climate change mitigation offered by Bank Mandiri in 2024 are presented in the table below.

Livin' Planet Bank Mandiri launched Livin' Planet, an innovative feature within the Livin' by Mandiri application, aimed at increasing customer awareness and participation in environmental conservation. Through Livin' Planet, customers can calculate their carbon footprint from daily activities using the integrated carbon calculator, while also contributing to tree planting programs and tracking their contributions to tree planting efforts.	**Green Mortgage** Bank Mandiri promotes green financing through Green Mortgage for properties that have green building certifications, such as NavaPark BSD City, which received the Greenship Platinum certification from GBCI. Customers receive incentives in the form of low interest rates and reduced down payments, supporting sustainable development.	**Digital Banking** Bank Mandiri utilizes digital banking to support climate change mitigation through its Livin' app for retail customers and Kopra for wholesale customers, making financial services easily accessible without the need to visit a branch. In addition, Bank Mandiri operates 241 Smart Branches as part of its digital transformation, offering fast, easy, and secure banking services. This initiative not only enhances customer convenience but also reduces carbon emissions by decreasing the use of physical documents and transportation, aligning with Bank Mandiri's commitment to sustainability.
SME Loans Bank Mandiri has a strong policy to support the growth and strengthening of the SME sector, recognizing the important role of SMEs in Indonesia's economy by providing Working Capital Loans, Investment Loans, Micro Business Loans (KUM), and participating in the People's Business Credit (KUR) program for SME empowerment.	**Corporate-in-Transition Financing** Bank Mandiri provides financing to support clients in transitioning their businesses to align with the goals of the Paris Agreement or NDC targets. Clients must have a clear climate transition strategy, measurable targets, and evidence of implementation within the past 12 months.	**Renewable Energy Financing** Bank Mandiri provides loans to support businesses that contribute to renewable energy. As of 2024, the total loans disbursed amounted to Rp11.8 trillion.
Cardless Credit Card Bank Mandiri launched a virtual credit card obviating the need for a physical card to reduce plastic waste and carbon emissions from the production, printing, and delivery of cards to customers.	**Recycled Cards** [OJK F.5] [GRI 301-2] Bank Mandiri continues to innovate by creating more environmentally friendly products, such as debit and prepaid cards made from recycled PVC material.	**Green Loans** In 2024, Bank Mandiri provided green loan facilities amounting to Rp3.5 trillion for the electricity sector as the ESG Coordinator in the energy transition, and USD226 million for the transportation sector to support the distribution of electric vehicles and their infrastructure.

For more information on each product, please refer to the "Sustainable Banking" section.