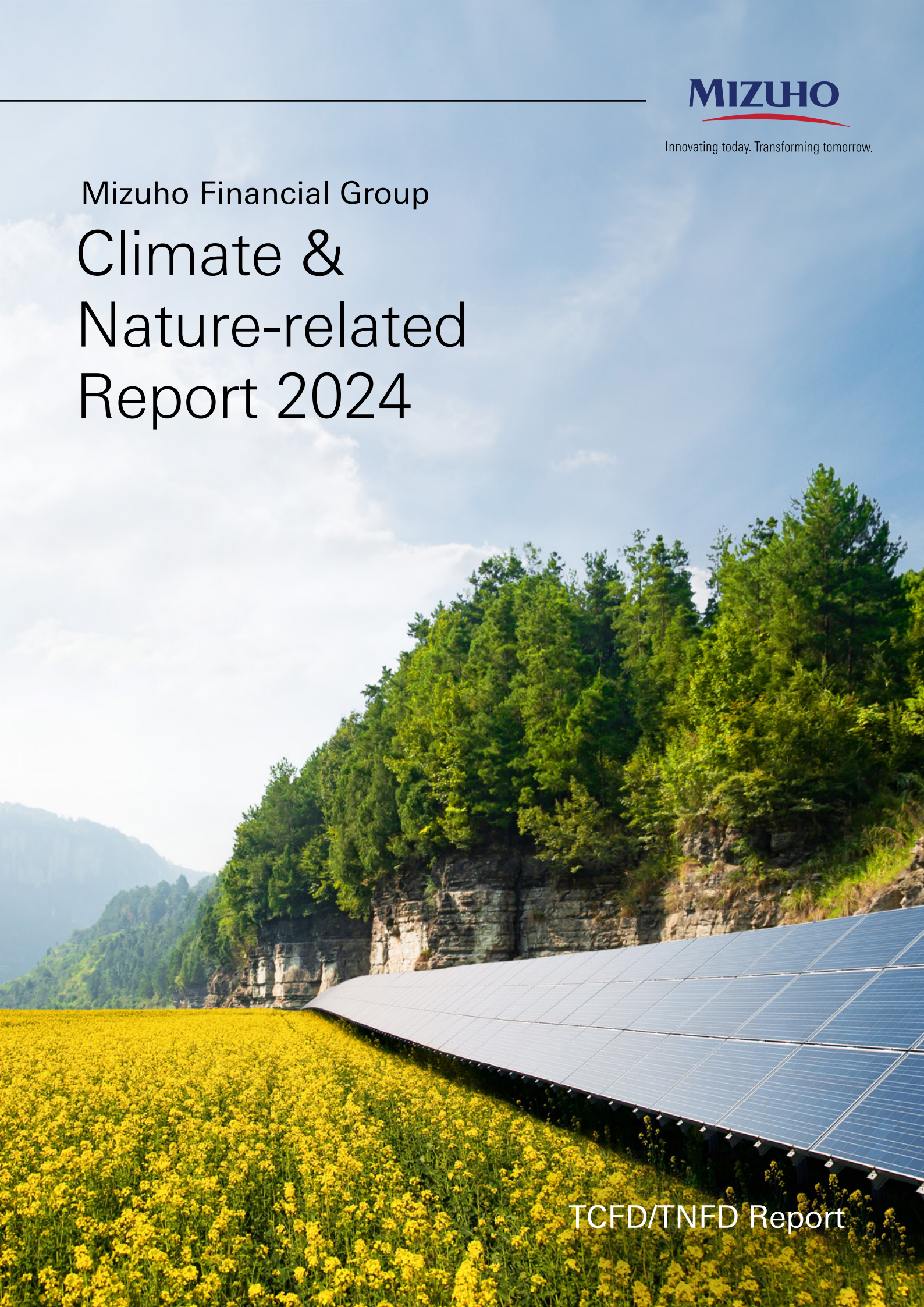
MIZUHO

Innovating today. Transforming tomorrow.

Mizuho Financial Group

Climate & Nature-related Report 2024



TCFD/TNFD Report

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Highlights of Climate & Nature-related Report 2024

Information disclosure
- **Integrated disclosure of Mizuho's climate and nature-related information** based on TCFD / TNFD recommendations

Sustainable business
- Specified business strategies and focused topics
  - Supporting clients' steady transitions toward 2030
  - Facilitating clients' future-oriented actions
  - Key topics: Hydrogen, carbon credits, impact
- Advancement in sustainable finance results

Sustainable finance	League tables[1]
FY2019 to FY2023 (cumulative total) JPY 31.0 trillion	Sustainable finance (loans) Global No. 1 (among Japanese banks)
Amount for environmental and climate-related finance within the above JPY 14.0 trillion	Publicly offered SDGs bonds Japan No. 1 for five successive years

Engagement
- Promoted engagement from various perspectives including business and risk management

Dialogue based on our ES Policy[2] with approx. 900 companies

Capability building
Sustainability management experts: Approx. 1,650 as of March 2024

Environmental and energy sector consultants: Approx. 140 as of March 2024

Scenario analysis
- Expanded targeted sectors for transition risk analysis

Electric power, coal, oil and gas, steel, automotive (finished vehicle manufacturers), maritime transportation, aviation + **Cement, chemicals, automotive (suppliers)**

Risk controls in carbon-related sectors
- Added new criteria to evaluations of clients' transition risk responses (to come into effect in FY2024)
  1. **Actual GHG emission reduction results**
  2. **Alignment of targets / results with 1.5ºC scenario**
- Confirmed steady progress in the status of clients' responses toward transition risk

Revisions of the ES Policy[2]
- Revised some policies: **Human rights issues**, **Weapons and arms**, **Coal-fired power generation**
- Added specific sectors: **Woody biomass power generation (mono-fuel combustion)**, **Mining**, **Fisheries & aquaculture**

Reduction of financed emissions
- **Completed initial sector-specific target setting based on Net-Zero Banking Alliance (NZBA) guidelines** by setting new targets for four sectors

2021	2022	2023	2024
Joined NZBA	Electric power, oil and gas, coal	Automotive, maritime transport	Steel, real estate

- Expanded scope of measurement for financed emissions (residential mortgages)
- Measured facilitated emissions for the first time

Reduction of our own emissions
- Steady reductions achieved by switching to renewable energy

FY2023 60% reduction expected (From FY2020 levels)

Natural capital initiatives
- Supported clients' initiatives through Blue Finance arrangements and consulting services, utilizing satellite data
- Analyzed Mizuho's loan portfolio using the LEAP approach

(The highlights here focus on areas of improvement from last year's TCFD Report)

1: Calculation period: April 2023 – March 2024
Sources: Sustainable finance (loans) data from LSEG; SDG bonds data from Capital Eye
2: Environmental and Social Management Policy for Financing and Investment Activity

Ⅰ. CEO Message

The impact of global warming was felt even more acutely in 2023. The average temperature worldwide set a new record high for the last 170 years or so since statistics began being kept, and Japan, as well, recorded more days with a high of 35°C or above than ever before. As the UN Secretary-General Guterres stressed the severity of the crisis when he even said: "The era of global boiling has arrived," responding to climate change is an increasingly urgent issue.

Our economy and society are sustained by natural capital — plants, animals, air, water, soils — and the many benefits ecosystems provide us. Nowadays, comprehensive environmental initiatives including addressing climate change mitigation and adaption, conservation and recovery of natural capital and establishment of a circular economy have become essential requirements for company's sustainable growth.

At the same time, the pace of environmental change is increasing. Thus, it is crucial for both our industrial clients and Mizuho, as a financial institution, to make ceaseless efforts to cope with these changes.

At Mizuho, we are promoting an integrated approach under our *Net Zero Transition Plan* to reach a decarbonized society by 2050 with a focus on three perspectives: *contribution to the real economy transition*, *capturing business opportunities*, and *conducting appropriate risk management*.

In the perspective of real economy transition, we have set medium-term reduction targets for our financed emissions (Scope 3) in a total of seven sectors as of April 2024, completing initial target-setting in line with the guidelines of the Net-Zero Banking Alliance (NZBA). These targets are to be achieved by means of ongoing transitions by our industrial clients. Moving forward, we need to further accelerate various initiatives as we move from the target-setting phase to the execution phase. Mizuho will do the utmost we can, in terms of both opportunities and risks, to achieve decarbonization together with our clients.

In the perspective of capturing business opportunities, by taking advantage of Mizuho's strengths especially in industry insight and finance arrangement capabilities, we are steadily building a track record of sustainable finance in various areas, such as supporting financing for the development of renewable energy and next-generation technologies and Blue Finance for the conservation of marine resources. We also proactively promote future-oriented actions, such as aiming to provide JPY 2 trillion in financing for the production of hydrogen, which will play a large role in achieving a decarbonized society. We continue to make our best efforts to reach our goal of providing JPY 100 trillion in sustainable finance by FY2030, as we take pride in being a leader in the market, evidenced by capturing first place on the League Table for publicly offered Japanese SDGs bonds for five consecutive years.

And finally, in the perspective of appropriate risk management, Mizuho continues to enhance our risk management framework, such as this year adding consistency with the 1.5°C scenario as an assessment criteria for evaluating clients' status of transition risk responses, as part of our risk control framework for carbon-related sectors, which we introduced in FY2020 ahead of other financial institutions. We are, in fact, seeing steady progress and authentic transformations in the status of transition risk responses by clients in the targeted sectors including electric power and natural resources.

We are also making progress on actions for the conservation and recovery of natural capital, although we are just getting under way. In FY2023, we used the LEAP approach to conduct a visualization analysis of the relationship between our loan portfolio and natural capital. We are supporting our clients' initiatives towards natural capital through finance origination and provision of consulting services by using these analytic results. We are accelerating our initiatives while recognizing the interconnectedness between the realization of nature positive which puts nature on a recovery pathway, and the transition to net zero and the circular economy.

The underlying crucial element that connects all these efforts are the client engagement and the client support leveraging the collective strengths of the Group. As transition pathways vary by region and industry, we need to consider the appropriate pathway for each client's circumstances while also keeping the time horizon of 2030 and 2050 in mind. We place importance on a series of engagement activities, including 'analyzing and understanding the client's risks and opportunities and design future strategies', 'fostering a common understanding of the business landscape and management issues through constructive dialogue', and 'providing financial and non-financial solutions that leverage Mizuho's strengths and pursing co-creation with clients'.

No one can predict the future, but we can envision it. To this end, we create the vision for the future and then engage in dialogue and hold hands with our clients to realize the vision. Achieving transitions by our clients will lead to enhance their corporate value in terms of both reducing transition risk and capturing business opportunities, which in turn reduces Mizuho's risk and increases our corporate value. We are committed to working together with our clients toward the shared goal of a sustainable society and economy, including the realization of a decarbonized society.

We have released this report as a new initiative that covers both climate and nature for the first time. The report was prepared based on the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) and the Task Force on Nature-related Financial Disclosures (TNFD). We recognize that the report's disclosures related to natural capital are not yet fully compliant with the TNFD recommendations, and that there are many elements that need further refinement. Nevertheless, Mizuho is determined to make integrated disclosures of this type, as we have long been focused on improving the transparency of our disclosures, being the first financial group in Japan to have released a TCFD report. We would appreciate any honest feedback from you, our stakeholders, on the content of the report or on Mizuho's initiatives and transformations.

We are committed to amplifying the positive changes that have emerged over the past year into a strong momentum in line with our purpose: *Proactively innovate together with our clients for a prosperous and sustainable future*. To this end, I will take the lead in mobilizing the Group's strengths and in continuing to take on challenges together with our clients.

M. Kihara

Masahiro Kihara
President & Group CEO
Mizuho Financial Group, Inc.

Ⅱ. Introduction

1. Status of actions addressing climate change (in line with the TCFD Recommendations)

At Mizuho, we position addressing climate change as a key part of our corporate strategy and have been enhancing our initiatives in this area.

(Underlined sections indicate enhancement since our previous disclosure in July 2023)

Governance

Disclose the organization's governance related to climate-related risks and opportunities

- Mizuho has established a supervisory and business execution governance framework, centered on the Board of Directors. p.11
  - Supervisory: The Board of Directors and the Risk Committee conduct oversight on reported and deliberated matters discussed by business execution line.
  - Business execution: The Sustainability Promotion Committee, the Risk Management Committee, the Executive Management Committee, and other committees have deliberations and discussions, to be reported to the Board of Directors.
- The Group Chief Sustainability Officer (CSuO) and the Group Chief Risk Officer (CRO) lead initiatives in their respective areas under the Group CEO's supervision.
- Mizuho has adopted sustainability-related evaluating indicators for executive compensation, such as sustainable finance amount, climate change initiatives, and assessments by ESG rating agencies. p.14

Strategy

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

- Mizuho has developed the Net Zero Transition Plan (formulated in 2022, revised in 2023) to promote the Group's climate change responses in an integrated manner. p.18
- Recognition of opportunities and initiatives to capture opportunities:
  - We recognize transformations in industrial and clients' business structures toward the transition to a decarbonized society and investments and social implementation in practical applications of new technologies as opportunities. p.22
  - Based on our sustainable business strategy, we actively support clients' transitions to a decarbonized society and their measures to address climate change. p.23
    - Support for steady transitions toward 2030: We promote support for clients' business portfolio restructuring and social implementation of next-generation technologies. We have strengthened our financing capacity toward our sustainable finance target of JPY 100 trillion over the FY2019 to FY2030. p.24
    - Promotion of client future-oriented actions: We promote actions focusing on hydrogen, carbon credits, and impact. We support the establishment of technologies and business models in the development, demonstration, and commercialization stages through the Transition Equity Investment Facility and Value Co-creation Investments. p.26
- Engagement: We actively approach clients from the perspective of clients' various strategies based on our analysis and ideas/concepts, constructive dialogue, and solution provision and co-creation. We have enhanced the communication to policy makers and our involvement in international rule making. p.28-29
- Capability building: We have promoted internal dissemination of sustainability recognition and strengthened training for sustainability transformation talents. p.30
- Risk recognition: We comprehensively perceive the risks associated with climate change by assessing the importance in each risk category. We recognize credit risk (deterioration of client business performance) and market risk (decline in the value of equity holdings) to be of particularly high consequence. p.48
- Scenario analyses: p.50

	Transition risk	Physical risk
Analysis method	• We analyze the increases in credit costs caused by transition risks based on an outlook for the impact on clients' financial results under the scenarios. (Targeted sectors: Electric utilities, oil and gas, coal, steel, automotive (OEM and suppliers), maritime transportation, aviation, cement, and chemicals)	• Acute risks: We analyze damage to assets and business stagnation associated with changes in natural disasters caused by temperature increases. • Chronic risks: We analyze asset deterioration and impact on labor force reductions associated with temperature increases.
Implications	• While the cumulative increase in credit costs by 2050 is approximately JPY 1,910 billion under the Net Zero 2050 scenario and may have a certain level of financial impact in the medium to long term, the impact on Mizuho's short-term financial soundness will be limited.	• Although the likelihood of the disasters occurring simultaneously in calculation target sectors is low, the analysis confirmed the possibility of additional losses of approximately JPY 90 billion in a single year if the largest stress event (cyclones and floods) materializes.

Risk management

Disclose how the organization identifies, assesses, and manages climate-related risks

- As part of our management of top risks, which are risks recognized by top management as having major potential impact on Mizuho, we designated the *Worsening impact of climate change* as a top risk and have strengthened our control for this risk. p.64
- Based on the *Basic Policy for Climate-related Risk Management*, we recognized and assessed risks related to materiality. For material risks, we identify and manage quantitative impact through scenario analysis, credit risk assessment. p.65
- Risk control in carbon-related sectors: p.66
  - We have established a risk control framework to assess and monitor the degree of risks for each client along two axes — (1) the client's sector and (2) the status of the client's transition risk responses. (We are planning to add GHG emissions reduction performance, alignment of targets and results with the 1.5°C pathway, and other assessment criteria to axis (2).)
  - We control exposure in high-risk areas by promoting transition through engagement and assistance.
- We have established and operate *the Environmental and Social Management Policy for Financing and Investment Activity.* The following aspects of the Policy were revised in March 2024: Made revisions to some policies (human rights issues, weapons and arms, coal-fired power generation) and added specific sectors (woody biomass power generation, mining, fisheries and aquaculture). p.71

Metrics and targets

Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material

p.75

Monitoring metrics	Targets	Recent results
Scope 1 and 2 emissions	Carbon neutral by FY2030	FY2022: 106,750 tCO_2
Scope 3 (emissions from financing and investments)	Net zero by 2050	(Targets and results disclosed by sector)
- Electric power	FY2030: 138 to 232 $kgCO_2e/MWh$	FY2022: 368 $kgCO_2e/MWh$
- Oil and gas	FY2030: Scope 1,2: 4.2 gCO_2e/MJ Scope 3: –12% to –29% (from FY2019 levels)	FY2022: Scope1 and 2: 5.6 gCO_2e/MJ Scope 3: –43% (34.8 $MtCO_2e$)
- Coal mining (thermal coal)	OECD countries: Zero by FY2030 Non-OECD countries: Zero by FY2040	FY2022: 0.6 $MtCO_2e$
- Steel	FY2030: –17% to –23% (from FY2021 levels)	FY2022: –18% (14.1 $MtCO_2e$)
- Automotive	FY2030: Scope 1,2: –38% (from FY2021 levels) Scope 3: –31% to –43% (from FY2021 levels)	FY2022: Scope1 and 2: –11% (831 $ktCO_2e$) Scope 3: –7% (184 gCO_2e/vkm)
- Maritime transportation	FY2030: Portfolio climate alignment score ≤ 0%	FY2022: -1.55%
- Real estate	FY2030: 33 to 42 $kgCO_2e/m^2$	FY2022: 65 $kgCO_2e/m^2$
Sustainable finance amount	Total for FY2019 to FY2030: JPY 100 trillion of which JPY 50 trillion is earmarked for environment and climate-related finance	FY2019 to FY2023 Total: JPY 31.0 trillion of which JPY 14.0 trillion on environment and climate-related finance
Outstanding credit balance of coal-fired power generation plants[1]	Reduce the outstanding credit balance to 50% of the FY2019 balance by FY2030, and achieve an outstanding credit balance of zero by FY2040	March 31, 2024: JPY 240.8 billion (down 19.6% from March 31, 2020)
Exposure to high-risk areas in transition risk sectors[2]	Reduce over the medium to long term	March 31, 2024: JPY 1.5 trillion (down 0.3 trillion JPY from March 31, 2021)
Status of clients' transition risk responses	—	March 31, 2024: Steady progress in the targeted sectors
SX talent - Sustainability management experts - Environment and energy sector consultants	FY2025 - 1,600 experts - 150 consultants	As of March 2024: - Approx. 1,650 experts - Approx. 140 consultants

Data for disclosure aside from monitoring metrics:

・Sector-by-sector credit exposure in line with the TCFD Recommendations

・GHG emissions from financing and investment / capital market activities (financed emissions / facilitated emissions)

[1] Aggregation Targets: Credit cases where the funds are used for the construction or expansion of coal-fired power plants, which is prohibited under the ES policy

[2] See p.66 "Risk Control in Carbon-related Sectors" for the definition of exposure to high-risk areas

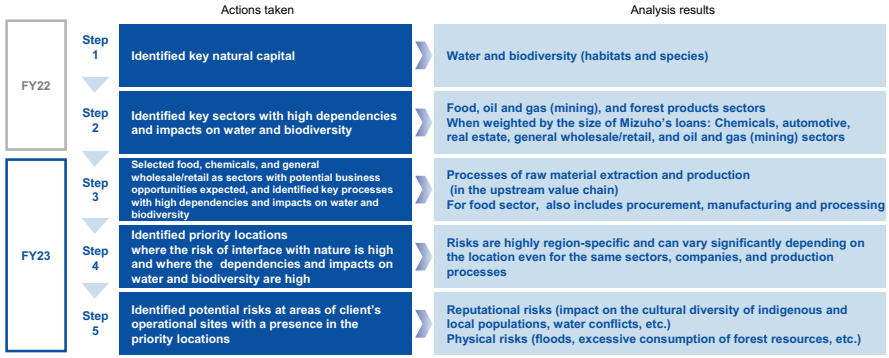
2. Status of actions addressing natural capital

The conservation and recovery of natural capital is an important issue that is closely related to addressing climate change and realizing a circular economy. Mizuho recognizes that this is a field where we must make efforts both to capture opportunities and manage risks. Mizuho aims to enhance corporate value and realize a sustainable society through efforts to conserve and restore natural capital and biodiversity. Our basic approach is to address our dependencies and impacts on natural capital, both through our own direct operations and through financial activities, including financing and investment.

- Mizuho's natural capital dependencies and impacts from our own direct operations
  Mizuho conducts business operations in retail branches, offices, administration centers, IT system centers, and other physical locations. As such, we are moving forward with initiatives to lower the dependency and impact of our direct operations on natural capital.

- Mizuho's natural capital dependencies and impacts from our financing and investment
  Given that Mizuho's clients in Japan and overseas who we provide financing and investment to are also connected to nature through their own business activities and their supply chains, an important issue for Mizuho is responding to natural capital through our financing and investment. Therefore, evaluating the dependence of clients on natural capital in their business activities, assessing the potential negative impacts they may have on it, and taking actions based on this evaluation contribute to the conservation and recovery of natural capital as well as a change in money flow towards nature-positive outcomes. Mizuho used the LEAP (Locate, Evaluate, Assess, Prepare) approach to analyze our loan portfolio. From these analyses, we identified the natural capital dependencies and impacts of clients' businesses, who are recipients of our financing. The findings will be utilized for appropriate risk management related to natural capital as well as for capturing business opportunities (Figure 1).

Figure 1 Visualizing the connection between Mizuho's loan portfolio and natural capital (LEAP approach analysis)



- Natural capital-related opportunities and risks for Mizuho
  Mizuho promotes support to clients with high natural capital dependencies and impacts through financing arrangements and the provision of consulting services, while making use of analyses of the natural capital dependencies and impacts in our loan portfolio. We view client responses to natural capital as a business opportunity for Mizuho and, thus, actively work toward the realization of a sustainable society while closely linking our efforts to responding to climate change and realizing a circular economy.
  From a risk management perspective, we have formulated the *Environmental Policy* and the *Environmental and Social Management Policy for Financing and Investment Activity*, and we apply the Equator Principles and work to prevent and mitigate adverse impacts on the environment and society, including natural capital, under these frameworks.

3. Status of progress under the FY2023 Action Plan

The table below summarizes our progress under the FY2023 Action Plan.

Thematic area	FY2023 Action Plan	Key progress	Pages
Governance	• Strengthen and accelerate the initiatives to implement the Net Zero Transition Plan at business execution line, and report on those initiatives to the supervisory line. • Develop the internal structure to respond to climate-related disclosure regulations.	• Regularly reported and discussed at both business execution and supervisory lines, including the Sustainability Promotion Committee, Executive Management Committee, Risk Committee, and Board of Directors • Discussed policies, plans, and internal frameworks for responding to regulations on the sustainability information disclosure (ISSB/SSBJ in Japan, SEC in the U.S., CSRD in Europe)	p. 11
Strategy	• Clarify engagement strategies, in terms of both capturing opportunities and managing risks that account for the characteristics of each sector. • Consider quantitative examinations of the financial impacts (risks, opportunities, expenses, etc.) of climate change, with consideration of disclosure regulations.	• Promoted engagement, provision of solutions, and business co-creation to address clients' various strategies based on sector-specific transition pathways and technology roadmaps as well as on Mizuho's investment and loan portfolio • While paying close attention to trends in disclosure regulations, on the opportunity side of financial impacts, began analyzing the impact of sustainable finance on balances and revenue; on the risk side, analyzed scenarios to determine the impact on credit costs and other costs	p. 28
	• Further improve scenario analyses (including verification of scenario adequacy, expansion of the scope of analyses, model advancements, incorporation into individual company plans, and documentation of analysis logic and processes).	• Transition risk scenario analyses: After reviewing appropriateness of scenarios, improved models and added targeted sectors: automotive (suppliers), cement, and chemicals. Transition risks and physical risks: Documented analysis logic and processes and established an operational framework	p. 50
Risk management	• Improve our methods of verifying the status of clients' transition risk responses, including their transition strategies.	• Improvements in carbon-related sector risk control: Plan to add "Achievement of a certain amount of GHG emission reductions with respect to the target" and "Targets and performance are consistent with the 1.5°C pathway" as criteria for evaluating the status of client's transition risk responses	p. 66
	• Improve our control policies and exposure planning for carbon-related sectors by quantifying climate-related risks. • Revise *Environmental and Social Management Policy for Financing and Investment Activity* to appropriately reflect the situation of the environmental and society.	• Monitored our exposure to high risk and medium risk areas identified with two-axis risk evaluations for risk controls in carbon-related sectors • Revisions to the *Environmental and Social Management Policy for Financing and Investment Activity*: Made revisions to some policies (human rights issues, weapons and arms, coal-fired power generation) and added specific sectors (woody biomass power generation, mining, fisheries and aquaculture)	p. 71
Metrics and targets	• Financed emissions: Set interim sector-level targets (automotive, maritime transportation, steel, and real estate), monitor progress in sectors where targets have been set, and consider additional measures as needed.	• Scope 3 (financed emissions): Completed initial target setting based on the NZBA by setting new medium-term targets for four sectors (automotive, maritime transportation, steel, and real estate); implemented progress monitoring based on dialogue with clients and the management system (such as progress visualization and impact analysis) that accounts for sector attributes	p. 77
	• Our own GHG emissions: Refine initiatives to prepare for the introduction of disclosure regulations, and execute emission-reduction measures.	• Promoted procurement of renewable energy and converted 70% of domestic electric power to renewable energy; expanded measurement scope to consolidated subsidiaries and expanded the coverage of third-party assurances to seven Group companies	p. 76

Mizuho's journey so far

Over the last 20 years, Mizuho has strengthened collaboration within and outside the Group and advanced our initiatives to address environmental and social issues that change with the times, such as response to climate change and natural capital.

2003
- **Adopted the Equator Principles** (Mizuho Bank)

2006
- **Became a signatory to the UN Global Compact**
- **Became a signatory to the UN Environmental Programme Finance Initiative (UNEPFI)**
- **Became a signatory to the UN Principles for Responsible Investment (PRI)** (Mizuho Trust & Banking)

2009
- Participated in the **Keidanren Initiative for Biodiversity Conservation**

2013
- **Became a signatory to the UN PRI** (Asset Management One)
- Participated in the **Cross Sector Biodiversity Initiative** (Mizuho Bank)

2017
- **Adopted recommendations of the Task Force on Climate-related Financial Disclosures (TCFD)**
- Joined Climate Action 100+ (Asset Management One)

2018
- Established policies for specific sectors (now the Environmental and Social Management Policy for Financing and Investment Activity)
- **Began engagement with clients** based on the above policy

2019
- **Became a signatory to the UNEP FI Principles for Responsible Banking**
- Identified key sustainability areas (materiality)
- Established the Basic Policy on Sustainability Initiatives

2020
- **Established the Environmental Policy**
- Set target for Sustainable Finance and reduction target for outstanding credit balance of coal-fired power plants
- **Published our first TCFD Report (a first for a Japanese financial group)**
- **Joined the Net Zero Asset Managers initiative** (Asset Management One)

2021
- Committed and accelerated responses to align with the Paris Agreement
  - Revised the Environmental Policy
  - Set reduction targets for Scope 1 and 2 (Group GHG emissions)
- **Joined PCAF (as the first Japanese financial institution)**
- **Appointed as chair of the newly established PCAF Japan coalition**
- **Joined the Net Zero Banking Alliance (NZBA)**

2022
- **Endorsed the principles of the Taskforce on Nature-related Financial Disclosures (TNFD)**
- Formulated Mizuho's Approach to Achieving Net Zero by 2050 and the **Net Zero Transition Plan**
- Brought forward Scope 1 and 2 reduction target: carbon neutral by FY2030
- **Set medium-term Scope 3 targets** (emissions from financing and investment): **Electric power, oil & gas, coal mining**
- **Appointed a Group Chief Sustainability Officer (CSuO)**

2023
- **Revised the Net Zero Transition Plan** and embodied initiatives for real economy transition
- Established the Basic Policy for Climate-Related Risk Management
- **Set a target of JPY 100 trillion for sustainable finance for FY2019 to FY 2030 (of which JPY 50 trillion for environmental and climate-related finance)**
- Set **medium-term Scope 3 targets for the automotive and maritime transportation sectors**
- Registered as a **TNFD Adopter**

2024
- Set **medium-term Scope 3 targets for the steel and real estate sectors; completed initial target setting based on NZBA guidelines**
- Disclosed integrated climate and nature-related information in the **Climate & Nature-related Report**

III. Governance

1. Supervisory and business execution structure

As our climate and nature-related initiatives are closely connected with sustainability promotion, risk management, and other areas, climate-related initiatives are discussed at the business execution line, which includes the Sustainability Promotion Committee, Risk Management Committee, and Executive Management Committee. Reports based on discussions at the business execution line are made to the Board of Directors and supervision is provided by the Board of Directors and the Risk Committee in accordance with the structure for promoting and managing each initiative.

Figure 2 Climate and nature-related supervisory and business execution structure

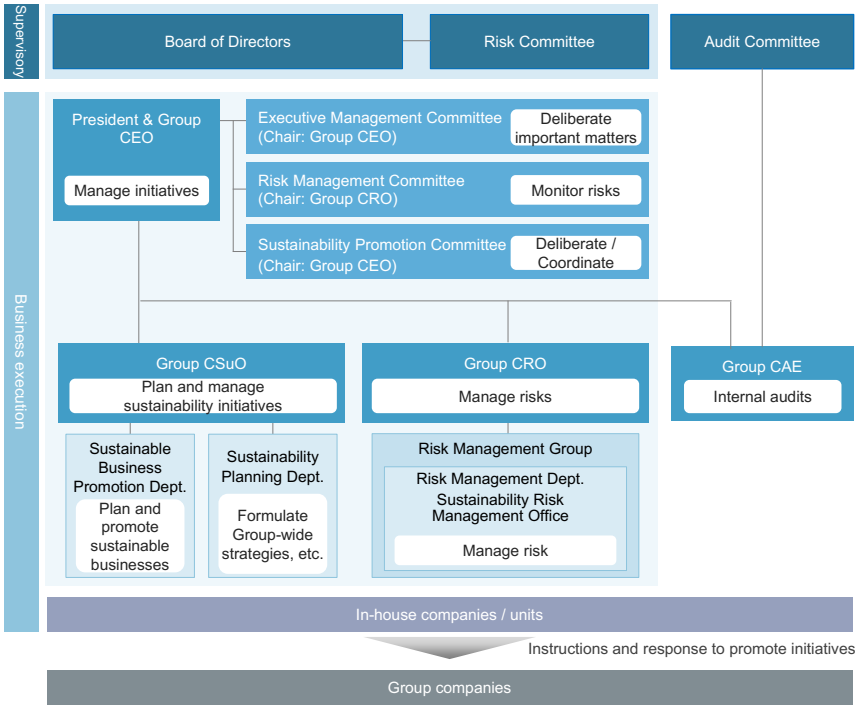


Table 1 Major reports and deliberations in the supervisory and business execution line

	Committee	Composition[3]	Roles in relation to climate change and natural capital	Major reports and matters determined
Supervisory line	**Board of Directors**	• Chair: Outside director • Composition: 8 outside directors 2 internal non-executive directors 4 directors who concurrently serve as internal executive officers	• Receives periodic reports on the Group's environmental initiatives from the business execution line and provides supervision • Establishes, amends, and abolishes important policies such as the *Environmental Policy* and the Transition Plan, and resolutions on basic matters like business plans	• FY2024 business plan • Set additional Scope 3 targets by sector • Strengths of Mizuho's sustainable business and capabilities to be enhanced • Status of initiatives to address climate change and natural capital • Approach to comply with Sustainability Disclosure Regulations • Revision of the *Environmental and Social Management Policy for Financing and Investment Activity* (ES Policy)
Supervisory line	**Risk Committee**	• Chair: Internal non-executive director • Composition: 2 outside directors 1 internal non-executive director 2 outside experts	• As the advisory body to the Board of Directors, it decides and oversees matters relating to risk governance, and makes recommendations to the Board of Directors regarding the status of risk management	• Makes recommendations to the Board of Directors regarding the items to be resolved or reported
Supervisory line	**Compensation Committee**	• Chair: Outside director • Composition: 3 outside directors	• Determines the basic policy for executive officer compensation and the executive officer compensation system	• Further improvements on transparency of the basis for determining performance-linked compensation, including specifying the components for determining compensation regarding sustainability
Supervisory line	**Audit Committee**	• Chair: Outside director • Composition: 3 outside directors 1 internal non-executive director	• Audit of the status of business execution line's initiatives	• Results of monitoring the status of sustainability-related initiatives of each company / unit based on audit plans
Business execution line	**Executive Management Committee**	• Chair: Group CEO (President & Group CEO)	• Deliberates on policies and plans as well as the setting of metrics and targets relevant to the *Environmental Policy*, the Transition Plan, and other policies • Regularly reports to the Board of Directors on the status of environmental initiatives	• FY2024 business plan • Set additional Scope 3 targets by sector • Status of initiatives to address climate change and natural capital (including sustainable business, climate-related risk management) • Approach to comply with Sustainability Disclosure Regulations • Revision of the ES Policy
Business execution line	**Risk Management Committee**	• Chair: Group CRO	• Deliberates on and coordinates matters related to risk monitoring and management • Determines top risks	• Monitoring the status of climate-related risk initiatives • Advancement of climate-related risk management initiatives • Status of the management of responsible financing and investment and policy revisions
Business execution line	**Sustainability Promotion Committee**	• Chair: Group CEO (President & Group CEO) • External experts (invited as needed)	• Deliberates on and coordinates matters related to climate change and natural capital	See table below

FY2023 major topics of discussion at the Sustainability Promotion Committee (total of nine meetings)

	Major discussion topics
1	(1) Disclosure of climate change and non-financial information, (2) Scenario analyses
2	Sustainable business strategies
3	(1) Enhancement of climate-related risk management, (2) Initiatives on respect for human rights
4	(1) Set Scope 3 targets by sectors, (2) Sustainable business strategies
5	Natural capital initiatives
6	Set Scope 3 targets by sector and enhancement of target management
7	(1) Enhancement of climate-related risk management, (2) ES Policy revisions
8	(1) Compliance with regulations on sustainability information disclosures, (2) Impact business initiatives
9	(1) Human capital initiatives, (2) Responses based on external ESG assessments

[3] The composition of the Board of Directors' candidates to be proposed at the Annual General Meeting of Shareholders to be held in June 2024.

(1) Status of discussions at supervisory line

At the Board of Directors and Risk Committee, constructive discussions are held with outside directors and committee members who have experience and expertise in the fields of sustainability and climate change.

Discussions related to climate change and natural capital at supervisory line (feedback and opinions from outside directors and Risk Committee members)

- Our sustainability initiatives are steadily progressing. Going forward, it will be essential whether or not Mizuho's efforts are actually having an impact on society towards decarbonization and structural transformation of industry for decarbonization.
- It is necessary to perform more engagement through proposals to clients and recommendations to policy makers, and to control risks in carbon-related sectors as a result such activities.
- For appropriate disclosures of sustainability information, it is important to move steadily ahead with preparations, including the establishment of data governance, and to create systems for the accurate and prompt collection of information on a consolidated and global basis.
- In order for Mizuho to become a leader in sustainability, it is necessary to promote not only climate change, but also relevancy with the perspective of natural capital, biodiversity and circular economy.
- It is also necessary to identify risks related to transition technologies and next-generation technologies.
- Transition risks have been highlighted over the past few years; however, we should also pay attention anew to physical risks in light of the extreme weather conditions in recent years. Further, it is necessary to confirm the macroeconomic impacts resulting from such risks.
- It should also be noted that events that do not form part of the basis for calculation of the amount of the impact under the scenario analyses may occur. Such potential impact includes the impact of reputational damage to borrowers which could be triggered by ESG factors.
- Regarding credit policies for cases where our engagement is not effective and the initiatives toward decarbonization are not progressing, it is necessary to thoroughly discuss these from the perspective of risk management control.
- Unlike climate change, risk management related to natural capital and biodiversity requires consideration of such issues as the deliberation and establishment of benchmark indicators and access to geographic information.

(2) Invitation of outside experts

Outside experts are invited to the Risk Committee and Sustainability Promotion Committee to provide recommendations and exchange opinions with directors and executive officers based on their expertise in the areas of sustainability, climate change, and natural capital.
In addition, meetings and other events are held for the purpose of discussions between outside experts and Mizuho management on business strategies related to sustainability and decarbonization and on compliance with sustainability information disclosure regulations.

Risk Committee	Rintaro Tamaki (standing committee member)	President, Japan Center for International Finance
	Hiroshi Naka (standing committee member)	Professor, Institute for Future Initiatives, the University of Tokyo
Sustainability Promotion Committee	Masako Konishi (joined in the 1st committee meeting)	Expert Director for Conservation and Energy, WWF Japan
	Hirotaka Hideshima (joined in the 14th committee meeting)	Counsellor on Global Strategy to President, Norinchukin Bank / the Board of Directors member of the Taskforce on Nature-related Financial Disclosures(TNFD)
Management-level discussions with outside experts	Discussion sessions on the following topics were held. • Compliance with sustainability information disclosure regulations • Business strategies for the decarbonization of the materials industry	

(Titles of outside experts on the Sustainability Promotion Committee are given as at the time of the meeting)

2. Compensation for executive officers

Mizuho Group's compensation system consists of Base Compensation and Incentive Compensation. Indicators that evaluate the sustainable growth and development of stakeholders — assessed in terms of Mizuho Financial Group finance, clients, the economy and society, and employees — have been selected as performance indicators for performance-linked compensation. In particular, sustainability-related evaluation indicators have been adopted — such as sustainable finance amount, climate-related initiatives, and assessments by ESG rating agencies — for Medium to Long-term Incentive (Stock Compensation II).

Compensation system

Type of compensation			Performance-linked (multiplier range)	Payment term	Payment method	Examples of composition of compensation: Executive officers responsible for business execution: Group CEO	Executive officers responsible for business execution: Group executive officers	Non-executive officers
Base Compensation*1			No	Monthly	Cash	40%	55%	85%
Incentive Compensation	Medium- to Long- term Incentive Compensation	Stock Compensation I*2	No	At time of resignation	Stock	5%	5%	
		Stock Compensation II*3	Yes (0 - 150%)	Deferred payment over three years	Stock	30%	17.5%	
	Short-term Incentive Compensation*4		Yes (0 - 150%)	Lump sum payment in the following year*5	Cash	25%	22.5%	15%
						40%	55%	85%
						60%	45%	15%

Subject to malus and clawback*6

*1. Paid monthly in accordance with the roles and responsibilities.
*2. Paid in accordance with the roles and responsibilities as an incentive to increase corporate value over the medium to long term.
*3. Paid in accordance with the target achievement rate with regard to the Group's key financial indicators and assessment in relation to stakeholders, as an incentive to increase corporate value over the medium to long term.
*4. Paid in accordance with the target achievement rate with regard to the Group's key financial indicators and with assessment of the individual performance, as an incentive corresponding to performance over the past fiscal year toward increasing corporate value.
*5. Deferred payments will be paid over three years from the following fiscal year if compensation exceeds a certain level.
*6. A system is adopted which enables forfeiture of compensation remaining unpaid (malus) and request for return of compensation (clawback) by resolution of the Compensation Committee depending on the performance of the Group or the individual.

Performance-linked compensation formula

• Medium to Long-term Incentive Compensation (Stock Compensation II)

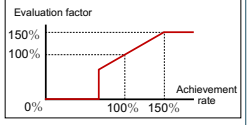
Base amount ×

Evaluation of medium to long-term performance indicators*1

Evaluation axes	Performance indicators*2	Weight*2
Mizuho Financial Group finance	Consolidated ROE*3	25%
	Consolidated Net Business Profits*4	25%
	TSR*5	10%
Clients	Customer satisfaction*6	10%
Economy and society	Sustainable finance amount*6 Assessments by ESG rating agencies*7 Climate-change initiatives*6	10%
Employees	Engagement score*8 Inclusion score*8	20%

Sustainability-related initiatives are reflected in evaluations 40%

Relationship between achievement rate and evaluation factor (Example for the Consolidated ROE)



*1. The Compensation Committee makes the final decision (up to 150%) based on target achievement rates for performance indicators considering the business environment and the existence of events that should be reflected individually
*2. Example of Group CEO
*3. Excludes Net Unrealized Gains (Losses) on Other Securities
*4. Consolidated Net Business Profits + Net Gains (Losses) related to ETFs and others
*5. Evaluated based on relative comparison with competitors, etc.
*6. Evaluated on the target achievement rates on related internal indicators
*7. Evaluated by comparison with results of previous years and peers that have been assessed by four major ESG rating agencies (S&P Global, Sustainalytics, MSCI, and FTSE)
*8. Evaluated on the target achievement rate for the positive response rate for four Staff Survey questions related to engagement and inclusion

• Short-term Incentive Compensation

Base amount ×

Evaluation of short-term performance indicators*1

Evaluation axis	Performance indicators*2	Weight*2
Mizuho Financial Group finance	Profit Attributable to Owners of Parent*3	50%
	Gross Profits RORA*4	50%

*1. The Compensation Committee makes the final decision on Short-Term Incentive Compensation based on target achievement rates for performance indicators as well as on the business landscape and the existence of events that should be reflected individually. The Short-Term Incentive Compensation can vary between 0 and 140% for the Group CEO
*2. Example of Group CEO
*3. Net Income for the period Attributable to Shareholders of the Parent Company
*4. RORA: Return on Risk-weighted Assets

×

Individual evaluation*1

Main evaluation perspectives*2
・Demonstrates leadership in improving the Group's corporate culture and disseminating the Group's purpose and code of conduct ・Succession initiatives for the Group CEO and management team

*1. The Compensation Committee makes the decision based on the evaluation perspectives. The compensation can vary between 0 and 110% for the Group CEO
*2. Example of Group CEO

Note: The evaluation factor for the short-term performance indicators and individual evaluation is capped at 150%

IV. Strategy

1. Mizuho's Environmental Policy

Mizuho clarifies in the *Environmental Policy* our awareness of environmental issues including addressing climate change and preserving natural capital, and our specific role and actions to these challenges.
Especially, addressing climate change is positioned as one of the most material issues regards to the Group's management strategy, and we clarified our stance to achieve a decarbonized society.

Environmental Policy (extract)

Our approach to addressing environmental issues
Environmental issues are becoming more diverse and complex, and are recognized as one of the most pressing global concerns.
Our economy, industries and society are supported by the varied benefits received from natural capital[1] and ecosystems. We believe that addressing environmental issues which impact such resources is humanity's shared responsibility towards a sustainable society.
At Mizuho, we recognize that our business activities may have both a direct and indirect impact upon the environment. We also believe that environmental initiatives such as mitigating and adapting to the impact of climate change, preserving biodiversity, and promoting circular economy are essential preconditions for the existence and activities of our company.
While maintaining a global and long–term perspective of risks and opportunities, we are aiming to enhance our corporate value and contribute to the creation of a sustainable society. We intend to achieve this by proactively implementing environmental initiatives which draw on our capabilities and knowledge of our group.

[1] Natural capital: The world's stock of renewable and non–renewable natural resources (e.g. plants, animals, air, water, land, and metals) which afford humanity all manner of benefits.

Addressing specific environmental concerns
■ Efforts to address climate change
We recognize climate change as one of the most crucial global issues with the potential to impact the stability of financial markets, representing a threat to the environment, society, people's lifestyles and businesses.
At the same time, we believe there are new business opportunities arising from the need to transition to a low–carbon society, such as the field of renewable energy and other businesses and innovations which contribute to mitigating and adapting to the impact of climate change.
Mizuho supports the Paris Agreement's objective to "strengthen the global response to the threat of climate change".
In light of this, we have included responding to climate change as a key pillar of our business strategy and will take the following actions in order to proactively fulfill our role in the effort to achieve a low–carbon society (achieve net zero greenhouse gas emissions) and to develop a climate change resilient society by 2050.

- We are directing finance flows towards achievement of the Paris Agreement targets to limit in the global average temperature rise, and we are undertaking phased transformation to a finance portfolio aligned with said targets.
- We will engage in proactive, constructive dialogue in response to our clients' individual concerns and needs, and in support of their efforts to introduce climate change countermeasures and transition to a low–carbon society in both the medium and long term.
- We will proactively develop and offer financial products and services designed to support clients' efforts to introduce climate change countermeasures and transition to a low–carbon society.
- We understand the importance of climate–related financial disclosures and we utilize the framework under the Recommendations of the TCFD in order to leverage growth opportunities and strengthen risk management as well as disclose information in a transparent manner regarding our progress.

(For the full text, see https://www.mizuhogroup.com/sustainability/environment/policy/environmentalpolicy)

MIZUHO

2. Responding to climate change

(1) Transition Plan and our approach to achieve net zero by 2050

We have developed *Mizuho's Approach to Achieving Net Zero by 2050* and *Net Zero Transition Plan* to clarify medium to long term strategies and initiatives, which outline the actions we take to achieve a decarbonized society by 2050 by pursuing efforts to limit the temperature increase within 1.5°C so as to put our *Environmental Policy*'s initiatives and stance into practice.
Based on these policies and plans, we will actively promote climate-related initiatives and information disclosure in line with international standards.

Figure 3 Outline of Mizuho's Approach to Achieving Net Zero by 2050 (formulated in April 2022)

Goal

- Mizuho is pursuing efforts to limit the temperature rise within 1.5°C
- We are aiming to become carbon neutral by FY2030 for emissions from our business activities (Scope 1 and 2) and to reduce emissions produced via our finance portfolio (Scope 3) to net zero by 2050
- Recognizing that abrupt, disorderly changes can have severe economic and social impacts, we are aiming for an orderly, just transition

Net zero actions

- We understand the transition pathway to net zero will differ by region and industry and recognize the role of financial institutions to play in supporting clients' transitions, and we support the facilitation of clients' execution of transition strategies through engagement
- We proactively support the development and application of innovative, clean, next-generation technology
- We support government policies aimed at orderly transitions through our activities across economic organizations, industry associations, and initiatives

(For the full text, see https://www.mizuhogroup.com/sustainability/environment/policy/2050approach)

i. Net Zero Transition Plan (formulated in 2022, revised in 2023)

From the perspectives of facilitating transition in the real economy, capturing business opportunities, and enhancing risk management, we formulated the *Net Zero Transition Plan* in order to promote a more integrated responses to climate issues across the Group. The plan was formulated in reference to the transition plan frameworks from TCFD, GFANZ, and other organizations and was adopted by the Board of Directors of the Mizuho Financial Group.

Figure 4 Mizuho's Net Zero Transition Plan (overview)

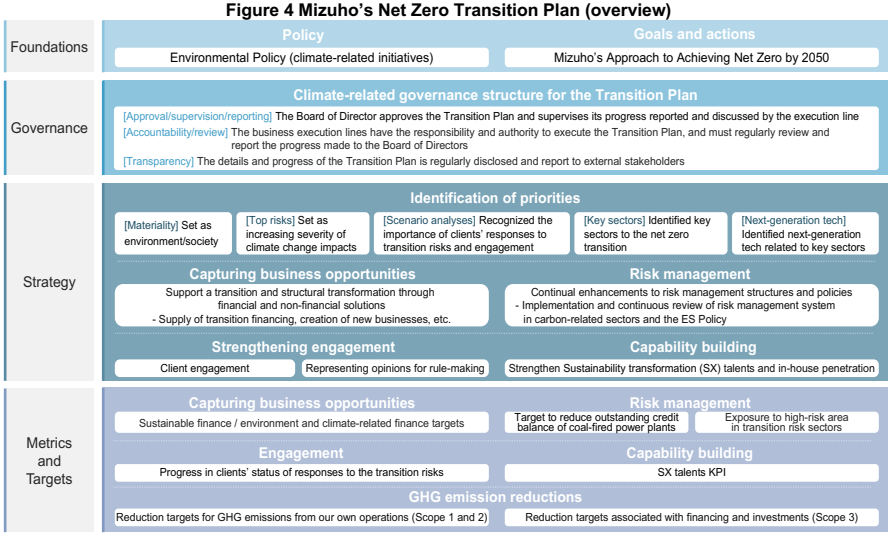


Table 2 Description of each component in the Net Zero Transition Plan

	Description	Page
Foundations	**Policy**	
	The Environmental Policy clarifies the issue awareness and concrete actions that form the basis of environmental initiatives, including climate change actions and defines our stance on climate change toward achieving a decarbonized society.	p.16
	Goals and Actions	
	In order to make actual progress on the stance outlined above, this component clarifies our goals and actions to achieve a decarbonized society by 2050 and to pursue efforts to limit worldwide temperature increase to 1.5°C as described in *Mizuho's Approach to Achieving Net Zero by 2050*.	p.17
Governance	**Governance structure for the Transition Plan**	
	Approval, supervision, and reporting: The Board of Directors approved the revised *Net Zero Transition Plan* (formulated in April 2022 and revised in April 2023). Regarding the Transition Plan's progress, the Board of Directors supervises information reported after discussions by the business execution line.	p.11
	Accountability and review: The business execution line is accountable and responsible for the execution of the Transition Plan, conducts periodic reviews of the plan's execution status, and reports the review findings to the Board of Directors.	p.11
	Transparency: Transition Plan and the status of related initiatives are regularly disclosed and reported to external stakeholders.	-

	Description	Page
Strategy	**Identification of priorities**	
	Materiality: This component identifies *environment and society* as one materiality — a priority issue over the medium to long term for sustainable growth and development of Mizuho and its stakeholders, including clients, employees, and the economy and society	p.21
	Top risks: The component notes that *Worsening impact of climate change* has been set as one of the top risks for FY2024	p.64
	Scenario Analysis: The component recognizes the importance of the engagement and corporate clients' responses to transition risks, based on considerations of the results of past scenario analyses	p.50
	Key sectors: Based on emission volume (impact on the real economy), Mizuho's opportunities and risks associated with decarbonization and the characteristics of Mizuho's portfolio and client base, the component identifies key sectors to focus on from a decarbonization perspective. - Electric power, energy, steel, chemicals, automotive, maritime transportation, aviation, and real estate sectors	p.21
	Next-generation technologies: The component identifies next-generation technologies associated with decarbonization in the key sectors given above. - Hydrogen, offshore wind farms, CCS, and biomass (SAF)	p.21
	Capturing business opportunities	
	Support clients' transition to decarbonization and business structural transformation based on sustainable business strategy. - Steady transition support toward 2030 - Promote clients' future-oriented actions	p.23
	Risk management	
	Continuous improvements to risk management systems and policies - Improvements to risk controls in carbon-related sectors through evaluations of clients' responses to transition risks	p.66
	- Operation of and continuous revisions of the *Environmental and Social Management Policy for Financing and Investment Activity* (ES Policy)	p.71
	Strengthening engagement	
	• Support clients' transitions by approaching their carbon neutrality strategies, business strategies, and financial and capital strategies through analysis and ideas/concepts, constructive dialogue, and solution provision and business co-creation.	p.28
	• In the carbon-related sector, we confirm the status of clients' responses to transition risk and support their progress in dealing with transition risk and business restructuring through engagement.	p.66
	The component describes initiatives to strengthen Mizuho's communications and its participation in international rule-making through study groups and bodies organized by government agencies and research institutes.	p.29
	Capability building	
	This component describes initiatives to enhance human resources in relation to sustainability transformation and strengthen two-way communications with employees on sustainability related topics.	p.30
Metrics and Targets	(Position of metrics and targets) This component sets the following metrics and targets to measure the progress of initiatives described in the Strategy section above and the contribution to transition of the real economy as a result of the initiatives	
	Capturing business opportunities	
	• Targets for sustainable finance and environment and climate-related finance	p.25
	Risk management	
	• Targets to reduce the outstanding credit balance of coal-fired power generations plants	p.75
	• Exposure to high-risk areas in transition risk sectors	p.67
	Engagement	
	• Status of client responses to transition risks	p.68
	Capability building	
	• Sustainability transformation talents KPIs (Sustainability management experts, environment & energy sector consultants)	p.30
	GHG emission reductions	
	• Targets to reduce emissions from our own business activities (Scope 1 and 2)	p.76
	• Targets to reduce emissions from financing and investment (Scope 3)	p.32-46

ii. Roadmap to Net Zero by 2050

	2022	2023	2024	2025 ···	2030 ···	2040 ···	2050
GHG emission							
Scope1,2	FY2023 60% reduction *1 (compared to FY20)			Carbon neutral			
Scope 3 (Financed emissions)							

Medium-term targets by sector	Metrics	FY22 Result	Compared with base year			
Electric power	Emission intensity	368 kgCO2e /MWh	- 20 kgCO2e /MWh	138 to 232		
Oil & gas Clients' Scope 1,2	Emission intensity	5.6 gCO2e /MJ	- 1.0 gCO2e /MJ	4.2		
〃 3	Absolute emissions	34.8 MtCO2e	- 43%	- 12 to - 29% *3		
Coal mining (thermal coal)	Absolute emissions	0.6 MtCO2e	- 4.5 MtCO2e	OECD countries: Zero balance	Non-OECD countries: Zero balance	
Automotive Clients' Scope 1,2	Absolute emissions	831 ktCO2e	- 11%	- 38% *4		
〃 3	Emission Intensity	184 gCO2e /vkm	- 7%	- 31 to - 43% *4		
Maritime transportation	Portfolio climate alignment	-1.55 %	- 3.4%	≦0%		
Steel	Absolute emissions	14.1 MtCO2e	- 18%	- 17 to - 23% *4		
Real estate	Emission intensity	65 kgCO2e/㎡	- 4 kgCO2e/㎡	33 to 42		

Net Zero

Business opportunities		(Mar -24)			
Sustainable finance*2 (o/w environment and climate-related finance)		JPY 31.0T (JPY 14.0T)		JPY 100T (JPY 50T)	
Risk management		(Mar -24)			
Outstanding credit balance of coal-fired power generation plants*5		JPY 240.8B		- 50%*3	Zero
Exposure to high-risk areas in transition risk sectors*6		JPY 1.5T	Reduction in the medium to long term		
Engagement	Support client transition to decarbonization and addressing transition risk				
		(Mar-24)			
Capacity building	Sustainability management experts	approx. 1,650	1,600		
	Environment and energy sector consultants	approx. 140	150		

*1: Scope2 in Japan *2: cumulative financing volume since FY2019 *3: compared with FY2019 *4: compared with FY2021
*5: Aggregation Targets: Credit cases where the funds are used for the construction or expansion of coal-fired power plants, which is prohibited under the ES policy *6 See p.66 "Risk Control in Carbon-related Sectors" for the definition of exposure to high-risk areas

iii. Identification of priorities in the Transition Plan

Mizuho clarifies its priorities and areas of focus in the *Net Zero Transition Plan*,

Materiality — Mizuho identifies materiality* based on expectations from society[4] and the importance[5] for the Group. One of the materiality is *the environment and society*.
* Priority issues over the medium to long term for the sustainable growth and development of Mizuho and its stakeholders, including clients, employees, and the economy and society

Declining birthrate and aging population, plus good health and lengthening lifespans	Industry development & innovation	Sound economic growth	Environment & society	Personnel	Governance

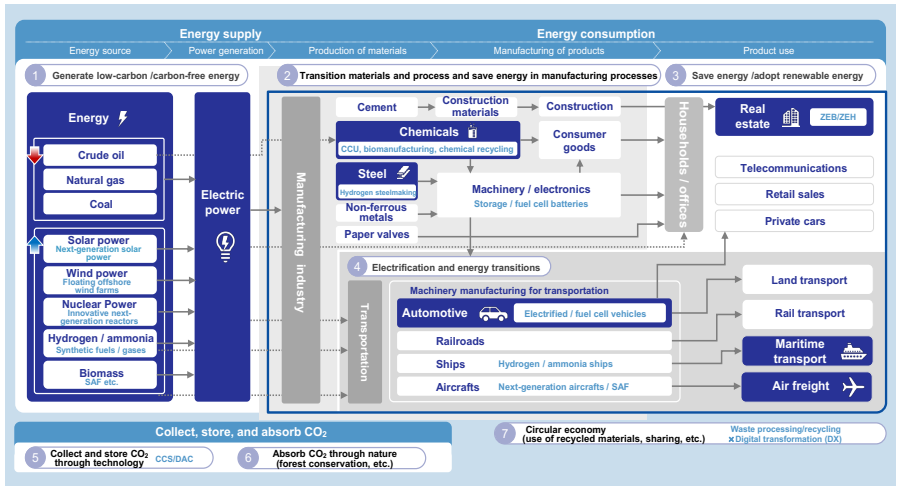
Top risks — Management determines Mizuho's top risks by reviewing risk events that may harm our corporate value in light of our particular vulnerabilities, the external business landscape, and other factors. *Worsening impact of climate change* was designated as one top risk for FY2024. (p. 64)

Scenario analyses — From scenario analyses, we have confirmed that transition risks have a greater impact on the Group's financials than physical risks and that it is important to further deepen client engagement to achieve smooth transitions. (p. 50)

Key sectors / Next-generation technologies — Mizuho has identified key sectors to be focused on in facilitating net zero transitions and their associated next-generation technologies.

Key sectors (in the figure below)	We identified key sectors to focus on from a decarbonization perspective, based on emissions volume (impact on the real economy), opportunities arising from decarbonization, and risks as well as on the characteristics of Mizuho's portfolios and client base. - **Electric power, energy, steel, chemicals, automotive, marine transportation, aviation, and real estate sectors**
Next-generation technologies (Blue text in the figure below)	We identified related next-generation technologies for decarbonization in the above sectors. - Hydrogen, offshore wind, CCS, biomass (SAF), etc.

Figure 5 Key Sectors / Related Next-generation Technologies



[4] Expectations stakeholders have concerning Mizuho's impact on society.
[5] Based on the impact on corporate value over the medium to long term and the affinity with Mizuho's strategies and business areas.

(2) Recognition of and efforts to capture opportunities

i. Recognition of opportunities associated with responses to climate change

To achieve a decarbonized society, decarbonization of the energy source is essential. Thus it is necessary to expand the adoption of existing technologies such as solar power, along with development and commercialization of next-generation technologies such as hydrogen, ammonia, and floating offshore wind power, as well as establishing new supply chains. This will require investments of USD 4 trillion per year globally until 2030 and JPY 150 trillion over the next 10 years in Japan. Policy support is getting strengthened worldwide to promote such investments. In Japan, efforts in this area are being accelerated, such as the issuance of GX (Green Transformation) Economy Transition Bonds.

Mizuho sees opportunities in the investments in industrial and business structural transformations and practical applications, and social implementation of new technology toward the transition to a decarbonized society. With client engagement as a starting point, we proactively support clients' responses to climate change.

Figure 6 Estimated investment volume in Japan for the realization of a decarbonized society

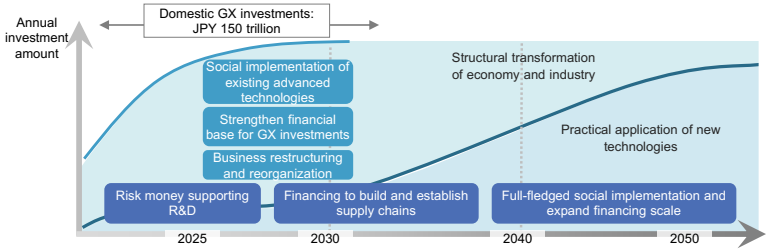


Table 3 Investment areas in Japan and estimated public-private investment amounts

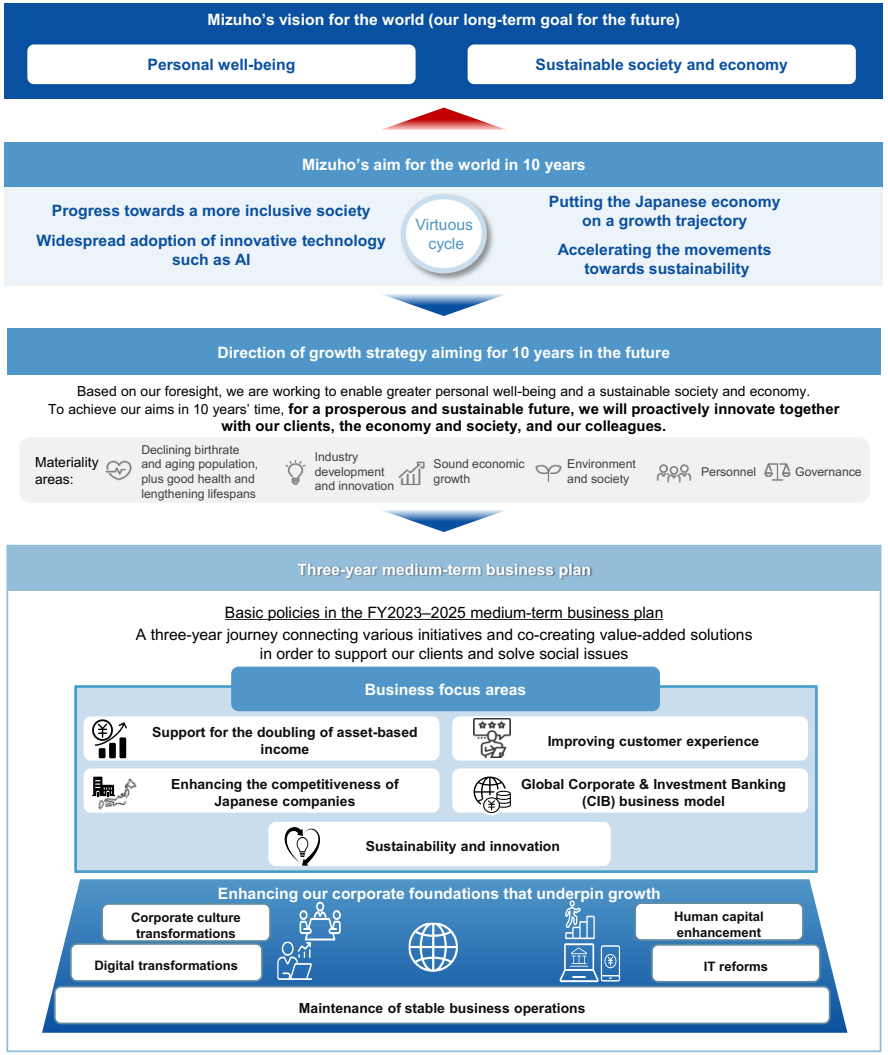
	Industry	Examples of investments	Investment amounts (JPY)
Manufacturing	Steel	Large-scale electric furnaces and other process conversions, expansion of high-added-value steel plate manufacture, R&D and implementation of hydrogen-reduction steelmaking	> 3 trillion
	Chemical	Structural transformation of naphtha cracking furnaces, optimal energy switching and bio-utilization, chemical recycling	> 3 trillion
	Pulp and paper	Bio-refinery transition, electrification of heat sources	> 1 trillion
	Cement	Fuel switching from coal boilers, CO_2 reuse technology implementation	> 1 trillion
Transportation	Automotive	Development of passenger and commercial electric vehicles, installment of charging infrastructure	> 34 trillion
	Batteries	Build manufacturing base in Japan	> 7 trillion
	Aircraft	Development of core technologies for next-generation aircraft	> 4 trillion
	SAF	SAF production, establishment of supply chains	> 1 trillion
	Ships	Dissemination of zero-emission ships and so on, construction of production facilities	> 3 trillion
Living and related sectors	Dairy life	Expansion of ZEHs and ZEBs, renovating to insulated windows, adoption of high-efficiency water heaters	> 14 trillion
	Resource circulation	Research and implementation for the advancements in resource circulation business model	> 2 trillion
	Semiconductors	Establishment of production platform for power semiconductors, development of next-generation technologies	> 12 trillion
Energy	Hydrogen	Construction of supply chains for hydrogen and other alternative fuels and arrangement of usage environments	> 7 trillion
	Next-generation renewable energy	Establishment of mass-production technology for next-generation solar cells, installations of floating offshore wind power	> 31 trillion
	Nuclear energy	Development and construction of next-generation advanced innovative reactors	> 1 trillion
	CCS	Establishment of business environments, Development of business models	> 4 trillion

Sources: Reference materials from *Basic Policy for the Realization of GX* and *Sector-specific Investment Strategies* that specify investment promotion measures to realize green transformation, METI

ii. Mizuho's sustainable business strategy

a. Mizuho's vision for the future and medium-term business plan

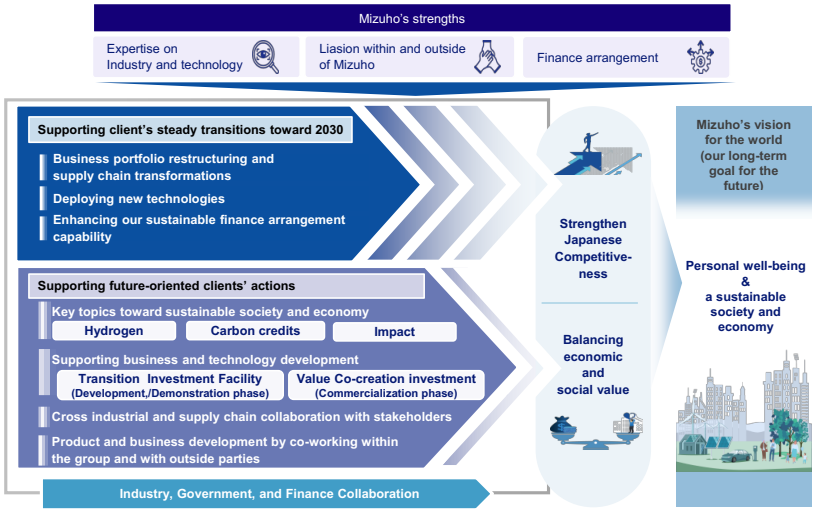
Mizuho has set forth our long-term vision for the future — *personal well-being* and *a sustainable society and economy* to support it. To achieve this vision, we have defined strategies to be focused on by back-casting from the vision of the world we aim to attain in 10 years' time. In our medium-term business plan formulated in FY2023, *sustainability and innovation* is set as one of the Group's business focus areas where we will work with clients and society to build the foundations for future prosperity with sustainability as the core.



b. Mizuho's sustainable business strategy

Mizuho recognizes that supporting our clients' efforts to respond to climate change and transition to a decarbonized society is an important role for financial institutions to play. We are supporting our clients' sustainability transformation (SX) by leveraging Mizuho's strengths in expertise on industries and technologies, and capability of liaison within and outside of Mizuho and finance arrangement capability. Specifically, we aim to strengthen Japanese industries' competitiveness and balance economic and social value by leading structural transformation of industries toward decarbonization through supporting our clients' steady transitions toward 2030 and future-oriented clients' actions.

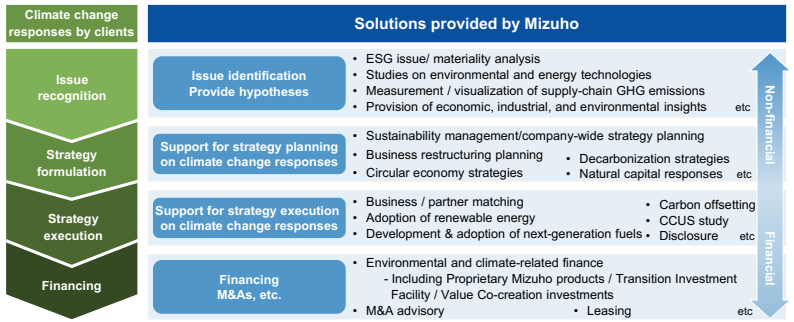
Figure 7 Outline of Mizuho's sustainable business strategy



c. Support for steady transitions toward 2030

In order to capture business opportunities associated with the transition to a decarbonized society, Mizuho provides consistent support to our clients from both financial and non-financial perspectives to restructure business portfolios, transform supply chains, and work toward social implementation of next-generation technologies that will lead to future industrial structural transformations. Our support covers from issue recognition, strategy formulation, its embodiment and commercialization, to financing during the execution stage.

Figure 8 Solutions supporting the transition to a decarbonized society



Mizuho believes that, especially with regard to sustainable finance, it is an important role for financial institutions to generate further money flows to meet the massive demand for climate change financing. Given this, Mizuho has set a sustainable finance target of JPY 100 trillion, of which JPY 50 trillion is earmarked for environment and climate-related finance (cumulative total over the period of FY2019 through to FY2030). We have steadily built up a track record by assessing our clients' issues and needs accurately – arranging a total of JPY 31.0 trillion for sustainable finance between FY2019 and FY2023 (of which JPY 14.0 trillion was environment and climate-related finance). Mizuho has showed a strong presence in the sustainable finance area, holding the No.1 position for five successive years in league table of domestic publicly offered SDGs bonds. We will continue to proactively provide green/transition financing and risk money for practical applications of technologies to our clients who are taking on the challenge of decarbonization with us.

Figure 9 Sustainable finance targets and results

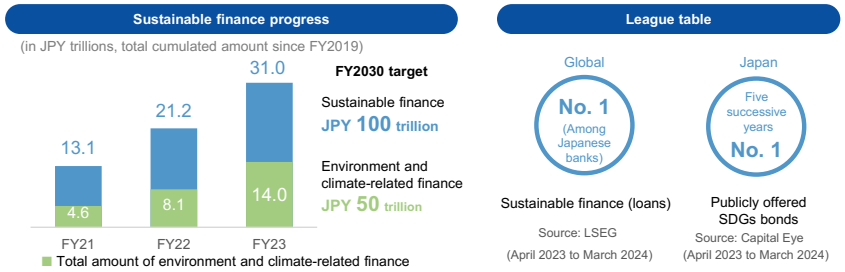


Table 4 Breakdown of sustainable finance amounts (results for single fiscal years / in JPY trillions)

Category			Description	FY2022	FY2023
Sustainable finance	Social		Financing compliant with the ICMA's Social Bond Principles, etc, for the purpose of contributing to solve social issues and so on	0.6	0.5
	Sustainability		Financing compliant with LMA and other sustainability-linked loan principles (excluding environment and climate-related finance)*1	2.1	1.7
	Project financing for infrastructure		Arrangement of project financing for public transportation, public facilities, etc.	0.4	0.1
	Proprietary Mizuho products		Mizuho Human Capital Management Impact Finance and others	0.4	0.2
	Other			0.4	1.4
	Environment and climate-related finance	Green	Financing compliant with the ICMA's Green Bond Principles and financing for applications specified in Mizuho's Green Bond Framework for the purpose of responding to environment and climate change etc.	2.3	2.6
		Transition	Financing compliant with the ICMA's Climate Transition Finance Handbook*2 for the purpose of supporting initiatives to reduce GHG emission in order to realize decarbonized society	0.5*2	0.3
		Sustainability	Financing compliant with LMA and other sustainability-linked loan principles that is earmarked for environment and climate-related finance	-	0.8
		Proprietary Mizuho products	Mizuho Eco Finance and others	0.9	1.9
		Other	Other environment and climate-related financing	0.4	0.3
	Subtotal			3.6	5.9
Single fiscal year total for sustainable finance amounts				8.1	9.8
(Cumulative total of sustainable finance since FY2019)				21.2	31.0

*1. The name *Environmental finance* was changed to *Environment and climate-related finance* in FY2023, and the corresponding types of financing were also changed. FY2022 results include financing that contributes to environmental and climate change initiatives.
*2. Results for FY2022 are not included under Environment and climate-related finance.

d. Supporting future-oriented clients' actions

Key topics towards sustainable society and economy

Mizuho is strengthening our initiatives in three areas that we consider key topics for realizing a sustainable society and economy: (1) hydrogen, (2) carbon credits, and (3) impact. Working groups have been established for each area to promote collaboration with stakeholders, and development of new products and businesses across the Group.

Figure 10 Key topics towards sustainable society and economy

Assisting the decarbonization of power, heat and materials

- Hydrogen is recognized as a critical energy source that will be widely adopted from the 2030s onward and contribute to the decarbonization of power, heat and materials.
- Mizuho will contribute to the realization of decarbonization for society and clients' business by executing financing for the hydrogen sector, which is in the stage of development and construction of supply chain for social implementation.

New product and business development

FG Aims to provide JPY 2 trillion in financing for the hydrogen and related production sectors by 2030 to accelerate the construction of hydrogen supply chains [*1]

Collaboration with stakeholders

BK Joined in the Hydrogen Council, a global initiative that promotes hydrogen use

FG Published "Joint Proposal on Hydrogen for Realizing GX" by Mizuho and Development Bank of Japan

*1. Press release dated May 16, 2024 https://www.mizuhogroup.com/news_release/20240516release_eng.html

Promoting decarbonization business and technologies through finance

- Carbon credits are a mechanism to supply financing to decarbonization projects, and they are expected to expand efforts to achieve net zero emissions throughout society.
- As a financial institution, Mizuho will promote the expansion of the carbon credit market in its nascent stage by acting as an intermediary, with the aim of helping society and clients decarbonize.

Collaboration with stakeholders

FG IF — Investment in Climate Impact X, a Singapore-based carbon credit trading platform company

FG BK RT — Started collaboration with the London Stock Exchange Group in the field of carbon credits

FG BK — Concluded strategic partnership with KOKO Networks, a Kenya-based climate tech company providing solutions for African fuel conversion and the deforestation crisis

New product and business development

BK The only financial institution to receive Best Market Maker status from Tokyo Stock Exchange's carbon credit market

Impact to enhance corporate value

- Impact is an unavoidable theme for corporations, which are required to address social issues while enhancing their corporate value.
- Mizuho has been acquiring knowledge and developing solutions, and in May 2024, published Impact Business Compass outlines the potential of impact-driven business, and defining our course of action.[*2]

New product and business development

FG BK TB SC RT FT AM-One — Published Impact Business Compass that outlines the potential of impact-driven business, and defining our course of action[*2]

BK — Provided sustainability linked loan for Eisai that utilized the social value of new dementia drug as the KPI

Collaboration with stakeholders

FG Expanded networks through participation in the Global Impact Investing Network, a leading organization in impact investment, as well as the Asian Venture Philanthropy Network

*2. Press release dated May 14, 2024 https://www.mizuhogroup.com/news_release/20240514release_eng.html

Support for establishment of new technologies and business in the development and commercialization stage

We actively provide risk money for establishment of technologies and business models in the development, demonstration, and commercialization phases. In addition to the Transition Investment Facility that we launched in April 2022, we initiated Value Co-creation Investments in February 2023 to establish new businesses aiming to address social issues, generate new demand, or actuate new business models.

Figure 11 Support for establishment of new technologies and business models in the development and commercialization stage

Transition Investment Facility

Objective	Accompany clients' social value creation initiatives that contribute to enhance sustainability of the environment and society

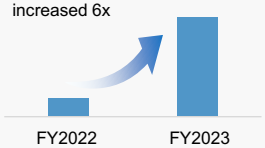
Targeting projects in the proof-of-concept and start-up stages, the framework aims to develop technologies and business models in areas that contribute to enhance sustainability of the environmental and society

Value Co-creation Investments

Objective	Establishing new business models with our clients to respond to social issues

The target clients are startups aiming to address social issues, generate new demand, and realize new business models

Amounts invested have increased 6x



Major projects

BK — Invested in Exergy Power Systems, which endeavors to resolve vulnerabilities in power systems at the time of massive introduction of renewable energy, by using power storage systems, and helping advance BCP

BK — Invested CAD 5M in Bison Low Carbon Ventures, a Canadian startup with carbon dioxide capture and storage (CCS) technology

Stakeholder collaborations

We are also focusing on partnerships and collaborations with various stakeholders, such as working across industries and supply chains to promote sustainability management in SMEs, in order to develop platforms and environments for realizing a sustainable society and economy.

Major projects

FG

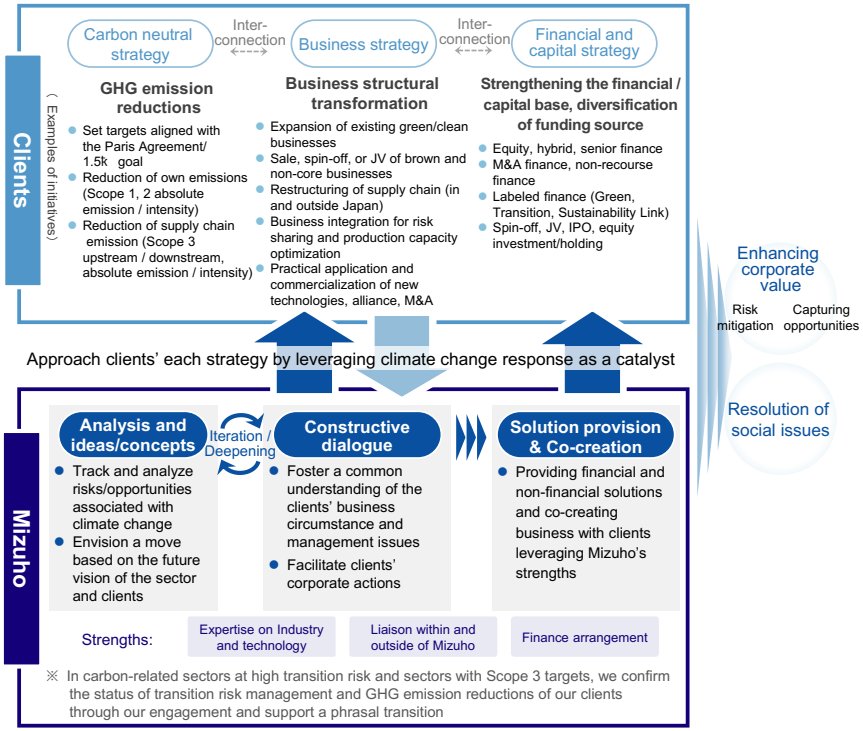
Initiative: Sustainability Data Standardization Consortium

As a board member, contributed to create a handbook targeting SMEs and unlisted companies to promote sustainability information disclosure and sustainability management

iii. Client engagement

Mizuho places a high priority on engagement with our clients in responding to climate change. We approach our clients' carbon-neutral strategies, business strategies, and financial and capital strategies through *analysis and ideas/concepts*, *constructive dialogue*, and *solution provision and business co-creation*. By supporting clients' transitions with engagement as a starting point, we aim both Mizuho and our clients to enhance corporate value by reducing transition risks and capturing business opportunities, thereby contributing to the transition of the real economy and the realization of a decarbonized society.

Figure 12 Overview of client engagement



(See p.66 for engagement in carbon-related sectors)

MIZUHO

iv. Communicating our positions and opinions at rule-making bodies

Mizuho recognizes that collaboration with governments, industry associations and initiatives is all essential to achieve a decarbonized society. With this understanding, we are enhancing our involvement in working groups and other bodies such as those organized by government agencies and research institutes to promote energy policy and the provision of transition finance, as well as cross-industry initiatives such as the TCFD Consortium.

We are also strengthening our involvement in domestic and international rule-making through activities at initiatives toward decarbonization. In FY2023, we joined the PCAF Global Core Team, which is leading the development of measurement standards including financed emissions.

Participation in policy making discussions

Organizer	Committees and conferences
Ministry of Economy, Trade, and Industry (METI)	• Advisory Committee for Natural Resources and Energy, Natural Resource and Fuel Committee, Subcommittee on Natural Resources Development and Fuel Supply • Industrial Structure Council Green Innovation Project subcommittee • Working group on transition finance development • Public and private working group on financed emissions to promote transition finance
Financial Services Agency	• Expert panel on sustainable finance • Dialog on enhancing sustainability investment products
Ministry of Environment	• Study group on green finance
Organization for Cross-regional Coordination of Transmission Operators	• Study group on future electric power scenarios

Cross-industrial sustainability initiatives

Name	Mizuho's activities
TCFD Consortium	• From April 2023 to March 2024, participated in the Planning Committee
Study group and symposium on integrated assessment in the filed of sustainability	• From November 2023, RT organized a total of 3 study sessions (11 academic experts and 18 private companies participated) • In March 2024, RT co-hosted "Sustainability Symposium 2024" with the National Institute for Environmental Studies

Stating our position and opinions through international initiatives

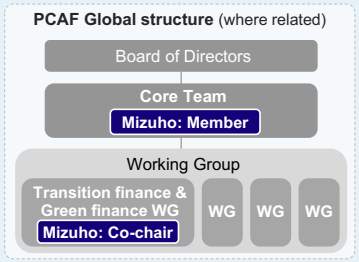
PCAF

Activities as Chair of PCAF Japan coalition

- Appointed **as a Chair** since its establishment in November 2021.
- While leading 26 member companies, Mizuho promoted the sophistication of measurement/disclosure of GHG emissions through financial activities

Participation in PCAF Global Core Team/WG

- The only Japanese financial institution to join the "Core team" formed with 14 member companies that leads the development of measurement standards at PCAF Global
- Appointed **as a co-chair of "Transition finance & Green finance WG"** under the Core team



GFANZ / NZBA

- Has been participating in GFANZ/NZBA since 2021, global initiatives to promote net zero as financial institutions
- Has been a member of the core working group of GFANZ Japan Chapter
- Involved in developing a report on Managed Phaseout by GFANZ APAC Network

v. Capability building

Mizuho has strengthened the education and training for our executives and employees, recognizing the importance of each one having sufficient knowledge about sustainability and taking proactive action on their own.
To raise awareness throughout the Group, we offer the training and events with the aim of having employees acquire the knowledge they should have as Mizuho employees. For employees whose work requires a higher level of expertise and specialization, we provide the training and education curricula and encourage them to acquire qualifications so that they can acquire knowledge and skills appropriate to the nature of their work and client segment.
With respect to our FY2025 target of reaching (1) 150 environment and energy sector consultants and (2) 1,600 sustainability management experts, we had reached approximately (1) 140 and (2) 1,650 (early achievement of the target) as of March 31, 2024. In this way, Mizuho is working to further bolster our strengths in expertise in environment and technologies and sustainability transformation talent.

Company-wide education and awareness-raising

Event / Training	Description
Executive dialogue	● Dialogue with Kihara Group CEO and Paul Polman, former CEO of Unilever and a leading expert on sustainability management
CSuO dialogues	● Opinion exchange between Ushikubo Group CSuO and employees (34 dialogues in FY2023, with around 1,000 employees participating) — Opinions and issues raised by employees are reflected in our initiatives
M-DIM[6]	● A lecture entitled "Parents and Kids — Let's Think about the Wonder of Living Creatures (Biodiversity)", by inviting Dr. Tadaaki Imaizumi, editor of *Zannen na Ikimono Jiten* [*Humorous & Adorable Evolutionary Creatures*]
Workshops	● Workshops to all current employees on a Group and global basis and to all new employees
Mutual communications	● Enhancement of information distribution via internal social media channels and other means and communications among employees

Initiatives to enhance knowledge and enrich talent

Target	Initiatives to increase knowledge and enrich talent (results as of March 2024)
RMs in charge of SMEs	● Study sessions for RMs in charge of SMEs: 18 sessions in FY2023, average of 200 participants per session ● Establishment of a network of SX promoters in sales departments and branches to promote proposals with a sustainability edge ● Sustainability management experts: approximately 1,650 (FY2025 target: 1,600) Metrics and targets in the Transition Plan / Early achievement
RMs in charge of large corporations	● Sustainable finance study sessions: 32 in FY2023 — To foster a focus on sustainable finance by specialized departments
	● Study sessions for sales departments and branches: 18 since FY2021, average of 600 participants per session — To increase knowledge and practical skills by transferring industry and technology insights and sharing best practices
RMs outside of Japan	● Establishment of promotion systems in each region and engaged in mutual collaboration
Markets, Asset Management, Trust	● Products study sessions at each Company (Global Markets Company/Asset Management Company) ● Meetings to share strategies and information to capture business opportunities (TB)
Consulting	● Enhancement of edge talent: Environment and energy sector consultants: approximately 140 (FY2025 target: 150) Metrics and targets in the Transition Plan

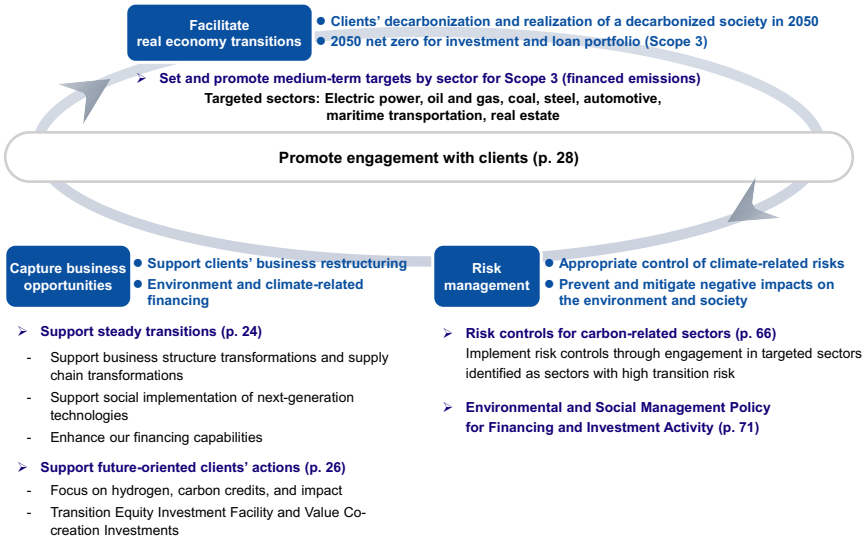
[6] Mizuho Diversity & Inclusion Month: An employee-participation project aimed at fostering an organizational culture that continuously generates the creation of new corporate value, by accelerating movements toward awareness and behavioral reforms through employees' broadening of their own perspectives and diversity

vi. Sector-specific initiatives

While implementing cross-sector initiatives are necessary on both the energy-supply side and the energy-demand side in order to realize a decarbonized society, sector-specific initiatives are imperative that take into account the different transition paths and technology roadmaps in each sector and the characteristics of Mizuho's investment and loan portfolio and our client base.
As given on p.21, Mizuho has identified key sectors in which we will focus our efforts toward achieving net zero.

Key sectors to focus on in order to promote net zero transitions
Electric power, energy (oil and gas, coal), steel, chemicals, automotive, maritime transportation, aviation, and real estate

We set emission reduction targets by sectors, and evaluate and execute key-sector initiatives that address opportunities and risks based on the perspectives of facilitating transition in the real economy, capturing business opportunities, and enhancing risk management.

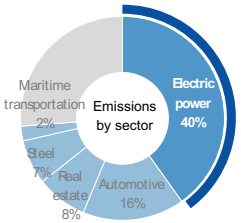


Initiatives in the Electric Power sector

The electric power sector is a high GHG emitting sector, accounting for approximately 40% of all GHG emissions in the global energy consumption sectors and approximately 41%[7] of Mizuho's financed emissions. Electric power is an essential utility for all industry and household activities. Demand for electric power is forecast to increase significantly by 2050, in view of future efforts to promote electrification. Decarbonization in this sector is particularly crucial for that of society and industry as a whole.
There are, on the other hand, various pathways to decarbonization of the electric power sector, depending on the energy security situation and geographical and social factors in each country and region. Given the need to promote orderly transitions in line with the circumstances of each country and region, Mizuho references the IEA's SDS and APS scenarios by country as well as each country's policies and roadmaps. Approximately half of Mizuho's portfolios in the electric power sector is related to the companies and projects in Japan, which means the support and cooperation with Japan's green transformation (GX) and energy policies are essential. Mizuho recognizes the issues that Japan faces in decarbonizing its electric power sector and supports initiatives to reach net zero by 2050 while communicating our positions with the government on related policies.

a. Outlook for the electric power sector

Global CO_2 emissions
(End energy consuming sectors)



Source: IEA WEO 2023

Key points from scenarios and policies looking ahead to 2030 / 2050

Key points from the IEA NZE scenario
- Global demand for electric power will rise significantly by 2050 (increase by 150% from 2022 levels in 2050) due to population and income growth and the electrification of end-user applications.
- Electric power generation from low emission sources (renewable energy, nuclear, fossil fuels with CCS, hydrogen and ammonia generation) will increase 7-fold by 2050, covering almost 100% of global electric power generation.
- Renewable energy installations capacity will triple by 2030, mainly from solar and wind power.
- Share of coal-fired power generation without emission reduction measures will be less than 15% in 2030.
- Natural gas-fired power generation will peak before 2030 and be completely phased out by 2050.

Key points from Japan's policies
- Spread usage of renewable energy and make it the major source of electric power (FY2030 target as a percentage of all power sources: 36% to 38%).
- Make maximum use of nuclear power (FY2030 target as a percentage of all power sources: 20% to 22%).
- Establish electricity market for carbon neutrality (ensure supply and adjustment capacities and protect electric power consumers).

Technology road map toward decarbonization

		Short term (through 2025)	Medium term (through 2030)	Long term (through 2050)
Carbon-free power sources	Renewable energy / Nuclear power	Expansion of solar and onshore wind farms	**Maximize use of renewables and nuclear power** Installation of large offshore wind farms	Next-generation solar power Floating offshore wind farms Innovative next-generation reactors
	Hydrogen and ammonia power generation / CCUS, etc.	**Incentives to decarbonize thermal power generation** Mixed fuel pilot projects CC(U)S pilot projects	Mixed fuel implementation Single fuel pilot projects CC(U)S pilot projects	Single fuel implementation CC(U)S implementation
Shutdown and abolition of thermal power generation		**Shutdown and abolition of existing thermal power generation**		
Enhancements and improvements to power transmission and distribution grids		**Enhancements to power transmission and distribution grids**		

Source: Prepared by the Mizuho Financial Group with reference to the *IEA World Energy Outlook 2023*, the Ministry of Economy, Trade and Industry's Transition Finance Roadmap (Power Sector), the *Basic Policy for the Realization of GX*, and other publicly available materials

[7] Percentage of Scope 1 and 2 emissions in FY2022 Financed Emissions

b. Opportunities and risks for Mizuho in the electric power sector

Mizuho, while managing risks associated with climate change in the electric power sector in an appropriate manner, ascertains the needs of clients in the transition to a decarbonized society and endeavors to support client transitions while capturing business opportunities for Mizuho.

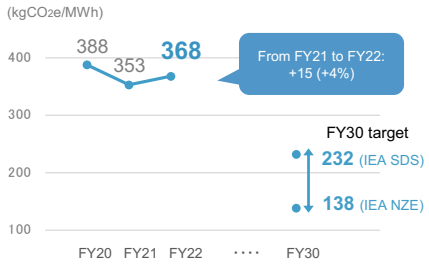
Opportunities (anticipated client needs and time frame)	Risk management
■ **Investments in renewable energy (short, medium, and long term)** - Expansion of investments worldwide in this area as the primary power generation sources on an ongoing basis for a decarbonized society - Around JPY 20 trillion investment in Japan over the next 10 years in renewable energy expected ■ **Investments in next-generation technologies (short, medium, and long term)** - Investment in next-generation renewable energy technologies (solar and wind power) - Investment in the decarbonization of thermal power generation ■ **Investments to enhance and improve power transmission and distribution grids (short, medium, and long term)** - Around JPY 11 trillion investment in Japan expected over the next 10 years in next-generation grids (power grids and power adjustment capacity) for the maximum adoption of renewable energy	■ **Transition risk management** - Designate as *carbon-related sectors* companies whose primary business is coal, oil, and gas thermal power generation, and implement risk controls for these companies ■ **Set and promote medium-term reduction targets for financed emissions** ■ **Reduce environmental and social risks based on the ES Policy** - Set a target to reduce the outstanding credit balance of coal-fired power generation plants - Prohibit financing and investment for use in funding the new construction of coal-fired power generation plants or the expansion of existing capacity ■ **Manage stranded asset risks** - Make decisions on the financing and investment of next-generation technologies based on the position of the project within the client's business and on the results of examination using the Group's internal industry and technology expertise

c. Setting and promoting medium-term reduction targets for financed emissions

Mizuho set medium-term reduction targets for the electric power sector in May 2022 following discussions at the Executive Management Committee and approval by the Board of Directors.
The FY2022 results showed an increase compared to the previous year, mainly due to a decline in nuclear power plant operating rates in Japan. We continue to promote emission reduction efforts through engagement with clients and sophistication of target management.

Figure 13 Outline of and progress on medium-term reduction targets for the electric power sector
(See Appendix p. 92 for details)

Targeted value chain	Companies / projects whose primary business is power generation
Targeted emissions	**Scope 1** (Emissions from power generation businesses)
Metric	**Emission intensity ($kgCO_2e/MWh$)** Note: Emissions per volume of power generation
Base year result	FY2020 **388** $kgCO_2e/MWh$
Latest result	FY2022 **368** $kgCO_2e/MWh$ (Down 5% from base year, Up 4% year on year)
Numerical target (Benchmark scenario)	FY2030 **138** to **232** $kgCO_2e/MWh$ (IEA NZE to IEA SDS)



Increased year-on-year due to an increase in the percentage of thermal power generation in Japan caused by lower nuclear plant operation rates, and due to the start of thermal power plant operations in Japan and abroad

Reference: Absolute emissions from FY21 to FY22, Scope 1: From 45.3 to 40.1 $MtCO_2e$

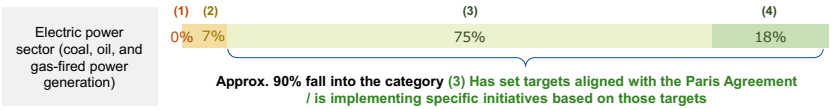
d. Major transition initiatives in the electric power sector

➢ **Status of client responses to transition risk**

We target companies operating electric power businesses (excluding those whose primary business is renewable energy, nuclear power, or power transmission and distribution) in Japan and overseas. We promote transition risk responses and support transition to lower risk areas among these clients, upon confirming the status of client responses to transition risk.

Status of client responses to transition risk

(exposure amount basis as of March 31, 2024. (1) low⇔(4) high) Details on p. 68



➢ **Client engagement**

In FY2023, we engaged with clients on the status of responses to transition risk and initiatives to reduce GHG emissions.

Examples of engagement with clients in the electric power sector
- ✓ We had discussions with Japanese clients in the electric power sector regarding their upcoming capital investment plans and future energy mix to achieve net zero by 2050.
- ✓ We deepened the shared understanding about the importance of pursuing decarbonization while ensuring stable supply of electric power through discussions, and covered a broad range of perspectives, including alliance strategies on decarbonizing thermal power generation, investment strategies for renewable energy, and strategies to bolster power grids.

➢ **Mizuho's support for sector / client transition**

- **Support for transition to decarbonized power sources, enhanced power networks, and social implementation of next-generation technologies**
  - ✓ Arranged syndicated type of transition linked loans totaling JPY 120 billion (Chugoku Electric Power)
  - ✓ Arranged a green-equity bridge fund for the acquisition of one of the largest solar power plants in East Japan (Canadian Solar Group)
- **Support for social implementation of next-generation technologies**
  - ✓ Arranged financing for one of Japan's largest offshore wind power generation projects (Kitakyushu Hibikinada Offshore Wind Farm)
- **Considered cases of early retirement of coal-fired power plants, mainly in Southeast Asia**
- **Organized requirements when considering support for ammonia co-firing technology**

Mizuho's approach to financing ammonia co-firing for coal-fired power generation

To support transitions based on the energy situation and industry characteristics of each country and region, finance will be considered in light of the criteria of "alignment with 2050 Net Zero and transition strategies (roadmaps) of each country," "developing strategies of appropriate transition by the relevant operators," "use of low-carbon ammonia in all lifecycle stages," "ammonia co-firing ratio of 20% or more", and not falling under new construction or expansion prohibited by Mizuho's ES policy.

➢ **Verifications when examining transactions in electric power sector**

Taking into account our medium-term GHG reduction targets for financed emissions, we have strengthened our operational systems that verify the impact on the targets from the following viewpoints for financing transactions that exceed certain loan amounts or loan periods. (Start July 2024)

➢ **Primary check**
- Scope 1 emission intensity (emissions through power generation)

➢ **Secondary check**
- Consistency with government policies on stable energy supplies and decarbonization
- The client's transition strategy and progress on transition measures (transition plans for transforming its power supply mix and emissions reduction targets)

Initiatives in the Oil and Gas sector

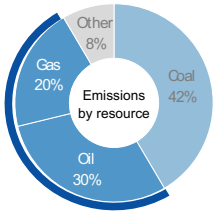
The oil and gas sector accounts for approximately 50% of all global GHG emissions by energy supply source (30% from oil and 20% from gas) and approximately 12%[8] of Mizuho's financed emissions. Mizuho recognizes that to achieve net zero by 2050, a phased transition from oil and gas and a shift to decarbonized fuels is essential.

At the same time, we believe that the transition of the real economy must be compatible with both stable energy supplies and economical and stable energy prices. In order to promote orderly transitions in line with the circumstances of each country and region, such as issues with assuring energy security and geographical and social factors, Mizuho references the IEA's SDS and APS scenarios by country as well as each country's policies and roadmaps as transition pathways for the oil and gas sector.

We also contribute to structural transformations in industry and society by supporting clients' initiatives to reduce GHG emissions in the oil and gas sector as well as their efforts aimed at decarbonization and business structural transformations, such as developing carbon-free fuels and diversifying businesses to provide renewable energy.

a. Outlook for the oil and gas sector

Global CO_2 emissions (Energy supply sectors)



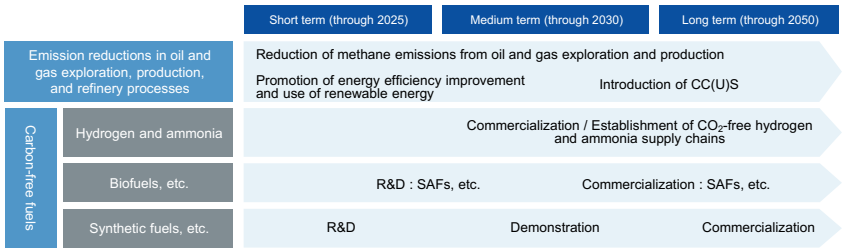
Source: IEA WEO 2023

Key points from scenarios and policies looking ahead to 2030 / 2050

Key points from the IEA NZE scenario
- Oil demand will fall to 77 million barrels/day in 2030 and 25 million barrels/day in 2050 due to the electrification of vehicles, energy efficiency improvement, and the spread of low emission fuels. Investments in new oil and gas development will be unnecessary.
- Natural gas demand will decline by more than 2% from 2022 to 2030 and nearly 8% from 2030 to 2040; while the decline will be slow due to increased demand with CCUS after 2040, some projects will be terminated before the end of their technical lifetimes due to declining global production.

Key points from Japan's policies
- Aim to promote energy efficiency improvement and phaseout from excessive dependence on fossil fuels.
- Mandate submission of long-term plans and periodic reports on the shift to non fossil fuel energy for large-scale consumers; provide guidelines and concentrated support.
- Actively engage in resource diplomacy to secure stable supplies, and provide stronger support through government body.
- Work on building supply chains for carbon-free fuels, particularly hydrogen/ammonia.

Technology road map toward decarbonization



Source: Prepared by the Mizuho Financial Group with reference to *IEA "World Energy Outlook 2023"*, the Ministry of Economy, Trade and Industry "Roadmap for Transition Finance (Oil Sector and Gas Sector)", "The *Basic Policy for the Realization of GX*", and other publicly available materials

b. Opportunities and risks for Mizuho

Mizuho, while managing risks associated with climate change in the oil and gas sector in an appropriate manner, ascertains the needs of clients in the transition to a decarbonized society and endeavors to support client transitions while capturing business opportunities for Mizuho.

[8] Percentage of Scope 1 and 2 emissions in FY2022 Financed Emissions

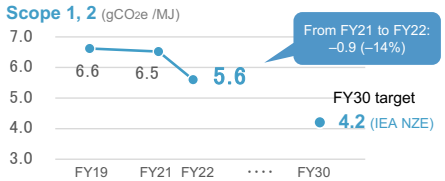
Opportunities (anticipated client needs)	Risk management
■ **Business strategies, management base enhancement, and business diversification (short, medium, and long term)** - Support decarbonization measures in businesses and enhancement of management systems toward transition, and assist the formulation of financial and capital strategies - Strive for business diversification, such as supplying renewable energy ■ **Investments in carbon-free fuels (hydrogen and ammonia) / construction of supply chains (short, medium, and long term)** - Investment in R&D, pilot programs, and commercialization of carbon-free fuels - Fund raising for the construction of supply chains for carbon-free fuels ■ **Reduction of the environmental impact of existing businesses (short and medium term)** - Financing for CAPEX that reduce the environmental impact of existing businesses and contribute to energy transitions ■ **Business structural transformations (medium and long term)** - M&As associated with business structural transformations	■ **Transition risk management** - Designate as *carbon-related sectors* companies whose primary business is oil and gas, and implement risk controls for these companies ■ **Set and promote medium-term reduction targets for financed emissions** ■ **Reduce environmental and social risks based on the ES Policy** - For new financing and investment which is used for oil and gas extraction, assess if adequate sufficient measures are taken to reduce GHG emissions. ■ **Manage stranded asset risks** - Make decisions on the financing and investment of next-generation technologies based on the position of the project within the client's business and on the results of examination using the Group's internal industry and technology expertise

c. Setting and promoting medium-term reduction targets for financed emissions

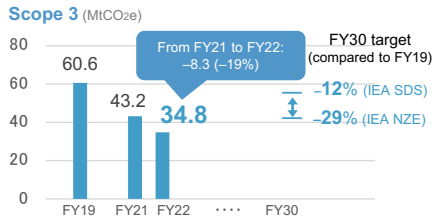
Mizuho set medium-term reduction targets for the oil and gas sector in December 2022 following discussions at the Executive Management Committee and approval by the Board of Directors. The FY2022 results showed a steady decline in both Scope 1, 2, and Scope 3 emissions by clients with respect to the medium-term reduction targets.

Figure 14 Outline of and progress on medium-term reduction targets for the oil and gas sector (See Appendix p. 92 for details)

Targeted value chain	Companies / projects whose primary business is upstream production (including integrated oil and gas companies)
Targeted emissions	**Scope 1, 2** (Direct emissions from oil and gas production)
Metric	**Emission intensity (gCO_2e/MJ)** Note: Emissions per unit of production
Base year results	FY2019 **6.6** gCO_2e/MJ
Latest results	FY2022 **5.6** gCO_2e/MJ (Down 15% from base year, Down 14% year on year)
Numerical target (Benchmark scenario)	FY2030 **4.2** gCO_2e/MJ (IEA NZE)
Targeted emissions	**Scope 3 Category 11**
Metric	**Absolute emissions ($MtCO_2e$)**
Base year results	FY2019 **60.6** $MtCO_2e$
Latest results	FY2022 **34.8** $MtCO_2e$ (Down **43% from base year, down** 19% year on year)
Numerical target (Benchmark scenario)	FY2030 Compared to FY2019 **–12** to **–29**% (IEA NZE to IEA SDS)



Achieved a year-on-year decline due to a decrease in loan balances for projects with high emission intensities and emission intensities of clients



Down year-on-year due to the decreased loan balances and a decline in the attribution factor resulting from an increase in market capitalization; the results remain on pace to reach the FY30 target.

Reference: Absolute emissions from FY21 to FY22
Scope 1: From 4.4 to 2.8 $MtCO_2e$; Scope 2: From 0.5 to 0.3 $MtCO_2e$

d. Major initiatives in the oil and gas sector

➢ **Status of client responses to transition risk**

We target companies whose primary business is oil and gas in Japan and overseas. We promote transition risk responses and support transition to lower risk areas among these clients, upon confirming the status of client responses to transition risk.

Status of client responses to transition risk

(exposure amount basis as of March 31, 2024. (1) low⇔ (4) high) Details on p. 68

Over 70% fall into the category (3) Has set targets aligned with the Paris Agreement / is implementing specific initiatives based on those targets

➢ **Client engagement**

In FY2023, we engaged with clients on the status of responses to transition risk and initiatives to reduce GHG emissions.

Examples of engagement with clients in the oil and gas sector
- ✓ We had discussions with clients in the oil and gas sector regarding inorganic strategies for launching non-fossil-related businesses.
- ✓ In addition, we confirmed how clients are proceeding on strategies to transition to a decarbonized society and initiatives to reduce emissions, such as commercializing carbon-free energy (such as hydrogen and ammonia), adopting CCUS into oil and gas businesses, and supplying renewable energy.

➢ **Mizuho's support for sector / client transition**

- **Support for clients' business portfolio restructuring designed for future fuel conversions**
  - ✓ Supported a client's examinations of bolstering and reorganizing its petrochemical business
  - ✓ Supported a client's commercialization of an SAF production project
- **Support for construction of value chains for carbon-free energy (such as hydrogen and ammonia)**
- **Support through financing for clients' decarbonization strategies and emission reduction initiatives**
  - ✓ Arranged a transition-linked loan for carbon neutrality (ENEOS)

➢ **Verifications when undertaking projects that will use financing for new oil and gas exploration**

Taking into account our medium-term GHG reduction targets for financed emissions, we have implemented operational systems that assess the impact on our targets from the following viewpoints for financing projects that will use funds for new oil and gas exploration.

➢ **Primary check**
- Forecasts of Scope 1 and 2 GHG emission intensities and the presence of sufficient GHG emission reduction measures
- Forecasts of Scope 3 emissions (production volumes)

➢ **Secondary check**
- Consistency with government policies of each country on stable energy supplies and decarbonization
- The transition strategy and progress on transition measures (such as transition plans for business structural transformations, including reductions in the overall share of the oil and gas business, and the details of GHG emission reduction targets (including reduction targets for methane emissions) etc.)

Initiatives in the Coal Mining (Thermal Coal) sector

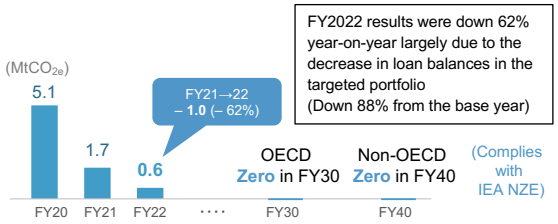
a. Setting and promoting medium-term reduction targets for financed emissions

Mizuho set medium-term reduction targets for the coal mining (thermal coal) sector in December 2022 following discussions at the Executive Management Committee and approval by the Board of Directors. Emission results for FY2022 showed steady reductions, down 88% from the base year.

Table 5 Outline of medium-term reduction targets for the coal mining (thermal coal) sector (See Appendix p. 93 for details)

Targeted value chain	Companies / projects whose primary business is thermal coal mining
Targeted emissions	**Scope 1, 2 and Scope 3 Category 11**
Metric	**Absolute emissions** ($MtCO_2e$)
Base year results	FY2020 **5.1** $MtCO_2e$
Latest results	FY2022 **0.6** $MtCO_2e$ (Down 88% from the base year, Down 62% year on year)
Numerical targets (Benchmark scenario)	**OECD countries: Zero by FY2030; Non-OECD countries: Zero by FY2040** (Complies with IEA NZE)

Figure 15 FY2022 results regarding the medium-term reduction targets for financed emissions Scope 1, 2, and 3 absolute GHG emissions



FY2022 results were down 62% year-on-year largely due to the decrease in loan balances in the targeted portfolio (Down 88% from the base year)

Reference: Breakdown by Scope 1, 2, and 3

($MtCO_2e$)	FY20	FY21	FY22
Scope 1	0.4	0.2	0.02
Scope 2	0.009	0.003	0.0007
Scope 3	4.7	1.4	0.6
Total	5.1	1.7	0.6

b. Initiatives to steadily reduce financing for coal mining (thermal coal)

Mizuho has established the following policies on coal mining (thermal coal) in the Environmental and Social Management Policy for Financing and Investment Activity. The outstanding balance of loans to companies / projects whose primary business is thermal coal mining has been declining from JPY 22.6 billion on March 31, 2022 and JPY 10.6 billion on March 31, 2023 to JPY 7.0 billion on March 31, 2024. We will continue to steadily reduce to achieve our medium-term reduction targets.

Policy on financing and investment for thermal coal mining (excerpt from the *Environmental and Social Management Policy for Financing and Investment Activity*)

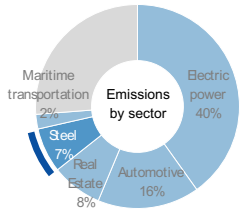
- Mizuho will not provide *financing and investment* to companies with no existing *financing and investment* transactions and whose primary business is thermal coal mining, or infrastructure operations linked with thermal coal mining
- Mizuho will not provide *financing and investment* which will be used for development or expansion of thermal coal mines, or infrastructure operations linked with thermal coal mining

Initiatives in the Steel sector

The steel sector is a high GHG emitting sector, accounting for approximately 7% of all CO_2 emissions in the global energy consumption sectors, and for more than 10% of Japan's CO_2 emissions, and around 40% of the industrial sector's emissions. It accounts for approximately 14% of Mizuho's financed emissions.
For the pathways to decarbonization of the steel sector, Mizuho references the IEA's NZE/MPP TM[9] scenarios as well as each country's policies and roadmaps, given the need to promote orderly transitions in line with the circumstances of each country and region, such as their development and implementation of innovative technologies.

a. Outlook for the steel sector

Global CO_2 emissions
(End energy consuming sectors)



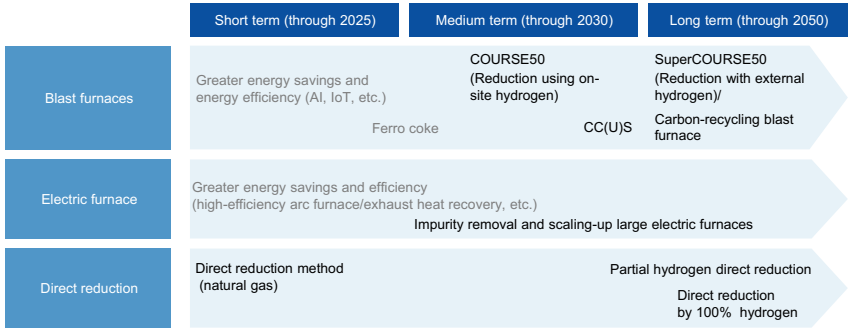
Source: IEA WEO 2023

Key points from scenarios and policies looking ahead to 2030 / 2050

Key points from the IEA NZE scenario
- Steel production in 2030 will grow to around 5% of 2022 levels, driven by economic growth in India, ASEAN, Africa, and other nations.
- By 2030 the share of emissions-intensive blast furnaces in the production of iron will decline by around 10% through the phase-out of existing plants, while the share of scrap-based production will increase by over 5% through more scrap availability.
- Use of innovative technologies such as hydrogen direct reduction steelmaking and CC(U)S will start on a large scale in the 2020s, and commercial usage of these technologies will be a given by 2030.
- Emissions from steel production will decline by about 20% from 2022 to 2030 and by about 90% by 2050.

Key points from Japan's policies
- Aim carbon neutrality for the sector with a multiple technology approach, based on the timeline until the technologies are established.
- Support to make existing facilities more operationally efficient and energy efficient, converting production systems from blast furnaces to electric furnaces, and developing and adopting innovative technologies such as hydrogen reduction steelmaking.

Technology road map toward decarbonization



Source: Prepared by the Mizuho Financial Group with reference to the *IEA World Energy Outlook 2023*, the Ministry of Economy, Trade and Industry's Transition Finance Roadmap (Steel Sector), the *Basic Policy for the Realization of GX*, and other publicly available materials

b. Setting and promoting medium-term reduction targets for financed emissions

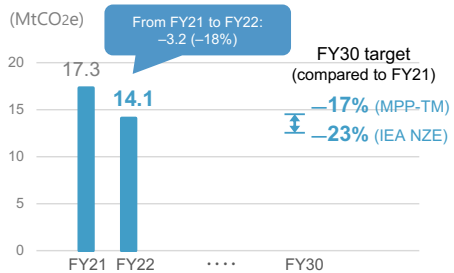
Mizuho set medium-term reduction targets for the steel sector in April 2024 following discussions at the Executive Management Committee and approval by the Board of Directors. Because steel production processes account for approximately 97% of all emissions in the steel value chain, our target focuses on the steelmakers' own emissions. The results for FY2022 saw a steady decline in absolute emissions to 14.1 $MtCO_2e$ (down 18% from the base year of FY2021).

[9] MPP TM: Technology Moratorium scenario by Mission Possible Partnership assuming full-scale introduction and transition of innovative technologies after 2030.

Figure 16 Outline of and progress on medium-term reduction targets for steel sector

(see Appendix p. 94 for details)

Targeted value chain	Companies and projects whose primary business is steelmaking (production involving blast furnace or electric furnace, continuous casting and rolling)
Targeted emissions	**Scope 1, 2** (GHG emissions from steel production operations)
Metric	**Absolute emissions ($MtCO_2e$)**
Base year result	FY2021 **17.3** $MtCO_2e$
Latest result	FY2022 **14.1** $MtCO_2e$ (Down **18%** from base year / year on year)
Numerical target (Benchmark scenario)	**FY2030** Compared to FY2021 **–17%** to **–23%** (MPP-TM to IEA NZE)



Year-on-year decline primarily caused by energy efficiency initiatives by companies in the targeted portfolio and by a drop in production volumes due to sluggish demand for steel materials in Japan

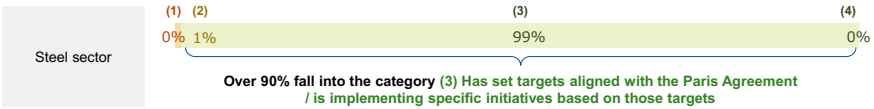
c. Major transition initiatives in the Steel sector

➢ **Status of client responses to transition risk**

We target companies primarily operating steelmaking businesses in Japan and overseas. We promote transition risk responses and support transition to lower risk areas among these clients, upon confirming the status of client responses to transition risk.

Status of client responses to transition risk

(exposure amount basis as of March 31, 2024. (1) low⇔(4) high) Details on p. 68



➢ **Client engagement**

In FY2023, we engaged with clients on the status of responses to transition risk and initiatives to reduce GHG emissions.

Examples of engagement with clients in the steel sector

✓ Focusing on clients in the domestic steel sector, we discussed methods to reduce emissions from steel production processes and optimal funding methods to secure financing for carbon neutral investments

➢ **Mizuho's support for sector / client transition**

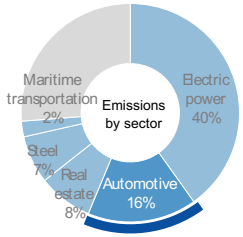
- **Support for optimal financing methods for clients to secure funding for carbon neutral investments**
  - ✓ Mizuho Securities was appointed as lead managing underwriter/structuring agent for green bond issuance (March 2023) to finance facilities to produce non-oriented electrical steel sheets for eco-friendly car motors (Nippon Steel)
- **Contribute to communicating opinions and rule-making for the arrangement of competitive circumstances in such areas as developing low-carbon blast furnace methodologies and practical applications of direct hydrogen reduction**

Initiatives in the Automotive sector

The automotive sector emits approximately one-sixth of CO_2 emissions from all global end energy consumption sectors. It is also recognized as an essential sector for decarbonization because automobiles are a vital means of mobility and transportation for which demand is expected to increase toward 2050. Electrification in line with regional energy decarbonization is a vital part of decarbonizing the automotive sector. Another key aspects are expanding the use of Battery Electric Vehicles as well as increasing the adoption of biofuel and fuel-cell vehicles and decarbonizing regional power sources.

a. Outlook for the automotive sector

Global CO_2 emissions
(End energy consuming sectors)



Source: IEA WEO 2023

Key points from scenarios and policies looking ahead to 2030 / 2050

Key points from the IEA NZE scenario
- Cumulative distance traveled by passenger vehicles globally will increase by 8% from 2022 to 2030 and by 57% by 2050.
- Global sales of electric vehicles (EVs) will increase, accounting for 67% of new car sales in 2030.
- Production costs of Battery EVs will decline to about 76% of 2022 costs in 2030 and 67% of 2022 costs in 2050, leading to lower market prices.
- With the advance of electrification, emissions from passenger vehicles will decrease by about 40% from 2022 levels in 2030 and by about 99% in 2050.

Key points from Japan's policies
- 100% of new passenger vehicles sold in 2035 will be electrified vehicles (including electric vehicles, fuel cell vehicles, plug-in hybrids, and hybrids).
- Establish infrastructure, such as public chargers and hydrogen stations.
- Expand adoption and lower costs of synthetic fuels through the 2030s and commercialize independent use by 2040.

Technology road map toward decarbonization

	Short term (through 2025)	Medium term (through 2030)	Long term (through 2050)
Decarbonization of production processes	Boost energy efficiency measures / adopt renewables Convert fuels to natural gas and other low-carbon fuels		CO_2 capture at factories Convert fuels to CO_2-free hydrogen
Decarbonization of automobiles (while traveling)	**Growth of electrified vehicles** Electric vehicles, plug-in hybrids, hybrids, fuel cell vehicles		
	Practical application of carbon-neutral fuels Biofuels (bioethanol, biodiesel, etc.)		Synthetic fuels
Development of charging and refueling infrastructure	Development of charging infrastructure and hydrogen stations		CO_2-free hydrogen Construct supply chains

Source: Prepared by the Mizuho Financial Group with reference to the *IEA World Energy Outlook 2023*, the *Global EV Outlook 2023*, and the Ministry of Economy, Trade and Industry's *Electric Vehicle Technology Roadmap for Transition Finance*

b. Setting and promoting medium-term reduction targets for financed emissions

Mizuho set medium-term reduction targets for the automotive sector in December 2023 following discussions at the Executive Management Committee and approval by the Board of Directors.

Targets for the automotive sector were set for Scope 1, 2 emissions — emissions by automotive manufacturing process — and for Scope 3 Category 11 (use of sold products) emissions, which account for approximately 80% of value-chain emissions. Regarding Scope 3 emissions, efforts toward both reducing emissions while driving and decarbonizing the energy used by automobiles are necessary. Therefore, we set Well-to-Wheel emissions as metrics for the targets, which include emissions during the energy production process.

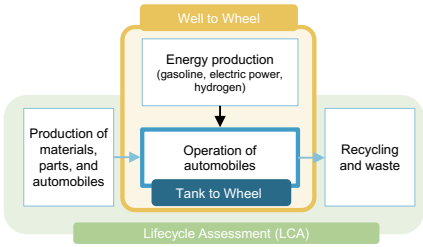
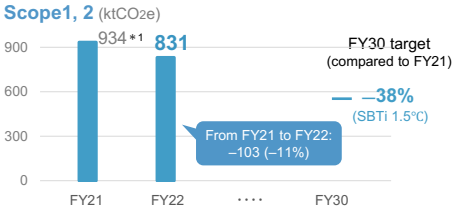


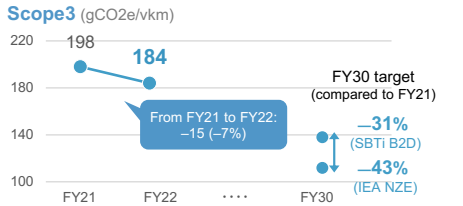
Figure 17 Outline of and progress on medium-term reduction targets for automotive sector

(see Appendix p. 94 for details)

Targeted value chain	Companies whose primary business is (finished) passenger vehicle production
Targeted emissions	**Scope 1, 2**
Metric	**Absolute emissions** ($ktCO_2e$)
Base year results	FY2021 **934** $ktCO_2e$ *1
Latest results	FY2022 **831** $ktCO_2e$ (Down **11%** from base year / year on year)
Numerical targets (Benchmark scenario)	FY2030 **–38%** from base year (SBTi 1.5℃ standard)
Targeted emissions	**Scope 3 Category 11**
Metric	**Emission intensity (gCO_2e/vkm) (Well-to-Wheel*2)** Note: Emissions per unit of distance travelled
Base year results	FY2021 **198** gCO_2e/vkm
Latest results	FY2022 **184** gCO_2e/vkm (Down **7%** from base year / year on year)
Numerical targets (Benchmark scenario)	FY2030 Compared to FY2021 **–31** to **–43%** (SBTi B2D to IEA NZE)



Decrease year on year due to steady progress by main clients on reducing emissions



Decrease year on year due to due to the continued shift to more fuel-efficient vehicles and electrified vehicles (Battery EVs, hybrids, etc.)

Reference: Absolute emissions from FY21 to FY22
Scope 3: From 33.4 to 33.6 $MtCO_2e$

*1. Base-year results were revised following remeasurements triggered by the reversing of EVIC figures by data vendors (amount disclosed on December 2023 was 740 $ktCO_2e$).
*2. An emission metric that covers emissions from energy production processes and emissions from operating vehicles.

c. Major transition initiatives in the automotive sector

➢ **Client engagement**

In FY2023, with the start of Mizuho's target setting, we engaged with clients on their initiatives to reduce emissions.

Examples of engagement in the automotive sector
- ✓ Focusing on domestic finished vehicle manufacturers, we discussed each company's decarbonization strategies (Battery EVs, rechargeable battery strategies, etc.), renewable energy procurement, and off-site corporate PPA
- ✓ With the start of Mizuho's Scope 3 target setting, we discussed reducing emissions from automobile manufacturing processes and while driving.
- ✓ While converting from gasoline engine vehicles to electrified vehicles is essential to decarbonizing the automotive sector, we also shared recognition of the importance of electrification based on the overall pace of transition in society, such as the decarbonization of regional power sources and the establishment of charging networks.

➢ **Mizuho's support for sector / client transition**

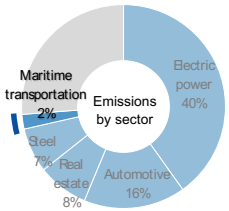
- **Financial arrangement to implement clients' decarbonization strategies, such as procuring renewable energy and developing new technologies**
  - ✓ Arranged a green loan for the development of Battery EVs (SUBARU)
- **Provide proposals for data management services and the visualization of GHG emissions throughout supply chains**
- **Support for the development of charging infrastructure**
- **Decarbonization initiatives on the energy supply side (Electric Power sector (p. 32) and Oil and Gas sector (p. 35))**

Initiatives in the Maritime Transportation sector

The maritime transportation sector accounts for approximately 2% of all emissions in the global energy consumption sectors and for approximately 3%[10] of Mizuho's financed emissions. Maritime transportation volumes are rising year by year and demand is forecast to continue to increase until 2050 on the back of economic growth. Therefore, we recognize that decarbonizing maritime transportation is essential to advance transition in the real economy.
Since it is difficult for individual countries to implement measures to reduce GHG emissions of international maritime transportation, the International Maritime Organization (IMO), a specialized UN agency, establishes GHG emission reduction strategies for the sector. We believe that it is crucial to work toward emission reductions based on IMO's strategies and regulations.

a. Outlook for the maritime transportation sector

Global CO_2 emissions
(End energy consuming sectors)



Source: IEA WEO 2023

Key points from scenarios and policies looking ahead to 2030 / 2050

Key points from *IMO Strategy on Reduction of GHG Emissions*

- Adopted a target of net zero GHG emissions from international shipping by around 2050.

2008	2030	2040	Around 2050
Base year	–20 to 30%	–70 to 80%	Net zero

  - Reduce CO_2 emissions by 40% per unit volume transported
  - Percentage of zero-emission fuels used: 5 to 10%

- Introduced the EEXI regulation and the CII regulation as short-term measures to reach the 2030 targets.
  1. EEXI (Energy Efficiency Existing Ship Index) regulation: Prior inspection and certification of ships' fuel efficiency performance, with an obligation to take measures to improve fuel efficiency if results are not met with the standards.
  2. CII (Carbon Intensity Indicator) regulation: Ships are scored on a five-level rating on their annual fuel consumption, with an obligation to submit improvement plans if a ship's rating is low.

Technology road map toward decarbonization

	Short term (through 2025)	Medium term (through 2030)	Long term (through 2050)
Conversion to low-carbon fuels	Conversion from heavy oil to low-carbon fuels: LNG fuel		Carbon-recycled methane, Biofuels and synthetic fuels
Zero-emission fuel and zero-emission ships	Introduction and growth of hydrogen and ammonia-fueled ships: Develop engines, tanks, and fuel-supply systems	Pilot programs on actual ships	Commercial operation
Onboard CO_2 capture	R&D	Pilot programs on actual ships	Introduction on actual ships

Source: Prepared by the Mizuho Financial Group with reference to the *IEA World Energy Outlook 2023*, the public documents from the IMO, and the Ministry of Land, Infrastructure, Transport and Tourism's *Efforts toward Carbon Neutral International Shipping by 2050*

b. Setting and promoting medium-term reduction targets for financed emissions

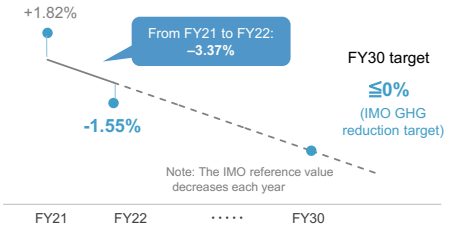
Mizuho set medium-term reduction targets for the maritime transportation sector in December 2023 following discussions at the Executive Management Committee and approval by the Board of Directors.
Because GHG emissions from vessels account for 98% of the sector's emissions, the target focuses on emissions by vessels while in operation. Moreover, targets are set in terms of emission intensity per unit of activity (distance traveled x deadweight) in order to encourage decarbonization of vessels while supporting the growth in demand for maritime transportation.

[10] Percentage of Scope 1, 2 emissions by our clients with loan and investment, among FY2022 Financed Emission measurement results.

To measure and evaluate the state of reductions in emission intensities by vessel type and size, we used the portfolio climate alignment score as the metric for target setting, with reference to the technical guidance[11] in The Poseidon Principles, and used IMO's Carbon Intensity Indicator (CII) regulations for calculation baseline values.

Figure 18 Outline of and progress on medium-term reduction targets for maritime transportation sector (see Appendix p. 95 for details)

Targeted value chain	Vessels of 5,000 gross tonnage and above, excluding domestic shipping vessels
Targeted emissions	**Scope 1 (vessels in operation)**
Metric	**Portfolio climate alignment score***1
Base year result	FY2021 **+1.82%***2
Latest result	FY2022 **-1.55%***2
Numerical target (Benchmark scenario)	FY2030 **0% or less** (IMO GHG reduction target)



In FY22, the average for the entire portfolio was below the energy efficiency reference line, due to greater operational efficiency of existing vessels and to replacement in vessel portfolio

Reference: Absolute emissions from FY21 to FY22
Scope 1: From 3.5 to 2.9 $MtCO_2e$

*1. Portfolio climate alignment score indicates how much the GHG emission intensity of a vessel diverges from the reference line.
*2. Consistency score with IMO regulations on vessels' energy efficiency. Since the regulation was not in place in FY2021 and FY2022, the results for these years were calculated using an original benchmark (reference line × 3% / 4% reduction rate for each year).

c. Major transition initiatives in the maritime transportation sector

➢ **Client engagement**

In FY2023, with the start of Mizuho's target setting, we engaged with clients on their initiatives to reduce GHG emissions.

Examples of engagement in the maritime transportation sector
- ✓ With the start of Mizuho's target setting, we discussed the decarbonization of the maritime transport industry and ship operations with shipping operators and ship owners.
- ✓ While most clients recognized the necessity of responding to the IMO fuel-efficiency regulations to be applied to vessels from 2023, wide-ranging opinions and positions were shared on issue recognition and approaches from each client's viewpoint, including balancing environmental and economic concerns and reconciling interests among various stakeholders, such as shippers and operators.

➢ **Mizuho's support for sector / client transition**

- **Financial support to expand adoption of vessels that use low-carbon fuels**
  - ✓ Arranged transition financing and positive impact financing for a shipping company
  - ✓ Arranged ship finance for alternative fuel vessels (LNG-burning dual-fuel vessels and methanol-burning dual-fuel vessels)
- **Support for the construction of supply chains for next-generation fuels (such as hydrogen and ammonia)**
- **Support for the decarbonization of port infrastructure**
  - ✓ Signed a Memorandum of Understanding on a joint study of financial support measures based on the Port Decarbonization Promotion Plan for the Port of Yokohama

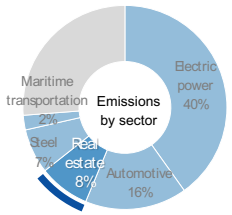
[11] Poseidon Principles Technical Guidance Version 4.2

Initiatives in the Real Estate sector

Real estate (residential and commercial) accounts for approximately 26% of emissions (direct emissions from real estate and indirect emissions from electricity usage) in all global energy consumption sectors. At the same time, real estate is foundational to people's livelihoods and economic activities, and overall global demand for real estate is forecast to expand until 2050. Therefore, decarbonization of real estate sector is essential to realize a transition to a decarbonized society.

a. Outlook for the real estate sector

Global CO_2 emissions
(End energy consuming sectors)



Source: IEA WEO 2023

Key points from scenarios and policies looking ahead to 2030 / 2050

Key points from the IEA NZE scenario
- The total floor space globally of commercial and residential real estate will increase 15% by 2030 from FY2022 levels and 55% by 2050, largely driven by expansion in developing countries.
- Zero-carbon measures will be in place in all new buildings and 20% of existing buildings by 2030.
- GHG emissions from commercial and residential real estate will decrease by approx. 40% from 2022 levels due to electrification of energy through spread of heat pumps, conversions to renewable energy, and switching to district heating.

Key points from Japan's policies
- Japan's CO_2 reduction target for FY2030 is a 51% reduction in the commercial sector and a 66% reduction in the residential sector compared to FY2013 levels.
- Toward decarbonizing the real estate sector, ensure ZEH / ZEB levels of energy efficiency performance for new buildings from FY2030 onward, and ensure ZEH / ZEB levels of energy efficiency performance for the building stock average by 2050 through the promotion of improving energy efficiency performance of existing properties.

Technology road map toward decarbonization

	Short term (through 2025)	Medium term (through 2030)	Long term (through 2050)
Widespread adoption of ZEB/ZEH	Ensure ZEH / ZEB levels for new buildings		Ensure ZEH / ZEB levels for entire building stock through renovations, etc., to existing buildings
Improved energy efficiency of properties and equipment	Install high-efficiency equipment (lighting, HVAC, boilers, etc.) Improve building envelope performance through renovations Make use of energy management systems		
Adoption of renewable energy	Introduce solar power generation	Promote adoption of next-generation solar power generation and storage batteries	Decarbonize all aspects of power supplies

Source: Prepared by the Mizuho Financial Group with reference to the *IEA World Energy Outlook 2023*, the IEA website, and materials published by the Ministry of the Environment and the Ministry of Land, Infrastructure, Transport and Tourism

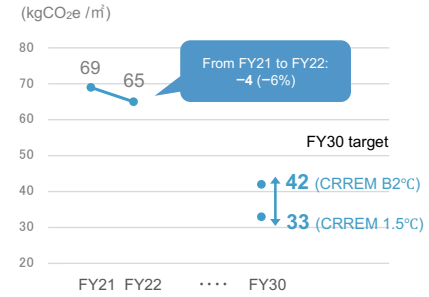
b. Setting and promoting medium-term reduction targets for financed emissions

Mizuho set medium-term reduction targets for the real estate sector in April 2024 following discussions at the Executive Management Committee and approval by the Board of Directors.
GHG emissions during the use of properties is the largest contributor to the sector's overall GHG emissions. Therefore, we set targets on emissions from properties owned or leased by real estate companies, REITs, and other businesses that lease and operate commercial real estate.

Figure 19 Outline of and progress on medium-term reduction targets for real estate sector

(see Appendix p. 96 for details)

Targeted value chain	Companies, REITs and SPCs in Japan whose primary business is real estate leasing
Targeted emissions	**Scope 1, 2, and Scope 3 Category 13**
Metric	**Emission intensity ($kgCO_2e$ /㎡)** Note: Emissions per unit floor area
Base year result	FY2021 **69** $kgCO_2e$ /㎡
Latest result	FY2022 **65** $kgCO_2e$ /㎡ (Down **6%** from base year / year-on-year)
Numerical target (Benchmark scenario)	FY2022 **33** to **42** $kgCO_2e$ /㎡ (CRREM 1.5ºC to Below 2ºC)



Emission intensities were down year-on-year and on the whole due to the steady progress clients have made on adopting renewable energy and other initiatives

Reference: Absolute emissions from FY21 to FY22
Scope 1, 2 and Scope 3 Category 13: From 361 to 358 $MtCO_2e$

c. Major transition initiatives in the real estate sector

➢ **Client engagement**

In FY2023, we engaged with clients on their initiatives to reduce GHG emissions, starting with Mizuho's target setting.

Examples of engagement in the real estate sector
- ✓ We shared opinions and positions on initiatives and challenges for decarbonizing real estate with developers, REITs, and other clients that own and operate commercial real estate, starting with Mizuho's Scope 3 target setting.
- ✓ Because emissions from the usage of electric power (Scope 2) account for a large percentage of real estate emissions, we shared recognition that switching to renewable sources of electric power is a critical means of reducing emissions, but also that there are challenges for the stable procurement of renewable energy.

➢ **Mizuho's support for sector / client transition**

- **Establishment of renewable energy procurement schemes and financial support**
- **Support for the visualization of GHG emissions and the acquisition of non-fossil fuel certificates and environmental certificates**
- **Offer the original products, Mizuho Green / Sustainable Real Estate Non-Recourse Loans (started in October 2022) and Mizuho Real Estate Non-Recourse Sustainability-Linked Loans (April 2024) to support clients' decarbonization efforts**

Initiatives in the Chemical sector

To decarbonize the chemical sector, technology related to shifts from fuels and materials derived from fossil fuels is essential; however, most of these technologies are currently in the R&D phase. Mizuho is involved in broad discussions with clients about business strategies to decarbonize, based on our expertise in environment and industries.

■ **Examples of client engagement**

- Discussion with clients on fuel conversion (decarbonization of crackers (thermal decomposition furnaces)), resource recycling (waste plastic recycling), raw material conversion (bioplastics), and other technologies
- Discussion on strategies based on the needs to make use of environmentally friendly materials in the downstream demand industries
- Discussion on restructuring petrochemical complexes with a view to both technology implementation for decarbonization and optimization of domestic production capacity
- Discussion on GX initiatives-related support by the Government

Initiatives in the Aviation sector

Mizuho provides financial and non-financial support for clients' initiatives to decarbonize the aviation sector, such as developing low-carbon and carbon-free aircrafts or airports and converting to next-generation fuels.

■ **Support for the practical implementation of next-generation technologies**

- Mizuho Bank joined ACT FOR SKY, an organization that works to commercialize, promote, and expand the use of domestic sustainable aviation fuel (SAF).
- Mizuho facilitates private partnerships and cross-industry initiatives.

■ **Transition support**

- Mizuho arranged Japan's first project finance for a solar power generation project in which a concession airport operator will purchase the electric power produced by the project (Kansai Airports Group, ORIX).

(3) Risk recognition

Mizuho assumes various climate-related risks in each financial institution risk category and evaluates the materiality of each (Table 6 and Figure 20). We manage high-consequence risks both qualitatively and quantitatively as necessary and take appropriate responses.
Recognition of these risks and the situation of the risk management are regularly reported to the Executive Management Committee, the Board of Directors, and other committees.

Table 6 Definitions of climate-related risks

Climate-related risks	Risks of the company incurring tangible and intangible losses, due to the ripple effect of climate change-induced transition risks and physical risks in each financial institution risk category (such as credit risk, market risk, etc.)
Transition risks	Risks stemming from business landscape changes associated with the transition to a decarbonized society
Physical risks	Risks stemming from changes in physical impacts associated with changes in temperatures and adverse weather events

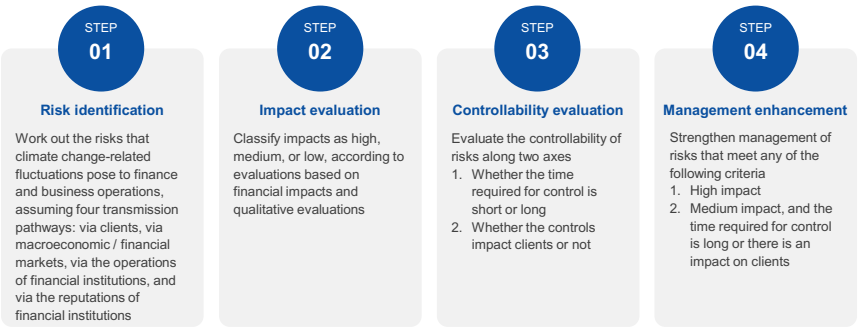
Figure 20 Recognition of climate-related risks

	Transition risks [Short term, Medium and long term]	Physical risks [Medium and long term]	
		Acute risks	Chronic risks
	Changes to the external environment caused by decarbonization	Changes caused by adverse weather events	Changes caused by temperature increases
Credit risk	Deterioration in client business performance associated with business landscape changes	Deterioration in client business performance Decline in the value of collateral assets	Deterioration in client business performance associated with business landscape changes
Market risk	Decline in the value of stock holdings associated with business landscape changes Decline in the value of stock holdings associated with macroeconomic landscape changes	Decline in the value of stock holdings associated with deterioration in business performance Decline in the value of stock holdings associated with financial landscape changes	Decline in the value of stock holdings associated with business landscape changes
Liquidity risk	Increase in funding demands from clients and deterioration in the fund-raising landscape associated with business landscape changes	Increase in funding demands from clients and deterioration in the fund-raising landscape	-
Operational risk	Stakeholders filing lawsuits and taking other legal action associated with insufficient compliance with government policies and regulations	Impairment of Mizuho's assets and occurrence of repair costs Interruptions to Mizuho's business	Decline in labor force
Reputational risk	Criticism of Mizuho for inadequate, obsolescent, or non-performing climate change-related strategies		

Materiality of each risk: High | Medium | Low

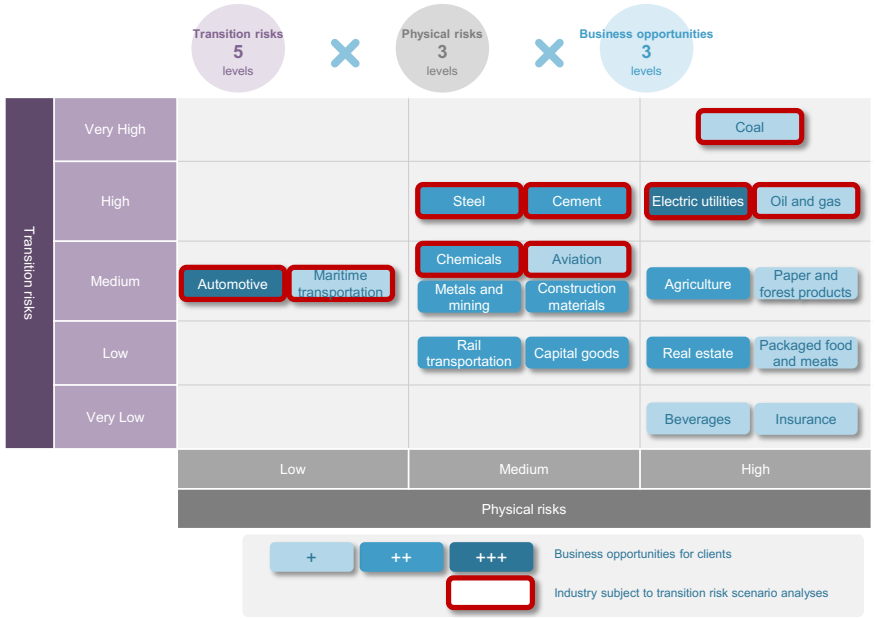
Time bases: Short term: 1 to 3 years, medium and long term: up to 2050

Figure 21 Process for evaluating the materiality of climate-related risks



Mizuho also conducts qualitative evaluations of risks and opportunities by sector in order to identify climate-related risks. The evaluations target 19 sectors, in line with the recommended disclosures in the TCFD Recommendations.
Transition risks are evaluated on a five-level scale — Very High, High, Medium, Low, and Very Low — based on sector-specific evaluation criteria such as GHG emissions and carbon efficiencies. The evaluations are referenced when verifying and managing risks appropriate as needed in various risk management frameworks, such as scenario analyses and risk controls for carbon-related sectors. We also rate the extent of physical risks and client business opportunities on a three-level scale and work to raise awareness of climate-related risks (Figure 22).

Figure 22 Results of qualitative evaluations of sector-specific risks and opportunities



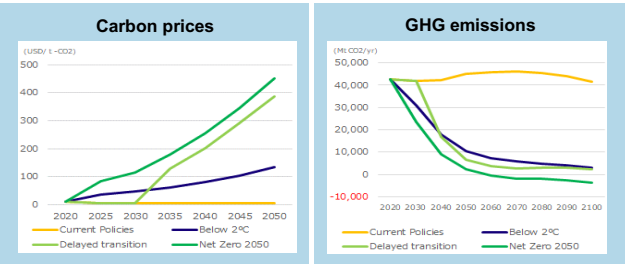
(4) Scenario analyses

Mizuho conducts scenario analyses for both transition risks and physical risks in order to understand the future impact of climate change on our Group's portfolio. The analyses use four NGFS scenarios, including the 1.5°C scenario, to increase the flexibility of plans and the resilience of strategies in anticipation of various future climate change-related outcomes.

i. Scenario assumptions and implications for Mizuho

Scenario		Current Policies	Below 2℃	Delayed Transition	Net Zero 2050
Scenario narrative		This scenario assumes that current policies are maintained.	This scenario assumes that climate-related policies gradually become more stringent and the rise in the average global temperature is limited to below 2°C. Policy responses proceed quickly and smoothly, but technological innovation is gradual.	This scenario assumes that annual emissions do not decline until 2030 and very tough policy responses are needed to keep the temperature increase below 2°C. Rapid progress is made in developing more stringent policy responses and in technological innovation.	This scenario assumes CO_2 emissions reach net zero around 2050 due to smooth and quick policy responses and rapid technological innovation.
Main assumptions	Temperature increase by 2100	+3.0℃	+1.8℃	+1.8℃	+1.5℃
	GHG emissions	Net zero not achieved even in 2100	Net zero not achieved even in 2100	Net zero not achieved even in 2100	Net zero achieved by the 2050s
	Carbon pricing	Levels are nearly zero	Rises from the outset	Rises from 2030 on	Rises rapidly from the outset
	Business structural transformations	Almost none expected	Progress from the outset	Progress made from 2030 on	Rapid progress from the outset
	Transition risks	Low			High
	Physical risks	High			Low
	Opportunities	Low			High
Implications for Mizuho	Summary	The impact of physical risks will be substantial, as the severity of disasters increases along with rapid temperature increases. Although the impact of transition risks will be limited, because almost no business structural transformations are expected, associated demand for financing by clients will be low.	Although the impact of transition risks will be limited, demand for financing associated with next-generation technology and decarbonization measures may be relatively low because clients use their own funds.	Attention must be given to risk management, because the impact of transition risks may cause client business performance to deteriorate. There will be demand for financing from clients from 2030 onward for next-generation technology and decarbonization measures to keep temperature increases to below 1.8°C.	Compared to the other scenarios, the impact of physical risks will be limited, but attention must be given to risk management, because the impact of transition risks may cause client business performance to deteriorate. Demand for financing from clients will increase from current levels for next-generation technology and decarbonization measures to keep temperature increases to below 1.5°C.

Figure 23 NGFS scenario parameters



Source: NGFS Scenarios (Phase III) (all figures on a global basis)

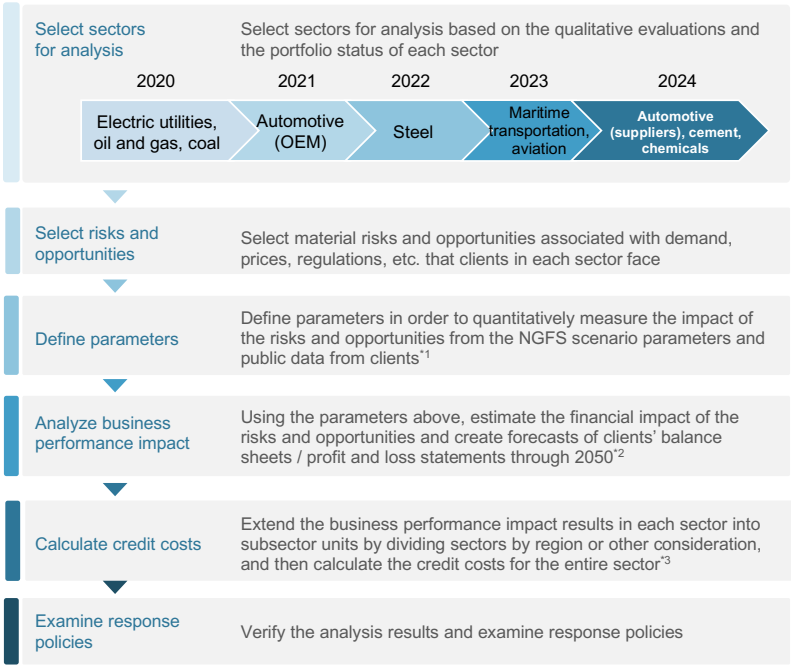
ii. Transition risk scenario analyses

The scenario analyses for transition risks are used to evaluate the impact on client businesses caused by regulatory, technological, market, and other changes and to analyze the increase in credit costs. The automotive (suppliers), cement, and chemical sectors were added this time to the sectors subject to analysis.

Table 7 Overview of transition risk analyses (changes from previous report are underlined)

Reported value	Cumulative increase in credit costs through 2050 caused by the impact of transition risks
Scenarios	NGFS Current Policies, Below 2℃, Delayed Transition, and Net Zero 2050 scenarios
Targeted regions	Japan and overseas
Targeted sectors	Electric utilities, oil and gas, coal, steel, automotive (OEM and suppliers), maritime transportation, aviation, cement, and chemical sectors
Analysis scope	Total of loans, foreign exchange, acceptances and guarantees, commitment lines, etc. (as of March 31, 2024)
Analysis details	Credit costs associated with deteriorating client business performance

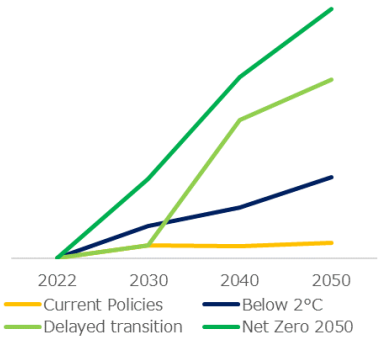
a. Analysis process



*1. The analysis used parameters from the NGFS scenarios (Phase III) and for parameters not accounted for in the NGFS scenarios, we referred to IEA and other references and supplemented the parameters with conservative assumptions.
*2. Please refer to Appendix p. 105 – 108 for sector-specific risks and opportunities, an overview of the analysis, and a synopsis of the scenarios.
*3. Exposure as of March 31, 2024 is assumed to remain constant through 2050.

b. Scenario analysis results

Figure 24 Changes in cumulative credit cost increases by scenario



Scenario	Cumulative increase in credit cost through 2050 (difference from the Current Policies scenario)
Net Zero 2050	Approx. JPY 1,910.0 billion
Delayed transition	Approx. JPY 1,330.0 billion
Below 2℃	Approx. JPY 530.0 billion

While Mizuho may experience some financial impact over the medium to long term, any impact on its short-term financial soundness is limited.

Credit costs increase sharply from the outset in the Net Zero 2050 scenario, and after 2030 in the Delayed Transition scenario. A breakdown by sector shows that the main contributors to the increase in credit costs are the steel and oil and gas sectors. According to the NGFS and other parameters, these sectors increase credit costs because of the considerable investments required for their business structural transformations and because of their large carbon costs, as GHG emissions, will still be present even in 2050. In all sectors, not just the steel and oil and gas sectors, credit costs may increase significantly in the phase when carbon prices shoot up while client measures to reduce GHG emissions are not fully implemented. From this, we confirmed the importance of promoting business structural transformations as early as possible, prior to the materialization of medium and long term risks, through in-depth engagement with clients.

In both the Below 2°C scenario, which assumes a quick and smooth response to climate change (an orderly transition), and the Delayed Transition scenario, which assumes an initial delayed response to climate change and a rapid transition from 2030 onward (a disorderly transition), the global average temperature increase is kept below 2°C. However, the credit costs are much smaller in the Below 2°C scenario, which confirms the importance of making an orderly transition.

c. Actions going forward

The results of this report's scenario analyses confirmed the importance of early business structural transformations by clients and an orderly transition by society as a whole. Consequently, we will work to strengthen the following measures.

- Promote early business structural transformations by clients through in-depth engagement (see p. 28 for specific examples)
- By voicing our positions and opinions at rulemaking bodies and through our activities at industry organizations / private sector initiatives, support the formulation and execution of orderly transition policies by governments (see p. 29 for specific examples)

Mizuho's scenario analyses quantitatively measure the financial impact of climate-related risks and verify the resilience of strategies. We recognize that scenario analyses are a tool that can be useful for risk management, strategy formulation, and other aspects of Mizuho's business management. To make this possible, we believe it necessary to further improve the accuracy of our scenario analyses by, for example, setting appropriate scenarios. We will continue to engage in improving our analysis methodologies based on discussions with various stakeholders while making use of the Group's industrial expertise.

iii. Physical risk scenario analyses

For our scenario analyses of physical risks, we work with data vendors to disclose the amount of impacts associated with climate change. (This report reprints the results of the TCFD Report 2023.) Physical risks consist of acute risks and chronic risks. Acute risks cover cyclones and floods, wildfires, and droughts, while chronic risks cover temperature fluctuations. This risks are analyzed using the percentage change in damage amounts from each risk event in each location.

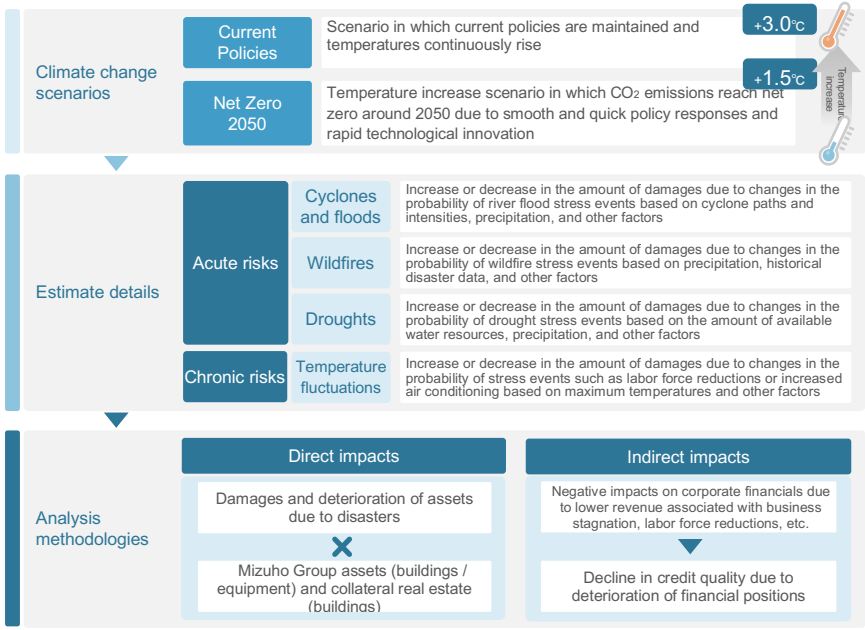
Table 8 Overview of physical risk analyses

Reported value	Maximum increase amount in a single year when a stress event materialized associated with climate change through 2100
Scenarios	NGFS: Net Zero 2050 , Current Policies
Targeted regions	Japan and overseas
Targeted risks	Acute risks: Cyclones and floods, wildfires, and droughts Chronic risks: Temperature fluctuations (labor force declines, factors causing increased air conditioning usage)
Analysis scope	Our Group's assets, loans and collateral real estate (large companies and SMEs)
Analysis details	Direct impact: Damage to Group's assets and credit costs associated with damage to collateral real estate Indirect impact: Credit costs associated with client revenue declines caused by business stagnation or labor force reductions

a. Analysis process

Based on the temperature increase pathways in the NGFS scenarios, we obtained the percentage change in damage amounts from each risk event in each location from data venders, and then we estimated the damage to Group assets and credit costs associated with damage to collateral real estate as well as the credit costs associated with client revenue declines caused by business stagnation or labor force reductions. Estimates use the percentage change of damages to the location of each major property for large corporate clients with identifiable major properties, while using that of damages to the location of the headquarters for all other clients.

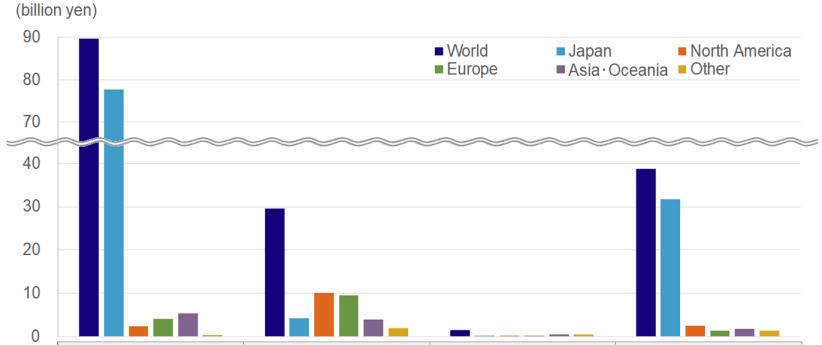
Figure 25 Analysis process for physical risks



b. Scenario analysis results

The results of the physical risk analysis are used to determine impacts on our Group. We confirmed that the potential impact on our Group could be approximately JPY 90 billion in additional losses in a single year if a high-risk cyclones and floods materialized centered on Japan, where a large portion of the Group assets and clients are located. We also confirmed that losses from other types of disasters would be less than half of those from cyclones and floods.

Figure26 Results of physical risk scenario analyses
Maximum amount of increase if a stress event materialized (Current Policies, 2100, single year)



	Cyclones and Floods	Wildfires	Drought	Temperature fluctuations
Total	Approx. JPY 90 billion	Approx. JPY 30 billion	Approx. JPY 1.5 billion	Approx. JPY 40 billion
Direct impact	Approx. JPY 69 billion	Approx. JPY 0 billion	Approx. JPY 0.1 billion	Approx. JPY 27 billion

Acute risks

Cyclones and floods: Although temperature rises will increase the frequency and intensity of typhoons, their paths will tend toward the Japan Sea, confirming that the impact from cyclones is limited. On the other hand, damages from river flooding will increase due to more frequent torrential rain and other rainstorms in Japan. These events will dramatically increase losses, especially those recorded as credit costs, due to damages to Group assets, damages to mortgaged real estate, and declines in client revenue because of business stagnation.

Wildfires: Record credit costs associated with declines in client revenue because of business stagnation, especially in areas of low humidity in North America and Europe. The impact on Group assets is limited, as they are concentrated in or near urban centers.

Droughts: Record credit costs associated with declines in client revenue because of business stagnation, especially in areas of Asia and the Middle East where water-resource infrastructure is not well developed. The overall impact, however, is limited.

Chronic risks

Temperature fluctuations: Losses will increase, especially those recorded as credit costs associated with declines in client revenue due to labor force reductions caused by decreases in working hours, as well as damages in the form of deteriorating HVAC (Heating, Ventilation, and Air Conditioning) facilities from increased air conditioning usage at Group assets, brought on by temperature increases.

c. Actions going forward

We are committed to continuing to ascertain the impact amounts of physical risks. Furthermore, for Group assets where physical risks are high, we plan to lower risks through improvements to control operational risk to our asset portfolio.

3. Responding to natural capital

(1) Analysis of dependencies and impacts on natural capital

i. Recognition of external environment

a. What is natural capital?

Natural capital (including biodiversity) is the stock of renewable and non-renewable natural resources — such as plants, animals, air, water, soils, and minerals — that combine to yield a flow of benefits to people, the economy, and society. While natural capital provides human society with benefits from ecosystem services, it is also subject to negative impacts, such as the loss of nature due to companies' business activities.

b. Developments within and outside Japan

Globally, the Kunming-Montreal Global Biodiversity Framework (GBF) was adopted at the United Nations Biodiversity Conference (CBD COP15) in December 2022. The framework clearly states that its goals are the information disclosure by companies and the promotion of investment in biodiversity by private companies. The Japanese government, in response to such global developments, established the *National Biodiversity Strategy and Action Plan of Japan 2023-2030* in March 2023, which sets as its target the realization of a nature positive economy. To embody this biodiversity strategy, the Japanese government released the *Transition Strategies toward Nature Positive Economy* in March 2024, which outlines directions for public and private sector initiatives.

c. TNFD Recommendations

The disclosure framework of the Taskforce on Nature-related Financial Disclosures (TNFD) recommendations was finalized in September 2023. The recommendations enabled a phasing in of natural capital-related initiatives and disclosures by companies. The TNFD disclosure framework consists of the same four pillars as the TCFD disclosure recommendations framework (governance, strategy, risk management, and metrics and targets).

d. The relationship between natural capital and climate change, the circular economy, and human society

The IPBES-IPCC Co-Sponsored Workshop Report on Biodiversity and Climate Change, issued by the IPBES-IPCC in June 2021, clarified the relationship between biodiversity and climate change and their relationship with human society. The *National Biodiversity Strategy and Action Plan of Japan 2023-2030*, which was formulated based on the GBF and other international discussions, promotes nature-based solutions (NbS) as an approach to help solve social issues, including climate change measures, and emphasizes the importance of integrated efforts to address natural capital based on its interaction with climate change. Japan's *Transition Strategies toward Nature Positive Economy* also noted that during the transition to nature positive, carbon neutral, and the circular economy, it is possible to move ahead with effective initiatives with the understanding that depending on the methods chosen, either positive synergies or negative side effects (trade-offs) may occur.

Figure 27 Developments within and outside Japan related to natural capital and biodiversity

ii. Nature-related dependencies and impacts, risks and opportunities

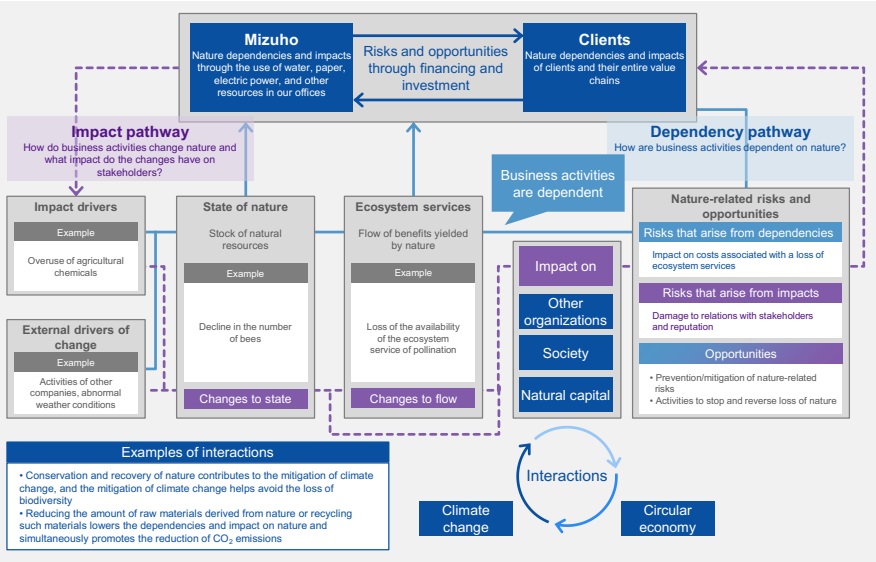
a. Nature-related dependencies and impacts

Nature-related dependencies are aspects of environmental assets and ecosystem services that companies rely on for their business activities to function. For example, a company's business model may be dependent on the ecosystem services of water flow, water quality adjustment and the adjustment of hazards like fires and floods (Figure 28).
Nature-related impacts are changes in the state of nature (quality or quantity) that are triggered by companies' business activities. Changes in the state of nature may result in changes to the capacity of nature to provide social and economic functions, the impact of which can be either positive or negative (Figure 28).

b. Nature-related risks and opportunities

Nature-related risks arise from dependencies and impacts on nature. Possible examples include the degradation of ecosystem services that a company depends on leading to increased costs or a company's negative impact on nature causing a damage to the company's reputation (Figure 28).
Nature-related opportunities are activities that create positive outcomes for both the company and nature through positive impacts or mitigation of negative impacts on nature. Possible examples include a company taking action to conserve and restore nature through the strategic transformation of business models and investments or support for them through financing or other means (Figure 28).
Mizuho is both dependent on and impacts natural capital — through our own direct operation and through our financing activities, such as financing and investment to clients — and, thus, we are also exposed to the corresponding risks and opportunities.

Figure 28 Relationship between nature-related dependencies, impacts, risks and opportunities / their relationship with natural capital, climate change, and the circular economy



Source: Prepared by the Mizuho Financial Group based on TNFD recommended guidelines and other materials

iii. Mizuho's nature-related dependencies and impacts

Companies, in addition to depending on and impacting natural capital through their own business activities (direct operations), are connected to natural capital through their entire value chain, from upstream to downstream. Consequently, responses to natural capital must consider both the company's own business activities and its entire value chain. The additional guidance for financial institutions in the TNFD Recommendations states that, much like the relationship between Scope 1 and 2 emissions (GHG emissions from direct operations) and Scope 3 emissions (GHG emissions from financing and investment) with respect to climate change, the natural capital dependencies and impacts of financial institutions, in particular, through investments, loans, and other financing activities are larger than those from direct operations.
Mizuho's basic approach is to respond to natural capital dependencies and impacts through our own direct operations and through our investments, loans, and other financing activities. Among these however, Mizuho puts priority on responding to natural capital dependencies and impacts through financing and investment, as it is crucial for both capturing opportunities and risk management. To this end, Mizuho conducted an analysis in FY2023 of its loan portfolio using the LEAP approach.

a. Natural capital dependencies and impacts of Mizuho's direct operations

Mizuho conducts business operations in retail branches, offices, administration centers, IT system centers, and other physical locations and is pursuing initiatives to reduce the natural capital dependencies and impacts of our own direct operations. Specific initiatives include reducing and recycling water and paper, reducing and recycling waste, and converting to renewable energy for used electric power. Mizuho furthermore keeps track of the usage of resources at own facilities, discloses tap water and sewer water usage, reductions in paper usage, and the percentage of waste materials that are recycled, and advances initiatives by setting KPIs for some metrics. See the ESG Databook 2023 for further details.

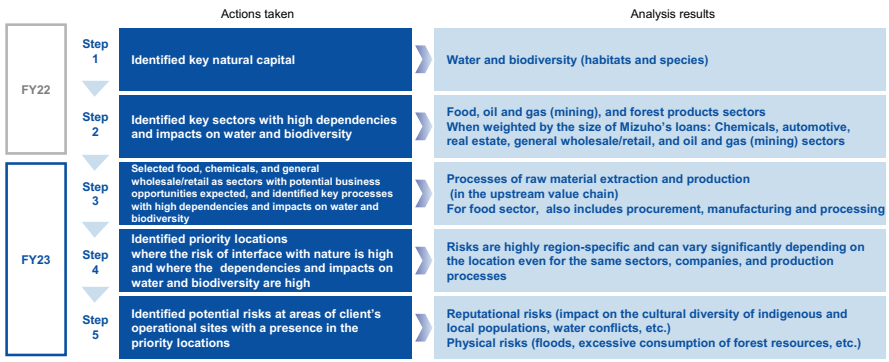
b. Natural capital dependencies and impacts of Mizuho's financing and investment

Mizuho conducts financing and investment transactions with a diverse range of clients in Japan and overseas and is connected to natural capital through the clients and their supply chains that we finance, making it an important issue for Mizuho to respond to natural capital through our financing and investment. Therefore, evaluating how clients, in their business activities, depend on natural capital and what the potential negative impacts they may have on it, and then taking actions based on this evaluation, contributes to the conservation and recovery of natural capital and lead to a change in money flow towards nature-positive outcomes.
Mizuho used the LEAP approach to analyze our loan portfolio. From these analyses, we comprehend the natural capital dependencies and impacts of our clients, who are borrowers of our financing. The findings will be utilized for appropriate risk management related to natural capital as well as for capturing business opportunities. We also actively work toward the realization of a sustainable society while closely linking our responses to natural capital to responding to climate change and realizing a circular economy.

iv. Analysis of Mizuho's loan portfolio (LEAP approach)

Mizuho, in FY2022, identified the key natural capital and sectors in our loan portfolio using ENCORE (Step 1 and Step 2 in Figure 29).
In FY2023, of the key identified sectors from the FY2022 analysis, we analyzed the food, chemicals, and general wholesale/retail sectors using the LEAP (Locate, Evaluate, Assess, Prepare) approach presented in the TNFD Recommendation's disclosure framework. From the results, we identified processes in each sector with high natural capital dependencies and impacts (Step 3), identified clients' operational sites located in priority locations which are at high risk associated with the interface with nature, with high dependencies and impacts on water and biodiversity (Step 4), and identified high risk items at these client operational sites (Step 5). At the same time, we recognize that although the tool used for this analysis can understand general characteristics, further in-depth analysis is needed to ascertain the unique conditions at each client operational site.
Referencing the results of Step 3, we revised the *Environmental and Social Management Policy for Financing and Investment Activity* in March 2024 and established new policies for the mining sector and the fisheries and aquaculture sectors (see p. 74).

Figure 29 Analysis using the LEAP approach



a. FY2022 analysis

Step 1 and Step 2 — Identification of key natural capital and sectors: Based on the ENCORE qualitative evaluation scores and weighted by the composition of Mizuho's loan portfolio, we rated each sector's natural capital dependencies and impacts on a three-level scale (High, Medium, and Low) and identified key natural capital and sectors (Table 9 and Figure 30).

From this analysis, we recognized that the key natural capital aspects in Mizuho's loan portfolio were water and biodiversity and that the sectors with high dependencies and impacts on water and biodiversity were the chemicals, automotive, real estate, general wholesale/retail, and oil and gas (mining) sectors (Figure 31). We also verified that if the composition of Mizuho's loan portfolio was not accounted for, the sectors with high dependencies and impacts on water and biodiversity were the food (packaged food and meats), oil and gas (mining), and forest product sectors.

Table 9 Results of the analysis of Mizuho's loan portfolio

Key natural capital	**Water, biodiversity** (habitats and species)
Sectors with high dependencies and impacts on water and biodiversity	➢ Not accounting for Mizuho's loan portfolio (size of loan amounts): Food, oil and gas (mining), and forest products sectors ➢ Accounting for Mizuho's loan portfolio (size of loan amounts): **Chemicals, automotive, real estate, general wholesale/retail, and oil and gas (mining) sectors**

Figure 30 Identification of key natural capital

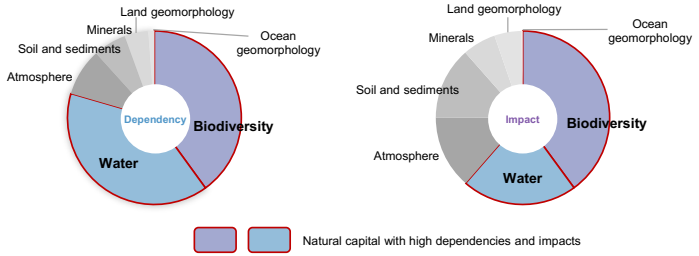
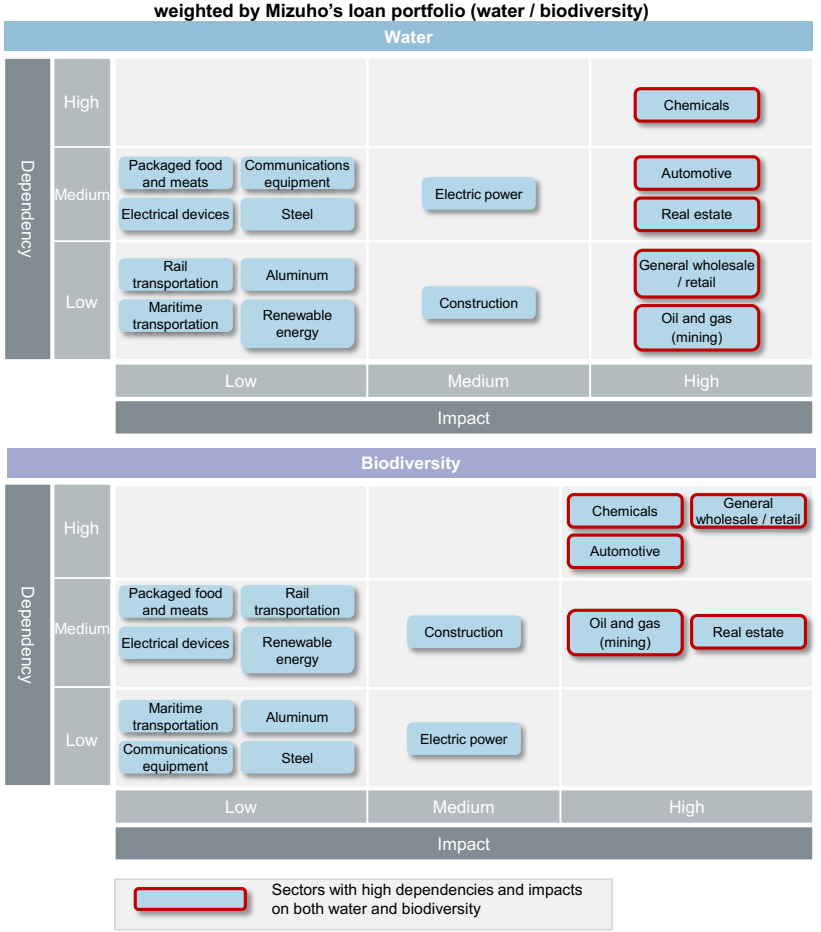


Figure 31 Results of qualitative assessments of sector-specific dependencies and impacts, weighted by Mizuho's loan portfolio (water / biodiversity)

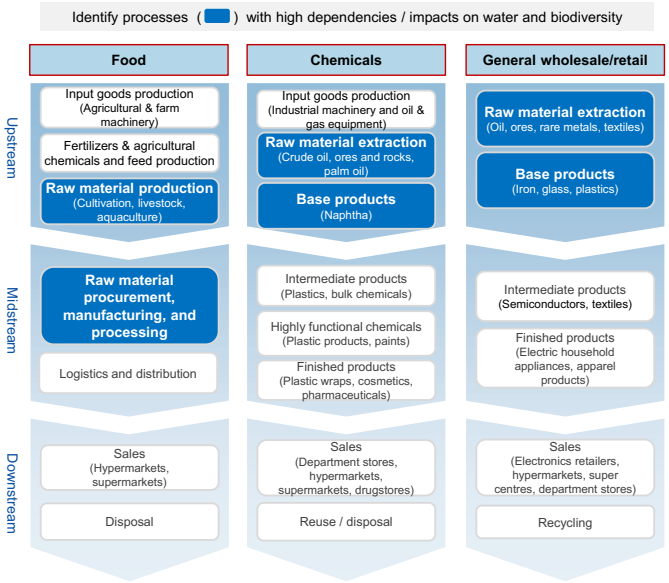


b. FY2023 analysis

Step 3 — Identification of key processes: From the key sectors identified in the FY2022 analysis, we selected the food, chemicals, and general wholesale/retail sectors as sectors expected to provide business opportunities in the future, and identified key processes in each sector's value chains with high dependencies and impacts on water and biodiversity (a total of 31 major clients were analyzed that are related to the value chains of the relevant sectors).

From this analysis, we recognized that the upstream value chain processes of raw material production and raw material extraction were processes with high dependencies and impacts on water and biodiversity in all three sectors — food, chemicals, and general wholesale/retail. We also recognized that in the food sector the midstream value chain process of raw material procurement, manufacturing, and processing, in addition to raw material production, had high dependencies and impacts on water and biodiversity.

Figure 32 Water and biodiversity value chain analysis by sector



Step 4 — Identification priority locations: We began by selecting 10 specific clients so as to encompass the value chain of each sector, with reference to the key processes in the food, chemicals, and general wholesale/retail sectors identified in Step 3. We next evaluated the risk of contact with nature (contact with locations that are susceptible to impacts) using IBAT, AQUEDUCT, and ENCORE (see p.109 for terminology) targeting 10 operational sites each of the 10 clients (for a total of 100 operational sites). We also identified as priority locations 10 operational sites of six clients (all manufacturing sites) that are involved with processes with high natural capital dependencies and impacts and that were evaluated as high risk (Table 10).

Step 5 — Identification of risks: Using the WWF biodiversity/water risk filters, we identified risks related to water and biodiversity at client operational sites located in the priority locations identified in Step 4 (Table 10). From this analysis, we recognized significant variance in risks among the operational sites, even for the same sector, company, and production process, because of high regional specificity.

Table 10 Analysis of risks at the operational sites of selected Mizuho clients

Company		Food manufacturer A	Chemical manufacturer B	Chemical manufacturer C	Chemical manufacturer D	General wholesaler/retailer E	General wholesaler/retailer F
Value chain		Raw material procurement, manufacturing, processing	Highly functional chemicals	Intermediate products	Intermediate products	Base products (Iron, plastic)	Finished products (Apparel products)
Operational site **Step 4**: Priority locations		Thailand and China	Indonesia, Germany, and China	China	Singapore	Thailand and the Netherlands	China
Identified high risks items **Step 5**	Reputational risks	Cultural diversity	Cultural diversity, water conflicts	Cultural diversity	Cultural diversity	Water conflicts	Cultural diversity
	Physical risks	Pollutants, water scarcity, biodiversity	Flooding, pollutants, biodiversity	Pollutants, biodiversity	Biodiversity	Pollutants, water scarcity, biodiversity	Excessive deforestation, biodiversity

(2) Recognition of opportunities and risks and related initiatives

i. Recognition of opportunities for Mizuho

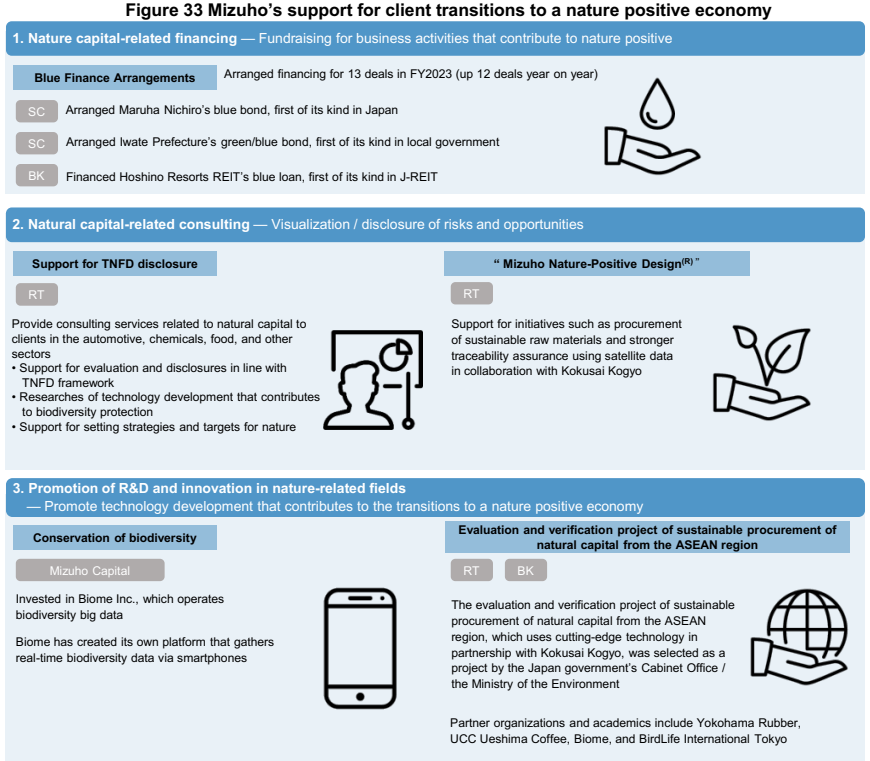
The *Transition Strategies toward Nature Positive Economy* released by the Japanese government in March 2024 estimated that nature positive-related business opportunities in Japan in 2030 will be worth approximately JPY 47 trillion. The paper also estimated that over three-fourths of these opportunities will be strongly connected to carbon neutrality and the circular economy. We also recognize natural capital-related business opportunities for Mizuho in the transition to a nature positive economy as being intimately connected to climate change responses and the realization of a circular economy and that integrated responses to these issues are opportunities. Mizuho regards client responses to natural capital as business opportunities for Mizuho and actively pursues the realization of a sustainable society while closely linking our efforts with responses to climate change and the realization of a circular economy.

ii. Mizuho's initiatives to capture opportunities

a. Support for client transitions to a nature positive economy

Mizuho provides support in the form of financing arrangements and consulting services to clients with high natural capital dependencies and impacts, while making use of analyses of the natural capital dependencies and impacts in our loan portfolio. We also work on funding and assisting technology development and innovative companies with data and technologies in nature-related fields that will drive the transition of company activities to nature positive.

Figure 33 Mizuho's support for client transitions to a nature positive economy



b. Participation in initiatives

Mizuho, through participation in various initiatives, engages in assistance for businesses contributing to the conservation of natural capital.

- Keidanren Initiative for Biodiversity Conservation (FG)
- TNFD Forum (FG, RT, Asset Management One)
- Cross Sector Biodiversity Initiative (BK)
- Circular Partners (FG, RT, Mizuho Leasing)

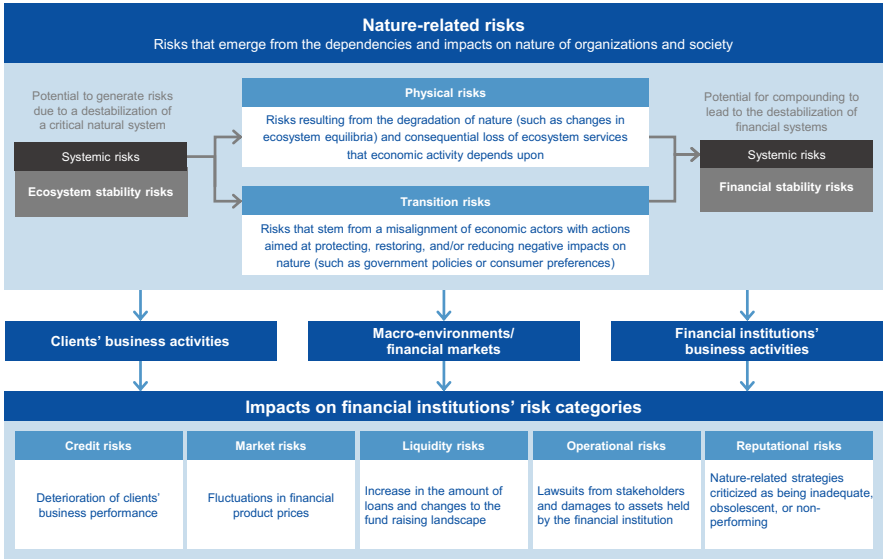
iii. Recognition of risks for Mizuho

When companies respond to natural capital, it is imperative first to put priority on examining ways to avoid and reduce negative impacts on nature, in line with the mitigation hierarchy[12] approach. Mizuho understands that it is crucial that we take steps to prevent or mitigate negative impacts on nature that occur through our direct operations or through Mizuho financing and investment. Mizuho is working on preventing and mitigating negative impacts on nature that occur through financing and investment within the framework of our environment and society risk management.

a. Transmission pathways of nature-related risks

Nature-related risks for a financial institution occur through not only the institution's direct operations but also through its financing activities such as financing and investment and market transactions. Nature-related risks have ripple effects on credit risks and other forms of risks (Figure 34). Mizuho is working on more detailed determinations of nature-related risks.

Figure 34 Examples of transmission pathways of nature-related risks



[12] The mitigation hierarchy is the sequence of actions to anticipate and avoid, and where avoidance is not possible, minimize, and when impacts occur, restore, and where significant residual impacts remain, offset for biodiversity-related risks and impacts on affected communities and the environment.

iv. Mizuho's risk management initiatives

After having established our *Environmental Policy* and our *Environmental and Social Management Policy for Financing and Investment Activity* as well as applying the Equator Principles, Mizuho has worked toward preventing and mitigating negative impacts on the environment and society, including natural capital, under these respective frameworks (see p. 71).

Under the *Environmental and Social Management Policy for Financing and Investment Activity*, we have constructed a process to prevent or mitigate negative impacts on nature that verifies whether a client or project we are considering for financing or investment will have a significant negative impact on the surrounding natural environment or ecosystems or whether the prospective client or project respects the rights of indigenous peoples or local communities. Moreover, we do not provide financing or investment to projects with particularly high impacts on the natural environment. The policy was revised in March 2024 and established new policies for the mining sector and the fisheries and aquaculture sectors (see p. 74).

Under the Equator Principles, prior to financing in projects that involve large-scale developments or construction, we, together with the client, identify, evaluate, and manage environmental and social risks and impacts, in order to prevent or mitigate negative impacts on the natural environment or local communities.

Ⅴ. Risk management

Mizuho recognizes that risk control appropriate to the characteristics of operations and risks is one of the highest priority management issues. We engage in risk management to ensure the soundness and stability of our management while increasing our corporate value. In this regard, we approach climate change and the loss of nature as global issues that threaten the environment, society, people's lifestyles, and business activities and that have the potential to impact the stability of financial markets. Accordingly, we work to maintain a risk management framework.

Figure 35 Overall structure of climate and nature-related risk management

1. Top risk management	Recognize and designate risks with potential material impact on our Group (P. 64)		Climate, Nature
2. Risk management framework	Introduced a risk appetite framework (RAF) and constructed a comprehensive risk management framework (P. 65)	(1) Climate-related risk management framework (P. 65)	Climate
		(2) Risk controls for carbon-related sectors (P. 66)	Climate
		(3) Sector-specific exposure (P. 69)	Climate, Nature
3. Responsible financing and investment management framework	Established the Environmental and Social Management Policy for Financing and Investment Activity to prevent and mitigate negative impacts on the environment and society (P. 71)		Climate, Nature

1. Top risk management

Mizuho has a top risk management system in place that designates as top risks those risks perceived to have a major impact on the Group.

The top risk designation process begins with collecting a broad range of risks that may harm our corporate value, based on changes in internal and external circumstances and in light of our company's particular vulnerabilities and business strategies. Critical risk events are then narrowed down based on evaluations of the risks' transmission pathways, probabilities, and impacts. Finally, the top risks are designated after discussions by executive management with consideration of the difficulty of controlling the risks.

The sense of urgency toward climate change, human rights violations, and loss of nature has become even stronger globally in recent years, and a range of stakeholders are expecting and demanding more action from financial institutions. Of these issues, we recognize that attention must be paid to the potential of a loss of nature that might further increase climate-related risks. Therefore, we designated *Worsening impact of climate change* as an existential top risk that the Group must recognize and address (Figure 36), and we are considering both preventive measures and follow-up actions to enhance our risk controls.

Figure 36 FY2024 top risks

FY2024 Top Risks

- Resurgence of inflation and economic slowdown in the US and Europe
- Rising prices, interest rates and expanding fiscal concerns in Japan
- Escalating U.S.-China conflict and sluggish Chinese economy
- Global decoupling and growing geopolitical risks
- **Worsening impact of climate change**
- IT System failures
- Cyber attacks
- Money laundering / Financing of terrorism
- Improper acts and omissions by officers / employees
- Stagnation of sustainable growth due to talent shortages
- Changes to the competitive environment

Top risk

Worsening impact of climate change

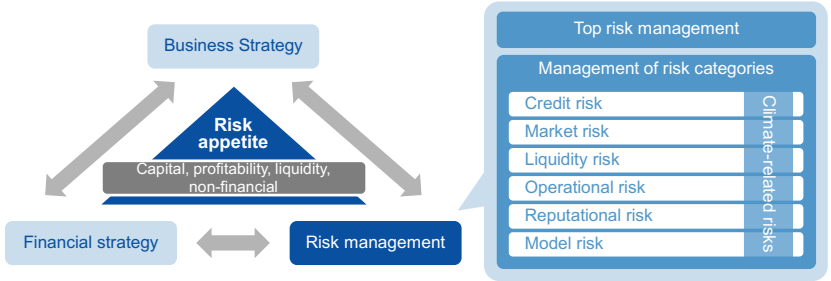
- Delays in responding to **climate change** by countries and companies, the return to coal-fired power due to the instability of energy procurement and prices, the **loss of nature**, and other factors increase climate-related risks, resulting in stricter regulation and supervision of financial institutions.
- Growing criticism of Mizuho's insufficient consideration for the environment, including the **loss of nature**, and its approach to transition and physical risks will result in damage to corporate value.

2. Risk management framework

Mizuho introduced a risk appetite framework (RAF) from the perspective of increasing our corporate value by integrating our business strategy, finance strategy, and risk management operations. Specific matters related to the RAF and specific risk appetites were documented in a risk appetite statement (RAS), which was approved by the Board of Directors. Based on our RAF operations, we classify the risks that emerge from our Group's business by risk factors into *credit risks, market risks, liquidity risks, operational risks,* and others and then manage each risk according to its characteristics. In addition to management by risk category, we have constructed a comprehensive risk management framework, which ascertains and evaluates all risks and limits risks with a scope tolerable from a management perspective that is within our risk capacity scope (Figure 37).

Regarding climate-related risks, we confirm the status of current risks in carbon-related sectors through RAF operations as well as Mizuho's resilience to climate-related risks based on scenario analyses of future risks that account for the impact of climate change, and we report these findings to the Executive Management Committee, the Board of Directors, and other committees.

Figure 37 Operation of the risk appetite framework



(1) Risk management framework for climate-related risks

Mizuho associates climate-related risks with risk categories within the following risk management framework and identifies critical climate-related risks in the execution of our business plans. In this way, we control risks in line with the characteristics of each risk category and our business strategies.

Figure 38 Climate-related risk management framework

Basic Policy for Climate-related Risk Management

From the perspective of establishing an effective management system based on the characteristics of climate-related risks, we instituted a basic policy and carry out risk management based on the policy

Basic approach

- Mizuho works to continually improve the predictability of various changes related to climate change, pays close attention to the potential impact of climate change, and manages climate-related risks from both short term and medium to long term perspectives.
- In order to meet the high expectations and demands of a wide range of stakeholders, Mizuho practices effective risk management, based on the Mizuho Code of Conduct, our Environmental Policy, and our Basic Policy on Sustainability Initiatives.

Recognition of climate-related risks and materiality evaluations (See p. 48-49)

Based on the Basic Policy for Climate-related Risk Management, we conduct materiality evaluations based on the impact and probability of climate-related risks in order to select critical risks for which management systems should be strengthened on a priority basis

Manage high-priority climate-related risks both qualitatively and quantitatively as needed and take appropriate responses

Determine and manage quantitative impacts with scenario analyses (See p. 50-54)	Risk controls in carbon-related sectors (See p. 66-68)	Credit risk evaluations: Where climate-related risks may impact specific credit risks, this framework reflects these risks in qualitative evaluations in combination with other risk factors

(2) Risk controls in carbon-related sectors

i. Overview of the risk control framework for carbon-related sectors

Mizuho controls risks through engagement for the purposes described below in sectors found in qualitative evaluations to have high transition risks (carbon-related sectors). We evaluate the degree of risk for each client along two axes: the client's sector (vertical axis) and the status of the client's responses to transition risks (horizontal axis). From these evaluations, we provide appropriate support for the client's transition.
The state of risk controls in carbon-related sectors is reported to the Risk Management Committee each quarter.
We make gradual improvements to our risk control frameworks for carbon-related sectors through quantitative identification of climate-related risks and revisions to evaluations of client responses to transition risks in light of the external business landscape. For FY2024, we added two criteria for evaluations of client responses to transition risks: Achievement of a certain amount of GHG emission reductions with respect to targets and Targets and performance are consistent with the 1.5°C pathway.

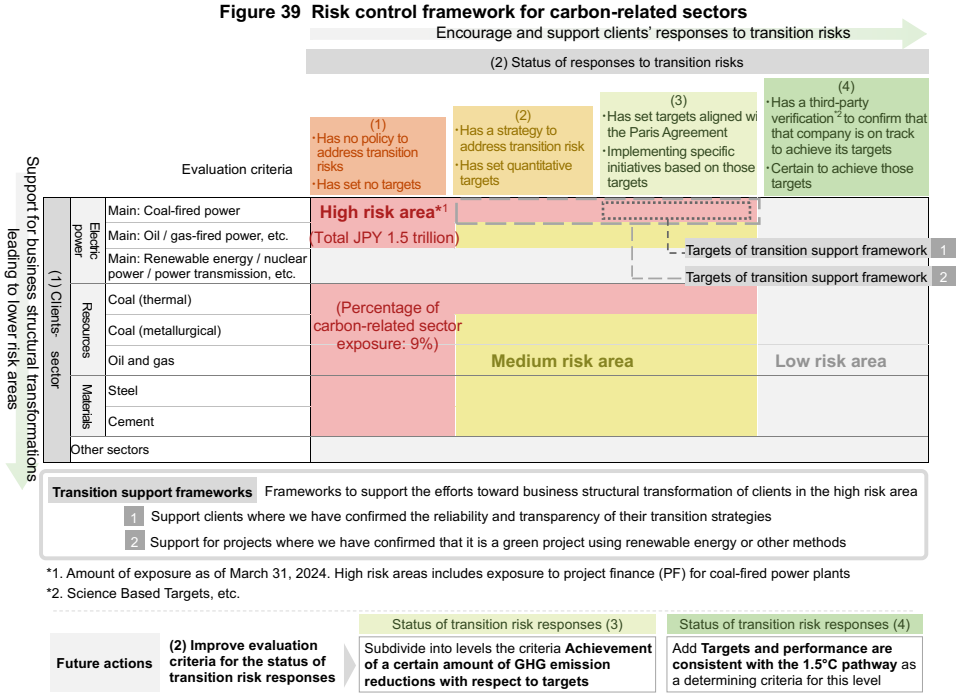
Purposes

- Support client transitions and control Mizuho's transition risk through engagement.
- Identify areas with high transition risks to help construct an appropriate Mizuho portfolio that accounts for climate-related risks.
- Supporting client transitions facilitates transition in the real economy and gradually aligns Mizuho's portfolio with the Paris Agreement.

Two-axis risk evaluations and support

Axis	Client's sector (vertical axis)	Status of transition risk responses (horizontal axis)
Risk evaluation criteria	Company's business segment with the highest sales or energy mix	• Willingness to take measures against transition risk • Presence of a transition strategy and quantitative targets • Target level, tangible means to achieve the target, status of initiatives, track record, and objectivity
Transition support	Support for business structural transformations leading to lower risk areas and sectors	Encourage and support clients' responses to transition risks

Figure 39 Risk control framework for carbon-related sectors



*1. Amount of exposure as of March 31, 2024. High risk areas includes exposure to project finance (PF) for coal-fired power plants
*2. Science Based Targets, etc.

Future actions		Status of transition risk responses (3)	Status of transition risk responses (4)
	(2) Improve evaluation criteria for the status of transition risk responses	Subdivide into levels the criteria **Achievement of a certain amount of GHG emission reductions with respect to targets**	Add **Targets and performance are consistent with the 1.5°C pathway** as a determining criteria for this level

ii. Risk control policy for carbon-related sectors

For high risk and medium risk areas identified with our two-axis risk evaluations, we support our clients' progress in addressing transition risks and business structural transformations through engagement as well as monitor our exposure. For high-risk areas, we control risks on the basis of the following exposure control policy. We will continue to clarify and upgrade our high risk area scope and approach along with our requirements on providing support for business structural transformations.

Exposure control policy for high-risk areas

- We pursue greater engagement with clients to support them in formulating effective strategies for transition risks, in disclosing their progress, and in embarking at an early stage on business structural transformations in order to move into a lower risk sector.
- In order to facilitate a client's business structural transformations, we provide necessary transition support after verifying that the client fulfills requirements advocated for in international standards in the transition support frameworks (Figure 40).
- We carefully consider whether to continue business with a client in the event that the client is not willing to address transition risks and has not formulated a transition strategy even one year after our initial engagement.
- In the ways described above, we reduce our exposure over the medium to long term.

Figure 40 Transition support frameworks

- We actively provide financing to clients for business structural transformations even if they are in the high risk area, provided that their transition strategies and projects are aligned with our verification standpoints
- In general, it is possible that our exposure to high risk area will increase, but by facilitating the client's planning and execution of transition strategies, we can appropriately manage the transition risks and lower our medium and long-term transition risks

1 Support clients where we have confirmed the reliability and transparency of their transition strategies

Confirmation criteria
We confirm the following criteria, determined with reference in part to the recommended disclosure elements in the International Capital Market Association (ICMA)'s Climate Transition Finance Handbook

Strategies and materiality	Satisfies the required elements as a transition strategy (business strategies that aid transitions)
Governance structures	Has appropriate governance structures related to strategies and target setting
Scientific basis	The targets are science based and are consistent with the Paris Agreement
Disclosure status	Progress is being made toward the targets with no transparency issues regarding strategies or targets
Forecasts for the development and adoption of decarbonization technologies	Has forecasts for the adoption of technologies based on a strategy as well as cashflow forecasts

2 Support for projects where we have confirmed that it is a green project using renewable energy or other methods

Confirmation criteria
We confirm the following criteria, determined with reference to the recommended elements in the Green Loan Principles, established by the Loan Market Association (LMA) and others

Application of funds	Fund are used for green projects
Project evaluation and selection process	There is a process for determining environmental targets and appropriate projects
Management of funds	Funds are tracked with an appropriate mechanism
Reporting	Transparency of the application of the funds and their allocation status is assured
Client's stance on initiatives	The client is cognizant of developing responses to transition risks and making business structural transformations in order to move toward lower risk areas

Exposure in high risk areas

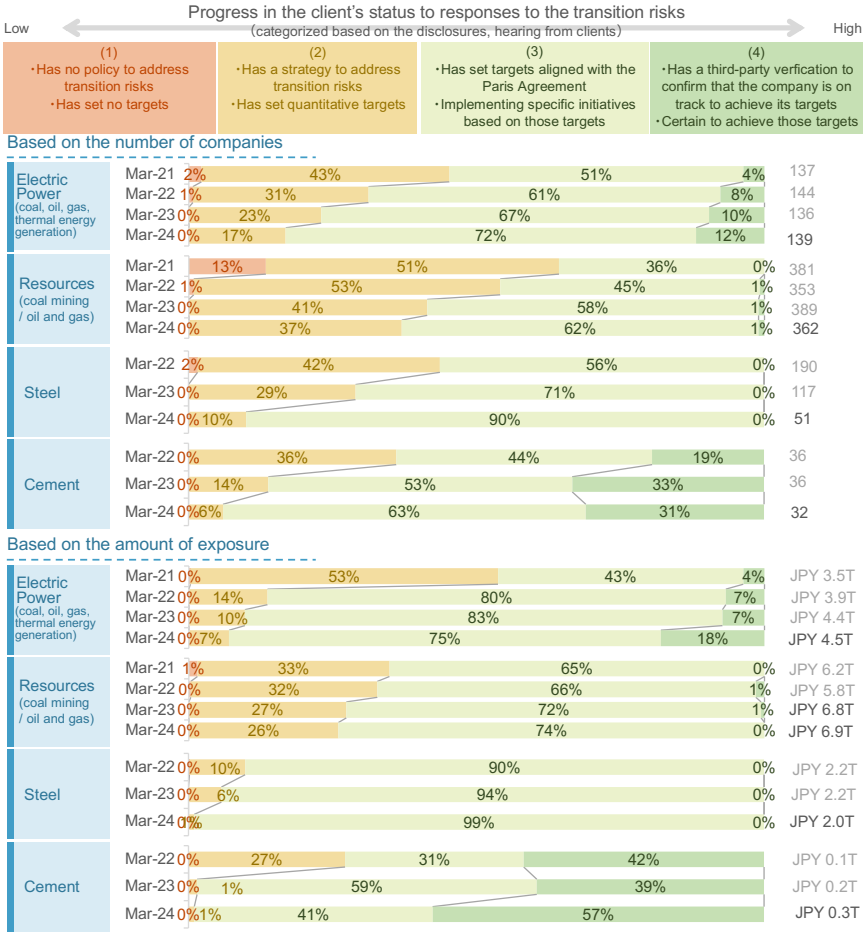
- JPY 1.5 trillion as of March 31, 2024 (down JPY 0.1 trillion in exposure from March 31, 2023, and down JPY 0.3 trillion from March 31, 2021, when we began disclosing this exposure total as a monitoring metric)
- We confirmed that of the JPY 1.5 trillion in exposure in high-risk areas as of March 31, 2024, JPY 800 billion meets the confirmation criteria in the transition support frameworks

iii. Client progress on transition risk responses

Mizuho confirms the status of client transition risk responses through engagement and supports transition responses in a phased manner. We saw steady progress by clients in all sectors on responding to transition risks compared to the previous year (Figure 41).

We will continue to practice engagement and provide financial and non-financial solutions to facilitate our clients' progress on decarbonization initiatives and on responding to transition risks. In this way, we will improve climate change resilience for both Mizuho and our clients. We will also continue to monitor the status of clients' transition risk responses after enhancing the evaluation criteria as described on p.66.

Figure 41 Client progress on transition risk responses*



* A company's classification 1 through 4 may change if, for example, through engagement we gain a deeper understanding of the client's progress on transition risk responses. Progress on transition risk responses was confirmed during the following periods: March 31, 2021: December 2020 through February 2021; March 31, 2022: December 2021 through February 2022; March 31, 2023: December 2022 through February 2023; March 31, 2024: December 2023 through February 2024. Third-party certification includes organizations like Science Based Targets. The number of steel companies as of March 31, 2024 decreased due to the revision of sector classification.

(3) Sector-specific exposure

i. Sector-specific exposure based on recommended disclosures under the TCFD Recommendations [13]

The following table summarizes the status of our credit exposure in the sectors that underwent the qualitative evaluations described in p.49 (Figure 22).

Table 11 Credit exposure by sector based on recommended disclosures under the TCFD Recommendations (criteria as of March 31, 2024)

Sector (colored text indicates carbon-related sectors)	Exposure (JPY trillions)	YoY change	Percentage of total	YoY change
Electric utilities	10.3	+0.5	3.7%	-0.0%
Power generation (coal-fired)	**1.6**	-0.1	**0.6%**	-0.1%
Power generation (oil, gas, and others)	**3.9**	+0.2	**1.4%**	-0.0%
Power generation (renewable energy / nuclear power)	3.5	+0.4	1.2%	+0.1%
Power transmission	1.3	+0.0	0.5%	-0.0%
Coal	**0.1**	+0.0	**0.0%**	+0.0%
Thermal coal	**0.0**	-0.0	**0.0%**	-0.0%
Metallurgical coal	**0.1**	+0.0	**0.0%**	+0.0%
Oil and gas	**8.6**	+0.1	**3.1%**	-0.2%
Subtotal for energy	19.0	+0.5	6.8%	-0.2%
Air passengers and cargo	1.2	-0.1	0.4%	-0.0%
Maritime transportation	2.1	+0.1	0.7%	-0.0%
Rail transportation	2.0	-0.1	0.7%	-0.1%
Automotive	7.2	+0.7	2.5%	+0.1%
Subtotal for transportation	12.4	+0.7	4.4%	-0.0%
Metals and mining	2.1	+0.1	0.7%	-0.0%
Steel	**2.6**	-0.1	**0.9%**	-0.1%
Construction materials	0.4	-0.0	0.1%	-0.0%
Cement	**0.3**	+0.0	**0.1%**	-0.0%
Chemicals	7.4	+0.5	2.6%	+0.0%
Buildings and other capital goods	10.7	+0.7	3.8%	+0.0%
Real estate management and development	19.1	+1.9	6.8%	+0.3%
Subtotal for materials and buildings	42.6	+3.1	15.2%	+0.2%
Beverages	0.8	+0.0	0.3%	-0.0%
Agriculture	0.2	+0.0	0.1%	-0.0%
Packaged foods and meats	2.7	+0.1	1.0%	-0.0%
Paper and forest products	0.8	-0.0	0.3%	-0.0%
Subtotal for agriculture, food, and forest products	4.6	+0.1	1.6%	-0.1%
Insurance	1.7	+0.3	0.6%	+0.1%
Total for sectors listed above	80.3	+4.7	28.6%	+0.0%
Total for all sectors	280.8	+16.3	100.0%	+0.0%

[13] We added the insurance sector, which was identified in our qualitative evaluations as facing high physical risks, to the 18 sectors recommended for disclosure in the TCFD Recommendations. Mizuho's sector classification method has been established based on the classifications in the *Industry Classification Table* formulated by the Bank of Japan. Figures represent the total exposure in the form of loans, foreign exchange, acceptances and guarantees, commitment lines, etc. (combined figures for Mizuho Bank and Mizuho Trust & Banking, and excluding an internal management basis and retail customers Exposures denominated in foreign currencies are converted into Japanese yen at the exchange rate (TTM) at fiscal yearend and include changes due to exchange rate fluctuations (Reference: The USD/JPY TTM was 133.54 on March 31, 2023 and 151.4 on March 31, 2024).

ii. Sector-specific exposure based on recommended disclosures under the TNFD Recommendations

The additional guidance for financial institutions in the TNFD Recommendations states that financial institutions should disclose their financial exposure (for banks, the absolute amount or percentage of lending volume) to 16 sectors considered to have material nature-related dependencies and impacts, as a core sector disclosure metric. The table below provides the state of Mizuho's financial exposure[14] to 16 sectors, based on the recommended disclosure items in the TNFD Recommendations.
We strive to determine risks associated with our financial exposure, in accordance with the development of nature-related databases and scenarios, standardization of analysis methodologies, and the promotion of initiatives and information disclosures by corporate clients.

Table 12 Sector-specific financial exposure based on recommended disclosures under the TNFD Recommendations (referred to March 31, 2024)

Sector	Exposure (JPY trillions)	Percentage of total
Oil, gas and combustible fuels	3.0	3.4%
Chemicals	2.8	3.1%
Construction materials	0.5	0.5%
Containers and packaging	0.1	0.1%
Metals and mining	2.4	2.8%
Paper and forest products	0.5	0.6%
Construction services (includes manufacture of metal products)	1.6	1.8%
Sewerage, waste collection, treatment and disposal	0.1	0.1%
Transport and associated services (includes passenger airlines)	3.5	4.0%
Automobiles	3.4	3.9%
Textiles, apparel and luxury goods	0.2	0.3%
Beverages and food products (includes agriculture)	1.8	2.0%
Personal care products	0.2	0.2%
Pharmaceuticals	0.8	0.9%
Semiconductors and semiconductor equipment	0.3	0.3%
Utilities (including electric utilities, gas utilities, independent power and renewable electricity producers, and water utilities)	5.9	6.6%
Total for the sectors above	27.0	30.6%
Total for all sectors	88.4	100%

[14] Figures represent the total exposure in the form of loans for both Mizuho Bank (including main local subsidiaries) and Mizuho Trust & Banking. Mizuho's sector classification method has been established based on Annex 1 of the additional guidance for financial institutions in the TNFD Recommendations. Exposures denominated in foreign currencies are converted into Japanese yen at the exchange rate (TTM) at fiscal yearend.

3. Management frameworks for responsible financing and investment

(1) Overview of the Environmental and Social Management Policy for Financing and Investment Activity

Mizuho is committed to acting in an environmentally responsible manner and respecting internationally recognized human rights under our *Mizuho Code of Conduct*, *Environmental Policy*, and *Human Rights Policy*. Based on this commitment, we also established *the Environmental and Social Management Policy for Financing and Investment Activity* (ES Policy) for the purpose of preventing and mitigating adverse impacts on the environment and society (Table 13). The ES Policy identifies issues and sectors that have a high likelihood of contributing to such adverse impacts through financing and investment activities. (See Appendix 4 for more details on the ES Policy.)

Table 13 Overview of the ES Policy

ES Policy		The ES Policy identifies issues and sectors that have a high likelihood of contributing to adverse impacts on the environment and society through financing and investment activities and specifies uniform, Group-wide policies to address issues and sectors based on the specific risks they pose.
		Targeted business operations (financing and investment activities) The following operations conducted by core Group companies[15] ● Lending (including corporate finance and project finance) ● Underwriting (including bond and equity underwriting) ● Proprietary investments in individual stocks ● Trust services (excluding trust service related to asset management)
	Cross-sectional policies	Specifies cross-sector projects that are prohibited or that require additional due diligence with regard to activities that contravene international treaties and especially serious violations of human rights
	Policy on human rights issues	With regard to human rights issues, specifies policies for conducting human rights due diligence and guidelines on addressing processes and verification results
	Policy on transition risk sectors	Specifies policies and processes for engagement with clients in sectors with high climate-related transition risks
		Targeted companies Companies whose primary business[16] is in coal-fired, oil-fired, or gas-fired power generation, coal mining,[17] oil, gas, steel, or cement
	Sector-specific policies	Specifies projects that are prohibited or that require additional due diligence in sectors that have a high likelihood of contributing to adverse impacts on the environment and society through financing and investment activities
		Specific sectors Weapons and arms / Coal-fired power generation / Thermal coal mining / Oil and gas Mining / Large-scale hydroelectric power generation / Woody biomass power generation / Large plantations Palm oil / Lumber and pulp / Fisheries and aquaculture

(2) Operations based on the Equator Principles

In addition to the *Environmental and Social Management Policy for Financing and Investment Activity*, we apply the Equator Principles to the financing of large-scale development or construction projects, and we work with clients to identify, assess, and manage environmental and social risks and impacts. Mizuho Bank became the first financial institution in Asia to adopt the Equator Principles in 2003.

[15] Our core group companies are Mizuho Bank, Mizuho Trust & Banking, Mizuho Securities, and Mizuho Americas and the subsidiaries of these four companies including local subsidiaries worldwide
[16] Primary business refers to any of the following states: (1) the target business accounts for more than 50% of total sales or total power generation (2) Although not falling under (1), the target business accounts for the largest proportion in total sales or total power generation.
[17] Includes both thermal coal and metallurgical coal

(3) Implementation of the Environmental and Social Management Policy for Financing and Investment Activity

The core Group companies implement the ES Policy in line with the characteristics of their particular businesses and have constructed verification processes for the transaction examination stage and throughout transaction terms (Table 14). On the governance side, the Executive Management Committee and other committees regularly review the appropriateness and sufficiency of the ES Policy, in view of its implementation performance and changes in the external business landscape. In response to the reviews, the ES Policy is revised and business processes are improved for more appropriate implementation of the ES Policy, and training and awareness about the ES Policy are provided to employees and executive officers.

Table 14 Implementation of the ES Policy

Verification process when examining a potential transaction	● When a prospective client or project for financing or investment belongs to one of the issues or sectors specified in the ES Policy, we will take the following actions. - If the potential transaction is subject to "prohibitions": We will not provide financing and investment. - If the potential transaction is subject to "other policies": We will make transactional decisions after taking action based on the characteristics of the services being provided by core Group companies, such as confirming the client's progress on responses to prevent or mitigate adverse impacts **Examples of Verification Items** ・Has the client faced sharp criticism and strong disapproval from the society or face massive protests? ・Does the client faithfully respect the rights of indigenous people and local communities? ・Are efforts being made to reduce GHG emissions from the project? ・Does the project have significant adverse impacts on the surrounding natural environment or ecosystems? ・Has the client developed strategies or policies that address environmental and social issues, or carried out an assessment? ・Has the client obtained all certifications required by Mizuho?
Verification process during the transaction term	● A frontline office engages in constructive dialogues with the client at least once a year (See Appendix 4 for the confirmation standards including requests to clients used in the engagement process.) - For clients in specific industrial sectors, verify the status of the client's measures to prevent or mitigate negative impacts on the environment and society and report findings to the head office - For clients in transition risk sectors, develop a shared understanding of medium and long term issues with respect to climate change risks and opportunities and verify the client's progress on transition risk responses. ● Mizuho will urge the client to take immediate remedial measures if any act that violates the ES Policy is discovered during the transaction term. ● Palm oil sector and lumber and pulp sector: If the client has not adequately addressed environmental or social issues, we engage in dialogue with the client toward remedial measures and if the remedial measures are unsatisfactory, Mizuho will not provide new financing or investment.
Governance	● Our business execution and supervisory lines regularly review the appropriateness and sufficiency of the ES Policy, with consideration of its implementation performance and the external business landscape, and revise the ES Policy and improve business processes for more appropriate implementation of the ES Policy. (See p. 11-15 for details on governance.)
Education and training	● We provide training via e-learning and other methods to executive officers and employees to ensure they can undertake effective risk management. ● We have established manuals on verification items and provide support for engagement by frontline offices.
Stakeholder communications	● Mizuho places importance on engagement with a wide array of stakeholders to ensure our initiatives are in alignment with the expectations of stakeholders.

MIZUHO

(4) Details of revisions to the Environmental and Social Management Policy for Financing and Investment Activity

Mizuho periodically revises the ES Policy, taking into account the expectations of our stakeholders, and enhances our initiatives to prevent and mitigate adverse impacts on the environment and society, such as climate change, nature loss, and human rights violations.
The following revisions were made to the ES Policy in March 2024 (Table 15). (See Appendix 4 for more details on the ES Policy.)

Table 15 March 2024 revisions to the ES Policy (revisions take effect in July 2024)

Sector	Main revisions	Key perspectives
Human rights issues	● Expanded the types of human rights issues covered under the ES Policy from forced labor, child labor, and human trafficking to include a diverse range of human rights issues	● Respect for human rights
Coal-fired power generation	● Made it possible to consider financing and investment for the early retirement of existing coal-fired power generation, as an exception even in cases that fall under coal-fired power generation prohibition clauses	● Climate change action
Weapons and arms	● Prohibits financing and investment in which will be used for the manufacture, sales, or distribution of nuclear weapons ● Prohibits transactions with companies engaged in sales and distribution of cluster munitions, anti-personnel mines, and biological and chemical weapons as well as those engaged in their manufacture	● Respect for human rights
Woody biomass power generation (mono-fuel combustion)	● Newly establishes the policy and verifies environmental and social risks - Verifies the measurement of lifecycle GHG emissions, evaluates fuel sustainability and cascade use, etc.	● Climate change action ● Natural capital conservation
Mining (excluding quarrying)	● Newly establishes the policy and verifies environmental and social risks - Verifies tailings disposal, forced and child labor, and the rights of indigenous people and local communities, etc.	● Natural capital conservation ● Respect for human rights
Fisheries and aquaculture	● Newly establishes the policy and verifies environmental and social risks - Verifies of IUU fishing[18] and destructive and indiscriminate fishing practices, etc.	● Natural capital conservation ● Respect for human rights

Oil and gas sector

Mizuho acknowledges that it is absolutely essential to make a phased transition from demand of oil and gas to reach net-zero emissions by 2050, while also emphasizing an orderly transition, based on our recognition that it is important to reconcile its efforts to decarbonization with a stable energy supply and the economics & stability of energy prices.
Amid this context, Mizuho examined the policy once again in light of the current international agreements, energy supply and demand, and national policies, etc. Given the importance of stable energy supply, Mizuho decided not to introduce the across the board prohibition clause for new financing and investment for oil and gas extraction projects in this revision.
When making new financing and investment for oil and gas extraction projects, Mizuho verifies the environmental and social impacts, including the sufficiency of greenhouse gas emission reduction measures, alignment with national policies for stable energy supply and decarbonization, and the clients' transition strategy/status of measures for the transition, before making a decision on the transaction, and this operation will continue also in FY2024

We will continue to periodically revise the ES Policy, in view of changes in the external landscape, and take action to prevent and mitigate adverse impacts on the environment and society.

[18] Fishing activities that are illegal, unreported, and unregulated. These refer to fishing activities that do not comply with national laws or international operational rules.

(5) Main provisions in the Environmental and Social Management Policy for Financing and Investment Activity

Table 16 Main provisions in the ES Policy (climate and nature-related)

Prohibitions[19]	Cross-sectional policies	● Projects which have adverse impacts on wetlands registered in the Ramsar Convention [use of funds] ● Projects which have adverse impacts on sites and properties registered on the UNESCO World Heritage List, unless UNESCO and the government of the site/property location country have given a prior consent [use of funds] ● Projects which are in violation of the Washington Convention (It is necessary to pay attention to any provisions suspended by the countries involved in the project) [use of funds]
	Coal-fired power generation	● Companies with no existing financing and investment transactions whose primary business is coal-fired power generation ● New construction or expansion of coal-fired power plant [use of funds] - Mizuho will support development of innovative, clean, and efficient next-generation technologies that will contribute energy conversions that lead to a low-carbon society by 2050 - For financing and investment aimed at enabling the early retirement of existing coal-fired power plant, Mizuho may provide financing or investment after verifying the reliability and effectiveness of the plans for progress towards decarbonization.
	Thermal coal mining	● Companies with no existing financing and investment transactions and whose primary business is either thermal coal mining or infrastructure linked with thermal coal mining ● Development or expansion of thermal coal mine or infrastructure linked with thermal coal mining [use of funds] ● Acquiring an interest in existing thermal coal mine [use of funds] - Only when it is critical to stable supply of energy of a country which set a target of Net Zero greenhouse gas emissions by 2050, we may provide financing or investment based on careful consideration
	Mining	● Mountaintop removal[20] metallurgical coal mining [use of funds]
Other policies	All sectors	● Mizuho will make transactional decisions after verifying risks relevant to the sector's characteristics
	Transition risk sectors	● Mizuho will actively engage with clients to support transitions to a low-carbon society ● Mizuho will check and evaluate the client's transition risk response level at least annually based on the criteria including, but not limited to: - Willingness to take measures against transition risks, development of the strategy, setting of quantitative targets, target level, tangibility of means to an end and progress, track record, and objectivity ● If the client has not developed a transition strategy one year after the first engagement, we make decisions whether or not to continue our business with them based on careful consideration
	Oil and gas	● For new financing and investment which is used for oil and gas extraction, Mizuho will assess if sufficient measures are taken by the client to reduce greenhouse gas emissions. [use of funds] ● Mizuho will carry out an appropriate environmental and social risk assessment based on operation-specific risks, for financing and investment which will be used for: [use of funds] - Oil and gas extraction in the Arctic, oil sands extraction, shale oil and gas extraction, or pipelines
	Large plantations Palm oil Lumber and pulp	● Mizuho will require our clients to formulate a policy on the environment and human rights which includes NDPE[21]. ● Palm oil sector: Mizuho will require our clients to acquire RSPO[22] certification for every plantation farm. ● Lumber and pulp sector: Mizuho will require clients to acquire either FSC[23] or PEFC[24] certification. (Applies to businesses not conducted in high-income OECD countries.) ● Mizuho will request our clients to enhance their supply chain management and traceability to ensure that their policy will also apply to their supply chain

[19] The prohibitions prohibit financing or investments in these types of companies and/or financing or investments where funds will be used in these types of businesses.
[20] A mining method that involves the use of explosives to remove all vegetation and topsoil above the coal seam and disposal of the rubble in nearby valleys.
[21] No Deforestation, No Peat and No Exploitation
[22] Roundtable on Sustainable Palm Oil
[23] Forest Stewardship Council
[24] Programme for the Endorsement of Forest Certification

VI. Metrics and Targets

1. Overview of metrics and targets

Transition plan item	Monitored metrics	Targets	Recent results	Details
GHG emissions reduction	Scope 1,2 emissions[25]	Carbon neutral by FY2030 (Carbon neutrality to be maintained thereafter)	FY2022: 106,750 tCO_2	p.76, ESG Data book
	Scope 1,2 energy consumption		FY2022: 393,900 MWh	
	Scope 3 (financed emissions)	Net zero by 2050	(Targets and results disclosed by sector)	p.32-46
	- Electric power sector	FY2030: 138 to 232 $kgCO_2e/MWh$	FY2022: 368 $kgCO_2e/MWh$	
	- Oil and gas sector	FY2030: Scope 1,2: 4.2 gCO_2e/MJ Scope 3: –12 to –29% (compared to FY2019 levels)	FY2022: Scope1,2: 5.6 gCO_2e/MJ Scope3: –43% (34.8 $MtCO_2e$)	
	- Coal mining (thermal coal) sector	Absolute emissions OECD economies: Zero by FY2030 Non-OECD economies: Zero by FY2040	FY2022: 0.6 $MtCO_2e$	
	- Steel sector	FY2030: –17% to –23% (compared to FY2021 levels)	FY2022: –18% (14 .1$MtCO_2e$)	
	- Automotive sector	FY2030: Scope 1,2: –38% (compared to FY2021 levels) Scope 3: –31% to –43% (compared to FY2021 levels)	FY2022: Scope1,2: –11% (831 $ktCO_2e$) Scope3: –7% (184 gCO_2e/vkm)	
	- Maritime transportation sector	FY2030: Portfolio climate alignment score ≦0%	FY2022: –1.55%	
	- Real estate sector	FY2030: 33 to 42 $kgCO_2e/m^2$	FY2022: 65 $kgCO_2e/m^2$	
Capturing business opportunities	Sustainable finance	Total for FY2019 to FY2030: JPY 100 trillion (of which JPY 50 trillion is earmarked for environment and climate-related finance)	Total for FY2019 to FY2023: JPY 31.0 trillion (of which JPY 14.0 trillion is on environment and climate-related finance)	p.25
Risk management	Outstanding credit balance of coal-fired power generation plants[26]	Reduce the FY2019 amount by 50% by FY2030, and achieve an outstanding credit balance of zero by FY2040	March 31, 2024: JPY 240.8 billion (down 19.6% from March 31, 2020)	p.75
	Exposure to high-risk areas in transition risk sectors[27]	Reduce over the medium to long term	March 31, 2024: JPY 1.5 trillion (down –0.3 trillion JPY from March 31, 2021)	p.66
Engagement	Status of clients' transition risk responses	n/a	March 31, 2024: Steady progress in the targeted sectors	p.68
Capability building	SX talents KPIs -Sustainability management experts - Environment and energy sector consultants	FY2025 - 1,600 experts - 150 consultants	As of March 2024: - Approx. 1,650 experts - Approx. 140 consultants	p.30

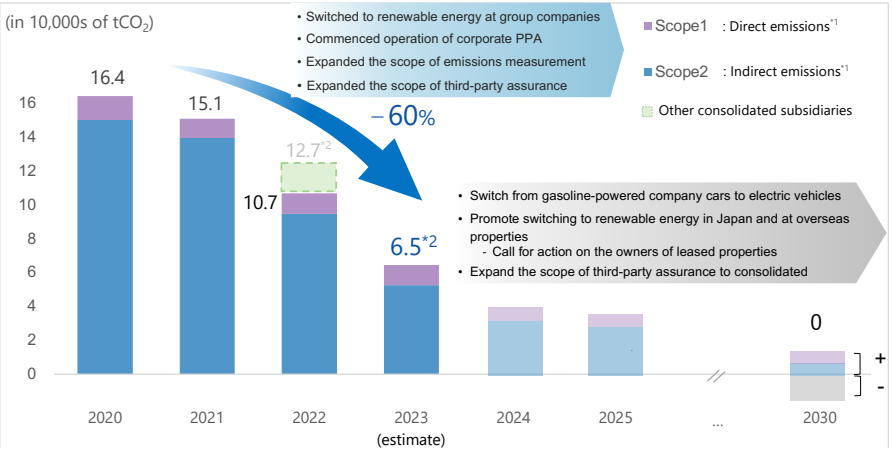
■ Other disclosure items aside from the monitored metrics:
- Sector-by-sector credit exposure in line with the TCFD Recommendations p.69
- Sector-by-sector financial exposure in line with the TNFD Recommendations p.70
- Financed emissions and facilitated emissions based on PCAF methodology p.79-81

[25] Target / scope of data collections: Seven group companies (Mizuho Financial Group, Mizuho Bank, Mizuho Trust & Banking, Mizuho Securities, Mizuho Research & Technologies, Asset Management One, and Mizuho Americas), adjusted emission coefficients / market base
[26] Aggregation Targets: Credit cases where the funds are used for the construction or expansion of coal-fired power plants, which is prohibited under the ES policy
[27] See p.66 "Risk Control in Carbon-related Sectors" for the definition of exposure to high-risk areas

2. Scope 1 and 2 (GHG emissions from our own business activities)

With the aim of becoming carbon neutral[*1] in FY2030, we switched to renewable energy at our contracted properties in FY2023 for our domestic Scope 2 electricity consumption, which accounts for approximately 80% of our GHG emissions, and lowered GHG emissions by about 60% compared to FY2020. In the coming years, we will work to switch to renewable energy at leased properties in Japan, which requires coordination with related parties, as well as continue initiatives to switch company cars from gasoline-powered cars to electric vehicles and reduce GHG emissions at overseas locations.
To address future legally mandated disclosures, we expanded the scope for Scope 1 and 2 measurements from FY2023 from the previous seven Group companies[*1] to domestic and overseas consolidated subsidiaries and affiliates, which is the same scope as our consolidated financial reports. In conjunction with this, we expanded third-party assurances, from all Mizuho Bank branches in Japan, the previous scope, to seven Group companies in FY2023 and will expand third-party assurances to the full consolidated Group scope in FY2024.

Figure 42 Scope 1 and 2 GHG emission results and targets[*1]



*1. Target / scope of data collections: Seven group companies (Mizuho Financial Group, Mizuho Bank, Mizuho Trust & Banking, Mizuho Securities, Mizuho Research & Technologies, Asset Management One, and Mizuho Americas) — note that no credits are applied to offset.
*2. Tentative value

Table 17 Initiatives to achieve Scope 1 and 2 carbon neutrality

	FY2023 initiatives	Initiatives from FY2024 and beyond
Scope 1	▪ Examine the electric vehicles adoption policy for domestic BK ▪ Adopted electric vehicles for some executive officers' cars	▪ Switch company cars from gasoline-powered company cars to electric vehicles
Scope 2	Japan ▪ Switch to renewable energy at BK, TB, SC, and RT contracted properties ▪ Investigate and negotiate with owners of leased properties to switch to renewable energy Other countries ▪ Switch to renewable energy in some European countries (UK and Germany)	▪ Promote switching to renewable energy in Japan and at oversea properties —Call for action on the owners of leased properties to switch to renewable energy
Measurements and disclosures	▪ Measurement scope: From seven Group companies to all consolidated subsidiaries ▪ Scope of third-party assurance: From domestic BK to seven Group companies	▪ Expand the scope of third-party assurance to consolidated companies and globally

3. Scope 3 (emissions from financing and investment)

(1) Setting medium-term targets based on NZBA guidance

In order to reduce Mizuho's Scope 3 (financed emissions), we set medium-term targets for four sectors (automotive, maritime transportation, steel, and real estate) in FY2023 and completed the initial target setting based on the NZBA guidelines.
In determining the target sectors, we considered sector-specific transition risk evaluations, credit exposure (EXP), global and Mizuho emissions, feasibility, and other factors. The selection covers high-priority sectors for promoting the transition of the real economy.

NZBA carbon intensive sectors: Electric utilities, oil and gas, coal mining, automotive, maritime transportation, steel, real estate, cement, aluminum, agriculture

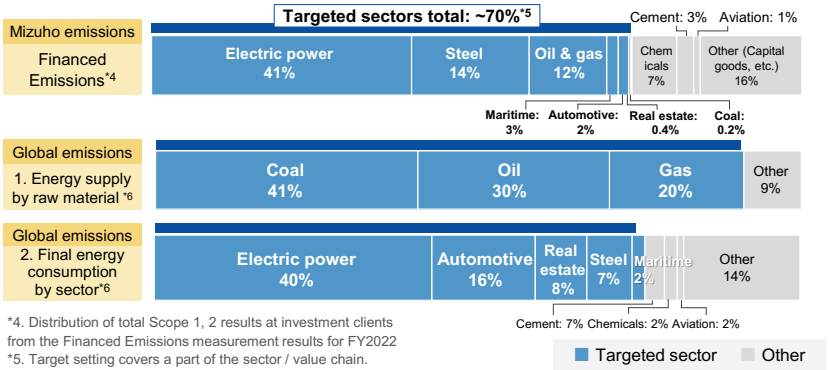
Target sectors are considered based on transition risk evaluations, credit EXP (Figure 43), GHG emissions (Figure 44), feasibility of target setting, and other factors

Figure 43 Transition risks and exposure by sector [target coverage]

Credit EXP (JPY) *1	Very Low	Low	Medium	High	Very high
Over 10 T		**Real estate** Capital goods		**Electric power**	
5 T – 10 T			**Automotive** Chemicals	**Oil and gas**	
1 T – 5 T	Insurance	Rail transportation, Packaged food and meats	**Maritime transportation** Metals and mining,*3 Construction materials	**Steel**	
Under 1 T	Beverages		Agriculture, Aviation, Paper and forest products	Cement	**Coal**
Targeted sectors (Underlined)	Transition risk evaluation*2				

*1. As of March 31, 2024
*2. Quantitative evaluation based on GHG emissions, carbon efficiency, and other evaluation criteria for the 19 sectors recommended for disclosure in the TCFD recommendations.
*3. The aluminum sector accounts for less than 10% of the metals and mining sector.

Figure 44 GHG emissions by sector



*4. Distribution of total Scope 1, 2 results at investment clients from the Financed Emissions measurement results for FY2022
*5. Target setting covers a part of the sector / value chain.
(Examples: The target for oil and gas covers upstream production businesses including integrated businesses; The target for coal covers thermal coal mining)
*6. IEA World Energy Outlook 2023 (Global)

Medium-term targets set for electric power, oil and gas, coal mining (thermal coal), automotive, maritime transportation, steel, and real estate

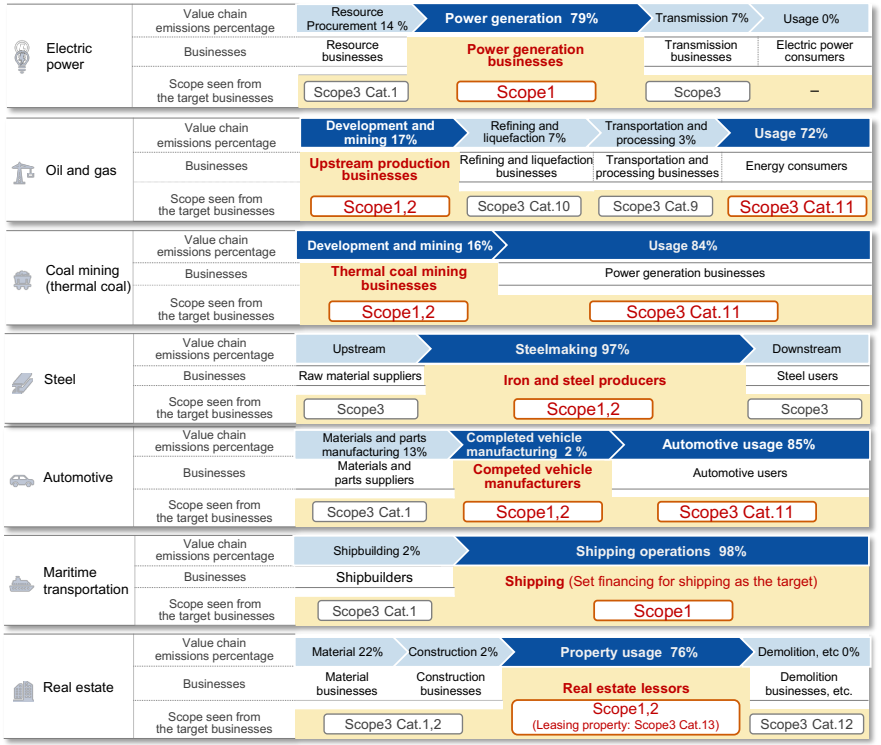
Note: No targets were set for the cement, aluminum, and agriculture sectors due to small amount of exposures and emissions in Mizuho's portfolio.

Regarding sector-specific medium-term targets, the figures below give an overview of the targets and the coverage of sector value chains.

Figure 45 Overview of sector-specific targets

Sector	Targeted scope	Metrics	FY2030 medium-term target	Benchmark scenarios	Base year results	FY22 results	Compared with base year
Electric power	Scope 1	Emission intensity (kg CO_2e/MWh)	138 to 232	IEA NZE - SDS	388	368	–5%
Oil and gas	Scope 1, 2	Emission intensity (g CO_2e/MJ)	4.2	IEA NZE	6.6	5.6	–15%
	Scope 3 Cat. 11	Absolute emissions (Mt CO_2e)	–12 to –29% Compared to FY19	IEA NZE - SDS	60.6	34.8	–43%
Coal mining (Thermal coal)	Scope 1, 2 Scope 3 Cat. 11	Absolute emissions (Mt CO_2e)	OECD: Zero by FY30 Non-OECD: Zero by FY40	IEA NZE	5.1	0.6	–88%
Steel	Scope 1, 2	Absolute emissions (Mt CO_2e)	–17 to –23% Compared to FY21	IEA NZE - MPP TM	17.3	14.1	–18%
Automotive	Scope 1, 2	Absolute emissions (kt CO_2e)	–38% Compared to FY21	SBTi 1.5℃	934	831	–11%
	Scope 3 Cat. 11	Emission intensity (g CO_2e/vkm)	–31 to –43% Compared to FY21	IEA NZE - SBTi B2D	198	184	–7%
Maritime transportation	Scope 1	Portfolio climate alignment score (%)	≦ 0%	IMO GHG reduction targets	+1.82%	-1.55%	–3.4%
Real estate	Scope 1, 2 Scope 3 Cat. 13	Emission intensity (kg CO_2e/㎡)	33 to 42	CREEM 1.5℃-B2℃	69	65	–5.8%

Figure 46 Approach to value chains in target sectors

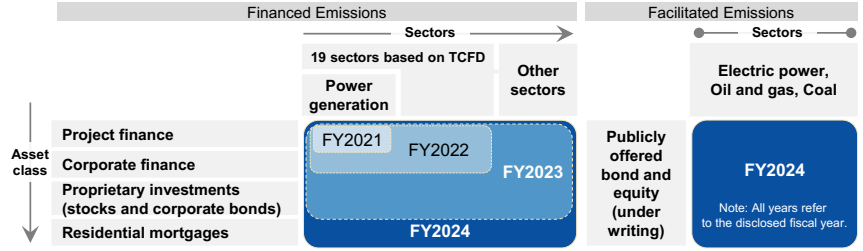


Source: Created by Mizuho FG based on the publications from IEA (electric power, oil and gas, coal, steel), CDP (automotive), Ministry of the Environment, Japan (Maritime transportation), World Business Council for Sustainable Development (real estate)

(2) Measurement of financed emissions / facilitated emissions based on PCAF standards

Mizuho has been measuring financed emissions (emissions from financing and investment) since FY2021 for Scope 3 (Category 15) emissions, which account for the majority of GHG emissions by financial institutions. In this disclosure, the measurement scope has been expanded to include residential mortgages.
We also made trial measurements of facilitated emissions (emissions from capital market activities) based on Part B of the PCAF standards released in December 2023.

Figure 47 Expanded scope of financed emissions and facilitated emissions



i. Measurements of financed emissions (emissions from financing and investment)

a. Overview of measurements (New measurement scopes added since the previous report are underlined)

Targeted assets	(1) Loans (corporate finance and project finance)[28] (2) Proprietary investments (stocks and corporate bonds)[29] (3) Residential mortgages[30]
Targeted sectors	The 19 sectors based on the TCFD Recommendations + other sectors Note: Sector classifications are the same as those in qualitative evaluations of sector-specific risks and opportunities (p. 49) and exposure by sector (p. 69).
Basic formulas	Financed Emissions = $\sum$ (1) Attribution factor × (2) Company emissions (1) Attribution factor = Outstanding loans / investments from Mizuho to clients / Client's corporate value (total equity + debt or EVIC for listed companies) (2) Company emissions = Scope 1, 2, and 3 emissions disclosed by clients. Estimated values used when disclosures not available. Note: For residential mortgages, financed emissions are calculated with (1) Outstanding loans for the targeted buildings / Property value of buildings at origination and (2) Building Emissions (estimated value).
Target year	FY2022 - Mizuho's loan and investment balance: Amount as of March 31, 2023 - Client financial and emissions data: Principally, the latest FY data available as of March 31, 2023
Sources of emissions data	*Disclosed values* (Figures in parentheses are the equivalent data quality scores (score[31])) - We used data from data vendors, client disclosures, and interviews with clients (score 1 or 2) *Estimated values* — Used when disclosed values cannot be obtained - We estimated emissions using data vendors (score 3 to 5) or emission factors taken from the PCAF database (score 4) - [Project finance for power generation projects only] Project's annual power generation volume x Emissions factor taken from the IEA World Energy Outlook (score 3) - [Residential mortgages only] Floor area per building unit x Emissions factor based on national statistics (score 4)

[28] Combined figures for the loan balances of Mizuho Bank and Mizuho Trust & Banking. Available credit under committed lines of credit, securities, derivatives, and similar are not included. Loans to special purpose vehicles for securitization, trade finance, and sovereign loans are outside the scope of this measurement at the present time, as it is not possible to calculate attribution factors for these types of loans.
[29] Combined investment balance for Mizuho Bank and Mizuho Trust & Banking. Covers directly held portions of individual company bonds (publicly offered bonds and privately placed bonds) and stocks. Indirect holdings through fund investments and investments in sovereign bonds are excluded at the present time.
[30] Outstanding balance of domestic residential mortgages at Mizuho Bank.
[31] A score of 1 is most certain (values disclosed by company with third-party certification), and a score of 5 is least certain (based on estimated data and asset balances)

b. Measurement results

	[Loan] Financed Emissions							[Investment] Financed Emissions			Data Quality Score (FY2022)		Number of measured companies/ proejcts*1 (FY2022)	Measure-ment coverage rate*2 (FY2022)
	FY2020		FY2021		FY2022			FY2022						
	Scope 1,2 ($MtCO_2e$)	Scope 3 ($MtCO_2e$)	Scope 1,2 ($MtCO_2e$)	Scope 3 ($MtCO_2e$)	Loan balance (Bn $)	Scope 1,2 ($MtCO_2e$)	Scope 3 ($MtCO_2e$)	Invest-ment balance (Bn $)	Scope 1,2 ($MtCO_2e$)	Scope 3 ($MtCO_2e$)	Scope 1,2	Scope 3		
Power Utilities*3	51.6	26.5	46.6	20.8	41.3	**45.6**	**20.1**	1.0	0.8	0.7	2.2	2.6	516	98%
Oil & gas*3	44.1	76.6	13.9	76.4	23.2	**13.0**	**56.6**	0.3	0.2	0.8	2.9	3.1	253	82%
Steel*3	23.4	13.9	21.1	13.9	11.3	**15.3**	**8.5**	0.8	1.0	0.5	2.3	2.5	225	100%
Capital goods	2.4	60.9	2.4	102.8	37.0	**1.7**	**96.1**	4.8	0.2	5.6	2.3	2.8	2,365	98%
Chemicals	8.6	32.0	8.0	20.8	27.0	**8.0**	**23.5**	1.7	0.5	1.8	2.2	2.8	995	97%
Automotive*3*4	1.9	61.7	2.1	37.0	36.6	**2.2**	**78.0**	1.8	0.3	3.1	2.1	2.6	1,218	98%
Coal*3	1.1	1.3	0.2	1.4	0.2	**0.2**	**0.6**	0.0	0.0	0.0	3.3	3.3	8	100%
Metals and mining	2.1	12.1	2.1	12.4	9.2	**1.5**	**10.2**	0.4	0.0	0.2	2.5	2.9	726	97%
Maritime transport*3	5.7	4.1	1.8	9.4	5.6	**3.7**	**3.7**	0.4	0.3	0.2	3.5	3.6	187	74%
Packaged food and meats	3.8	6.4	2.3	4.0	10.2	**3.2**	**9.3**	1.5	0.2	2.1	3.0	3.3	789	98%
Cement	3.3	2.2	3.0	0.4	1.4	**3.0**	**0.7**	0.1	0.2	0.0	2.2	2.7	73	82%
Paper and forest products	2.2	2.2	2.2	2.6	4.1	**2.2**	**2.2**	0.2	0.1	0.1	2.5	3.2	246	100%
Construction materials	2.0	1.7	1.2	1.3	2.1	**1.4**	**1.2**	0.1	0.1	0.1	2.2	2.8	103	96%
Aviatioin	1.2	1.3	1.2	0.8	2.7	**1.1**	**0.4**	0.0	0.0	0.0	1.7	2.2	29	88%
Real estate*3	0.2	0.9	0.4	2.4	69.9	**0.4**	**2.8**	2.7	0.0	0.1	2.9	3.1	3,183	92%
Rail transportation	0.4	0.5	0.4	1.2	9.2	**0.4**	**0.5**	2.3	0.1	0.1	2.5	3.2	89	99%
Agriculture	0.4	1.7	0.3	0.5	0.8	**0.5**	**0.8**	0.1	0.0	0.0	2.8	4.0	15	100%
Beverages	0.2	0.6	0.2	0.5	2.5	**0.2**	**0.6**	0.2	0.0	0.1	2.6	3.1	97	98%
Insurance	0.1	0.2	0.0	0.0	3.8	**0.0**	**0.1**	0.6	0.0	0.0	2.0	2.5	34	94%
19 sectors total	154.9	306.7	109.5	308.6	298.1	**103.6**	**315.9**	19.0	3.9	15.5	2.5	2.9	11,151	94%
Others*5	-	-	7.0	47.1	160.8	**6.9**	**66.2**	26.2	0.4	2.5	2.7	3.1	10,314	79%
Total	-	-	116.5	355.8	458.9	**110.4**	**382.0**	45.2	4.3	18.0	2.6	2.9	21,465	88%
Residential mortgages New	-	-	-	-	46.8	**0.4**	**-**	-	-	-	4.0	-	319,641	82%

*1. Companies / projects: Excludes clients and projects without a loan balance as of the base date and clients without measured financed emissions.
*2. Measurement coverage percentage: The percentage of financed emissions that we were able to measure from the targeted loan amounts in each sector.
*3. Regarding sectors for which Mizuho has set Scope 3 medium-term targets, the measured financed emissions above cover entire value chains, whereas the medium-term targets cover only part of value chains. (Examples: The medium-term target for oil and gas covers upstream production businesses (including integrated oil and gas businesses); the medium-term target for coal covers thermal coal mining)
*4. Scope 3 emissions in the automotive sector increased compared to the previous year due to the improvement in data accuracy during the process of setting Mizuho's medium-term targets.
*5. Other sectors: Represents the total for sectors that do not fall under the 19 sectors, such as telecommunications, finance, retail, and services.

Column: Measurements of CO_2 avoided emissions of power sector portfolio (project finance)

Since FY2020, Mizuho Bank has disclosed financed emissions and CO_2 avoided emissions for project finance in the power generation sector based on the PCAF concept.
CO_2 avoided emissions are calculated based on the concept of Avoided Emissions in the PCAF guidance, by determining the CO_2 emission reductions when power generation shifts from fossil fuels to renewable energy through the renewable power projects financed by Mizuho. This calculation is based on the emission factor of the fossil fuel that has the largest impact on the power generation mix in the project region.

	FY2019	FY2020	FY2021	FY2022
Financed Emissions ($ktCO_2$)	8,901	8,627	8,765	10,308
CO_2 Avoided Emissions ($ktCO_2$)	4,349	4,688	4,871	6,390

(See our webpage for the details: https://www.mizuhogroup.com/sustainability/environment/activity/carbon)

ii. Measurement of facilitated emissions (emissions from capital market activities)

Facilitated emissions are GHG emissions from capital market activities (off-balance sheet transactions), including securities underwriting by financial institutions. In December 2023, methods of measuring and disclosing facilitated emissions were published in the PCAF standards. In conjunction with this, Mizuho made trial measurements of facilitated emissions in three sectors based on the PCAF standards.

a. Overview of measurements

Targeted assets	Publicly offered bond and equity underwriting deals (excluding deals with unlisted companies outside Japan)[32]
Targeted sectors	The trial measurements targeted the following three sectors, which have particularly large GHG emissions Electric utilities / Oil and gas / Coal
Basic formulas	Facilitated Emissions $= \sum$ (1)Attribution factor × (2)Annual emissions ×(3)Weighting factor (1) Attribution factor = Amount underwritten by Mizuho from issuers / Corporate value of issuers (total equity + debt or EVIC for listed companies) (2) Annual emissions = Scope 1, 2, and 3 emissions disclosed by issuers. Estimated values used when disclosures not available. (3) Weighting factor = Impact of capital market activities of a financial institution compared to its investment and loan activities (A uniform 33% rate is used based on PCAF standards)
Target year	Base year: FY2022 - Mizuho's amount underwritten: Cumulative total from April 1, 2022 to March 31, 2023 - Client financial and emissions data: Principally, the latest FY data available as of March 31, 2023
Sources of emissions data	- We used data from data vendors (equivalent to a data quality score of 1 or 2) - When the sources above were not available, we used estimated data from data vendors (equivalent to score 5 depending on the estimation methodology)

b. Measurement results

	Facilitated Emissions ($MtCO_2e$)		Data Quality Score[33]	
	Scope 1, 2	Scope 3	Scope 1, 2	Scope 3
Electric utilities	3.2	1.6	2.0	3.1
Oil and gas	0.2	1.1	2.8	4.5
Coal	No deals		No deals	

c. Actions going forward

The importance of measuring and reducing facilitated emissions among financial institutions is increasing, and facilitated emissions were added to the target scope of the NZBA Guidelines revised in April 2024.
We made a trial measurement of publicly offered bonds and stocks underwritten targeting three sectors that have particularly large GHG emissions, and will work to expand the scope of sectors and assets to be measured in the future.
Under NZBA's revised guidance, target setting and disclosures of facilitated emissions are required by November 1, 2025. Consequently, we will proceed with examining target setting with consideration of sector emissions, amount of transactions, transition risk, data availability, alignment with the current targets, and other factors.

[32] Amount underwritten by Mizuho Securities
[33] A score of 1 is most certain (values disclosed by company with third-party certification), and a score of 5 is least certain (based on estimated data and asset balances)

iii. Considerations regarding the measurement results for financed emissions / facilitated emissions

Mizuho has undertaken measurements of financed emissions since FY2021, and for this disclosure, we made a trial measurement of facilitated emissions for the first time. We acknowledge, however, that there are issues with data availability and accuracy for both financed / facilitated emissions, and we believe efforts are needed over the medium and long term to construct more robust and efficient measurement processes. With regard to the measurement results in this disclosure, caution must be exercised in the following specific areas.

a. Measurement result accuracy and potential for changes

- Caution must be exercised when comparing these results with those of previous years, as financed / facilitated emissions results may have increased due to broader scopes of emissions calculated and disclosed by clients (for example, moving from a non-consolidated to a consolidated basis or expanding Scope 3 measurement scopes).
- We used emission factors from the IEA World Energy Outlook to estimate financed emissions from project finance for power generation, and we used emission factors per unit of revenue from the PCAF database to estimate emissions from corporate finance. However, as these emission factors are subject to change over the course of future refinements or elaborations, the measurement results may change significantly moving forward.
- If major changes occur to the measurement results disclosed in this report, we will disclose the changes as necessary on our website.

b. Double counting

- By definition, Scope 1, 2, and 3 measurements allow for the same emissions to be accounted for across multiple sectors and companies. For example, emissions from heavy industry manufacturers account for a large share of emissions in the capital goods sector, but around 70% of Scope 3 emissions from major heavy industry manufacturers come from the usage emissions of the thermal power generation plants they manufacture and sell. These emissions, however, overlap with Scope 1 emissions in the power utility sector.
- When a financial institution is financing and investing in oil and gas exploration companies, heavy industry manufacturers, electric power companies, or manufacturing companies that use electricity, the overlap is counted multiple times as financed / facilitated emissions without offsetting.

c. Facilitated emissions measurement results

- In addition to considerations above, the facilitated emissions results disclosed in this report are at the trial measurement stage and are limited in scope. Facilitated emissions may increase in the future as Mizuho expands its measurement scope and sophistication of its measurement methods, or as the scope of emissions measurements and disclosures by clients expands.

Ⅶ. Conclusion

In addition to addressing climate change and achieving net zero by 2050, the issues surrounding the environment, such as conservation of natural capital and realizing a circular economy, are continuously changing. Each fiscal year, Mizuho revises our action plans, based on progress on the previous year's initiatives and the external business landscape, and moves steadily ahead with initiatives addressing climate change and natural capital.

Table 18 FY2024 Action Plan

Addressing climate change	Governance	• Strengthen and accelerate the business execution line's initiatives to implement the Net Zero Transition Plan, and report on those initiatives to the supervisory line • Accelerate preparation to respond to sustainability disclosure regulations (ISSB/SSBJ in Japan, SEC in the U.S., CSRD in Europe)
	Strategy	• Establish effective strategic client engagement from the perspectives of opportunities, risks, and real economy transitions • Engage strategically in policy engagement (communicate opinions and positions to rule-making organizations) • Examine scenario analysis methods and quantification of the financial impacts of climate change (risks, opportunities, expenses, etc.), based on disclosure regulations
	Risk management	• Improve evaluation criteria for clients' responses to transition risk • Update our control policies and exposure planning for carbon-related sectors • Revise our financing and investment policies to properly reflect the environmental and social conditions
	Metrics and targets	• Financed Emissions: Monitor progress in sectors where targets have been set and examine additional necessary measures • Expand measurements and examine targets for facilitated emissions, and systemize Scope 3 measurements with a view to obtaining assurances
Natural Capital		• Capture business opportunities and examine appropriate risk management related to natural capital using the results of the LEAP approach analysis • Disclose information in line with TNFD Recommendations

Ⅷ. Appendix

1. Sustainable finance performance

Table 19 Breakdown of sustainable finance amounts (JPY trillions)

Category		Description	FY22 (single year)	FY23 (single year)	FY19 -23
Sustainable finance	**Social**			**0.5**	
	Social loans	Arrangement of loans compliant with ICMA's social bond principles and LMA's social loan principles	**0.6**	0.02	**2.1**
	Social bonds	Underwriting of bonds compliant with ICMA's social bond principles		0.5	
	Sustainable (FY2023 results do not include Environmental and climate-related finance)*1			**1.7**	
	Sustainability loans and sustainability-linked loans	Arrangement of loans compliant with LMA's sustainability-linked loan principles and Ministry of Environment's Green Loan and Sustainability-linked Loan Guidelines	**2.1**	1.4	**7.4**
	Sustainability bonds and sustainability-linked bonds	Underwriting of bonds compliant with ICMA's Sustainability Bond Guidelines, Social Bond Principles, Green Bond Principles, and LMA's Sustainability-linked Bond Principles		0.4	
	Project finance for infrastructure	Arrangement of project finance for public transportation, public facilities, and other infrastructure	**0.4**	**0.1**	**1.4**
	Proprietary Mizuho products (excluding Environmental and Climate-related Finance)	Mizuho Human Capital Management Impact Financing	**0.4**	**0.2**	**0.8**
		SDGs promotion support loans / private placement bond			
		Sustainable Supply Chain Finance			
		Mizuho Sustainability Link Loan PRO /Mizuho Sustainability Link Private PlacementBond PRO*1			
		Mizuho Positive Impact Finance*1			
		Mizuho Positive Impact Finance PRO*1			
		Value Co-creation investment*1			
	Other	Loans for innovation businesses	**0.4**	**1.4**	**4.6**
		Net increase in ESG / SDGs investment under management			
		Other			
Environmental / Climate-related finance	**Green**		**2.3**	**2.6**	**8.0**
	Green loans	Arrangement of loans compliant with LMA and other green loan principles		1.0	**6.1**
	Green bonds	Underwriting of bonds compliant with ICMA green bond principles		1.2	
	Financing for qualified green projects / businesses	Arrangement of finance targeting use of funds specified in the Mizuho's green bond principles		0.4	**1.9**
	Transition (outside of coverage of Environmental and climate-related finance until FY2022 results)		**0.5***2	**0.3**	**1.0***2
	Transition loans and transition-linked loans	Arrangement of loans compliant with the ICMA's Climate Transition Handbook, the basic policies on climate transition finance, and other principles		0.2	
	Transition bonds and transition-linked bonds	Underwriting of bonds compliant with the ICMA's Climate Transition Handbook, the basic policies on climate transition finance, and other principles		0.1	
	Sustainable (environmental and climate-related finance)		-	**0.8**	**0.8**
	Sustainability loans and sustainability-linked loans	Arrangement of loans compliant with LMA's sustainability-linked loan principles	-	0.6	
	Sustainability bonds and sustainability-linked bonds	Underwriting of bonds compliant with ICMA's Sustainability Bond Guidelines, Social Bond Principles, Green Bond Principles, and LMA's Sustainability-linked Bond Principles	-	0.1	
	Proprietary Mizuho products	Mizuho Eco Finance	**0.9**	**1.9**	**5.0**
		Mizuho Sustainable Real Estate NRL			
		Mizuho Sustainability Link Loan PRO /Mizuho Sustainability Link Private Placement/ Bond PRO			
		Mizuho Positive Impact Finance			
		Mizuho Positive Impact Finance PRO			
		Transition Investment Facility / Value Co-creation Investment			
	Other	Other environmental and climate-related finance	**0.4**	**0.3**	
Subtotal			**3.6**	**5.9**	**14.0**
Total amount of sustainable finance			**8.1**	**9.8**	**31.0**

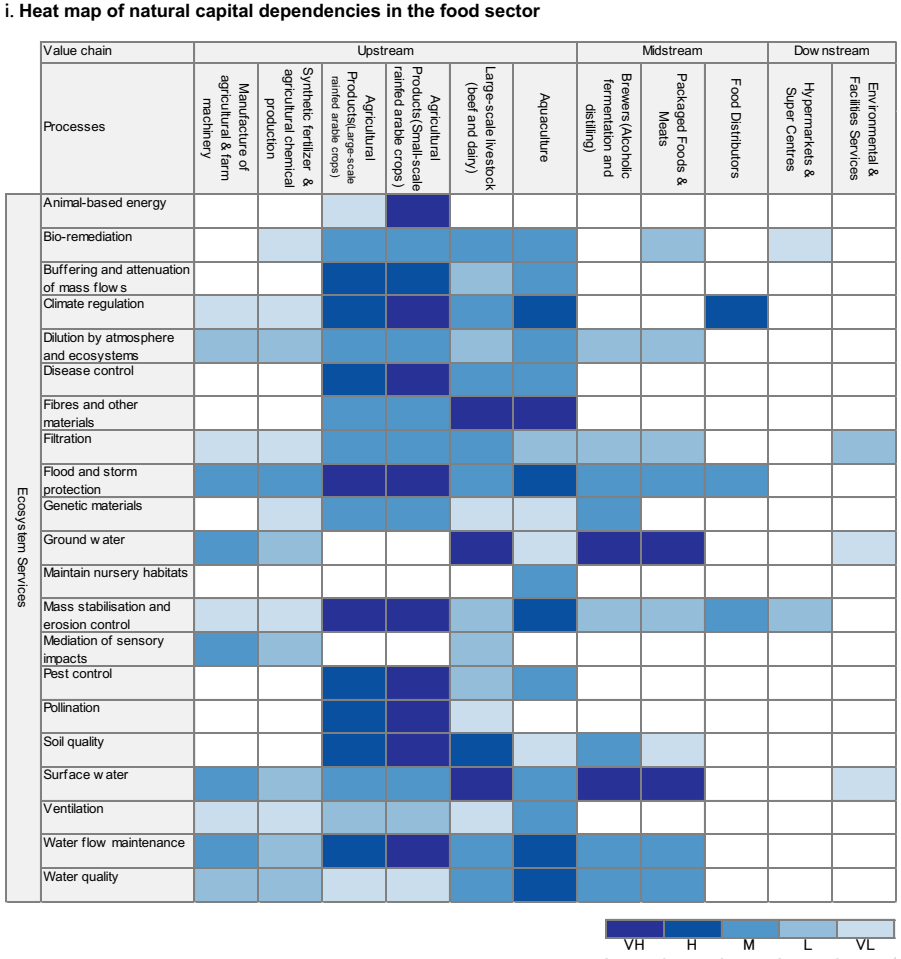
*1. The name Environmental Finance was changed to Environmental and climate-related finance in FY2023 and the finance types covered also changed. The FY2022 results include Environmental and climate-related finance.
*2. Outside of coverage of environmental and climate-related finance until FY2022 results

2. Details of the analysis using the LEAP approach

(1) Heat maps of natural capital dependencies and impacts

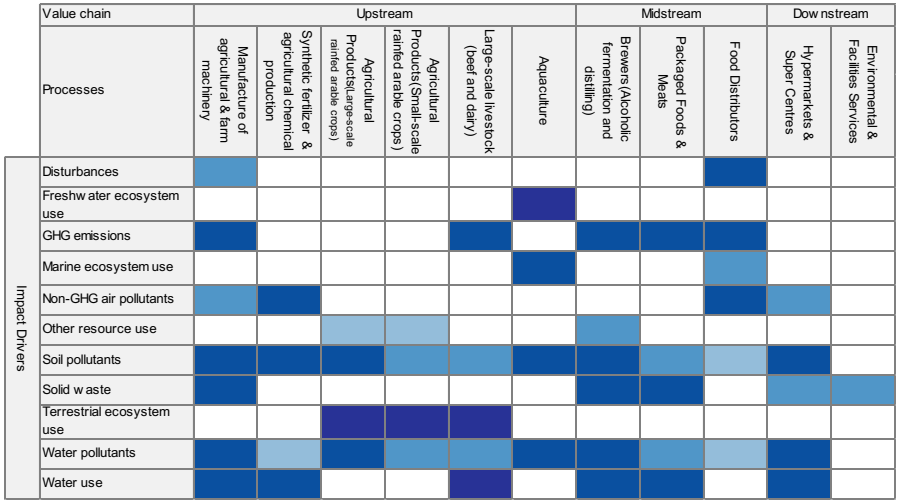
We created heat maps of the degree of dependency and impact on natural capital by value chain processes in the food, chemicals, and general wholesale/retail sectors using a five-scale evaluation — Very High (VH), High (H), Middle (M), Low (L), and Very Low (VL) — based on an ENCORE analysis. From these heat maps, we recognized that the upstream value chain processes of raw material production and raw material extraction were processes with high dependencies and impacts on water and biodiversity in all three sectors — food, chemicals, and general wholesale/retail. We also recognized that in the food sector the midstream value chain process of raw material procurement, manufacturing, and processing, in addition to raw material production, had high dependencies and impacts on water and biodiversity.

i. Heat map of natural capital dependencies in the food sector



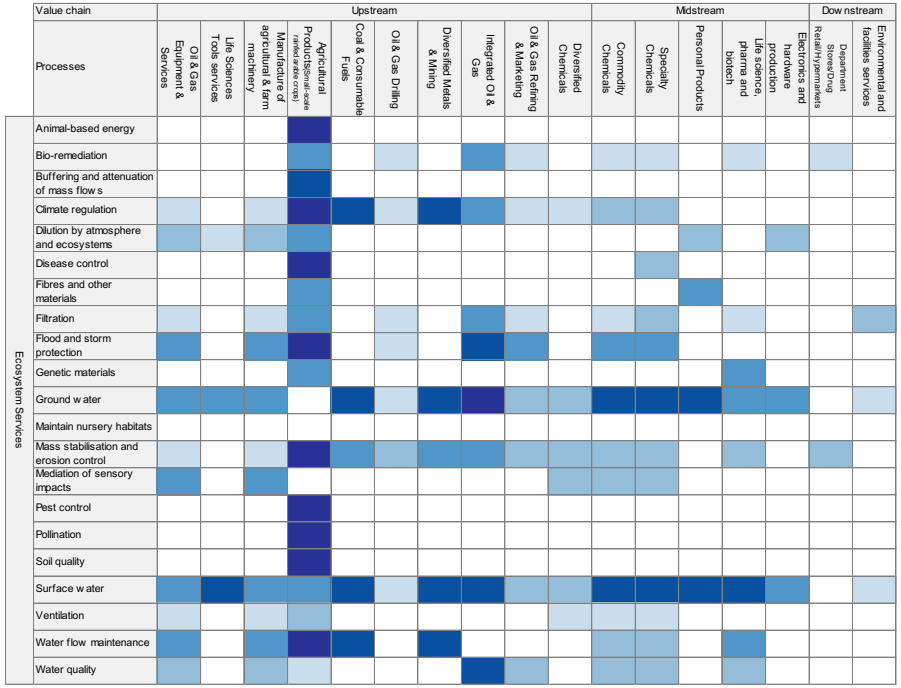
Source: Prepared by Mizuho Financial Group based on ENCORE (https://encorenature.org/en) as of September 6, 2023

ii. Heat map of natural capital impacts in the food sector



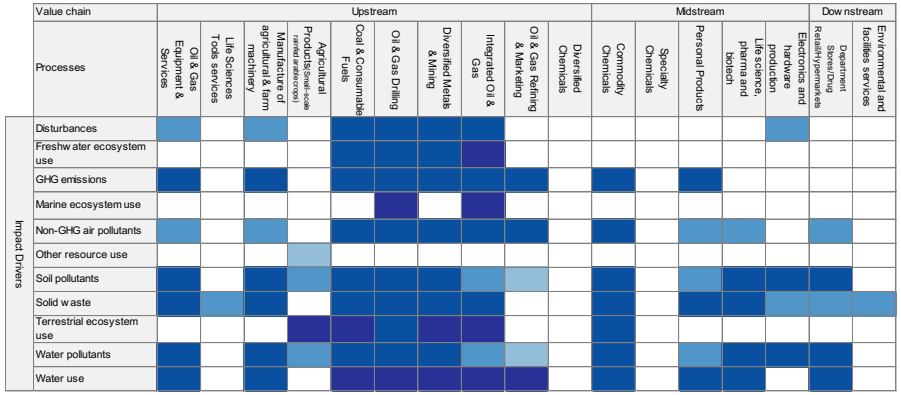
Source: Prepared by Mizuho Financial Group based on ENCORE (https://encorenature.org/en) as of September 6, 2023

iii. Heat map of natural capital dependencies in the chemicals sector



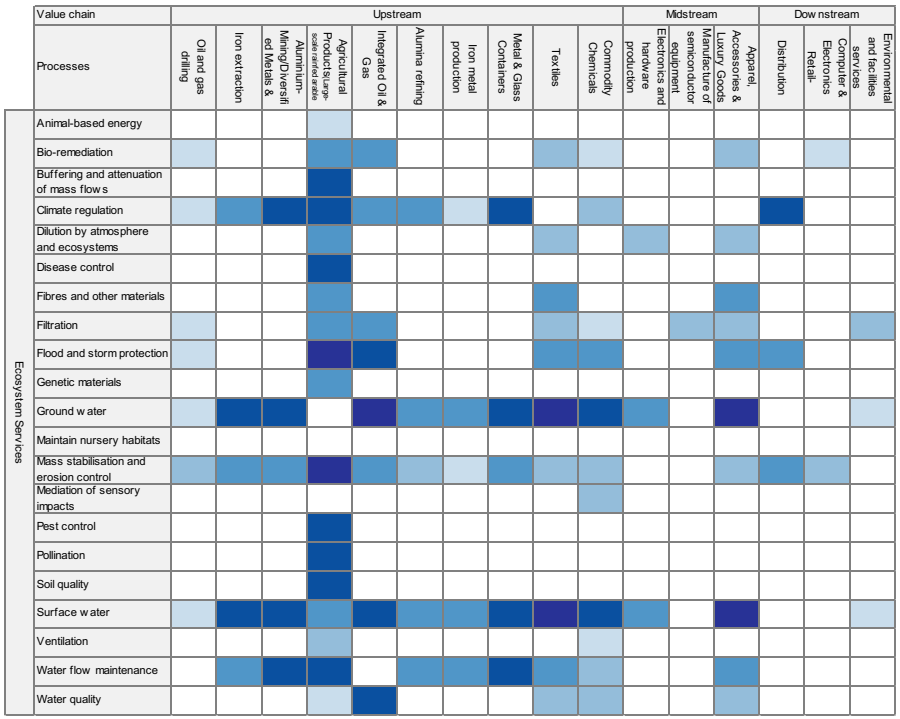
Source: Prepared by Mizuho Financial Group based on ENCORE (https://encorenature.org/en) as of September 6, 2023

iv. Heat map of natural capital impacts in the chemicals sector



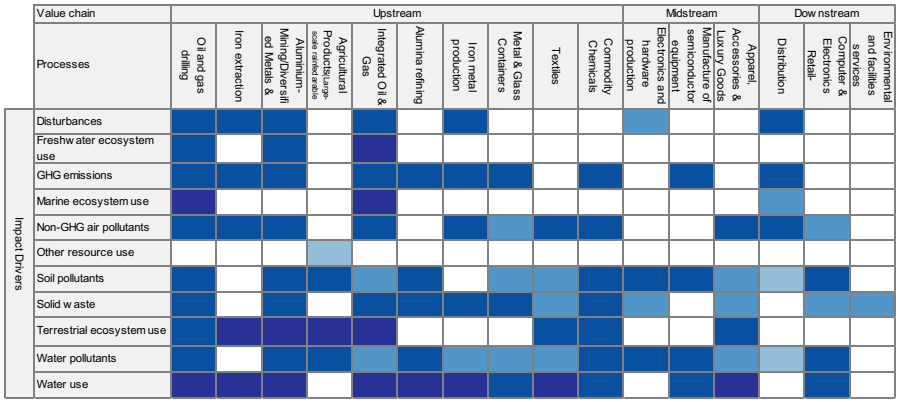
Source: Prepared by Mizuho Financial Group based on ENCORE (https://encorenature.org/en) as of September 6, 2023

v. Heat map of natural capital dependencies in the general wholesale/retail sector



Source: Prepared by Mizuho Financial Group based on ENCORE (https://encorenature.org/en) as of September 6, 2023

vi. Heat map of natural capital impacts in the general wholesale/retail sector



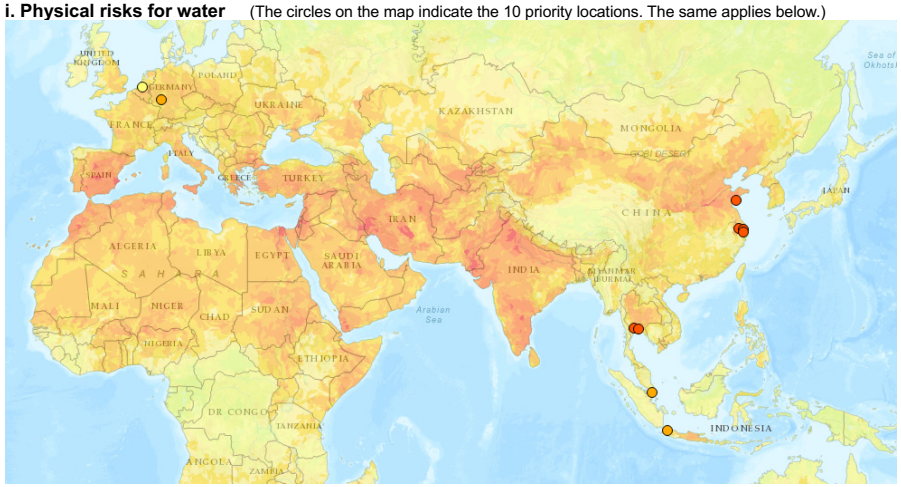
Source: Prepared by Mizuho Financial Group based on ENCORE (https://encorenature.org/en) as of September 6, 2023

(2) Identification of risks for water and biodiversity in 10 priority locations (using the WWF Water/ Biodiversity Risk Filter tools)

We verified physical risks and reputation risks for water and biodiversity in 10 priority locations using the WWF Water/Biodiversity Risk Filter tools.

i. Physical risks for water

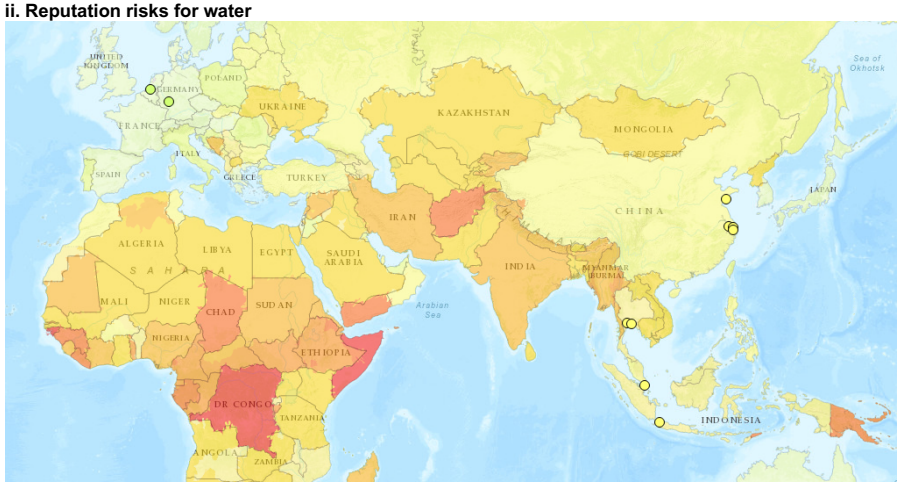
(The circles on the map indicate the 10 priority locations. The same applies below.)



Source: Prepared by Mizuho Financial Group using the WWF Water Risk Filter

Very low risk — Very high risk

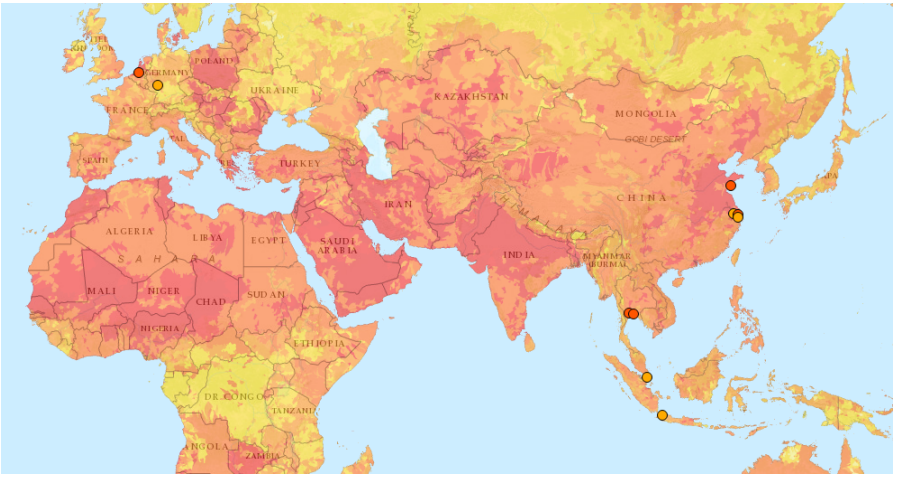
ii. Reputation risks for water



Source: Prepared by Mizuho Financial Group using the WWF Water Risk Filter

Very low risk — Very high risk

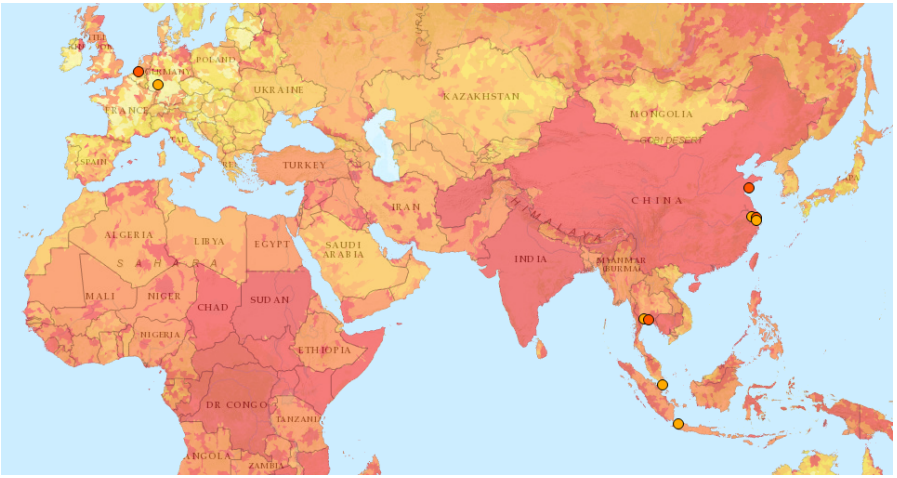
iii. Physical risks for biodiversity



Source: Prepared by Mizuho Financial Group using the WWF Biodiversity Risk Filter

n/a Very low risk — Very high risk

iv. Reputation risks for biodiversity



Source: Prepared by Mizuho Financial Group using the WWF Biodiversity Risk Filter

n/a Very low risk — Very high risk

3. Scope 3 medium-term targets and emissions measurement details

(1) Matters common to all sectors

a. Determination process for setting medium-term targets

- The medium-term targets have been set in reference to the NZBA's target-setting guidance and have been approved by Mizuho Financial Group's Board of Directors.

b. Method for selecting the target portfolio

- The target portfolio consists of companies or projects that belong to clients in the targeted sectors and whose primary business is in the targeted business.
- We determine a company's sector and primary business by its largest business segment by sales.[34]
- Mizuho has established its sector classifications based on the classifications in the *Industry Classification Table* formulated by the Bank of Japan.

c. Targeted assets

- Targeted loan balances are the sum of the loan balances at Mizuho Bank and Mizuho Trust & Banking. Available credit under committed lines of credit, securities, derivatives, and similar are not included in the loan balances.

d. Metric formula

- The absolute GHG emissions and GHG emission intensities in the target portfolio are calculated with the following formulas.

Absolute GHG emissions	GHG emission intensity
$\sum \left(\text{Company emissions} \times \frac{\text{Outstanding loans or investments from Mizuho to clients}}{\text{Client's corporate value}^{35}} \right)$	$\sum \left(\text{Company Emission intensity} \times \frac{\text{Loan balance to company or project}}{\text{Total loan balance across the target}} \right)$

e. Measurement coverage percentages and data quality scores

- Measurement coverage percentages: When we are not able to obtain emissions, production, financial, or other data on a company and are consequently unable to calculate the target GHG emission intensities or absolute GHG emissions, we consider the company outside the scope of measurement. We calculate the measurement coverage for each sector by weighted average based on the loan balances of each company.
- Data quality scores: Emissions data from each company is scored according to the PCAF's data quality score approach and calculated as a weighted average based on the loan balances of each company.

Sector	Electric power	Oil and gas		Coal	Steel	Automotive		Maritime transport	Real estate
		Scope1,2	Scope3			Scope1,2	Scope3		
Coverage percentage	100%	100%		100%	100%	100%		97%	100%
Data quality score	1.9	3.2	3.2	3.0	2.0	2.1	3.0	3.0	1.7

Reference — PCAF data quality score approach

Certain ↑ Uncertain

Data quality	Option		Overview
Score 1	Reported emissions		Emissions data from company disclosures (with third-party certification)
Score 2			Emissions data from company disclosures (without third-party certification)
	Estimated emissions	Physical activity-based	Emissions data estimated from company energy consumption volume and emission factor
Score 3			Emissions data estimated from company production and emission factor
Score 4		Financial indicator-based	Emissions data estimated from company sales and emission factor
Score 5			Emissions data estimated from financing and investment balance to the company and emission factor

f. Carbon offsets

- We do not currently take carbon credits or other offset schemes into account. We will continue to examine carbon offsets, based on the direction of global discussions and formulation of international standards.

[34] The NZBA specifics the inclusion in target setting of any company that makes 5% or more of its direct sales from a thermal coal mining business. However, there is no established method for identifying these companies. We will continue to examine this issue going forward.

[35] *Listed companies* – EVIC of the client (Enterprise Value Including Cash = the total of the market value of common and preferred stock, interest-bearing debt (bonds + borrowings), and the book value of non-controlling interests (without deducting cash and cash equivalents). *Unlisted companies* – Enterprise value of the client (net assets + interest-bearing debt)

(2) Electric power sector

Targeted value chain	Companies and projects whose primary business is power generation
Targeted assets	Loans (Total of corporate finance and project finance)
Targeted scope	GHG emissions from power generation operations (Scope 1)
Metrics	GHG emission intensity (kg CO_2e/MWh) — GHG emissions per unit of power generated
Base year result	FY2020: 388 kgCO_2e/MWh
Benchmark scenarios	(1) IEA Net Zero Emissions by 2050 Scenario (NZE) [1.5°C] (2) IEA Sustainable Development Scenario (SDS) [Well-below 2°C] ※IEA World Energy Outlook 2021
Numerical target	FY2030: 138 kgCO_2e/MWh (1) to 232 kgCO_2e/MWh (2) (cf.) reduction rate from the base year: –65% to –40%
Data sources	Information disclosed by clients, Bloomberg, hearing from clients, etc.

Target setting approach

Approach to the targeted value chain and scope	・Scope 1 emissions from power generation operations are targeted because they account for the majority of GHG emissions in the electric power sector.
Approach to metrics	The target was set in emission intensities (GHG emissions per unit of power generated) for the following reasons. ・An important component of decarbonization of society and industry as a whole is reducing GHG emission intensities in power generation businesses, through support for the widespread take-up of renewable energy and for the development and practical application of next-generation technologies. ・In view of the transition of society as a whole, it is necessary to address the increase in demand for electric power that will be driven by greater energy demands in emerging economies and further electrification. ・If the target were set in absolute GHG emissions, the target might obstruct the flow for the growth and expansion of power generation projects with low emission coefficients.
Benchmark scenarios	・We set the target as a range to pursue efforts to limit the global temperature increase to 1.5°C and keep it well below 2°C. ・In order to set targets that account for regional characteristics and support countries achieving their NDCs, Mizuho's country-specific portfolios are used to calculate and set the SDS scenarios for each country.
Initiatives to achieve the target	・With engagement as the starting point, Mizuho supports clients in reducing their GHG emission intensities by providing both financial and non-financial solutions and encouraging clients to promote business structural transformations and transition risk responses. ・We provide financing to clients for climate change responses and actively support the development and practical application of next-generation technologies, through such initiatives as project finance for renewable energy and green loans and bonds. ・We have prohibited financing and investment that will be used to fund the construction of new coal-fired power generation facilities or the expansion of existing facilities. ・We have set a target to reduce the outstanding credit exposures of coal-fired power generation facilities, based on the ES Policy.

(3) Oil and gas sector

Targeted value chain	Companies and projects whose primary business is in upstream production (including integrated oil and gas companies)	
Targeted assets	Loans (Total of corporate finance and project finance)	
Targeted scope	Direct GHG emissions from oil and gas production operations (including methane leaks) (Scope 1, 2)	Indirect GHG emissions from oil and gas production operations (Scope 3 (Category 11))[36]
Metrics	GHG emission intensity (gCO_2e/MJ) — GHG emissions per unit of production	Absolute GHG emissions(Mt CO_2e)
Base year result	FY2019: 6.6 gCO_2e/MJ	FY2019: 60.6 Mt CO_2e
Benchmark scenarios	IEA Net Zero Emissions by 2050 Scenario (NZE) [1.5°C]	(1) IEA Net Zero Emissions by 2050 Scenario (NZE) [1.5°C] (2) IEA Sustainable Development Scenario (SDS) [Well-below 2°C] ※IEA World Energy Outlook 2021
Numerical target	FY2030: 4.2 gCO_2e/MJ (cf.) reduction rate from the base year: –36%	FY2030: Reduce by 12% (1) to 29% (2) from FY2019 level
Data sources	Wood Mackenzie database, information disclosed by each company, hearing from clients, etc.	

[36] Emissions when sold products are used (combusted)

Target setting approach

Approach to the targeted value chain and scope	・We have focused on upstream production businesses due to the share they comprise of Mizuho's oil and gas sector portfolio and the impact on the value chain for real economy transition. ・Over 80% of emissions in the oil and gas sector are Scope 3 (CO_2 emissions from the combustion of sold products). For this reason, we have targeted Scope 3 emissions as well as Scope 1 and 2 emissions.
Approach to metrics	・Decarbonization of the oil and gas sector entails reducing absolute GHG emissions by scaling back use of fossil fuels and reducing GHG emission intensities by having oil and gas companies improve their production processes. ・Compared to Scope 1, 2 emissions (direct), Scope 3 emissions (indirect) require different actions on the part of oil and gas companies and also have a different level of impact. To raise the effectiveness of our target-setting initiatives, we set separate emission targets for Scope 1, 2 and for Scope 3.
Benchmark scenarios	・We adopted the IEA NZE scenario to pursue efforts to limit the global temperature increase to 1.5°C. ・However, because the IEA NZE scenario assumes a significant decline in demand for oil and gas towards to 2030 and because initiatives must match the actual speed of transition in the real economy, we have set the target for Scope 3 emissions (absolute GHG emissions) to a range between the IEA NZE scenario and the IEA SDS scenario, which is a well-below 2°C scenario.
Initiatives to achieve the target	・Reducing emissions from the oil and gas sector encompasses both initiatives to reduce emissions from oil and gas production and initiatives to decarbonize the demand side that uses oil and gas. ・Through engagement, we verify the transition progress of clients and provide them with both financial and non-financial solutions. In this way, we support client initiatives toward business structural transformations and production process improvements. ・We are furthering our initiatives to encourage decarbonization on the demand side, alongside these initiatives. ・We take social impacts into consideration, such as impacts on the stable supply of energy, in our initiatives.

(4) Coal mining (thermal coal) sector

Targeted value chain	Companies whose primary business is in thermal coal mining
Targeted assets	Loans (Total of corporate finance and project finance)
Targeted scope	Direct emissions (Scope 1,2) and indirect emissions (Scope 3 Category 11) from thermal coal mining operations
Metrics	Absolute GHG emissions (Mt CO_2e)
Base year result	FY2020: 5.1 Mt CO_2e
Benchmark scenarios	Consistent with the approach taken in the IEA Net Zero Emissions by 2050 Scenario (NZE)
Numerical target	OECD economies: Zero by FY2030, non-OECD economies: Zero by FY2040
Data sources	Wood Mackenzie database, information disclosed by each company, hearing from clients, etc.

Target setting approach

Approach to the targeted value chain and scope	・In view of the Glasgow Climate Pact adopted at COP26, we focused on the mining of thermal coal, which is used as fuel in coal-fired power generation. ・Over 90% of emissions in the thermal coal mining sector are Scope 3 (CO_2 emissions from the combustion of sold products). For this reason, our targets cover Scope 3 emissions as well as Scope 1 and 2 emissions.
Approach to metrics	・Decarbonization of the thermal coal mining sector requires reducing emissions from the use of thermal coal. Accordingly, we adopted absolute GHG emissions (Mt CO_2e) as our target metric.
Benchmark scenarios	・To pursue efforts to limit the global temperature increase to 1.5°C, our targets are a zero balance by FY2030 for OECD economies and by FY2040 for non-OECD economies, based on the Glasgow Climate Pact adopted at COP 26 and the approach in the IEA NZE scenario.
Initiatives to achieve the target	・Mizuho is phasing out financing provided to thermal coal mining, based on the ES Policy. ・Through engagement, we verify the transition progress of clients and provide them with both financial and non-financial solutions. In this way, we support client initiatives toward business structural transformations. ・We take social impacts into consideration, such as impacts on the stable supply of energy, when implementing initiatives. ・These initiatives are being advanced in concert with the initiatives toward the medium-term target (FY2030 target) for the electric power sector.

(5) Steel sector

Targeted value chain	Companies and projects whose primary business is steelmaking (production involving blast furnace or electric furnace, continuous casting and rolling)
Targeted assets	Loans (total of corporate and project finance)
Targeted scope	GHG emissions from steel production operations (Scope 1, 2)

Metrics	Absolute GHG emissions (Mt CO_2e)
Base year result	FY2021: 17.3 Mt CO_2e
Benchmark scenarios	(1) IEA: Net Zero Emissions by 2050 (NZE) [1.5°C] – (2) MPP: Technology Moratorium [Well-below 2°C]
Numerical target	FY2030: Reduce by 17% (2) to 23% (1) from FY2021 level
Data sources	Information disclosed by clients, Bloomberg, CDP, estimates (PCAF emission factor)

Target setting approach

Approach to the targeted value chain and scope	・We focus on the companies and projects whose primary business is steelmaking (production involving blast furnace or electric furnace, continuous casting and rolling), as the steelmaking process accounts for most of the value chain emissions in the steel industry ・We focus on Scope 1 and 2 emissions, as most of the emissions of steelmakers come from their own steel production operations
Approach to metrics	・We set targets in absolute GHG emissions as a measure of emission reduction efforts by steelmakers including through business structural transformations (improvement of production efficiency, expansion of overseas operation, etc.) and development of decarbonizing technologies
Benchmark scenarios	・To pursue efforts to limit the global temperature increase to 1.5°C, we adopted the IEA NZE scenario [1.5°C] as a benchmark scenario ・As regards innovative technologies essential for the decarbonization of the steel industry (hydrogen direct reduction steelmaking, CCUS), the IEA NZE scenario assumes near zero-emission production commences at scale in the 2020s, accounting for more than 8% of primary production by, whereas technology roadmaps in Japan only envisage commercial in the 2030s and beyond, pointing to challenges in the speed of realizing next-generation technologies ・Since the feasibility of next-generation technologies must be taken into account in promoting the transition, we assume that rapid progress in the introduction of, and transition to innovative technologies will only happen in 2030 and beyond. We thus set our target within the range indicated in the MPP Technology Moratorium scenario [well-below 2°C]
Initiatives to achieve the target	・Centered on engagement with clients, we promote support including for business structural transformations by steelmakers and the development of decarbonizing technologies (decarbonization of the blast furnace process, dissemination of the electric furnace process, practical use of hydrogen direct reduction steelmaking) ・Through engagement with relevant government agencies, we promote policy measures to improve the surrounding environment

(6) Automotive sector

Targeted value chain	Companies whose primary business is (finished) vehicle production	
Targeted assets	Loans (corporate finance)	
Targeted scope	Scope1,2	Scope3 (Category 11)
Metrics	Absolute GHG emissions (ktCO_2e)	GHG emission intensity for new Light-Duty Vehicles (gCO_2e/vkm) (Well-to-Wheel[37]) — GHG emissions per distance traveled
Base year result	FY2021: 934 ktCO_2e	FY2021: 198 gCO_2e/vkm (Cf. absolute emissions 33 MtCO_2e)
Benchmark scenarios	1.5°C-aligned scenario under the SBTi absolute-based approach	(1) IEA Net Zero Emissions by 2050 Scenario (NZE) [1.5°C] (2) SBTi (IEA ETP) Beyond 2°C Scenario (B2D) [Well-below 2°C]
Numerical target	FY2030: Reduce by 38% from FY2021 level	FY2030: Reduce by 31% (2) to 43% (1) from FY2021 level
Data sources	Information disclosed by clients, etc.	S&P Global Mobility, 2023, etc.

Target setting approach

Approach to the targeted value chain and scope	・We focus on companies whose primary business is (finished) vehicle production, since these companies account for almost 80% of Mizuho's financed emissions in the automotive sector. ・Since running vehicles are an overwhelming source of GHG emissions in the automotive value chain, we decided to include Category 11 of Scope 3 (use of sold products) in addition to Scope 1 and 2, which mostly cover emissions from automotive production activities.
Approach to metrics	・Compared with Scope 1, 2 emissions, Scope 3 emissions require different actions and transition pathways by the entities concerned. In order to raise the effectiveness of our decarbonization initiatives, we set separate emission targets for Scope 1, 2, and for Scope 3.

[37] Emission metric covering emissions from energy production process and emissions from running vehicles

Benchmark scenarios	・In line with the SBT Guidelines, among others, targets for Scope 1, 2 are set in terms of absolute emissions to promote reduction in the total amount of emissions. ・Meanwhile, Scope 3 targets are set in terms of GHG emission intensity per unit of activity (distance traveled) so as to promote decarbonization while meeting the rising demand for automobiles. ・For the purpose of reducing overall emissions from the automotive sector, targets are set in Well-to-Wheel terms, which includes emissions from the energy production process, so as to align the decarbonization of automobiles to decarbonization of energy supply based on the characteristics of each region.
	・To pursue efforts to limit the temperature rise to 1.5°C, we adopted the IEA NZE scenario and the SBTi 1.5°C-aligned criteria as benchmark scenarios. ・However, because the IEA NZE scenario assumes a rapid transition to electric vehicles and because transition of the real economy requires initiatives that take into account distinct local energy characteristics, we set our target for Scope 3 emissions within the range between the IEA NZE and SBTi B2D scenario
Initiatives to achieve the target	・We and support the execution of our clients' decarbonization and vehicle electrification strategies based on the engagement with our clients (Support for carbon-neutral factory (shift to renewable energy and enhance energy efficiency, support for the supply chain development and sale of low-emission vehicles in light of local energy characteristics) ・In an effort to reduce emissions on the supply side of energy (electric power, oil and gas sectors), we set medium-term targets and promote engagement with, and support for actions by clients in each sector.

(7) Maritime transportation sector

Targeted value chain	Vessels of 5,000 gross tonnage and above, excluding domestic shipping vessels
Targeted assets	Finance secured by vessel mortgages
Targeted scope	Scope 1 (vessel operation)
Metrics	Portfolio climate alignment score
Metric formula	$\sum \left(\text{Climate alignment score of each vessel ((2) below)} \times \frac{\text{Balance of loans from Mizuho to each vessel}}{\text{Total loan balance across target portfolio}} \right)$
Formula for climate alignment score	Calculate AER(1) for each vessel and then the portfolio-level weighted average of climate alignment score (2), defined as the difference between AER and the decarbonization trajectory for each vessel. (1)AER= $\frac{\text{Annual } CO_2 \text{ emissions for voyage}}{\text{Annual distance traveled} \times \text{Deadweight at maximum summer}}$ (2) Climate alignment score = $\frac{\text{AER(1) of each vessel} - \text{Trajectory for each vessel}}{\text{Trajectory for each vessel}}$
Base year result	FY2021: Portfolio climate alignment score +1.82%[38] (cf.) Absolute emissions: 3.5 MtCO_{2e}
Benchmark scenarios	IMO's GHG reduction target / CII regulation value set in line with the target
Numerical target	Portfolio climate alignment score in FY2030: 0% or less (portfolio aligned with decarbonization trajectory)
Data sources	VesselsValue, a Veson Nautical solution

Target setting approach

Approach to the targeted value chain and scope	・We focus on GHG emissions from vessel operation, which accounts for 98% of the emissions from ships. ・With reference to the technical guidance to the Poseidon Principles[39], we cover finance secured by mortgages of vessels of 5,000 gross tonnage and above, excluding domestic shipping vessels.
Approach to metrics	・We adopted emission intensity per unit of activity (distance traveled x deadweight at maximum summer draught) to promote the decarbonization of ships while supporting the rising demand for maritime transport. ・In order to measure and assess the reduction in emission intensity depending on the type and size of the ship, we use the "portfolio climate alignment score" as a measure of target setting with reference to the technical guidance to the Poseidon Principles.
Benchmark scenarios	・We set targets in line with the IMO Strategy on Reduction of GHG Emissions, a global standard for international maritime transport. ・We use the reference values of the Carbon Intensity Indicator (CII) regulation as a benchmark for calculating climate alignment scores, as IMO has introduced the regulation as a rating scheme for the fuel efficiency of individual vessels to facilitate the achievement of targets set under its GHG Emissions reduction strategy. ・We will consider applying any revised reference values under the CII scheme to target-setting in view of amendments to the IMO Strategy on Reduction of GHG Emissions.

[38] Since the IMO regulation on ship's energy efficiency was not in place in FY2021, actual performance was calculated using an original benchmark.(Reference Line × 3% reduction rate)
[39] Poseidon Principles Technical Guidance Version 4.2

Initiatives to achieve the target	・We monitor our clients' actions taken to respond to CII regulation and the status of our clients' transition, and support decarbonization initiatives ➢Arrangement of finance for higher fuel efficiency of vessels and the introduction of low-carbon fuel ships; ➢Provision of information on industry-wide carbon-neutral trends and initiatives across the sector such as shipbuilders, ship owners, operators and shippers. ・We provide financial and non-financial support for early realization of next-generation technologies such as carbon-neutral fuel (hydrogen, ammonia) and zero-emission ships.

(8) Real estate sector

Targeted value chain	Companies whose primary business is real estate lending, REITs and SPCs in Japan ※ See "Approach to the targeted finance" below
Targeted assets	Loans (corporate finance and non-recourse loans)
Targeted scope	Scope 1, 2 (emissions from owned property) and Scope 3 Category 13 (emissions from leased property
Metrics	GHG emission intensity ($kgCO_2e/m^2$)
Base year result	FY2021: 69 $kgCO_2e/m^2$ (Reference) Absolute emissions 361 $ktCO_2e$
Benchmark scenarios	(1) CRREM 1.5°C Pathway [1.5°C][40] – (2) CRREM 2°C Pathway [Well-below 2°C][41]
Numerical target	FY2030: 33 $kgCO_2e/m^2$ (1) – 42 $kgCO_2e/m^2$ (2) (Cf. Reduction rate from the base year: 52% - 38%)
Data sources	Information disclosed by clients (sustainability report, data published under the Act on Promotion of Global Warming Countermeasures (the Act), etc.), estimates (emission factor under the Act, etc.)

Target setting approach

Approach to the targeted finance	・We focus on corporate finance for real estate companies and REITs whose primary business is operating and leasing commercial property, as well as real-estate non-recourse loans through special purpose companies (SPCs) ・We focus on business entities in Japan, which account for over 80% of our portfolio, in view of the availability of disclosed data ・While a wide range of business entities are involved in the real estate sector, the availability of disclosed data is limited. Accordingly, we defined the targeted supply chain as follows: ➢(1) Real estate companies: Large-scale companies (classified as such under the Companies Act, listed companies, etc.) whose primary business is real estate lending; ➢(2) Listed REITs: All of them, plus private REITs: Included where the major sponsor (owning over 50% of the REIT's asset management company) is a real estate company as defined in (1) above; ➢(3) Special purpose companies (SPCs): Included where their consolidated parent is a real estate company as defined in (1) above.
Approach to the targeted scope	・We target Scope 1, 2 (direct emissions of the company) and Scope 3 Category 13 (emissions from leased property), as emissions from property in use accounts for most of the lifecycle emissions from real estate
Approach to metrics	・We set targets in terms of GHG emission intensity to improve the efficiency, and promote the decarbonization of energy used, while meeting the increasing demand for real estate
Benchmark scenarios	・Since transition pathways differ in the real estate sector depending on the region and property type concerned, we adopted CRREM, which develops and provides 1.5°C scenarios by region and property type ・Decarbonization of the real estate sector depends on the reduction of emissions from electricity, which accounts for almost 70% of the in-use emissions from property. Reaching the level envisaged in the 1.5°C scenario requires (1) increasing the share of renewable energy in the regional energy mix, as well as (2) procurement of renewable electricity and energy certificates by companies themselves, whereas the supply capacity of the renewable energy market is limited, hindering stable procurement. We thus set targets within the range of 1.5°C - well-below 2°C scenarios ・These targets were calculated based on the property mix as of FY2021. They do not include data centers, which are expected to increase in the future, due to lack of adequate data and scenarios. Thus, we will review the targets as appropriate when better data and scenarios become available in future
Initiatives to achieve the target	・Centered on client engagement, we provide financial and non-financial support including through assistance in procuring renewable electricity and energy certificates, and financial arrangements for the execution of decarbonization strategies, such as expansion of ZEB[42] and other types of energy efficient property ・Aiming at the decarbonization of electricity, we promote engagement with, and support the initiatives of clients operating electric power businesses, in light of our emission reduction target for the electric power sector (set in 2022)

[40] CRREM (Carbon Risk Real Estate Monitor) is an international initiative to calculate and publish GHG emissions pathways for commercial real estate consistent with the Paris Agreement. The CRREM Pathway Version 2 released in March 2023 was used to set this year's target.

[41] Version 2 does not include a science-based well-below 2°C scenario. This scenario was calculated with reference to the difference between the 1.5°C and 2°C (well-below 2°C) pathways in CRREM Version 1

[42] Net Zero Energy Building. Buildings that consume virtually zero primary energy.

4. Overview of Environmental and Social Management Policy for Financing and Investment Activity

I. Approach under Environmental and Social Management Policy for Financing and Investment Activity

It is imperative for companies to collaborate with stakeholders in taking appropriate action on sustainability-related environmental and social agenda to achieve their own sustainable growth and creation of a medium and long-term corporate value. Companies are expected to contribute to sustainable development of domestic and international economies and societies. They are required to act in a transparent and ethical manner to address the impact their activities have on the environment and society taking into account the expectations of stakeholders and in conformity with the international norms.

Mizuho commits itself to environmentally-conscious action and to respecting internationally recognized human rights in *Mizuho Code of Conduct, Environmental Policy* and *Human Rights Policy*. As a global financial group, Mizuho will remain conscious of the importance of our social responsibility and public mission at all times. Mizuho will contribute to sustainable development of domestic and international economies and societies, as well as to finding solutions to environmental and social agenda, by practicing responsible corporate behavior that takes into account the expectations of various stakeholders in our interactions with society where we conduct our business. To this end, Mizuho will address environmental and social agenda including actions on climate change, conservation of biodiversity, respect for human rights, by performing our financial brokerage and consulting functions. Mizuho will strive to expand our positive impact on the environment and society, and to prevent and mitigate negative impact.

By providing financial services including financing to the companies that properly address environmental and social agenda or supporting their funding, Mizuho will be able to fulfill our social responsibility and public mission including our contribution to sustainable development of domestic and international economies and societies, our contribution to finding solutions to environmental and social agenda. At the same time, we are also sensitive to the risks involved in engaging in business with companies that do not properly address environmental and social agenda.

II. Scope of businesses subject to this policy and implementation methods of this policy

1. Scope of Businesses subject to this policy
   - Financing to client at our own discretion
   - Support of client's funding
   - Holding an asset in our own name to support client's business

More specifically, it refers to the following activities which are collectively called as '*financing and investment*' in this document:

- Lending (including corporate finance and project finance)
- Underwriting (including bond underwriting and equity underwriting)
- Proprietary investment in individual stock
- Trust service (excluding trust service related to asset management)

2. Implementation methods of this policy
   - '*Prohibitions*' identify the projects and companies which have significant risks and/or significant adverse impacts on the environment and society. Mizuho will not provide financing and investment to such projects and companies.
   - '*Other policies*' identify the projects and companies which have risks and/or adverse impacts on the environment and society. To prevent and mitigate the adverse impacts, Mizuho will make transactional decisions after taking such actions as follows, based on specific nature of individual financial activity: adding a process for checking the measures taken by client or requesting the client to take appropriate action, based on the *risks that Mizuho should recognize*.

III. Cross-sectional policies

1. Scope of application

   Regardless of industrial sector,
   - The projects which have significant risks or significant adverse impacts on the environment and society
   - The projects which have risks or adverse impacts on the environment and society, requiring appropriate actions by the clients against such environmental and social agenda
2. Overview of risks that Mizuho should recognize
   - The scope of '*Prohibitions*' covers the restrictions of international conventions.
   - Development projects have inherent risks as follows: serious environmental pollution, human rights abuse including involuntary resettlement of indigenous peoples and local communities.
   - There is a risk of delay in development and project completion resulting from protests organized by or lawsuits filed by indigenous peoples and local communities as well as human rights organizations.
   - In conflict areas, there is a risk of human rights abuse due to various contexts of conflict or governance insufficiency for protecting human rights of civilians.
3. Policy

   Prohibitions
   - Mizuho will not provide *financing and investment* to:
     - Projects which have adverse impacts on wetlands registered in the Ramsar Convention
     - Projects which have adverse impacts on sites and properties registered on the UNESCO World Heritage List, unless UNESCO and the government of the site/property location country have given a prior consent
     - Projects which are in violation of the Washington Convention (It is necessary to pay attention to any provisions suspended by the countries involved in the project)
     - Projects which are causing forced labor, child labor, and human trafficking

   Other policies
   - To prevent and mitigate the adverse impacts in the

following projects, Mizuho will prudently make transactional decisions after verifying of the measures taken by the client based on the *risks that Mizuho should recognize*:

- Projects which have adverse impacts on indigenous people's communities
- Projects involving land acquisition which will result in involuntary resettlement of residents
- Projects which are involved in adverse impacts on human rights[43] in conflict areas
- Mizuho will not provide *financing and investment* if a risk assessment reveals that the client has not properly addressed environmental and social agenda and as a result faces crucial difficulty continuing its business.

IV. Policy on human rights issues

Mizuho commits ourselves to respecting internationally recognized human rights in our *Mizuho Code of Conduct*. Based on our *Human Rights Policy*, Mizuho strives to meet our responsibility to respect human rights throughout our global value chain in accordance with the *UN Guiding Principles on Business and Human Rights*. In particular, Mizuho aims to eliminate forced labor, child labor, and human trafficking from our business and value chain.

Mizuho expects our clients to understand our commitments to human rights based on our *Human Rights Policy* and expects them to act to prevent and mitigate adverse impacts on human rights throughout their operations and supply chain as well as to provide remedy if necessary.

1. Scope of application
   - Companies exposed to risk of human rights issues
2. Overview of risks that Mizuho should recognize
   - Companies have a risk of causing or contributing to adverse impacts on human rights through their business operations.
   - Companies have a risk that adverse impacts on human rights are directly linked to their operations, products, or services.
   - Forced labor, child labor and human trafficking are the extremely serious human rights issues that international conventions and laws prohibit.
3. Policy

   Other policies

   - To prevent and mitigate adverse impacts, Mizuho will make transactional decisions after verifying the measures taken by the client based on the *risks that Mizuho should recognize*. More specifically, Mizuho will perform *human rights due diligence*.

   Human rights due diligence

   (1) Identification of our client's adverse impacts on human rights

   Mizuho will identify our client's adverse impacts on human rights in the following way:

   - When starting new *financing and investment* transaction with a company with no existing *financing and investment* transactions, Mizuho will examine whether the company is involved in any adverse impacts on human rights.
   - With regard to a company with *existing financing and investment transactions*, an external party shared findings or a public organization provided credible information, Mizuho will examine whether the company is involved in any adverse impacts on human rights.

   (2) Assessment of our client's adverse impacts on human rights

   Mizuho will assess the identified adverse impacts on human rights, including their severity and likelihood. If Mizuho determines that the client is involved in significant adverse impacts on human rights, it will consider responses.

   (3) Mizuho's responses to significant adverse impacts

   A. When the client is causing forced labor, child labor or human trafficking

   (a) If Mizuho has no existing *financing and investment* transactions with the client

   - Mizuho will not provide *financing and investment* to the company, if it is evident that forced labor, child labor, or human trafficking is caused by the company.

   (b) If Mizuho has existing *financing and investment* transaction with the client

   - If the client is evidently causing forced labor, child labor, or human trafficking, Mizuho will require the client to provide remedy and prevent recurrence.
   - If the client does not respond to our requirements after a certain period of time, we carefully consider whether or not to continue our business with them.

   B. When the client is contributing to forced labor, child labor, or human trafficking, or when forced labor, child labor, or human trafficking is directly linked to the client's operations, products, or services

   - Mizuho will engage in dialogues with the client to prevent and mitigate adverse impacts. More specifically, Mizuho will require the client to:
     - Report the progress of measures taken against the relevant issue
     - Take additional measures if measures taken by the client is unsatisfactory

   C. When the client is involved in other adverse impacts on human rights

   - Mizuho will engage in dialogues with the client to prevent and mitigate adverse impacts. More specifically, Mizuho will require the client to:
     - Report the progress of measures taken against the relevant issue
     - Take additional measures if measures taken by the client is unsatisfactory

V. Policy on transition risk sector

Based on our *Environmental Policy*, Mizuho will launch the following initiatives targeting at net zero greenhouse gas emissions society by 2050, and for building a climate-resilient society.

- Mizuho will reduce greenhouse gas emissions volume through our financing and investment portfolio in a medium and long-term perspective, to shift to a finance portfolio aligned with the Paris Agreement in a phased manner.
- Mizuho will engage in proactive, constructive dialogue in response to our clients' individual concerns and needs, and in support of their efforts to introduce climate change countermeasures and transition to a low-carbon society in both the medium and long term.

Mizuho formulated a policy on the industrial sectors which are faced with high transition risk (e.g. policy risk, technology risk, and reputation risk): such industrial sectors are collectively referred to as '*transition risk sector*'.

1. Scope of application
   - Companies whose primary business[44] is any of the following sectors:
     - Coal-fired, oil–fired and gas-fired power generation, coal mining, oil, gas, steel and cement
2. Overview of risks that Mizuho should recognize
   - Companies in *transition risk sector* are at high risk of exposure to transition risks (e.g. policy risk, technology risk, and reputation risk) if their responses to the transition to a low-carbon society are not appropriate.
3. Policy

   Other policies

   - To prevent and mitigate adverse impacts, Mizuho will make transactional decisions after verifying the measures taken by the client based on the *risks that Mizuho should recognize*. More specifically, Mizuho will enter into *client engagement*.

   Client Engagement

   (1) Mizuho will request our clients to take the following measures for stepwise enhancement:
   - Develop a strategy for shifting to a low-carbon society
   - Set quantitative targets and/or medium and long-term KPIs to give validity to the strategy
   - Take actions based on the strategy, targets and KPIs, as well as disclose the progress
   - Measure and disclose greenhouse gas emissions volume
   - Enhance disclosures based on TCFD or equivalent framework

   (2) Mizuho will identify the risk classification of clients based on their primary business and transition risk response level.

   (3) Mizuho will check and evaluate client's transition risk response level at least annually, based on the criteria including, but not limited to:
   - Willingness to take measures against transition risk
   - Development of the strategy, setting of quantitative targets
   - Target level, tangibility of means to an end and progress, track record and objectivity

   (4) If the client has not developed a transition strategy one year after the first engagement, we make decisions whether or not to continue our business with them based on careful consideration.

VI. Sector-specific policies

1. Weapons and arms

   (1) Scope of application
   - Companies which engaged in the manufacturing, sales or distribution of weapons and arms[45]

   (2) Overview of risks that Mizuho should recognize
   - Companies which engage in the weapons and arms business have a risk of criticism from the perspective of social justice due to the lethal and destructive nature of the products.
   - As a result of the use of weapons and arms, there is a risk of causing human rights abuse, violations of international laws and/or other such issues.

   (3) Policy

   Prohibitions

   - Mizuho will not provide *financing and investment* to:
     - Companies which engage in the manufacture, sales and distribution of cluster munitions, antipersonnel mines, and biological and chemical weapons
   - Mizuho will not provide *financing and investment* which will be used for:
     - The manufacture, sales and distribution of cluster munitions, antipersonnel mines, biological and chemical weapons, and nuclear weapons
     - The manufacture, sales and distribution of other weapons and arms than those indicated above (only when the purpose is the legitimate national security or UN peacekeeping operations, Mizuho may provide *financing or investment* based on careful consideration)

   Other policies

   - To prevent and mitigate adverse impacts, Mizuho will make transactional decisions after verifying the measures taken by the client based on the *risks that Mizuho should recognize*.
   - Mizuho will not provide *financing and investment* if a risk assessment reveals that the client has not properly addressed environmental and social agenda and as a result faces crucial difficulty continuing its business.
2. Coal-fired power generation

   (1) Scope of application
   - Companies which run coal-fired power plant operations

   (2) Overview of risks that Mizuho should recognize
   - Coal-fired power generation has a risk of causing climate change or air pollution because it emits more greenhouse gas than other type of power

[43] 'Being involved in adverse impacts on human rights' means any of the following situations: (1) causing adverse impacts on human rights (2) contributing to adverse impacts on human rights (3) adverse impacts on human rights are directly linked to the operations, products, or services by a business relationship.

[44] 'Primary business' means any of the following situations: (1) the target business accounts for more than 50% of total sales or total power generation (2) Although not falling under (1), the target business accounts for the largest proportion in total sales or total power generation.

[45] Excluding those used for sports and leisure.

generation and releases sulfur oxide and nitrogen oxide.

(3) Policy

Prohibitions

- Mizuho will not provide *financing and investment* to:
  - Companies with no existing *financing and investment* transactions and whose primary business is coal-fired power generation
- Mizuho will not provide *financing and investment* which will be used for:
  - New construction of coal-fired power plant
  - Expansion of existing coal-fired power plant

Other policies

- To prevent and mitigate adverse impacts, Mizuho will make transactional decisions after verifying the measures taken by the client based on the *risks that Mizuho should recognize*.
- Mizuho will not provide *financing and investment* if a risk assessment reveals that the client has not properly addressed environmental and social agenda and as a result faces crucial difficulty continuing its business.
- Mizuho will support development of innovative, clean and efficient next-generation technology that will contribute to the energy conversions that lead to a low-carbon society by 2050.
- For *financing and investment* aimed at enabling the early retirement of existing coal-fired power plant, Mizuho may provide *financing or investment* after verifying the reliability and effectiveness of the plans for progress towards decarbonization.

3. Thermal coal mining

(1) Scope of application

- Companies which run thermal coal mining operations
- Companies which run infrastructure operations linked with thermal coal mining

(2) Overview of risks that Mizuho should recognize

- Thermal coal mining has a risk of enormous adverse impacts on the environment including those on ecosystems resulting from the removal of vegetation and topsoil in the development process, soil and water pollution resulting from harmful substances such as acid mine drainage, heavy metals, and cyanide compounds, and impacts on water resources by using a large volume of water.
- Mountaintop removal coal mining involves the use of explosives to remove all vegetation and topsoil above the coal seam and disposal of the rubble in nearby valleys, which has an impact on ecosystems and water quality.
- Thermal coal mining has risks as follows in the absence of proper management of the mining sites: mining accidents such as cave-ins and tailings dam failures, forced labor of mineworkers, and human rights abuse such as involuntary resettlement of indigenous peoples and local communities caused by development project.
- In the states with weak governance, corruption is likely to occur in such occasions as acquisition of mining concession, which heightens the risk of the adverse impacts on the environment and society indicated above.
- In the states with weak governance and conflict areas, there are risks as follows unless the mining company properly manages the relationship with security contractors: human rights abuses against people involved in protests, and exacerbation of conflicts by aiding military/paramilitary groups.
- Thermal coals have a risk of increasing greenhouse gas emissions when they will be burned for power generation.

(3) Policy

Prohibitions

- Mizuho will not provide *financing and investment* to:
  - Companies with no existing *financing and investment* transactions and whose primary business is thermal coal mining
  - Companies with no existing *financing and investment* transactions and whose primary business is infrastructure operations linked with thermal coal mining
- Mizuho will not provide *financing and investment* which will be used for:
  - Development of new thermal coal mine
  - Expansion of existing thermal coal mine
  - Acquiring an interest in existing thermal coal mine (only when it is critical to stable supply of energy of a country which set a target to achieve net zero greenhouse gas emissions by 2050[46], we may consider our response based on careful consideration)
  - Development of new infrastructure linked with thermal coal mining
  - Expansion of existing infrastructure linked with thermal coal mining

Other policies

- To prevent and mitigate adverse impacts, Mizuho will make transactional decisions after verifying the measures taken by the client based on the *risks that Mizuho should recognize*.
- Mizuho will not provide *financing and investment* if a risk assessment reveals that the client has not properly addressed environmental and social agenda and as a result faces crucial difficulty continuing its business.

4. Oil and gas

(1) Scope of application

- Companies which run oil and gas extraction business
- Companies which run pipeline operation

(2) Overview of risks that Mizuho should recognize

- Depending on production and development method, oil and gas extraction business has a risk of emitting more greenhouse gas because of methane gas leaks, flaring, the energy used in extraction process.
- Oil and gas production-related assets have a risk of potential exposure to transition risk (e.g. tougher climate-related regulations, shifting to renewable energy).
- Oil and gas extraction or pipeline operations have a risk of enormous adverse impacts on the environment including marine and river pollution in the event of oil and gas spills.
- At both construction and operation, oil and gas pipelines have risks as follows: adverse impacts on the environment due to deforestation or oil spills; human rights abuse such as involuntary resettlement of indigenous peoples and local communities.
- The projects indicated below particularly impose enormous burden on the environment due to oil and gas extraction. They also have risks as follows: impacts on ecosystem, damages to biodiversity, and human rights abuse such as involuntary resettlement of indigenous peoples and local communities.
- The Arctic (66° 33' N and beyond) is the region which requires special consideration for preservation of rare species as well as the lives of indigenous peoples.
- A large volume of greenhouse gas is emitted from oil sands because the production requires heat treatment. It also has such risks as: deforestation due to oil sands deposits development; creating an impact on water resources by using a large volume of water; soil and water pollution resulting from wastewater.
- Shale oil and gas extraction with fracking has such risks as: creating an impact on water resources by using a large volume of water; soil and water pollution resulting from wastewater; triggering earthquakes.

(3) Policy

Other policies

- To prevent and mitigate adverse impacts, Mizuho will make transactional decisions after verifying the measures taken by the client based on the *risks that Mizuho should recognize*.
- Mizuho will not provide *financing and investment* if a risk assessment reveals that the client has not properly addressed environmental and social agenda and as a result faces crucial difficulty continuing its business.
- For new *financing and investment* which is used for oil and gas extraction, Mizuho will assess if sufficient measures are taken by the client to reduce greenhouse gas emissions.
- Mizuho will carry out an appropriate environmental and social risk assessment based on operation-specific risks, for *financing and investment* which will be used for:
  - Oil and gas extraction in the Arctic
  - Oil sands extraction
  - Shale oil and gas extraction
  - Pipelines

5. Mining

(1) Scope of application

- Companies which engage in mining[47]

(2) Overview of risks that Mizuho should recognize

- Mining has a risk of enormous adverse impacts on the environment including those on ecosystems resulting from the removal of vegetation and topsoil in the development process, soil and water pollution resulting from harmful substances such as acid mine drainage, heavy metals, and cyanide compounds, and impacts on water resources by using a large volume of water.
- Mountaintop removal coal mining involves the use of explosives to remove all vegetation and topsoil above the coal seam and disposal of the rubble in nearby valleys, which has an impact on ecosystems and water quality.
- Mining has risks as follows in the absence of proper management of the mining sites: mining accidents such as cave-ins and tailings dam failures, forced labor of mineworkers, and human rights abuse such as involuntary resettlement of indigenous peoples and local communities caused by development project.
- Artisanal and small-scale mining is often operated without legal permits, which heightens the risk of the adverse impacts on the environment and society indicated above.
- In the states with weak governance, corruption is likely to occur in such occasions as acquisition of mining concession, which heightens the risk of the adverse impacts on the environment and society indicated above.
- In the states with weak governance and conflict areas, there are risks as follows unless the mining company properly manages the relationship with security contractors: human rights abuses against people involved in protests, and exacerbation of conflicts by aiding military/paramilitary groups.

(3) Policy

Prohibitions

- Mizuho will not provide *financing and investment* which will be used for:
  - Mountaintop removal metallurgical coal mining

Other policies

- To prevent and mitigate adverse impacts, Mizuho will make transactional decisions after verifying the measures taken by the client based on the *risks that Mizuho should recognize*.
- Mizuho will not provide *financing and investment* if a risk assessment reveals that client has not properly addressed environmental and social agenda and as a result faces crucial difficulty

[46] Nationally Determined Contribution (NDC)

[47] Includes the exploration, development, mining, and processing of precious metals, base metals, iron and non-ferrous metals, non-metallic minerals such as limestone and diamonds, and metallurgical coal. Excludes quarrying of stones, aggregates, gravel, and sand for building materials. For thermal coal, refer to "VI.3. Thermal coal mining", and for oil and gas, refer to "VI.4. Oil and gas".

continuing its business.

6. Large-scale hydroelectric power generation
   (1) Scope of application
   - Companies which run large-scale hydroelectric power plant[48]

   (2) Overview of risks that Mizuho should recognize
   - Large-scale hydroelectric power generation has risks of impacts on regional river ecosystems and damages to biodiversity, at construction of the power plant.
   - Large-scale hydroelectric power generation has a risk of human rights abuse such as involuntary resettlement of indigenous peoples and local communities.

   (3) Policy

   Other policies
   - To prevent and mitigate adverse impacts, Mizuho will make transactional decisions after verifying the measures taken by the client based on the *risks that Mizuho should recognize*.
   - Mizuho will not provide *financing and investment* if a risk assessment reveals that client has not properly addressed environmental and social agenda and as a result faces crucial difficulty continuing its business.
   - For *financing and investment* which will be used for large-scale hydroelectric power generation, Mizuho will recommend our clients to:
     - Carry out an environmental and social assessment based on Hydropower Sustainability Assessment Protocol.
7. Woody biomass mono-fuel combustion power generation
   (1) Scope of application
   - Companies which run woody biomass mono-fuel combustion power plant

   (2) Overview of risks that Mizuho should recognize
   - Woody biomass power generation has a risk of increased greenhouse gas emissions throughout its entire lifecycle in the cases where large-scale logging and peatland development are involved in fuel production or fuel is transported from remote areas.
   - Production of woody biomass fuel has a risk of impacts on ecosystems and damages to biodiversity due to large-scale deforestation.
   - Production of woody biomass fuel has risks as follows: violation of the rights of indigenous peoples resulting from logging, unsafe or unhealthy working conditions, troubles with local communities resulting from environmental destruction, and competition with important land uses such as food production.

   (3) Policy

   Other policies
   - To prevent and mitigate adverse impacts, Mizuho will make transactional decisions after verifying the measures taken by the client based on the *risks that Mizuho should recognize*.
   - Mizuho will not provide *financing and investment* if a risk assessment reveals that the client has not properly addressed environmental and social agenda and as a result faces crucial difficulty continuing its business.
8. Large plantations
   (1) Scope of application
   - Companies which run large plantation farming business[49]

   (2) Risks that Mizuho should recognize
   - Destruction and burning of natural forests for development of large plantations as well as operations of plantations have such risks as:
     - Desertification and soil degradation resulting from deforestation, rise of global climate change risk
     - Reduction of wild fauna and flora habitats, damages to biodiversity
     - Violation of the rights of indigenous peoples resulting from logging and development of plantations
     - Troubles with local communities resulting from environmental destruction
     - Emission of carbon dioxide under the soil resulting from drying peatland, damages to the soil resulting from subsidence and submergence, and forest fires and pollution by smoke caused by carbon under the soil that caught fire
     - Illegal child labor in plantation farming

   (3) Policy

   Other policies
   - To prevent and mitigate adverse impacts, Mizuho will make transactional decisions after verifying the measures taken by the client based on the *risks that Mizuho should recognize*.
   - Mizuho will not provide *financing and investment* if a risk assessment reveals that the client has not properly addressed environmental and social agenda and as a result faces crucial difficulty continuing its business.
   - Mizuho will require our clients to:
     - Respect indigenous peoples' and local communities' right to FPIC[50]
     - Formulate a policy on the environment and human rights which includes NDPE[51]
   - Mizuho will request our clients to:
     - Enhance their supply chain management and traceability to ensure that their policy will also apply to their supply chain

[48] Hydroelectric power plants with 25 MW or larger output and has 15m or higher dam wall.
[49] Large plantation farming business refers to the plantation with 10,000 hectares or larger of land where any crops (e.g. soybeans, natural rubber, cacao and coffee beans) are cultivated, or used as pastureland.
[50] Free, Prior, and Informed Consent
[51] No Deforestation, No Peat, No Exploitation

9. Palm oil
   (1) Scope of application
   - Companies which run oil palm plantation farming business

   (2) Overview of risks that Mizuho should recognize
   - Destruction and burning of natural forests for development of oil palm (the raw material for palm oil) plantations as well as operations of plantations have such risks as:
     - Desertification and soil degradation resulting from deforestation, rise of global climate change risk
     - Reduction of wild fauna and flora habitats, damages to biodiversity
     - Violation of the rights of indigenous peoples resulting from logging and development of plantations
     - Troubles with local communities resulting from environmental destruction
     - Emission of carbon dioxide under the soil resulting from drying peatland, damages to the soil resulting from subsidence and submergence, and forest fires and pollution by smoke caused by carbon under the soil that caught fire
     - Illegal child labor in plantation farming

   (3) Policy

   Other policies
   - To prevent and mitigate adverse impacts, Mizuho will make transactional decisions after verifying the measures taken by the client based on the *risks that Mizuho should recognize*.
   - Mizuho will not provide *financing and investment* if a risk assessment reveals that the client has not properly addressed environmental and social agenda and as a result faces crucial difficulty continuing its business.
   - Mizuho will check if our clients address the environmental and social agenda properly during the transaction period.
     - Mizuho will urge our client to take immediate remedial measures if any unlawful act (e.g. deprivation of local certification) is identified. If remedial measures taken by the client is unsatisfactory, Mizuho will not provide new *financing and investment*.
     - Mizuho will enter into a dialogue with the client in the case of the client's failure to address environmental and social agenda. If remedial measures taken by the client is unsatisfactory, Mizuho will not provide new *financing and investment*.
   - Mizuho will require our clients to:
     - Respect indigenous peoples' and local communities' right to FPIC
     - Formulate a policy on the environment and human rights which includes NDPE
     - Satisfy either of the following requirements:
       (a) Acquire RSPO[52] certification for every plantation farm, or
       (b) If a client is not to acquire RSPO certification, the client shall take measures equivalent to the certification and periodically deliver a status report.
     - If it will take time to satisfy the above-mentioned (a) or (b), the client shall formulate a time-bound action plan.
   - Mizuho will request our clients to:
     - Enhance their supply chain management and traceability to ensure that their policy will also apply to their supply chain
10. Lumber and pulp
   (1) Scope of application
   - Companies which run forest logging operations[53]

   (2) Overview of risks that Mizuho should recognize
   - Large-scale commercial logging for lumber and pulp production has a risk of deforestation. Similarly, afforestation in the production of raw materials has a risk of leading to the destruction of old-growth forest. Both may result in the following issues:
     - Desertification and soil degradation resulting from deforestation, rise of global climate change risk
     - Reduction of wild fauna and flora habitats, damages to biodiversity
     - Violation of the rights of indigenous peoples resulting from logging
     - Troubles with local communities resulting from environmental destruction
     - Emission of carbon dioxide under the soil resulting from drying peatland, damages to the soil resulting from subsidence and submergence, and forest fires and pollution by smoke caused by carbon under the soil that caught fire

   (3) Policy

   Other policies
   - To prevent and mitigate adverse impacts, Mizuho will make transactional decisions after verifying the measures taken by the client based on the *risks that Mizuho should recognize*.
   - Mizuho will not provide *financing and investment* if a risk assessment reveals that the client has not properly addressed environmental and social agenda and as a result faces crucial difficulty continuing its business.
   - Mizuho will check if our clients address the environmental and social agenda properly during the transaction period.
     - Mizuho will urge the client to take immediate remedial measures if any unlawful act is

[52] Roundtable on Sustainable Palm Oil
[53] Operations for following purposes: producing lumber or producing woodchips as raw material for pulp

identified. If remedial measures taken by the client is unsatisfactory, Mizuho will not provide new *financing and investment*.

- Mizuho will enter into a dialogue with the client in the case of the client's failure to address environmental and social agenda. If remedial measures taken by the client is unsatisfactory, Mizuho will not provide new *financing and investment*.

- Mizuho will require our clients to:
  - Respect indigenous peoples' and local communities' right to FPIC
  - Formulate a policy on the environment and human rights which includes NDPE
- For *financing and investment* which is used for logging in the countries excluding high-income OECD countries, Mizuho will require our clients to:
  - Acquire FSC[54] or PEFC[55] certification, or.
  - If it will take time to satisfy the above-mentioned certification, the client shall formulate a time-bound action plan.
- Mizuho will request our clients to:
  - Enhance their supply chain management and traceability to ensure that their policy will also apply to their supply chain

11. Fisheries and aquaculture

(1) Scope of application

- Companies which engage in fisheries
- Companies which engage in aquaculture

(2) Overview of risks that Mizuho should recognize

- Fisheries have risks as follows: impacts on ecosystems and damages to biodiversity due to IUU fishing[56], destructive and indiscriminate fishing methods, overfishing and bycatch, and human rights abuse such as forced labor, child labor, and impacts on the traditional livelihoods of indigenous peoples.
- Aquaculture has risks as follows: impacts on ecosystems and damages to biodiversity at construction of fish farms, eutrophication, red tide, and water pollution caused by antibiotics and other chemicals.

(3) Policy

Other policies

- To prevent and mitigate adverse impacts, Mizuho will make transactional decisions after verifying the measures taken by the client based on the *risks that Mizuho should recognize*.
- Mizuho will not provide *financing and investment* if a risk assessment reveals that the client has not properly addressed environmental and social agenda and as a result faces crucial difficulty continuing its business.

VII. Governance related to this policy

1. Governance
   - Relevant governing bodies within Mizuho such as our Executive Management Committee and/or Business Policy Committee will regularly review whether our measures related to the risks, sectors, and other factors covered under this policy are appropriate and sufficient, with consideration to changes in the external environment and the results of implementation. Following these reviews, our governing bodies may revise this policy or improve business processes for more appropriate implementation of this policy.
   - Mizuho Bank, Mizuho Trust & Banking, Mizuho Securities, and Mizuho Americas put in place an operational framework for this policy and began implementing it from July 1, 2024. The global subsidiaries of the four companies above will begin implementing the framework in stages by October 2024.
   - Based on this policy, our primary subsidiaries participate in engagement with specific clients in each sector with the aim of sharing a medium- to long-term perspective on opportunities and risks accompanying environmental, social, and governance (ESG) issues and climate change.
2. Education and training
   - Mizuho will conduct training and professional development exercises to enhance executive officers' and employees' understanding of environmental and human rights issues. We will also implement educational seminars, training, and awareness building activities for executive officers and employees regarding compliance with the internal regulations and procedures which are relevant to their field of work.
3. Stakeholder communication
   - As part of our initiatives in this area, we place a strong emphasis on engagement with stakeholders. Our objective in taking this approach is to ensure that our initiatives are aligned with expectations of our stakeholders.

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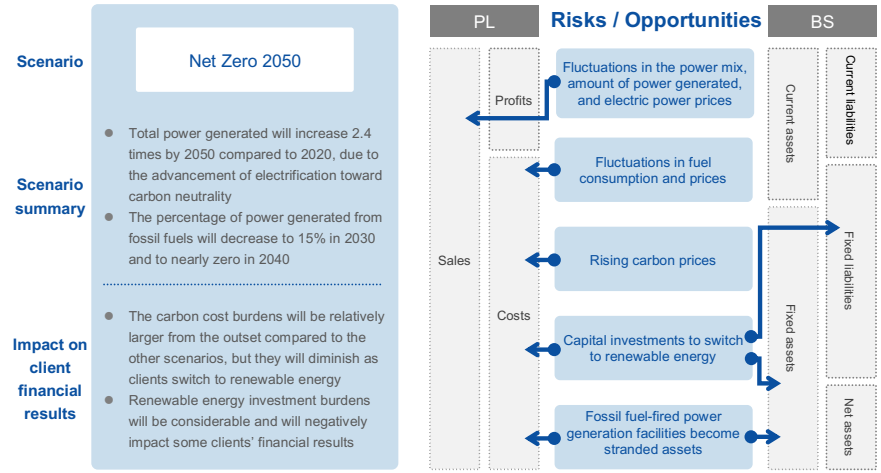
[54] Forest Stewardship Council
[55] Programme for the Endorsement of Forest Certification
[56] Fishing activities that are illegal, unreported, and unregulated.

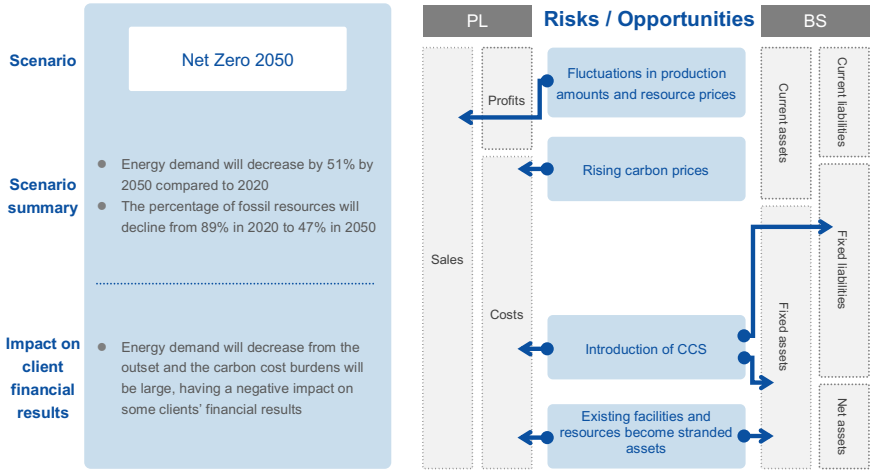
These refer to fishing activities that do not comply with national laws or international operational rules.

5. Reference: Transition risk scenario analyses

(1) Overview of the scenario worldview and analysis details for the 1.5°C scenario for the electric utilities sector



(2) Overview of the scenario worldview and analysis details for the 1.5°C scenario for the oil and gas and coal sector



(3) Overview of the scenario worldview and analysis details for the 1.5°C scenario for the steel sector

Scenario

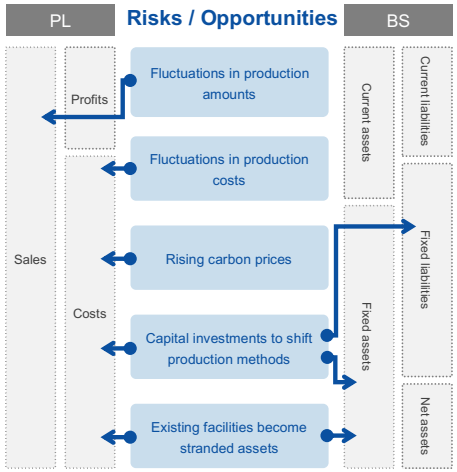
Net Zero 2050

Scenario summary

- Steel production will gradually decline until 2030, after which it will level off
- Production methods will shift, and the share of fossil fuels will decline from 85% in 2020 to 41% in 2050

Impact on client financial results

- The sharp rise in carbon cost burdens from the outset will be coupled with investment burdens to shift production methods, having a negative impact on some clients' financial results



(4) Overview of the scenario worldview and analysis details for the 1.5°C scenario for the automotive sector

Scenario

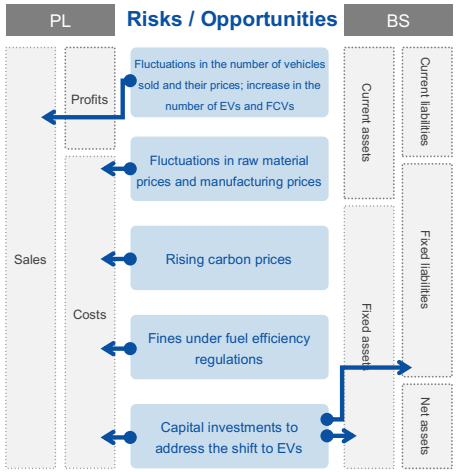
Net Zero 2050

Scenario summary

- The number of vehicles sold will increase, but growth will be moderate due to stricter fuel efficiency regulations and other factors
- The share of EVs and FCVs will increase from 2% in 2020 to 57% in 2030 and 100% in 2050

Impact on client financial results

- For OEMs, the impact on client financial results will be limited, although the cost burdens associated with decarbonization will be considerable
- For suppliers, the cost burdens for steel and other materials will increase, having a negative impact on some clients' financial results



(5) Overview of the scenario worldview and analysis details for the 1.5°C scenario for the maritime transportation sector

Scenario

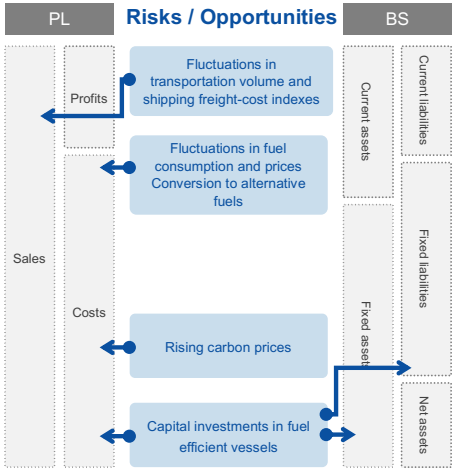
Net Zero 2050

Scenario summary

- Japan's transportation volume will decline by 16% over the period to 2050
- Transformations in the fuel mix will progress, with the percentage of fuel oil falling from 100% in 2020 to 16% in 2050

Impact on client financial results

- Compared to the other scenarios, carbon cost burdens will rise sharply from the outset and investment burdens in fuel efficient vessels will also be present, having a negative impact on some clients' financial results



(6) Overview of the scenario worldview and analysis details for the 1.5°C scenario for the aviation sector

Scenario

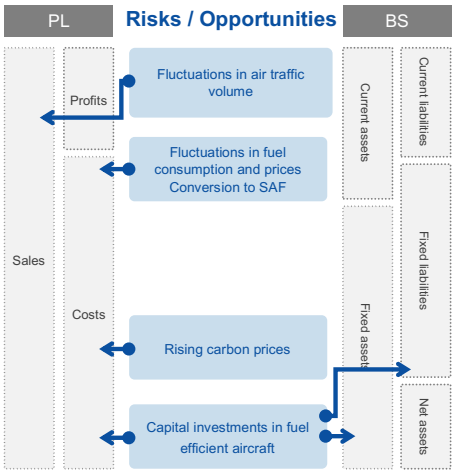
Net Zero 2050

Scenario summary

- International air traffic will increase by 59% for passengers and by 17% for freight by 2050
- Fuel conversions will start from 2030 on and 27% of jet fuel will be converted to SAF in 2050

Impact on client financial results

- Compared to the other scenarios, carbon cost burdens will rise sharply from the outset and investment burdens in fuel efficient aircraft will also be present, having a negative impact on some clients' financial results



(7) Overview of the scenario worldview and analysis details for the 1.5°C scenario for the cement sector

Scenario

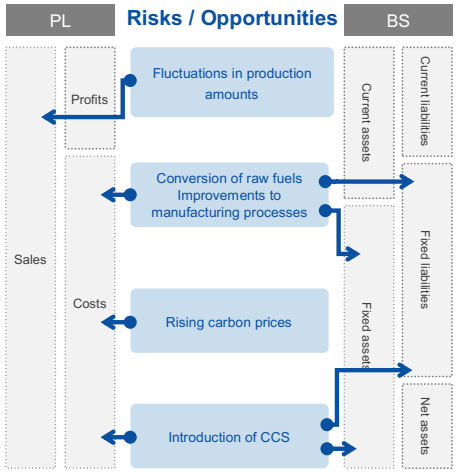
Net Zero 2050

Scenario summary

- Japanese cement production will decline gradually until 2050
- The recovery rate of process-derived CCS will rise to 75% by 2050

Impact on client financial results

- Compared to the other scenarios, carbon cost burdens will rise sharply from the outset and investment burdens in CCS will also be present, having a negative impact on some clients' financial results



(8) Overview of the scenario worldview and analysis details for the 1.5°C scenario for the chemical sector

Scenario

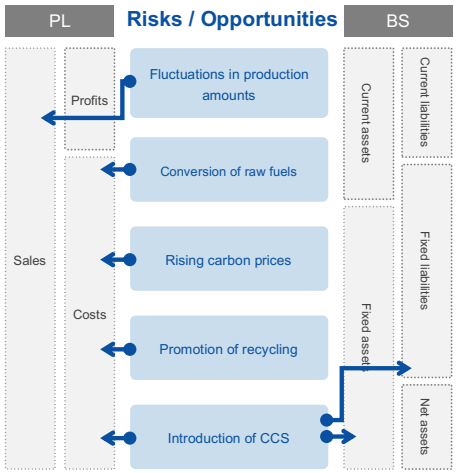
Net Zero 2050

Scenario summary

- Conversion of raw fuels will progress, with conversion of 28% of production to hydrogen-derived fuels by 2050
- The percentage of chemicals that are recycled will increase to 35% by 2050

Impact on client financial results

- The impact on client financial results will be limited, although the cost burdens will be considerable, such as investments in low-carbon technologies



Organization abbreviations

Abbreviation	Official Name	Abbreviation	Official Name
FG	Mizuho Financial Group	BK	Mizuho Bank
TB	Mizuho Trust & Banking	SC	Mizuho Securities
MSUSA	Mizuho Securities USA	AM-One	Asset Management One
RT	Mizuho Research & Technologies	FT	Mizuho-DL Financial Technology
LS	Mizuho Leasing Company	IF	Mizuho Innovation Frontier

Glossary

(Prepared based on information available as of June 2024)

Terms	Official Name	Description
ABL	Asset Based Lending	A method of lending money that is secured by liquid assets such as inventories and account receivables.
-CCS -CCU -CCUS	- Carbon dioxide Capture and Storage - Carbon dioxide Capture and Utilization	- CCS: A technology that separates out and captures CO_2 emitted from coal-fired power generation plants, factories, and other sources, and stores the captured CO_2 in a geological formation that is impervious to CO_2. - CCU: A technology that separates out and captures CO_2 emitted from coal-fired power generation plants, factories, and other sources, and then uses the captured CO_2 as a resource. - Technologies that combine CCS and CCU are called CCUS.
CO_2e	CO_2 equivalent	The conversion of various GHG emissions, such as methane or nitrous oxide, to an equivalent amount of CO_2 emissions using global warming potential (GWP) factors.
COURSE 50	CO2 Ultimate Reduction System for Cool Earth 50	An innovative technology that aims to reduce CO_2 emissions by 30% in the steel industry with CO_2 capture and recovery and the adoption of hydrogen reduction.
COP	Conference of the Parties	A conference by the countries that have ratified a treaty or protocol. There are various COPs in many different fields in addition to climate change and biodiversity.
DACCS	Direct Air Carbon Capture and Storage	A technology that removes CO_2 directly from the atmosphere.
-ENCORE -IBAT -Aqueduct	- Exploring Natural Capital Opportunities, Risks and Exposure - Integrated Biodiversity Assessment Tool - Aqueduct	- ENCORE: a tool to visualize the impact environmental changes have on economies, jointly developed by the UNEP-FI, UNEP-WCMC, and Global Canopy. - IBAT: Enables the display on maps of IUCN red listed areas, protected areas, and areas of importance for biodiversity conservation. - AQUEDUCT: Evaluates and displays on maps water risks for each region in terms of physical risks (quantitative and qualitative) and regulatory and reputational risks.
EVIC	Enterprise Value Including Cash	Calculated as the sum of the market capitalization of common and preferred stocks, interest-bearing liabilities (bonds + loans), and the book value of non-controlling interests.
Financed Emissions	GHG emissions from financing and investment, falling under Category 15 (investment) in Scope 3 emissions.	
Facilitated Emissions	GHG emissions from capital market activities, mainly underwriting operations.	
-FIT -FIP	-Feed-in Tariff -Feed-in Premium	- A system in which a government promises that electric power companies will purchase electric power produced from renewable energy sources at a given price for a given period of time. - A system to support and encourage renewable energy projects by adding a certain premium as a subsidy when renewable energy producers sell electric power at market price.
GFANZ	The Glasgow Financial Alliance for Net Zero	A voluntary alliance of global financial institutions committed to achieve net zero by 2050. Under this umbrella, several alliances have been established for each financial sector, including banking (NZBA), insurance (NZIA), asset managers (NZAM), and others.
GX	Green Transformation	An initiative to transform conventional fossil fuel-dependent industrial structures into economic and social systems centered on clean energy.
ICMA	International Capital Market Association	An association dedicated to promoting a well-functioning international bond market for sustainable economic growth and development.

Terms	Official Name	Description
IEA	International Energy Agency	An international organization within the framework of the Organization for Economic Cooperation and Development (OECD) that is involved in all aspects of energy policy for the purpose of ensuring stable energy supplies.
IPCC	Intergovernmental Panel on Climate Change	An intergovernmental organization established in 1988 by the World Meteorological Organization (WMO) and the United Nations Environment Programme (UNEP). With the cooperation of scientists from around the world, it provides an assessment of the latest scientific knowledge on climate change.
IPBES	Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services	An intergovernmental organization established in 2012 with the purpose of strengthening science-policy interfaces for the conservation and sustainable use of biodiversity, the long-term welfare of people, and sustainable development.
-ISSB -SSBJ	- International Sustainability Standards Board - Sustainability Standards Board of Japan	- ISSB: A council established by the IFRS Foundation, which formulates international accounting standards, to develop international sustainability disclosure standards. - SSBJ: An internal organization of the Financial Accounting Standards Foundation (FASF) of Japan established to communicate Japan's positions and opinions during the development of international sustainability disclosure standards and to develop standards for Japan.
LMA	Loan Market Association	An organization that establishes principles and issues guidelines for voluntary procedures related to green, social, and sustainable loans in cooperation with related associations.
-MPP -TM	- Mission Possible Partnership - Tech Moratorium	- A global public-private partnership with the aim of decarbonizing industry. - A scenario based on the assumption of the full scale adoption of / migration to innovative technologies from 2030 onward
NGFS	Network of Central Banks and Supervisors for Greening the Financial System	A network of central banks and financial regulators established to examine financial supervisory responses to climate change risks.
NZBA	Net-Zero Banking Alliance	An international initiative by banks to achieve by 2050 net zero GHG emissions from their financing and investment portfolios.
NZE	Net Zero Emissions by 2050 Scenario	A scenario formulated and published by the IEA based on the assumption that the world as a whole will achieve net zero GHG emissions by 2050.
PCAF	Partnership for Carbon Accounting Financials	An international initiative to develop methodologies to measure GHG emissions from the financing and investments of financial institutions.
PPA	Power Purchase Agreement	An agreement between a power producer that provides electric power and an electric power consumer.
RAF	Risk Appetite Framework	A concept that increases corporate value through the integrated oversight of business strategies, financial strategies, and risk management. This is a framework that manages business operations and risks by clarifying guidelines for business operations, risk-taking, and profit targets.
SAF	Sustainable Aviation Fuel	Alternative fuels that are cleaner than conventional jet fuel and are produced from waste oil and used cooking oil.
-SBT -SBTi	- Science Based Targets - Science Based Targets initiative	- SBTs are science-based, GHG emissions reduction targets set for companies that are consistent with the levels required by the Paris Agreement - SBTi is an international initiative jointly established by CDP, the United Nations Global Compact (UNGC), the World Resources Institute (WRI), and the World Wide Fund for Nature (WWF) that audits and certifies SBTs.
Scope1,2, 3	- Scope 1: GHG emissions directly emitted by a business itself. - Scope 2: indirect GHG emissions from the use of electric power, heat, and steam supplied by other companies. - Scope 3: indirect GHG emissions from business activities in the supply chain of a business that are not counted as Scope 1 and 2 emissions.	
SDS	IEA Sustainable Development Scenario	A scenario formulated and published by the IEA in which the world has a 67% probability of limiting the global temperature increase to 1.8°C or less and a 50% probability of limiting the increase to 1.65°C by 2100.
SPV	Special Purpose Vehicle	A company established for a limited purpose such as liquidation, securitization, or project financing of underlying assets.
Transition Plan	- An aspect of an organization's overall business strategy that lays out a set of targets and actions supporting its transition toward a low-carbon economy, including actions such as reducing its GHG emissions. (definition from TCFD Guidance on Metrics, Targets, and Transition Plans) - An aspect of an entity's overall strategy that lays out the entity's targets, actions or resources for its transition towards a lover-carbon economy, including actions such as reducing its greenhouse gas emissions. (definition from IFRS S2 Sustainability Disclosure Standard)	

Links to Mizuho's Sustainability related documents

Document	Release Date	Link	Description
Environmental Social & Governance Data Book 2023	March 2024	Here	The report provides a summary of Mizuho's main ESG-related data.
Integrated Report 2023	June 2023	Here	We have been issuing Integrated Reports since FY2015, after merging our former CSR Report and Disclosure Journal. The report includes financial information as well as ESG information and other non-financial information, and is designed to provide a concise, easy-to-understand explanation of how Mizuho will create value for its clients, society, and itself over the short, medium, and long term by executing strategies and bolstering its governance.
Mizuho Sustainability Focus 2023	November 2023	Here	Taking an overview of how companies are engaging with the latest sustainability topics, the report summarizes Mizuho's insights, focusing on major industrial changes and new avenues for business.
Sustainability Progress 2024	April 2024	Here	In addition to covering enhanced initiatives on sustainable businesses, responses to climate change, natural capital, and human rights, and our *Environmental and Social Management Policy for Financing and Investment Activity*, the report provides a broad overview of Mizuho's fundamental approaches and strategies to sustainability, quantitative and qualitative results of our initiatives, and progress with respect to our targets.
Impact Business Compass	May 2024	Here	The report outlines Mizuho's approach to impact and presents the potential of impact businesses as well as our policies and initiatives to help spread the concept of impact throughout the economy and society.
Human Rights Report 2023	July 2023	Here	The report compiles details on Mizuho's initiatives for respecting human rights based on the United Nations Guiding Principles Reporting Framework.
Asset Management One Sustainability Report	December 2023	Here	The report provides a comprehensive introduction to the sustainability initiatives of Asset Management One, Mizuho Group's investment management company.

Links to Mizuho's Sustainability related websites

Website	Link	Description
Mizuho Financial Group's Sustainability page	Here	The page lists Mizuho's major sustainability-related information.
Mizuho SX site	Here	A brand site that provides an introduction to Mizuho's sustainable business initiatives.

Forward-Looking Statements

This report contains forward-looking statements, including estimates, forecasts, targets, and plans. These statements are based on management's current expectations and are subject to uncertainty and changes in circumstances. These forward-looking statements do not represent any guarantee by management of future performance. These statements reflect our current views with respect to future events and are subject to risks, uncertainties, and assumptions. Actual results may differ materially from those included in these statements due to a variety of factors, including, among others, global socio-demographic and economic trends, energy prices, technological innovations, climate-related conditions and weather events, governmental policies and legislative and regulatory changes as well as other unforeseen events or conditions. Further information regarding factors that could affect our results is included in "Item 3.D. Key Information—Risk Factors" in our most recent Form 20-F filed with the U.S. Securities and Exchange Commission, which is available in the Financial Information section of our website at www.mizuhofg.com/index.html and also at the SEC's website at www.sec.gov. We are under no obligation, and disclaim any obligation, to update or alter our forward-looking statements, whether as a result of new information, future events, or otherwise.

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