



TCFD Report 2022

Mizuho Financial Group

MIZUHO

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1. Message from the Group CEO



Climate change is a crucial global issue, one we must solve to continue living securely on our planet and look forward to a brighter future. Mizuho has included responding to climate change as a key pillar of our business strategy, and we are harnessing our group's capabilities to contribute to the achievement of a low-carbon society by 2050.

In recent years, action on climate change has progressed rapidly, bringing with it considerable transformation. The UN Climate Change Conference in Glasgow (COP26) last year saw the adoption of the Glasgow Climate Pact, which reaffirms the goal of "pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels". The trend towards a low-carbon society is gaining even greater momentum and becoming an irreversible structural change. Alongside our clients in industry and our fellow financial institutions, we have been making ceaseless efforts to respond to it.

In order for us to make progress with our clients toward our shared goals of achieving a low-carbon society and sustainable development, our business execution and supervisory lines have sought advice from outside experts

and engaged in thorough discussions, which have led us to clarify our goal of reaching net zero by 2050 and our actions for this goal. While aiming for an orderly, just transition, we will pursue efforts to limit the temperature increase to 1.5°C.

In this regard, one of the major roles we have to play as a financial institution is to support our clients in introducing climate change countermeasures and transitioning to a low-carbon society. The road to transition will vary by business location and industry type. There is also a need to give adequate consideration to important issues such as energy security and stable power supply. At Mizuho, we understand that our stakeholders, most prominently our clients, find themselves in differing environments and situations. We are taking these into account together with the required transition time frame, the underlying science, and the impacts on the economy and society and moving forward our transition support initiatives.

Key to this is constructive dialogue with our clients, also known as engagement, and a combination of financial and non-financial support. We are capable of working with our clients to design comprehensive strategies for transitioning to a low-carbon society, based on a deep understanding of their challenges and needs, and our strength lies in providing optimal solutions to our clients by seamlessly connecting the wide-ranging functions of our group companies in banking, trust banking, securities, asset management, leasing, and consulting. Maximizing our capabilities to support our clients' strategies for decarbonization is our responsibility and mission.

Effective government policies and the development of next-generation technology are essential for the transition to net-zero emissions. For industry, particularly carbon-intensive sectors, a steady transition entails massive capital demands, which must be met. Mizuho has been advancing innovative initiatives in this area. For example, we have been supporting development of technology in the proof-of-concept trial phase through a transition investment budget. We have also been a front-runner in developing the fields of sustainable finance, in which we are aiming to provide a total of ¥25 trillion by 2030, and transition finance, which has

been garnering greater attention. Another part of our role in promoting an orderly transition has been to act as a catalyst, cooperating with all stakeholders across the public and private sectors to tackle a range of issues.

To demonstrate our strong dedication to such a transition, we have brought forward our target for our group's greenhouse gas emissions by 20 years, committing to becoming carbon neutral by FY2030. Further, in Scope 3 emissions, which are the most critical for financial institutions, we have set an FY2030 target for the electric power sector as a mid-term target towards achieving net zero by 2050. Our clients' transition progress will be the driver to achieve this target, and we will work together with our clients towards the shared goal of achieving a low-carbon society and sustainable development.

Mizuho has made creating lasting value for our customers and the economies and communities in which we operate a part of our Corporate Philosophy. Under my leadership, we will continue to positively contribute to resolving climate change and other social issues as a united group, and we will aim to create value for the environment, economy, industry, and society while simultaneously enhancing the value of Mizuho.



Masahiro Kihara

President & Group CEO

Mizuho Financial Group, Inc.

2. Overview / Introduction

1. Most recent key areas of progress

At Mizuho, based on our awareness that climate change is one of the most crucial global issues having the potential to impact the stability of financial markets, we have positioned addressing climate change as a key part of our corporate strategy and are strengthening our initiatives.

Our progress regarding the FY2021 action plan is as follows.

Thematic areas	FY2021 action plan	Key progress	Pages
Governance	<ul style="list-style-type: none"> Report on the status of responses to TCFD Recommendations to the Board of Directors on an annual basis. Gradually develop a pathway towards our long-term goal of being aligned with the targets in the Paris Agreement. 	<ul style="list-style-type: none"> Ensured regular reporting and discussion across the business execution and supervisory lines, including the Sustainability Promotion Committee (newly established), Executive Management Committee, Risk Committee, and Board of Directors. Adjusted and clarified the group's climate change response stance. Revised Scope 1 and 2 targets and set new Scope 3 target (for the electric power sector) in light of our participation in international initiatives (such as the Net Zero Banking Alliance (NZBA) and Partnership for Carbon Accounting Financials (PCAF)) and our new policies (Mizuho's Approach to Achieving Net Zero by 2050 and the Net Zero Transition Plan). 	14 – 19
Strategy	<ul style="list-style-type: none"> Implement initiatives reflecting climate-related risks and opportunities. Look into methods for assessing the impacts climate-related matters will have on our strategy and finances. Expand the sectors and regions under consideration in our scenario analysis and incorporate the analysis results into our strategy and risk management. 	<ul style="list-style-type: none"> Updated risks and opportunities. Focused on support for clients' decarbonization and climate change countermeasures, with engagement as a starting point. Continued to consider the cross-industry metrics and financial impacts stated in the revised TCFD guidance. Quantified opportunities (market scale) and also calculated amount of impacts on credit costs using scenario analysis. Enhanced scenario analysis: For transition risk, analyzed with 1.5°C scenario and added steel sector. For physical risk, reevaluated acute risks. 	37 – 38, 31 – 34 29 – 30, 39 – 47 39 – 47
Risk management	<ul style="list-style-type: none"> Review framework for identifying and assessing risk, enhance monitoring, and continuously review financing and investment policy. Improve effectiveness of engagement based on coordination between the first and second lines of defense by utilizing a risk assessment and control framework for carbon-related credit exposure. 	<ul style="list-style-type: none"> Enhanced climate-related risk management. <ul style="list-style-type: none"> Increasing severity of climate change impacts designated as a top risk. Changes in the external business environment and status of control on carbon-related credit exposure now presented to executive management on a quarterly basis. Strengthened risk control in carbon-related sectors: Added steel and cement to targeted sectors, strengthened response in the case of client engagement being ineffective. Revised Environmental and Social Management Policy for Financing and Investment Activity: Strengthened policies on transition risk sectors, the coal-fired power generation and thermal coal mining sectors, and others. Expanded engagement (approx. 2,300 companies in total) and clarified frequency and standards for confirming transition risk response. 	49 50 – 54 55 – 57 31 – 34
Metrics and targets	<ul style="list-style-type: none"> Look into expanding disclosure on our responses to transition risk. Look into actions reflecting trends in various initiatives. Look into measurement of Scope 3 emissions and quantitative target setting. 	<ul style="list-style-type: none"> Disclosed progress of transition risk response among clients in the electric power and resources sectors. Tracked international trends and accounted for them in metric and target setting by participating in various initiatives (e.g. NZBA, Net Zero Asset Managers (NZAM), PCAF). Scope 3: Expanded disclosure of financed emissions measurements based on PCAF and set FY2030 target for the electric power sector. Scope 1 and 2: Brought forward target date for becoming carbon neutral to FY2030. 	53 – 54 27 – 28, 66 61 – 65, 23 – 26

2. Status of Mizuho's response to TCFD Recommendations (Executive Summary)

(Underlined portions indicate initiatives that we have enhanced since our previous disclosure in June 2021.)

Governance		Disclose the organization's governance around climate-related risks and opportunities.	
● Clarified Mizuho's stance on climate change, our aims and actions, and our medium- to long-term strategy and initiatives through our Environmental Policy, <u>Mizuho's Approach to Achieving Net Zero by 2050</u> , and <u>Net Zero Transition Plan</u> , which were approved by the Board of Directors.			pp. 21–22
● We built a supervision and business execution governance framework that centers on the Board of Directors. Supervision: The Board of Directors and Risk Committee conduct oversight regarding information that is reported to them and deliberated following discussions at the business execution line. Business execution: <u>The Sustainability Promotion Committee (established in FY2021)</u> , Risk Management Committee, and Executive Management Committee regularly deliberate and discuss, then report to the Board of Directors. The Group Chief Strategy Officer and Group Chief Risk Officer move forward initiatives in each field under the management of the Group CEO.			pp. 14–20
● <u>We have established a Climate Change Response Taskforce and five working groups (new in FY2022)</u> to enhance our promotion structure.			p. 19
● Remuneration for corporate officers reflects the status of sustainability initiatives (including initiatives addressing climate change). In FY2022, <u>we began utilizing external evaluations from ESG evaluation agencies</u> .			pp. 19–20
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.	
● We have formulated the <u>Net Zero Transition Plan</u> , which clarifies our medium- to long-term strategy and initiatives (April 2022).			p. 22
1. Net-zero greenhouse gas emissions: Become carbon neutral for Scope 1 and 2 (emissions from our own business activities) by FY2030, achieve net zero by 2050 for Scope 3 (emissions from financing and investment), and begin setting mid-term targets for Scope 3. 2. Strengthening low-carbon business: Strengthen our support for the transition to a low-carbon society by engaging with clients and providing financial and non-financial solutions. 3. Improving climate-related risk management: Continually enhance risk management frameworks and policies that aim to create a business base resilient to climate change impacts. 4. Strengthening our stance: Strengthen our stance on achieving net zero group-wide, focus on participating in international initiatives and coordinating with stakeholders.			
● Risks and opportunities / responses:			pp. 29–36
- We see client investment in technological and business model development that leads to decarbonization as an opportunity for Mizuho. With engagement (constructive dialogue) as a starting point, we are supporting our clients' transition to a low-carbon society and their climate change countermeasures. - Engagement with clients: <u>Engaged with approx. 1,000 companies from the perspective of responsible financing and investment</u> and <u>with approx. 1,300 companies to promote clients' sustainability initiatives</u> . - Provision of sustainable finance: FY2019 to FY2021 total of <u>¥13.1 trillion</u> (of which <u>¥4.6 trillion</u> in environmental finance). - Development and provision of new solutions meeting clients' diversifying needs.			
● Risks:			pp. 37–38
- In terms of climate-related risks, we are taking into account both transition risks ¹ and physical risks ² arising from climate change. - Transition risks: Credit risk related to financing and investment clients who are impacted by more stringent carbon taxes, fuel efficiency regulations, or other policies or by delays in shifting to low-carbon and other environmental technologies. Operational risk related to reputational damage from financing fossil fuel projects. - Physical risks: Acute risk in the form of damage to our assets (such as data centers) and to customer assets (such as real estate collateral), caused by extreme weather increasing the incidence of wind- and water-related damages. Chronic risk in the form of credit risk arising from deterioration in the macro economy due to increased instances of infectious disease, heatstroke, and similar.			

¹ Transition risk: Risks stemming from widespread policy, legal, technological, and market changes which occur as the result of transitioning to a low-carbon economy.

² Physical risk: Risks such as the loss or damage of assets as a direct result of climate change itself, as well as supply chain disruptions and other impacts as an indirect result of climate change.

- Scenario analysis:
 - Transition risk

[pp. 39 – 44](#)

Scenario	<u>Network of Central Banks and Supervisors for Greening the Financial System (NGFS)³</u> <u>Net Zero 2050 (1.5°C) / Below 2°C / Delayed Transition / Current Policies scenarios</u>
Analysis method	We specify a parameter for evaluating the impact of risks and opportunities faced by clients in the sector subject to analysis. We then analyze changes in Mizuho's credit costs by formulating an outlook for the impact on clients' financial results, based on changes to the parameter under the scenario.
Targeted sectors	Electric utilities, oil, gas, coal, <u>steel</u> , and automobile sectors (worldwide)
Period	2050
Credit costs	<u>Cumulative increase in the above sectors through 2050</u> (difference with Current Policies scenario) Net Zero 2050: ¥1.2 trillion Below 2°C: ¥60 billion Delayed Transition: ¥1.1 trillion
Implications and necessary actions	<ul style="list-style-type: none"> The increase in credit costs is the total through 2050, and the impact on the Mizuho group's finances is limited. We confirmed the importance of moving forward a rapid and smooth transition (orderly transition) towards a low-carbon society. We will further enhance our engagement with clients to support their progress on responding to climate change in an orderly fashion. We will conduct scenario analysis accounting for clients' transition plans and apply it to more in-depth engagement.

- Physical risk

[pp. 45 – 47](#)

Types of risk	Acute risks	Chronic risks
Scenario	<u>NGFS Current Policies and Net Zero 2050 (1.5°C) scenarios</u>	Intergovernmental Panel on Climate Change (IPCC) ⁴ Representative Concentration Pathway (RCP) 8.5 scenario (4°C scenario) / RCP 2.6 scenario (2°C scenario)
Analysis method	<p>We used a Monte Carlo simulation to calculate the impacts of wind- and water-related damages from typhoons and other storms.</p> <p>For direct impacts (impacts on asset value), we analyzed <u>damage to Mizuho group assets (buildings, equipment)</u> and credit costs from loss or damage of mortgaged real estate.</p> <p>For indirect impacts (impacts of business stagnation), we analyzed credit costs from business stagnation among our clients due to wind- and water-related damage.</p>	<p>We analyzed the impacts on credit costs from changes in the macroeconomic environment brought about by increases in infectious disease (e.g. malaria, dengue) and heatstroke as well as by heatstroke prevention practices causing concomitant decreases in summer working hours among outdoor laborers.</p>
Targets of analysis	Japan only, for impact of business stagnation this is based on the location of the company's headquarters (this analysis targeted middle market firms and SMEs).	Japan only
Damage costs / credit costs	Current Policies: Asset value impact of ¥70 billion, business stagnation impact of ¥130 billion, both total figures through 2100.	RCP 8.5: Up to a total of ¥4 billion through 2100.
Implications	The analysis confirmed that there will not be a significant impact compared to our income during the period.	

³ A network of central banks and financial supervisors addressing issues such as climate change risk. Used the second iteration of the NGFS scenarios.

⁴ Used the IPCC Fifth Assessment Report.

Risk management	Disclose how the organization identifies, assesses, and manages climate-related risks.	
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<ul style="list-style-type: none"> ● Identification of climate-related risk and its integration into our <u>risk appetite framework</u> and comprehensive risk management <ul style="list-style-type: none"> - We are identifying transition and physical risks resulting from climate change and integrating them into our <u>risk appetite framework</u> and our comprehensive risk management framework for credit, operational, and other types of risk. ● Our management of top risks <ul style="list-style-type: none"> - Under our management of “top risks”, which are risks recognized by management as having major potential impact on Mizuho, <u>we position increasing severity of climate change impacts as a “top risk”</u>. When we have selected a top risk, we consider additional risk control measures and report on the status of our response to the Board of Directors and other committees. ● Risk control in carbon-related sectors <ul style="list-style-type: none"> - We are establishing a structure to assess risk in carbon-related sectors (electric utilities, oil, gas, coal, steel, and cement sectors) along two axes—our clients’ sectors, and our clients’ measures to address transition risk—in order to identify and monitor high-risk areas. - We control risk in high-risk areas under the following exposure control policy. <ul style="list-style-type: none"> • We are more thoroughly engaging with clients to support them in formulating effective strategies for transition risks, in disclosing their progress, and in embarking on business structure transformation towards a lower risk sector at an early stage. • <u>With the aim of facilitating business structure transformation, we provide any necessary support when we have been able to confirm that the client has set valid targets and planned an appropriate transition strategy in line with international standards.</u> • <u>We carefully consider whether or not to continue our business with a client in the event that the client is not willing to address transition risk and has not formulated a transition strategy even one year after the initial engagement.</u> • In this way, we are reducing our exposure over the medium to long term. ● Environmental and Social Management Policy for Financing and Investment Activity <ul style="list-style-type: none"> - We have established and implemented a management policy for financing and investment that specifies projects and sectors with a particularly high likelihood of leading to adverse impacts on the environment and society (<u>transition risk sectors, coal-fired power generation, thermal coal mining, oil and gas, etc.</u>). - The business execution and supervisory lines periodically review changes in the external business environment and the outcomes of the implementation of the policy. Following this review, they revise the policy and improve its implementation. 	<p>p. 48</p> <p>p. 49</p> <p>pp. 50 – 54</p> <p>pp. 55 – 57</p>	

Metrics and targets

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

[pp. 58 – 67](#)

Main monitoring indicators	Targets	Recent results
Scope 1 and 2 emissions ⁵	<u>Carbon neutral by FY2030 (Carbon neutrality to be maintained thereafter)</u>	FY2020: 169,237 tCO ₂
Scope 3 (emissions from financing and investment)	Net zero by 2050	N/A
- <u>Electric power sector</u>	<u>FY2030: 138 to 232 kgCO₂/MWh</u>	FY2020: 388 kgCO ₂ /MWh
Sustainable finance and environmental finance	Total for FY2019 to FY2030: ¥25 trillion (of which the target for environmental finance is ¥12 trillion)	Total for FY2019 to FY2021: ¥13.1 trillion (of which the results for environmental finance is ¥4.6 trillion)
Target to reduce the outstanding credit balance for coal-fired power generation facilities based on our Environmental and Social Management Policy for Financing and Investment Activity	Reduce the FY2019 amount by 50% by FY2030, and achieve an outstanding credit balance of zero by FY2040	March 31, 2022: ¥248.6 billion (-17.0% compared to the end of FY2019)
Exposure to high-risk areas within transition risk sectors	Reduce over the medium to long term	March 31, 2022: ¥1.6 trillion

Items for disclosure aside from monitoring indicators:

- Sector-by-sector credit exposure in line with the TCFD Recommendations
- Greenhouse gas emissions from financing and investment ("financed emissions") based on PCAF methodology

⁵ Targets of analysis / scope of data collection: Seven group companies (Mizuho Financial Group, Mizuho Bank, Mizuho Trust & Banking, Mizuho Securities, Mizuho Research & Technologies, Asset Management One, and Mizuho Americas).

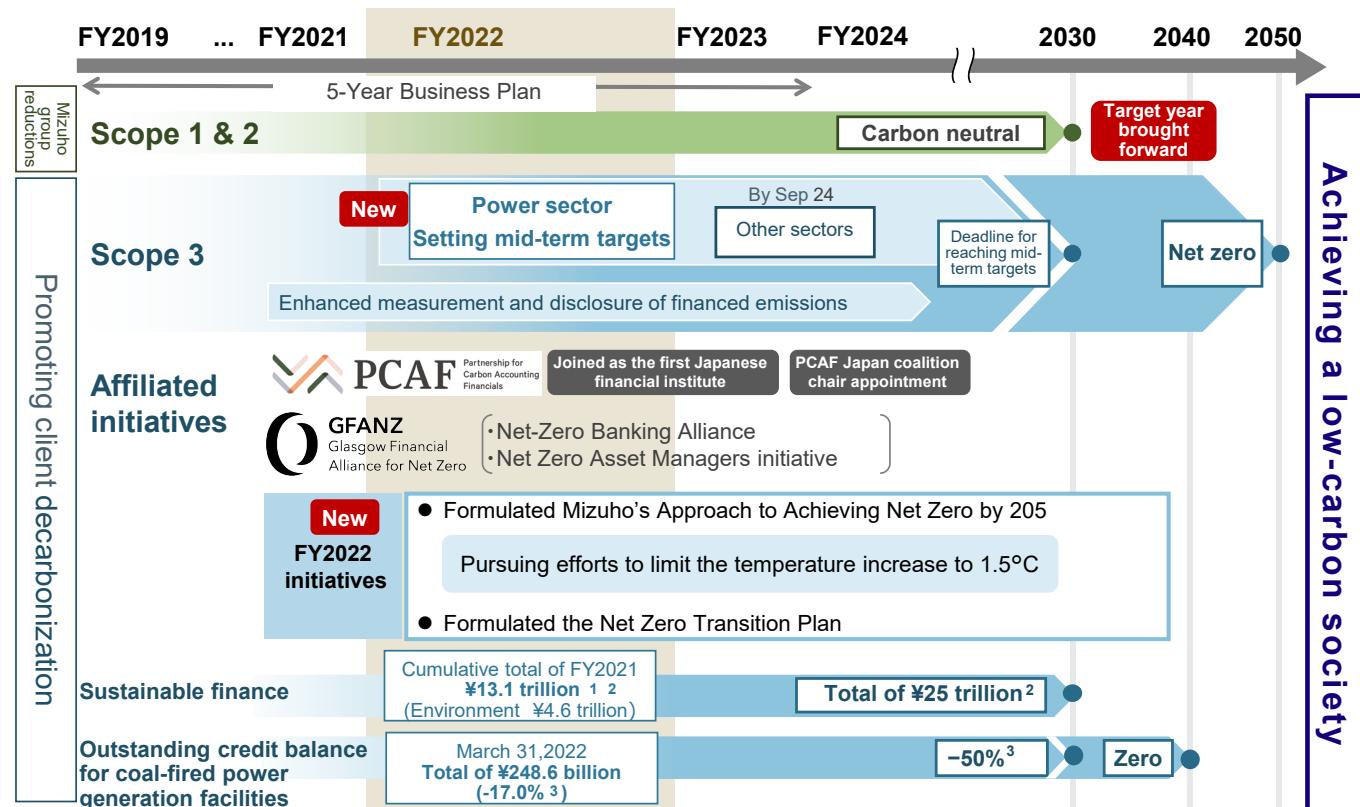
3. Roadmap for achieving net zero by 2050

As we announced in our May 2022 press release,⁶ we have brought forward our target for reducing Scope 1 and 2 greenhouse gas (GHG) emissions by 20 years and are now aiming to become carbon neutral by FY2030. In the area of Scope 3 emissions (emissions from financing and investment), we have set a mid-term target for the electric power sector.

In taking concrete steps forward with our response to climate change as outlined in our Environmental Policy, we are pursuing efforts to limit the rise in global temperature to 1.5°C. To this end, we have formulated Mizuho's Approach to Achieving Net Zero by 2050, which demonstrates our aims and actions towards realizing a low-carbon society by 2050, and the Net Zero Transition Plan, which indicates the direction of our initiatives.

Going forward, we will continue to strengthen various initiatives to achieve net-zero emissions.

Figure 1: Roadmap for achieving net zero by 2050



¹ Breaking figures ² Cumulative total from FY2019. ³ Compared to the end of FY2019.

⁶ See our press release "Strengthening our sustainability action", dated May 17, 2022:
https://www.mizuhogroup.com/binaries/content/assets/pdf/mizuhoglobal/news/2022/05/20220517release_eng.pdf

4. Our initiatives thus far

Over the last 20 years, Mizuho has taken part in a number of initiatives and pilot programs related to the environment and climate change, and we are applying the expert insights and knowledge we have gained from these experiences to moving forward our climate change initiatives.

Engagement (constructive dialogue) with clients has been attracting greater interest as one aspect of the important role financial institutions have to play. We began our engagement initiatives in 2018, ahead of other financial institutions, and have continued to improve on them since then. We are also improving our disclosures, having become in FY2020 the first financial services group in Japan to publish a TCFD Report.

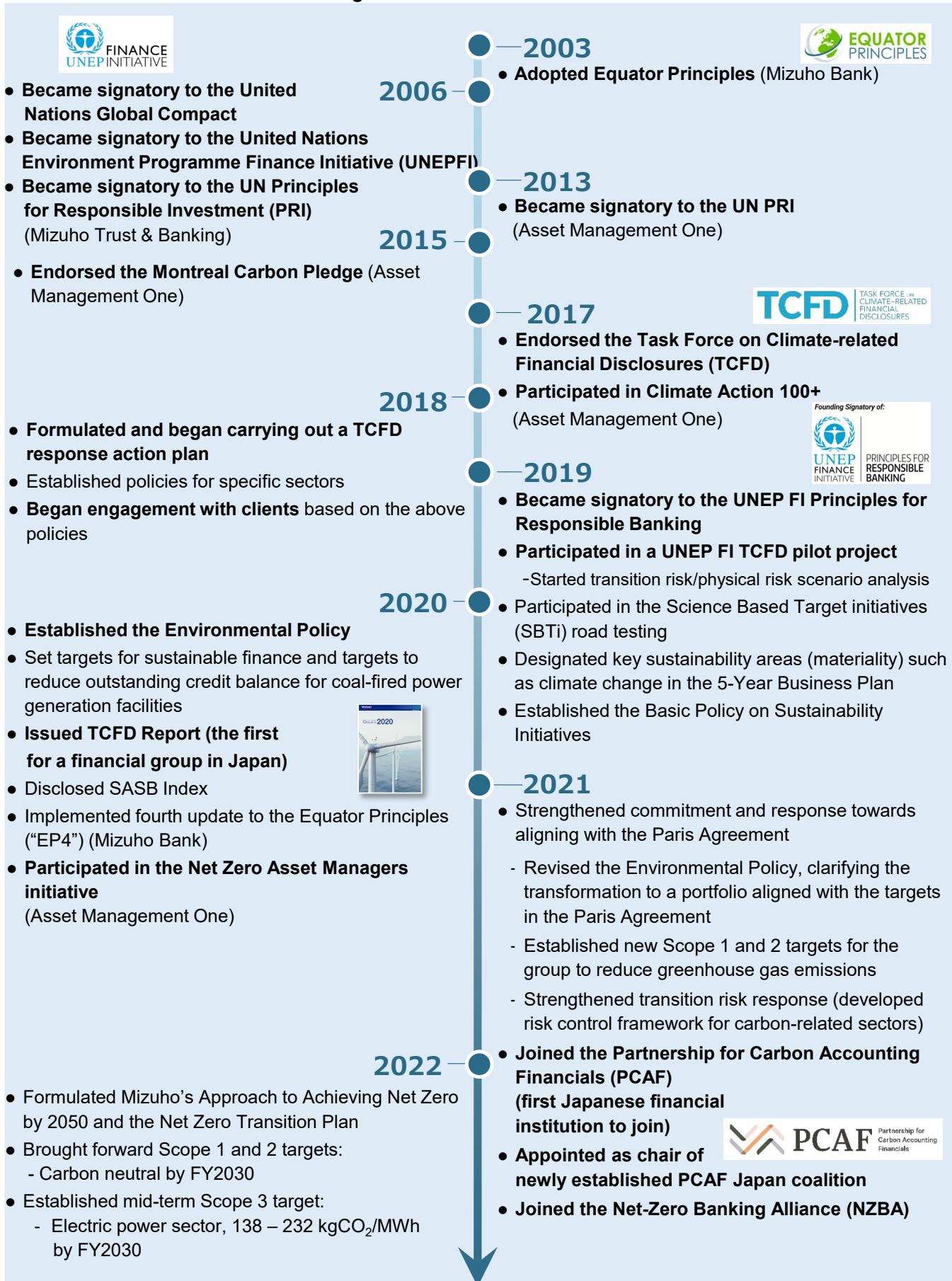
In FY2021, in line with our policy of positively contributing to the achievement of a low-carbon society by 2050 and of undertaking transformation to a portfolio aligned with the targets in the Paris Agreement, we began working toward measuring our GHG emissions from financing and investment and setting medium- to long-term targets. Alongside this, we joined related international initiatives.

In July 2021, we became the first Japanese financial institution to join the Partnership for Carbon Accounting Financials (PCAF), a global initiative that enables financial institutions to measure and disclose the indirect GHG emissions of their loans and investments. In November 2021, we were appointed chair of the PCAF Japan coalition, which was launched by the Japanese financial institutions participating in PCAF.

In October, we joined the Net-Zero Banking Alliance (NZBA), an international banking initiative aiming to align lending and investment portfolios with net-zero GHG emissions by 2050.

(See pages 66 and 27 for details about PCAF and the NZBA.)

Figure 2: Our initiatives thus far



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3. Governance

1. Corporate governance related to climate change

As our various climate change initiatives are deeply interrelated with sustainability promotion, risk management, and other areas, discussions are held at the business execution line, which includes the Sustainability Promotion Committee (established in January 2022), Risk Management Committee, and Executive Management Committee. Following these discussions, reports are made to the Board of Directors, and supervision is provided by the Board of Directors and Risk Committee in accordance with the structure for advancing and managing each initiative.

Figure 3: Corporate governance related to climate change

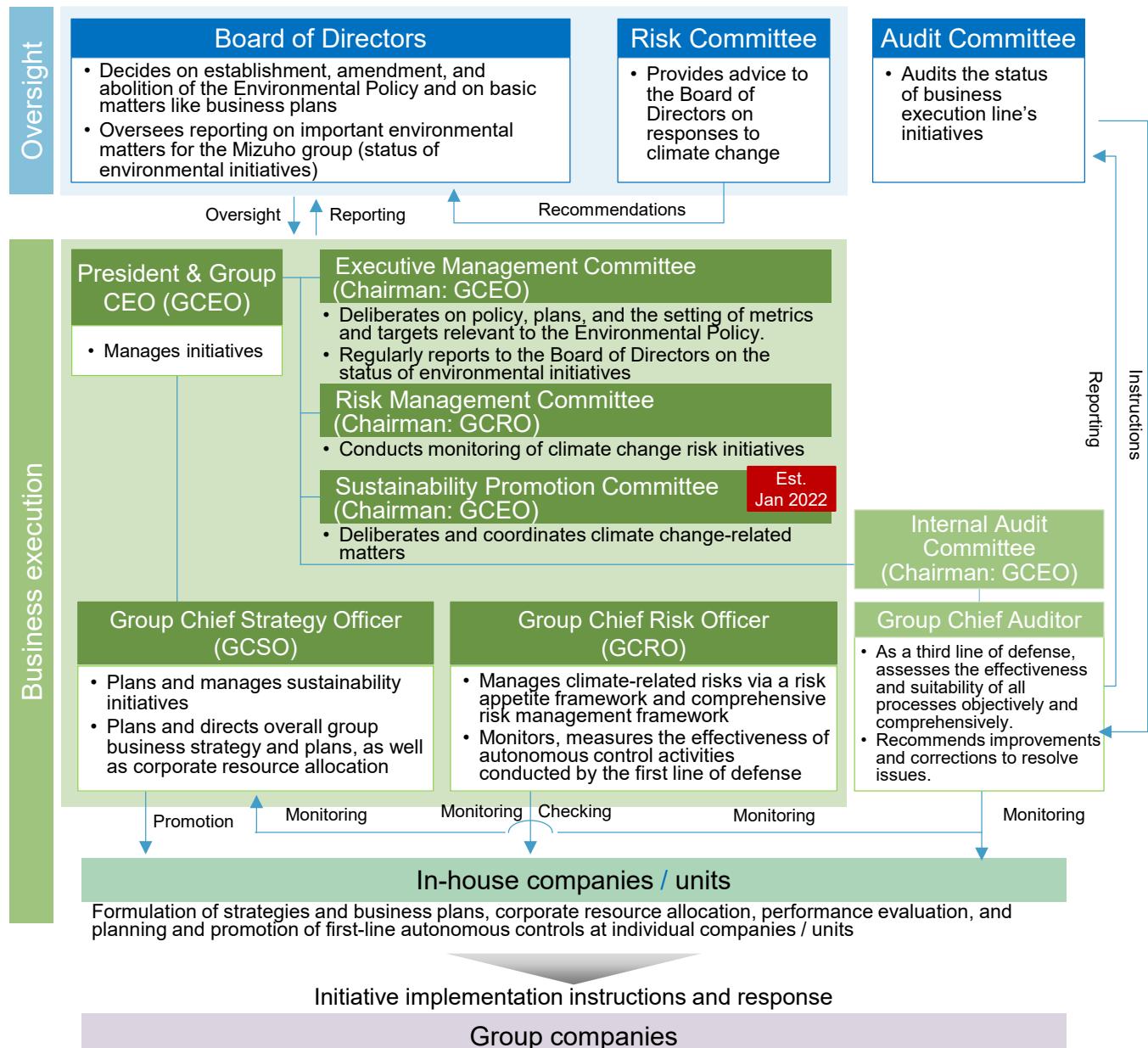


Table 1: Supervisory and business execution line committees and roles related to climate change

	Committee	Structure ⁷	Role in relation to climate change	Main reports and matters to be determined
Supervisory line	Board of Directors	Chairman: Outside director 6 outside directors 3 internal non-executive directors 3 directors who concurrently serve as executive officers	<ul style="list-style-type: none"> Based on the Environmental Policy, receives periodic reports on the group's environmental initiatives (including on the status of responses to the TCFD) from the business execution line, and provides supervision. Establishment, amendment, and abolition of important policies such as the Environmental Policy, and resolutions on basic matters like business plans. 	<ul style="list-style-type: none"> Resolutions on the policies and plans listed below: <ul style="list-style-type: none"> – Basic Policy on Sustainability Initiatives – Environmental Policy – Mizuho's Approach to Achieving Net Zero by 2050 – Net Zero Transition Plan – Materiality (key sustainability areas) – Targets related to climate change Status of response to TCFD. Review of management system for responsible financing and investment.
	Risk Committee	Chairman: Internal non-executive director 1 internal non-executive director who serves as chairman 1 outside director 2 standing external experts	As the advisory body to the Board of Directors, decides and oversees matters relating to risk governance, and makes recommendations to the Board of Directors regarding the oversight of matters including the status of risk management.	Makes recommendations to the Board of Directors regarding the above-mentioned items to be resolved or reported.
	Compensation Committee	Chairman: Outside director Outside directors make up all 3 committee member positions, including the chairman	Determines the basic policy for corporate officer compensation and the corporate officer compensation program.	Further improves transparency of the basis for determining variable compensation, including specifying the components for determining remuneration with respect to sustainability.
	Audit Committee	Chairman: Outside director 3 outside directors including the chairman 1 internal non-executive director	Audit of the status of business execution line's initiatives.	Monitors the status of sustainability-related initiatives of each company / unit based on the audit plan.

⁷ Structure as of April 2022.

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	Committee	Structure ⁷	Role in relation to climate change	Main reports and matters to be determined
Business execution line	Executive Management Committee	Chairman: Group CEO (President & Group CEO)	<ul style="list-style-type: none"> Deliberates on policies, plans, and the setting of metrics and targets relevant to the Environmental Policy and other policies. Regularly reports to the Board of Directors on the status of environmental initiatives. 	<ul style="list-style-type: none"> Deliberation on the policies and plans listed below: <ul style="list-style-type: none"> Basic Policy on Sustainability Initiatives Environmental Policy Mizuho's Approach to Achieving Net Zero by 2050 Net Zero Transition Plan Environmental and Social Management Policy for Financing and Investment Activity Materiality (key sustainability areas) Targets related to climate change Status of response to TCFD. Review of management system for responsible financing, investment, and other services.
	Risk Management Committee	Chairman: Group CRO	Monitors the status of initiatives addressing climate-related risks.	<ul style="list-style-type: none"> Monitors the status of climate-related risk initiatives based on the risk appetite framework and comprehensive risk management framework. Monitors the status of risk control of top risks (increasing severity of climate change impacts). Deliberation on the policies and plans listed below: <ul style="list-style-type: none"> Environmental Policy Environmental and Social Management Policy for Financing and Investment Activity Status of response to TCFD. Review of management system for responsible financing and investment.
	Sustainability Promotion Committee (Established January 2022)	Chairman: Group CEO (President & Group CEO) External experts (meeting as frequently as needed)	Deliberates and coordinates climate change-related matters.	<ul style="list-style-type: none"> Mizuho's Approach to Achieving Net Zero by 2050. Approach to setting targets for GHG emissions from our finance portfolio (Scope 3 targets). Sets electric power sector targets and works towards achieving those targets. Climate-related risk management system. Environmental and Social Management Policy for Financing and Investment Activity. Risk control policy for carbon-related sectors.

(1) Status of oversight discussions

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

Status of oversight discussions related to climate change (Feedback from outside directors and Risk Committee members)

- At present, there are many unresolved technological and fiscal issues that make it extremely difficult to achieve net zero by 2050. We must pool the collective strength of the Mizuho group and increase the added value of our solutions to these challenges.
- In order to decarbonize the entire portfolio, it is important to support not only the efforts of large corporate clients, but also those of middle market firms and small- and medium-sized enterprises.
- We must carefully consider the impact of engagement, and effective measures must be taken.
- Regarding transition finance, it is important to both verify transition plans at the time of executing a new transaction and to continue to confirm the progress on the plans afterward. Furthermore, the definition of “transition” should take into account stricter points of view, not only from Japan, but also from Europe and other regions.
- Regarding Japan’s efforts to address climate change risk, and taking into account global standards, it is essential to engage not only with corporate clients but also with governmental agencies and other stakeholders.
- It is important for us to acquire experts in the field of sustainability as well as train current employees in these matters.
- Regarding initiatives that are underway, it is important to conduct full disclosures while making improvements, and ensure understanding among our executives and employees about the status of said initiatives.

(2) Involvement of external experts

As mentioned above, the Risk Committee and the Sustainability Promotion Committee consult with external experts. Their specialist knowledge regarding sustainability and climate change is used by the committees to make recommendations to, and share information with, directors and executive officers.

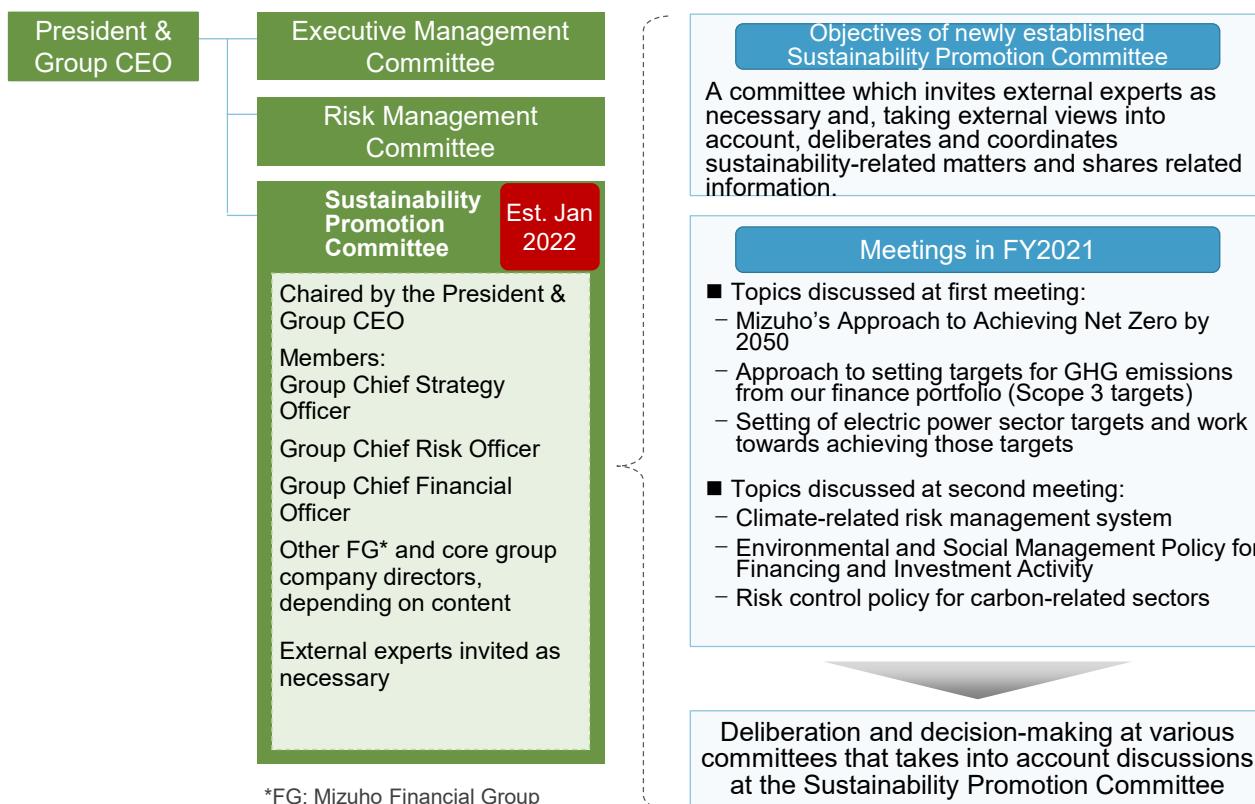
Risk Committee	Rintaro Tamaki (standing committee member)	(President, Japan Center for International Finance)
	Hiroshi Naka (standing committee member)	(Professor, The University of Tokyo Institute for Future Initiatives)
Sustainability Promotion Committee	Masako Konishi (first-time committee member)	(Expert Director (Conservation and Energy), WWF Japan)

(3) Establishment of the Sustainability Promotion Committee

We established a new Sustainability Promotion Committee within our business execution line to discuss and coordinate sustainability-related matters based on outside experts' advice towards further promoting sustainability across the group.

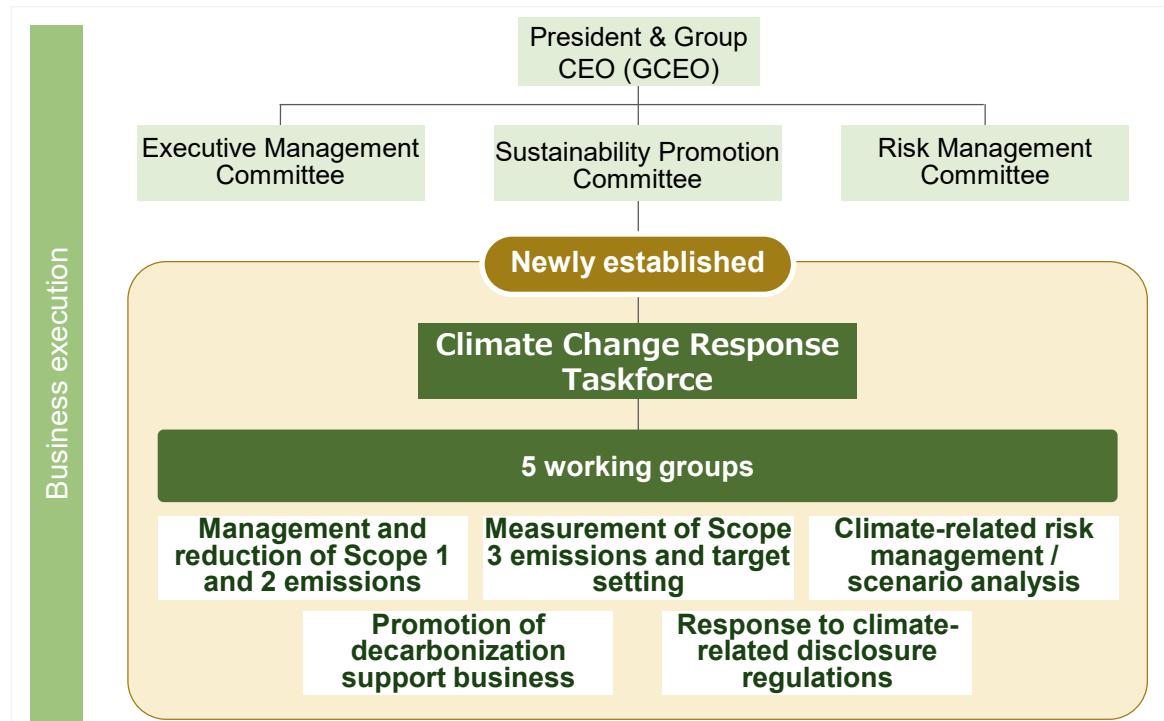
The committee met two times in FY2021. The President & Group CEO, Group Chief Strategy Officer, Group Chief Risk Officer, and Group Chief Financial Officer; heads of related companies, units, and groups; and the presidents of principle group companies (Mizuho Bank, Mizuho Trust & Banking, Mizuho Securities) were in attendance and took part in discussions. Also, as mentioned above, we welcomed an outside expert to join and share information at the first meeting of the committee.

The topics discussed are detailed below, and include Mizuho's Approach to Achieving Net Zero by 2050 and our climate-related risk management system.



2. Climate change-related promotion structure (business execution line)

We are strengthening and speeding up our initiatives with a view to further enhancing how climate change is addressed across the entire group. In FY2022, we have already launched five working groups that focus on themes relevant to our efforts. Multiple departments are working in partnership within these working groups. To oversee the working groups, we have also launched the Climate Change Response Taskforce. Reports on the progress of these initiatives will be presented at the Sustainability Promotion Committee, which will be attended by senior management, including the Group CEO. Matters that require decision-making will be settled at committee meetings as necessary.



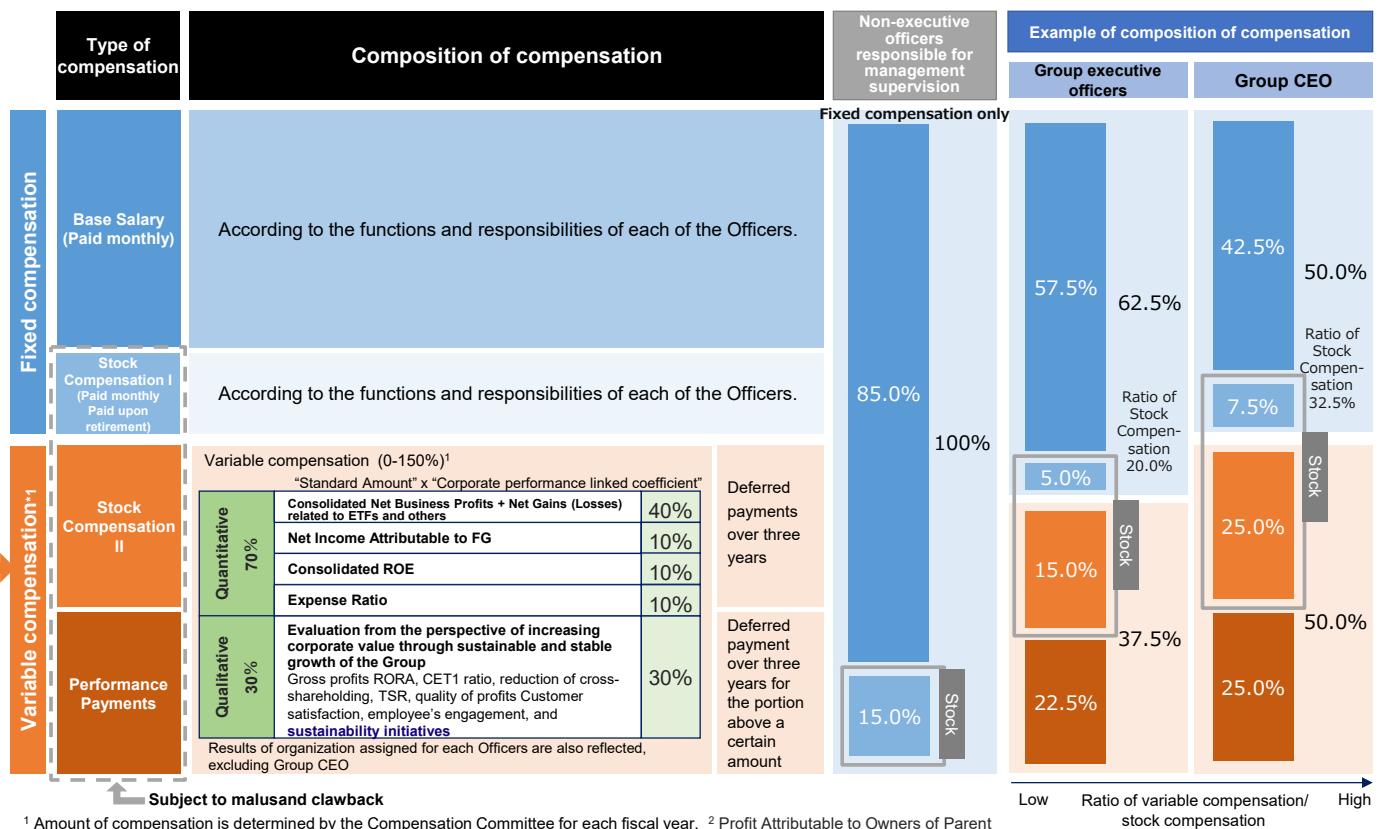
3. Corporate officer remuneration

As per Mizuho group's corporate vision, and based on the basic management policy, we aim to realize management that contributes to the creation of value for various stakeholders and improve corporate value through sustainable, stable growth for the Mizuho group. In order to do this, officers receive remuneration, which is equivalent in value to the responsibilities they carry and the results they produce, while simultaneously functioning as an incentive for each officer to fulfill their role to the best of their ability.

At Mizuho, we have positioned addressing climate change as a key part of our corporate strategy. For corporate officer remuneration, sustainability initiatives (including initiatives addressing climate change) that leverage evaluations comparing results from previous fiscal years and other companies, and that are conducted by the four main ESG evaluation agencies,⁸ are one of the factors that decide performance-based compensation (variable compensation).

⁸ Four main ESG evaluation agencies: S&P Dow Jones, Sustainalytics, MSCI, FTSE.

Figure 4: Corporate officer remuneration system



Performance-based compensation is determined by multiplying the base amount (decided based on the role and responsibilities of each corporate officer) by the performance-based attribution factor (calculated from both quantitative and qualitative data).

Quantitative evaluation

The evaluation is based on the target achievement rates for Consolidated Net Business Profits + Net Gains/Losses Related to ETFs and Others (which indicates the profitability of our core business), the Profit Attributable to Owners of Parent (which is the final result of business operations), and the Consolidated ROE and the Expense Ratio (which indicate operations efficiency). The target achievement rate for each indicator is capped at 150% and set at 0% if it falls below the target by a certain amount.

Qualitative evaluation

The qualitative items are evaluated comprehensively, ranging from 0 to 150%, from the perspective of increasing corporate value through the Mizuho group's sustainable and stable growth, based on items that, for example, cannot be recognized only by target achievement rates, such as the quality of profits (which takes into account comparisons with previous years and other companies) **and sustainability initiatives (which utilize comparisons with previous years and other companies that are evaluated by the four main ESG evaluation agencies (S&P Dow Jones, Sustainalytics, MSCI, and FTSE)).**

4. Strategy

1. Approach to climate change and plans

In April 2020, we established our Environmental Policy under the Mizuho Code of Conduct in order to clarify our stance on climate change as well as our environmental awareness and specific actions that we will take on environmental initiatives, including those targeting climate change, as we work toward transitioning to a low-carbon society. We have been implementing such initiatives on a group-wide basis. In April 2021, we revised our Environmental Policy, clarifying our contribution to achieving a low-carbon society by 2050, our support for the objective of the Paris Agreement, and our transformation to a portfolio aligned with the targets in the Paris Agreement.

In taking concrete steps forward with our response to climate change as outlined in our Environmental Policy, we are pursuing efforts to limit the rise in global temperature to 1.5°C. To this end, we formulated Mizuho's Approach to Achieving Net Zero by 2050, which demonstrates our aims and actions towards realizing a low-carbon society by 2050, and the Net Zero Transition Plan, which indicates the direction of our initiatives.

Based on these policies and plans, we are implementing initiatives responding to climate change, including supporting our clients' efforts to transition to a low-carbon society, and are disclosing information in line with the TCFD Recommendations.

Environmental Policy (excerpt)

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 as a financial services group 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 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.

Mizuho's Approach to Achieving Net Zero by 2050 (Formulated in April 2022)

Mizuho's goal

Climate change is one of the most important global issues, and it cannot be addressed unless all countries and all stakeholders make efforts to reach the same targets. It is necessary that responses to climate change be based on the best available science, including the expertise of the Intergovernmental Panel on Climate Change (IPCC).

Mizuho recognizes that the impact of climate change would be much less if the global temperature were to increase by 1.5°C instead of 2°C. We believe that the next ten years will be crucial in terms of limiting the rise in temperature to the 1.5°C target. This is why we are pursuing efforts to limit the temperature increase to this amount. As part of such efforts, Mizuho is aiming to become carbon neutral for Scope 1 and 2 greenhouse gas (GHG) emissions by FY2030, and to reduce Scope 3 GHG emissions produced via our finance portfolio to net zero by 2050.

We recognize that abrupt, disorderly changes can have severe economic and societal impacts. Accordingly, at Mizuho, we are aiming for an orderly, just transition.

Mizuho's steps to achieving net-zero emissions

At Mizuho, we recognize the importance of the role financial institutions play in achieving a net-zero real economy. Financial institutions should support clients' climate change countermeasures and the transition to a low-carbon society. This support should be grounded in an understanding that the transition process will differ by location and industry type. In order for us to fulfil our role as a financial institution, Mizuho conducts engagement with clients and requests that they share their transition strategies. Through this client engagement, we confirm the status of our clients' transition strategies and provide clients with support that facilitates the execution of said strategies. If a client shows no progress towards strategy execution despite multiple efforts to engage them to do so, we carefully consider whether or not to continue our business with them.

The road to net zero will vary by business location and industry type. Strong national leadership with effective policies and the establishment of next-generation technology are essential in speeding up the transition towards net-zero emissions. At present, there is a gap between, on the one hand, current commitments, government policy, and technology, and on the other hand, the road to limiting the global temperature increase to 1.5°C. At Mizuho, we believe we must work together with stakeholders to bridge this gap. Mizuho supports government policy aimed at an orderly transition in the jurisdictions where we operate. We do this through our business activities across regions and economies, industry groups, and initiatives. We also proactively support the development and application of innovative, clean, next-generation technology.

Further, Mizuho is continually enhancing our climate risk management for the purpose of stabilizing financial markets. In these ways, we are contributing to the achievement of a low-carbon society and the development of a climate change-resilient society by 2050.

Table 2: Net Zero Transition Plan (Formulated in April 2022)

Net-zero GHG emissions	<ul style="list-style-type: none"> ● Scope 1 & 2: Mizuho group GHG emissions to be carbon neutral by FY2030. ● Scope 3: GHG emissions resulting from our financing and investment. <ul style="list-style-type: none"> - Begin process of setting mid-term targets (to be reached by FY2030) in order to achieve net zero by FY2050. - Enhance measurement and disclosure of financed emissions.
Strengthen low-carbon business	<ul style="list-style-type: none"> ● Strengthen our support for the transition to a low-carbon society by engaging with clients and providing financial and non-financial solutions. <ul style="list-style-type: none"> - Implement sustainable finance (total of ¥25 trillion by FY2030). - Improve our ability to provide value chain / entire supply chain solutions. - Support innovation that contributes to decarbonization.
Enhance climate-related risk management	<ul style="list-style-type: none"> ● Continually enhance risk management frameworks and policies that aim to create a business base resilient to climate change-related developments. <ul style="list-style-type: none"> - Continually review our carbon-related sector risk exposure control policy and our Environmental and Social Management Policy for Financing and Investment Activity, and make efforts toward risk quantification.
Strengthen our stance	<ul style="list-style-type: none"> ● Strengthen our stance on achieving net zero. ● Participate in international initiatives and strengthen coordination with diverse stakeholders.

2. Achieving net zero

(1) Approach to Scope 3 targets (electric power) and strategy for achieving targets

We have a long-term goal of achieving net-zero GHG emissions from financing and investment by 2050. To make the pathway to reaching this goal more tangible, we are pressing forward with setting sector-specific mid-term targets (to be reached by FY2030), starting with priority sectors.

Mizuho's first mid-term targets were set for the electric power sector. These targets were formulated based on the NZBA's Guidelines for Climate Target Setting for Banks, discussed at Mizuho Financial Group's Executive Management Committee, and approved by the Board of Directors.

Metric	GHG emission intensity (kgCO ₂ /MWh) (GHG emissions per unit of power generated)
Targeted emissions	GHG emissions (Scope 1) from power generation projects belonging electric power sector corporations and ventures
Targeted power generation	Actual annual power generation from power sector corporations and ventures
Targeted assets	Loans (Total across corporate finance and project finance) ⁹
Metric formula	$\frac{\sum [\text{GHG emission intensity from company power generation} \times \text{outstanding company loan balance}]}{\text{Overall power sector outstanding loan balance}}$ <p>Total weighted average is calculated from Mizuho's loan balance and the emission intensity of corporations and ventures.</p>
Target year	Base year: FY2020 Target year: FY2030
Base year results	FY2020 emission intensity of 388 kgCO ₂ /MWh
Benchmark scenarios	<ol style="list-style-type: none"> IEA Net Zero Emissions by 2050 Scenario (NZE)¹⁰ (Scenario formulated under the assumption that worldwide GHG emissions are reduced to net zero by 2050.) IEA Sustainable Development Scenario (SDS)¹⁰ (Scenario which sees a 67% probability of limiting the rise in temperature to under 1.8°C, and a 50% probability of limiting the rise to 1.65°C. This scenario offers a gateway to the outcomes targeted in the Paris Agreement.)
Numerical target (range)	FY2030 emission intensity of 138 to 232 kgCO₂/MWh (Reduction of 40% to 65% compared to FY2020 results.)

⁹ This includes foreign exchange assets, acceptances, and guarantees. Combined figures for Mizuho Bank and Mizuho Trust & Banking.

¹⁰ International Energy Agency's World Energy Outlook 2021.

a. Approach to setting electric power sector targets

Basis for selecting the electric power sector	<ul style="list-style-type: none"> We recognize that the decarbonization of power generation is essential to the decarbonization of society and industries as a whole, and that it is important to reduce the emission intensity of power generation projects through actions like supporting the widespread adoption of renewable energy and the development and practical application of next-generation technology. Emissions from the electric power sector make up a large proportion of emissions from Mizuho's financing and investments. (Detailed explanation on p. 61: Measurement of financed emissions based on PCAF) Mizuho has appointed companies whose primary businesses are in coal-, oil-, or gas-fired power generation as belonging to transition risk sectors. Focusing on the medium to long term, we are formulating policies to support these companies in their climate change countermeasures and transition to a low-carbon society. Progress is being made in the electric power sector in establishing GHG emission disclosures, transition pathways to net zero by 2050, and a variety of international guidance.
Approach to metrics and emission intensity	<p>Targets are measured in emission intensity (GHG emissions per unit of power generated) for the reasons below.</p> <ul style="list-style-type: none"> It is important to reduce the emission intensity of power generation projects through actions like supporting the widespread adoption of renewable energy and the development and practical application of next-generation technology in order to achieve the decarbonization of society and industries as a whole. As part of the process of transitioning to a low-carbon society, the growing energy demand in emerging economies and the promotion of electrification has made it necessary to respond to an increase in demand for electric power. If targets were set based on absolute emissions, there is a possibility that finance flows intended for the growth and expansion of power generation projects with low emission factors could be impeded.
Target applicability	<ul style="list-style-type: none"> Targets apply to Scope 1 GHG emissions from power generation projects. These projects are responsible for the majority of emissions from the electric power sector. Out of the electric power sector companies (companies whose main business is electric power¹¹⁾ in Mizuho's finance portfolio, targets apply to corporate finance for companies with power generation projects and project finance for power generation projects. <p>Note: Includes close to 100% of targeted project.</p> <p>The NZBA stipulates that companies receiving more than 5% of their revenue from power generation projects should fall within the scope of these targets. There is currently no set method for specifying the applicability of companies, and this is an issue for future consideration.</p>
Approach to benchmark scenarios	<ul style="list-style-type: none"> In line with the Paris Agreement, we are pursuing efforts to hold the increase in the global average temperature to well below 2°C and to limit the temperature increase to 1.5°C. Accordingly, we have set a targeted value range. Because the NZBA, with regard to scenario selection, requires that scenarios limit end-of-century global temperature increase to 1.5°C, that the scenarios selected be "no-overshoot" or "low-overshoot" scenarios, and that the scenarios come from credible, well-recognized sources, we have selected the IEA scenarios below. <ol style="list-style-type: none"> Minimum value: 138 kgCO₂/MWh In alignment with the IEA's NZE scenario, which sees the rise in temperature limited to 1.5°C. This is the level we should aim for in order to pursue efforts to limit temperature increase to 1.5°C. Maximum value: 232 kgCO₂/MWh In alignment with the IEA's SDS Scenario, which sees a 67% probability of limiting the rise in temperature to under 1.8°C, and a 50% probability of limiting the rise to 1.65°C. <p>The road to net zero by 2050 will vary by business location, and so targets should be set with consideration for region-specific characteristics and support for the achievement of Nationally Determined Contributions (NDCs). For this reason, country-specific SDS scenarios are calculated using country-specific portfolios, and targets are set accordingly.</p>

¹¹ Sectors are determined based on which sector represents the largest component in the sales of a company's business activities. Regarding our classification method, we determine sectors based on the industry type classification established by the Bank of Japan.

Data source	<ul style="list-style-type: none"> Information disclosed by clients, Bloomberg, meeting discussion points, etc. <p>For companies that do not calculate or disclose GHG emissions (which represent 13% of the total amount of targeted electric power sector loans), we estimated the base year results using the emission factor for the company's host country. Ascertaining accurate emission data is an issue for future consideration.</p>
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b. Efforts to achieve electric power sector targets

Mizuho will treat the steps to achieving net-zero emissions set out in Mizuho's Approach to Achieving Net Zero by 2050 as guiding principles when making efforts to achieve our mid-term targets by 2030.

We will implement the electric power sector initiatives listed below.

Strengthen engagement and support transition	<ul style="list-style-type: none"> Provide both financial and non-financial solutions, starting with engagement to help clients reduce their emission intensity by facilitating their business structure transformation and transition risk responses. <ul style="list-style-type: none"> Leverage Mizuho's strengths, such as industry expertise and ESG consulting, to support the planning and execution of clients' transition strategies. Promote transition finance in order to provide financing for such transitions.
Promote sustainable finance and environmental finance	<ul style="list-style-type: none"> Promote sustainable finance and environmental finance. <ul style="list-style-type: none"> Target: FY2019 to FY2030 total of ¥25 trillion (of which, ¥12 trillion in environmental finance) Provide environmental conservation and climate change response financing through initiatives including project finance for renewable energy, green loans, and green bonds.
Support the development and practical application of next-generation technology	<ul style="list-style-type: none"> Proactively support the development and practical application of next-generation technology. <ul style="list-style-type: none"> April 2022: Set an investment budget for transition areas. Commenced operations with an expected investment budget of over ¥50 billion.
Reduce credit balance for coal-fired power generation facilities	<ul style="list-style-type: none"> Prohibit financing or investment for use in the new construction of coal-fired power plants and the expansion of existing facilities. Target to reduce the outstanding credit balance for coal-fired power generation facilities based on our Environmental and Social Management Policy for Financing and Investment Activity: <ul style="list-style-type: none"> Reduce the FY2019 amount by 50% by FY2030, and achieve an outstanding credit balance of zero by FY2040.
Strengthening risk management	<ul style="list-style-type: none"> Risk management based on risk control in carbon-related sectors. <ul style="list-style-type: none"> Appoint companies whose primary businesses are in coal-, oil-, or gas-fired power generation as belonging to transition risk sectors. Confirm the status of our clients' measures to address transition risk at least once a year through engagement. Encourage clients to formulate transition strategies, set quantitative targets, and execute detailed plans.

(2) Strategy for achieving Scope 1 and 2 targets

In April 2022, Mizuho revised our Scope 1 and 2 targets for GHG emissions from seven group companies in and outside Japan, and we brought forward our target date for becoming carbon neutral from FY2050 to FY2030.

New target for GHG emissions from seven group companies¹² in and outside Japan (Scope 1 and 2):

Carbon neutral by FY2030 (Carbon neutrality to be maintained thereafter)

Emissions from electricity usage in Japan account for approximately 80% of CO₂ emissions across the seven group companies (Scope 2 emissions). As a first step towards achieving our targets, we will proceed with gradually shifting our power contracts in Japan to renewable energy, giving priority to our large-scale contract properties. Furthermore, regarding properties that a group company occupies as a tenant, we will aim to shift power contracts to those that are in effect using renewable energy options by approaching the topic with the owner. At the same time, we will consider the introduction of corporate power purchase agreements.¹³

We will also continue to consider methods that can directly reduce Scope 1 emissions, such as the adoption of electric vehicles.

While a number of our offices outside of Japan are already making use of renewable energy, we will press forward with the shift to renewable energy using available methods in accordance with the local conditions at each individual office.

Table 3: Progress towards achieving our Scope 1 and 2 targets and our policy going forward

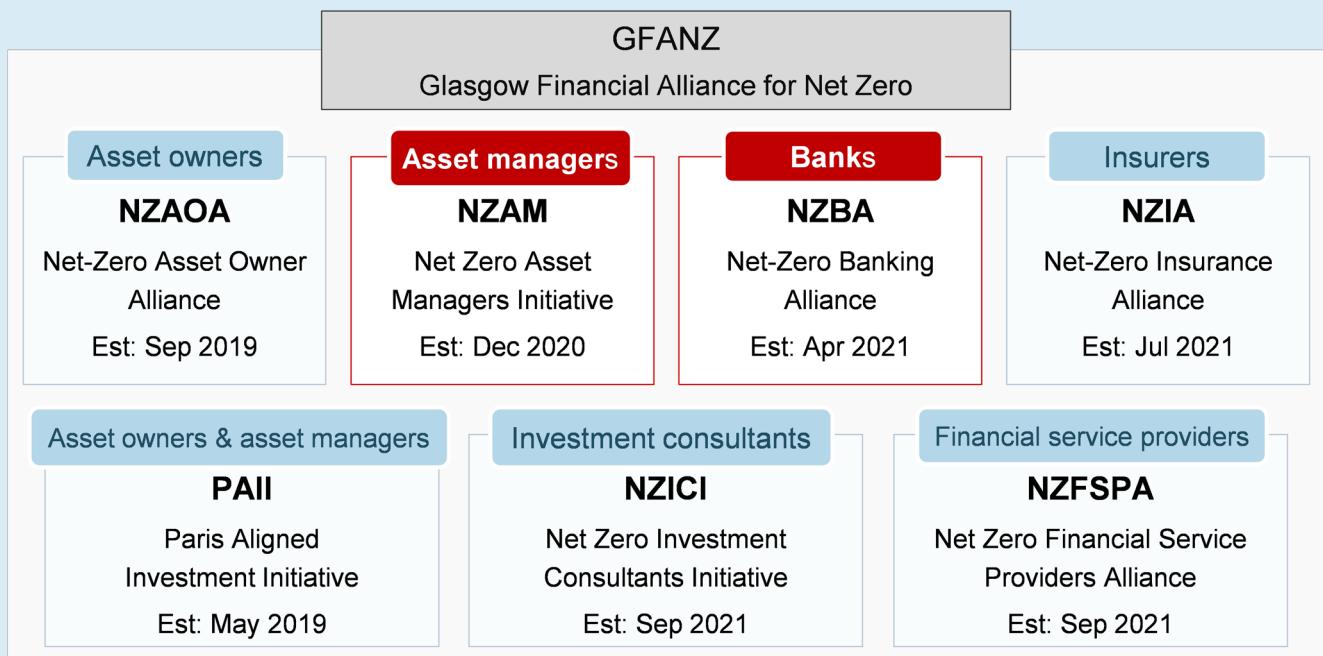
Progress	Policy going forward
Switch to renewable energy <ul style="list-style-type: none"> Considering how to make use of renewable energy in order to revise targets. Adopting renewable energy at some offices in Japan. Switching to renewable energy at some offices in Europe. 	<u>In Japan</u> <p>Handling Scope 2 emissions (Switch to renewable energy)</p> <ul style="list-style-type: none"> Gradually shift our power contracts in Japan to renewable energy. In cases where Mizuho is a tenant and has not entered directly into a power contract, approach owners about shifting power contracts to renewable energy. Consider / implement corporate power purchase agreements. <p>Handling Scope 1 emissions (Switch to electric vehicles (EVs))</p> <ul style="list-style-type: none"> Consider adoption of EVs. <p>Outside of Japan</p> <ul style="list-style-type: none"> Promote shift to renewable energy using available methods in accordance with the circumstances at each department, branch, and office.

¹² Mizuho Financial Group, Mizuho Bank, Mizuho Trust & Banking, Mizuho Securities, Mizuho Research & Technologies, Asset Management One, and Mizuho Americas.

¹³ When a company (or consumer) enters into a long-term power purchase agreement directly with an independent power company.

Participation in the NZBA and NZAM

Mizuho is participating in international initiatives that come under the umbrella of the Glasgow Financial Alliance for Net-Zero (GFANZ), which aims to reach net zero by 2050. As such, we are advancing initiatives in collaboration with financial institutions from around the world. Mizuho Financial Group has joined the NZBA, and Asset Management One has joined the NZAM.



(1) Participation in the NZBA

The Net-Zero Banking Alliance (NZBA) is an international initiative between banks aiming to align their lending and investment portfolios with net-zero greenhouse gas emissions by 2050. The United Nations Environment Program Finance Initiative (UNEP FI) was established in April 2021, and Mizuho Financial Group joined the initiative in October 2021. As of April 2022, 108 banks representing 40 countries have joined the NZBA, representing 38% of global banking assets. NZBA member banks take the following actions.

Commitment by members of the Net-Zero Banking Alliance (outline)

Main actions of Net-Zero Banking Alliance (NZBA) members

- Transition the GHG emissions from their lending and investment portfolios to align with pathways to net-zero by 2050 or sooner.
- Within 18 months of joining, set 2030 targets (or sooner) and a 2050 target. Periodically review all targets, taking into account the best available scientific knowledge (including the findings of the IPCC).
- Within 36 months of joining, banks will set targets for all or most of the GHG-intensive industries below:
Agriculture, aluminum, cement, coal, oil and gas, commercial and residential real estate, iron and steel, power generation, transport.
- Annually publish absolute emissions and emissions intensity.

The NZBA commitment is designed to ensure that banks engage with their clients' transition and decarbonization, promoting real economy transition. Banks will therefore undertake to do the following:

- Facilitating the necessary transition in the real economy, through prioritizing client engagement and offering products and services to support clients' transition.
- Engaging on corporate and industry (financial and real economy) action, as well as public policies, to help support a net-zero transition of economic sectors in line with science and giving consideration to associated social impacts.
- Supporting innovation, the near-term deployment of existing viable technologies, and scaling up the financing of credible, safe, and high-quality climate solutions that are compatible with other Sustainable Development Goals.

Through joining the NZBA, we have clarified our commitment to aim for net-zero GHG emissions from our financing and investment by 2050. We set our first sector-specific target in May 2022: our mid-term FY2030 target for the electric power sector. We will continue to set medium- to long-term science-based targets, formulate action plans, and advance disclosures on our progress.

In order to support our clients' transitions and decarbonization, we will continually support innovation and provide solutions including transition finance, with client engagement as our starting point.

(2) Participation in the NZAM

The Net Zero Asset Managers initiative (NZAM) is an initiative launched by an international group of asset managers in December 2020. The NZAM's Steering Committee is formed from six investor networks, including the Asia Investor Group on Climate Change (AIGCC). The Steering Committee is responsible for the coordination of the initiative, and an Advisory Group of six asset manager signatories informs the Steering Committee in its management of the initiative. As of December 31, 2021, NZAM has 236 signatories, with approximately USD 57.5 trillion in assets under management (AUM).

The main commitments of the NZAM are listed below.

- Commit to support the goal of net zero greenhouse gas (GHG) emissions by 2050, in line with global efforts to limit warming to 1.5°C ('net zero emissions by 2050 or sooner').
Commit to support investing aligned with net zero emissions by 2050 or sooner.
- Work in partnership with asset owner clients on decarbonisation goals, consistent with an ambition to reach net zero emissions by 2050 or sooner across all assets under management (AUM)
- Set an interim target for the proportion of assets to be managed in line with the attainment of net zero emissions by 2050 or sooner.
- Review the interim target at least every five years, with a view to ratcheting up the proportion of AUM covered until 100% of assets are included.

Asset Management One (AM-One) was one of the NZAM's 30 founding signatories, and its only Japanese signatory at the time. AM-One also served as a member of the Advisory Group during its first year.

In September 2021, AM-One set its 2030 interim target as committing ¥30 trillion (USD 273 billion) worth of investment assets out of total AUM (¥57 trillion as of the end of March 2021) to align with the net zero scenario. This target is in line with the NZAM's commitments.

AM-One will especially focus on the following three actions to move closer to achieving its targets.

Establish products that promote net zero	AM-One will establish active funds for investing in companies that maximize corporate value through initiatives dealing with important ESG challenges, like climate change, that threaten the viability of our society. AM-One will also establish particular passive funds for conducting net zero-focused client engagement. These funds will allow AM-One to make progress towards achieving net-zero GHG emissions for AUM, and increase support from clients.
Further enhance client engagement	Follow on from stewardship activity efforts to date by further strengthening client engagement to enable the implementation of business model changes. These changes should contribute to the decarbonization of investee companies.
Strengthen coordination with government and related institutions	AM-One will promote the shift to net zero across the entire investment chain by strengthening coordination with the TCFD Consortium (of which it is a member), as well as government and related institutions that are involved with review meetings of the Ministry of Economy, Trade and Industry and the Ministry of the Environment.

In line with AM-One's corporate message of "Creating a sustainable future through the power of investment", AM-One is aiming to contribute to the future as an asset management company through continued collaborations with clients, investee companies, government and related institutions, and global asset managers.

(See AM-One's website for details about company initiatives: <http://www.am-one.co.jp/english/information/sustainability/>)

3. Recognizing the opportunities created for the Mizuho group by climate change

Climate change is one of the most important global issues that our stakeholders should be addressing. Mizuho's clients are also expected to formulate and implement climate change countermeasures and strategies for transitioning to a low-carbon society.

Much remains unestablished regarding the technology and business models needed to support our clients' transition strategies and make decarbonization a reality. Technological innovation and a large amount of investment are needed for clients to implement concrete action plans.

At Mizuho, we see client investment in technological and business model development aimed at decarbonization as an opportunity. Using client engagement as a starting point, we are proactively supporting our clients' transitions to a low-carbon society and their climate change countermeasures.

Figure 5: Reference – Investment amount estimates for becoming carbon neutral

Expected investment amount in Japan through 2050 (Projected by Mizuho)

Expected investment amount	
Investment outlays in Japan through 2050	Approx. ¥470 trillion ¹
Renewables Capital outlay for introduction	Approx. ¥55 – 95 trillion ²
Debt financing portion	Approx. ¥280 trillion (Japanese firms' debt ratio: approx. 60%)
Climate change-related sustainable finance market may <u>expand to up to</u> approx. ¥10 trillion per year	
1: Required global investment set out in the IEA World Energy Outlook 2021 (NZE scenario) report of USD 4 trillion/year x Japan's 3.2% share of global emissions = ¥16.3 trillion/year. Equal investment amounts assumed for each of the 29 years in the 2022 – 2050 period. Japanese capex and R&D outlays of ¥45 trillion (past ten-year average for companies issuing securities reports) x 40% (switchover to Green Transformation (GX) investment) = ¥18 trillion. 2: Source: Industry Research Department, Mizuho Bank, Mizuho Industry Research #70 "Considering Japanese Industry in 2050: Structural transformation and industrial fusion to realize the ideal form".	

Expected investment amount through 2030 (Projected by the Japanese government)

Item	Expected investment amount through 2030 (approx.)	Investment examples	Investment amount (approx.)
Energy decarbonization / fuel switching	¥5 trillion/year	Renewable energy (through feed-in tariff (FIT) / feed-in premium (FIP) programs and others) Hydrogen / ammonia (investment in hydrogen and ammonia infrastructure development) Battery energy storage manufacturing (in-vehicle / stationary)	¥2 trillion ¥0.3 trillion ¥0.6 trillion
Industrial decarbonization	¥2 trillion/year	Improving energy efficiency of manufacturing processes / decarbonization (next-generation manufacturing process technology, carbon neutral power generation technology, etc.) Adoption of industrial heat pumps, cogeneration technology, etc.	¥1.4 trillion ¥0.5 trillion
End use	¥4 trillion/year	Adoption of highly energy efficient homes and buildings Adoption of next-generation vehicles	¥1.8 trillion ¥1.8 trillion
Infrastructure development	¥4 trillion/year	Power grid reinforcement and expansion (master planning) Electric vehicle infrastructure development (charging stations, hydrogen stations) Digital society initiatives (semiconductor manufacturing base, data center establishment)	¥0.5 trillion ¥0.2 trillion ¥3.5 trillion
Research and development	¥2 trillion/year	Carbon recycling (CO ₂ separation and capture, synthetic methane, synthetic fuel, sustainable aviation fuel, etc.) Development of manufacturing processes that contribute to carbon neutrality (e.g. hydrogen steelmaking) Nuclear power (e.g. innovative reactor R&D) Carrying out innovative carbon capture and storage projects	¥0.5 trillion ¥0.1 trillion ¥0.1 trillion ¥0.6 trillion
Total	¥17 trillion/year		

Source: "Discussion Regarding the Creation of a Clean Energy Strategy" Industrial Science and Technology Policy and Environment Bureau and Agency for Natural Resources and Energy, Ministry of Economy, Trade and Industry.

Table 4: (Reference) Examples of investment areas aimed at achieving carbon neutrality, by sector

Electric power	Sources of renewable energy (solar, onshore / offshore wind farms, next-generation solar, etc.), thermal energy generation (hydrogen / ammonia, biomass, carbon capture utilization and storage (CCUS)), next-generation nuclear, reinforcement of the power grid, storage batteries, supply-demand adjustment
Oil and gas	Construction of supply chain for hydrogen / ammonia, methanation, synthetic fuel, e-fuel, sustainable aviation fuel, green LP gas, CCUS, recycling of waste plastic
Steel	Utilization of hydrogen (COURSE50, SuperCOURSE50, hydrogen direct reduction), use and growth of electric furnace steel manufacturing, CCUS, ferro-coke, utilization of scrap
Chemicals	Heat conversion (utilizing hydrogen / ammonia, electrification, high-efficiency naphtha cracking furnaces), raw material conversion (biomass, methanation, artificial photosynthesis, CCUS), raw material circulation (recycling of chemicals / materials)
Cement	Heat conversion (biomass, hydrogen / ammonia, electrification), CCUS (Recycling carbon as cement)
Paper and pulp	Heat conversion (biomass, hydrogen / ammonia, electrification), cellulose nanofibers, plastic alternatives
Automobiles	Electric-powered vehicles (EVs, PHEVs, HEVs, FCVs), storage batteries (nickel, cobalt, lithium, copper), charging stations / hydrogen stations, synthetic fuel (e-fuel)
Distribution	Fuel cell trucks, ships using carbon-neutral fuel, utilizing sustainable aviation fuel in aircrafts / electrification of aircrafts, construction of supply chain for hydrogen / ammonia, development of carbon-neutral ports
Electronics / communications	Power semiconductors, communications infrastructure (data centers, base stations), 5G / 6G, photoelectric fusion technology (IOWN)
Consumer / household	Electrification, Zero Energy Buildings (ZEBs) / Zero Energy Houses (ZEHs), Building and Energy Management System (BEMS), shift to constructing buildings from wood, stable operation of the Community Energy Management System
Negative emissions	CCUS, direct air carbon capture and storage (DACCs), bioenergy with carbon capture and storage (BECCS), measures for forests

Reference: Industry Research Department, Mizuho Bank, Mizuho Industry Research #70 "Considering Japanese Industry in 2050: Structural transformation and industrial fusion to realize the ideal form".

https://www.mizuhogroup.com/binaries/content/assets/pdf/mizuho-bank/insights/industry/1070_1en.pdf

(1) Engagement with clients

By undertaking engagement (constructive dialogue with clear objectives, such as the promoting of clients' sustainability initiatives) while considering clients' sustainable growth, improved corporate value, and strengthened industrial competitiveness over the medium to long term, we will actively develop and provide financial products and services to support clients' initiatives to transition to a low-carbon society. We are also strengthening our climate change response-related engagement from the standpoint of risk management and responsible financing and investment.

In FY2021, we implemented engagement with around 1,000 corporate clients as part of our risk management and responsible financing and investment. Through this, we confirmed the status of our clients' responses to environmental and social risk. We will continue to confirm these at least once a year.

We captured business opportunities and implemented engagement aimed at promoting clients' sustainability initiatives with around 1,300 corporate clients (around 600 middle market firms and small- and medium-sized enterprises, and around 700 large corporations). We are involved in discussions with, and are making suggestions to, around 600 of those clients, with the aim of providing them with climate change response-related financial and non-financial solutions.

We are strengthening our responses to both opportunities and risks through engagement, or constructive, purposeful dialogue such as encouraging our clients to move towards sustainability

Engagement from the perspective of responsible investment

Approx. 1,000 companies^{*1}

- Check status of responses to environmental and social risks
- Dialogue with transition risk sector clients on responses to climate change response risks

Engagement aimed at promoting client initiatives for sustainability

Approx. 1,300 companies (of which, 600 are climate change)¹ (Approx. 600 small/midsize company clients, approx. 700 large company clients)

- Discussions and proposals towards support² such as planning and carrying out appropriate risk management and strategies related to sustainability for clients

¹ April 2021 - March 2022 (preliminary figures)

² Support by providing both financial and non-financial solutions

Development and provision of solutions from both financial and non-financial sides to suit the characteristics and needs of client segments.

Middle-market clients and SME clients

- Expansion of SDGs promotion support financing through in-house qualifications holders (approx. 2,000 people) (approx. 530 cases in FY2021)
- Construction of a network with external partners for supporting client's sustainability management promotion
- Specific support for transition strategies towards decarbonization

Large corporate clients

- Consulting support utilizing our industrial knowledge, environmental and technological expertise, etc. (approx. 500 cases in FY2021)
- Support for initiatives to improve non-financial value with a broad range of themes based around environmental and social issues
- Specific support for transition strategies towards decarbonization

Promoting client engagement

At Mizuho, we recognize the importance of the role financial institutions play in achieving a net-zero real economy. Financial institutions should support clients' climate change countermeasures and the transition to a low-carbon society. This support should be grounded in an understanding that the transition process will differ by location and industry type. In order for us to fulfil our role, we undertake engagement with clients and request that they share their transition strategies. Through this engagement, we confirm the status of our clients' transition strategies and provide clients with support that facilitates the execution of said strategies. Examples of specific client engagement are detailed below.

(1) Client engagement aimed at business structure transformation in carbon-related sectors (Tokyo Gas (Japan / Gas))



Tokyo Gas has made a net-zero CO₂ declaration ahead of other companies in the same industry. Mizuho is pursuing further initiatives with Tokyo Gas via the engagement detailed below.

- Proposals and discussions about initiatives aimed at achieving carbon neutrality by 2050.
- Proposals and discussions about financing methods, including transition finance, and financial strategies.
- Discussions aimed at making full use of new technologies such as hydrogen.

- Support for the formulation of a transition finance framework (ensuring that it aligns with the sector-specific technology roadmaps formulated by the Japanese government)

Through proposals and discussions at each group company, we are providing financing to support Tokyo Gas' transition strategy for achieving decarbonization. This includes Mizuho Securities serving as a structuring agent for financing (transition bond) that will support Tokyo Gas in its transition efforts.

Client feedback

- In November 2019, Tokyo Gas published "Compass 2030", their Group Management Vision. "Achieving net-zero CO₂" was announced as one of the key commitments of "Compass 2030". Since then, initiatives to accomplish this goal have been gaining momentum. In order to achieve net-zero CO₂ emissions, Tokyo Gas plans to invest around ¥2 trillion in growth areas including decarbonization, as well as proactively make use of transition finance for related funding. Building on these plans, Tokyo Gas issued a transition bond in March 2022, becoming the first Japanese energy company to do so.
- Through the issuing of a transition bond, Tokyo Gas communicated the importance of natural gas for the transition to a low-carbon society, as well as its own transition strategy, to financial markets and society as a whole. Mizuho, as the structuring agent, made use of extensive experience and strong stakeholder relationships to make proactive proposals and provide support.
- Going forward, Tokyo Gas expects to continue receiving proposals and support regarding financing (including transition finance) and making full use of new technology like hydrogen.

(2) Fusion of decarbonized solutions and finance (Aeon Mall (Japan / Real Estate))



To flesh out the process of switching to a 100% renewable electric power supply, proposals and discussions were held on multiple occasions regarding various options that contribute to renewable energy procurement. These discussions were centered around Mizuho Bank's corporate banking departments, but also attended by representatives from Mizuho Bank's Industry Research Department, Mizuho Securities, and Mizuho Leasing. Aeon Mall's needs included a shift in goals from procuring effectively CO₂-free energy to having malls under direct management run on 100% locally generated renewable energy. Mizuho Bank, Mizuho Securities, and Mizuho Leasings worked with a power generation operation and maintenance (O&M) company to propose a low-pressure / distributed solar power generation facility with a self-consignment system, leading to a basic agreement on what will be one of the largest-scale projects of its kind in Japan.

Mizuho is supporting specific initiatives conducted as part of Aeon Mall's transition to a low-carbon society by leveraging our financial and non-financial expertise and providing decarbonized solutions and financing in collaboration with the power generation O&M company.

Client feedback

- Background, significance, and outlook:

The concept behind this initiative is for Aeon Mall to use locally generated electricity, and to ensure that customers understand the initiative.

Aeon Mall plans for all facilities under direct company management to be powered by local renewable energy by 2040. With solar energy procurement as the first step, going forward, Aeon Mall intends to make full use of wind, biomass, and other power generation methods, storage batteries, and more. Further, it will quantify its customers' pro-environment efforts, such as making use of renewably sourced electric power for their EVs (V2AEON MALL), planting trees, and recovering discarded plastic. This quantification makes it possible to connect increased awareness of environmental efforts with systems for awarding points and will allow Aeon Mall to build a low-carbon society together with its customers.

➤ Discussions aimed at providing solutions:

Through this project, which involves Mizuho, Aeon Mall, and a power generation O&M company, Mizuho has carried out project management that leverages our expertise in both financial and non-financial services. Our efforts led to an agreement being reached smoothly and quickly, a first step towards achieving a low-carbon society.

➤ Expectations for Mizuho going forward:

There are hopes for this initiative between Mizuho and a large-scale consumer to pave the way for the adoption of renewable energy throughout the country. This initiative is the first step towards achieving the local renewable energy system desired by Aeon Mall. With regards to future initiatives for increasing the energy supply and diversifying the forms of power generation, support is expected from a collaboration between Mizuho and a partner company from Mizuho's network.

(3) Discussing the achievement of a low-carbon society through senior level engagement (Canada / Energy)

In order to engage in deeper conversations with the heads of companies, we reached out to the CEOs of multiple major companies in Canada and the US that have connections to the energy sector. We held a roundtable discussion with them, which featured conversations about initiatives for making a low-carbon society a reality.

Main opinions and discussion points

- Due to COP26 and changes in the external business environment, including demand for energy exceeding supply, it is possible that the decarbonization movement may temporarily lose momentum. But, in the medium to long term, the shift towards renewable energy that can be both low in cost and generated locally will continue.
- With the current situation being what it is, there is growing importance for fossil fuels in terms of their role in the energy transition. This should be taken into consideration.
- There are challenges such as the effect soaring energy prices have on voting behavior and political agendas, especially in developing countries. In some regions there is a trend to use coal-fired power more.
- The establishment and adoption of innovative technology necessitates looser restrictions and more flexibility from regulatory authorities.
- As companies around the world push forward with decarbonization-focused commitments and initiatives, the presence of ESG elements in communications with investors and other stakeholders continues to be of importance. There is a high investor appetite for decarbonization (including green energy, technological innovation) investments.

(4) Engagement for promoting climate change countermeasures at middle market firms and small- and medium-sized enterprises (Japan / Various sectors)

In the midst of accelerating company-led climate change-related initiatives, there are demands for environmental and social initiatives that span entire supply chains. However, in order to further advance climate change countermeasures, it is essential to receive cooperation not only from large corporations, but also from middle market firms and small- and medium-sized enterprises (SMEs). We have many clients who, despite acknowledging climate change countermeasures being an operational challenge that needs to be faced, are unsure about setting targets and worried about what action to take. For this reason, Mizuho is enhancing our middle market firm and SME-oriented sustainability-related financing and consulting support, with engagement as a starting point.

We provide solutions through both financial and non-financial services. Specifically, we have approximately 2,000 relationship managers who have gained internal qualifications related to SDGs. Through conversing with clients and using simple diagnostic tools, we are providing support free of charge to clients who are clarifying the purposes and challenges of SDG-related initiatives, setting targets, and planning measures. Along with this, we are also providing financing such as SDG initiative support loans and private placement bonds for clients who have announced targets for SDG-related initiatives. Also, we are supporting middle market firms and SMEs in their efforts to design climate change countermeasures with our Mizuho Sustainability-Linked Loan Pro product. These loans are arranged through a framework independently developed by Mizuho Bank based on the internationally recognized Sustainability Linked Loan Principles.

(5) Promoting initiatives through enhanced RM and client engagement

Mizuho is paying special attention to improving employee knowledge and skills. Part of this is assisting relationship managers (RMs), who are responsible for direct client engagement, in expanding their expertise about sustainability, including climate change, and strengthening their ability to identify clients' challenges and make proposals. Regarding transition finance, and other themes of particular interest to clients, we have been holding informational sessions tailored to the characteristics of our client segments. We are also encouraging Mizuho Bank employees to acquire certification in sustainable business.

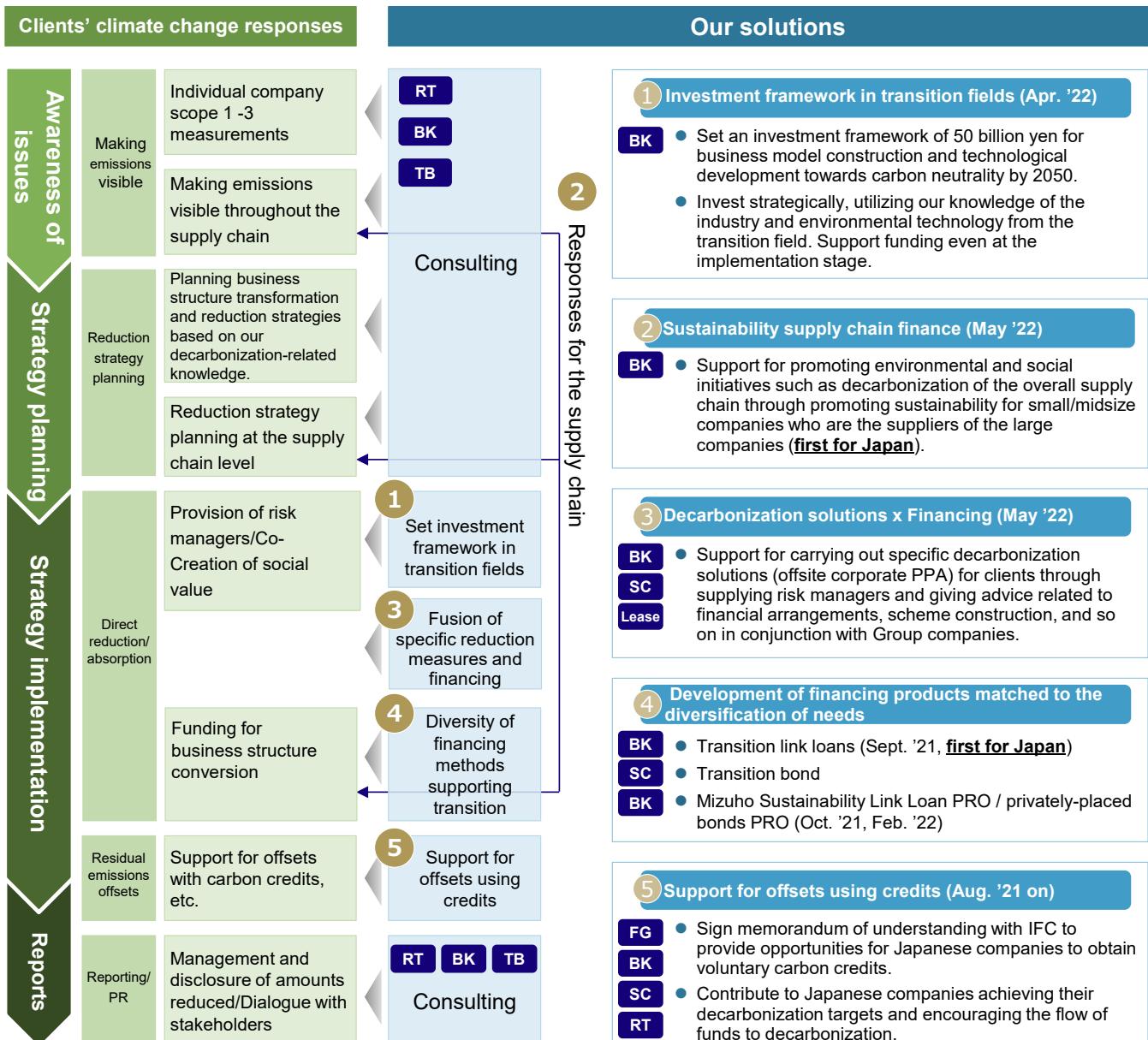
Target	Initiatives for enhancing knowledge	Topics
All employees	<ul style="list-style-type: none"> ● Training programs for all employees 	<ul style="list-style-type: none"> ● Trends and basic knowledge related to sustainability
RMs for middle market firms & SMEs	<ul style="list-style-type: none"> ● Information sessions for frontline offices: Held 7 times in FY2021, approx. 500 participants per session (Approx. 3,500 participants in total) ● Expanding certification in SDG initiative support finance: Approx. 2,000 RMs (90% of all RMs) ● Approx. 1,000 people passed level 2 of the CSR proficiency test ("Sustainability management expert") 	<ul style="list-style-type: none"> ● Knowledge (Basic knowledge, approach to sustainable business at financial institutions, etc.) ● Actions (Implementation frameworks, products/main factors, case studies)
RMs for large corporate clients	<ul style="list-style-type: none"> ● Information sessions for frontline offices: Held 9 times in FY2021, approx. 600 participants per session (Approx. 5,000 participants in total) 	<ul style="list-style-type: none"> ● Successful business dealings (transition and other finance), implementation frameworks, sector-specific policies, trends in industry and technology, regulatory trends
RMs outside of Japan	<ul style="list-style-type: none"> ● Global ESG Champion Meeting (Participation from the Americas, EMEA, Asia & Oceania, East Asia, and Japan) 	<ul style="list-style-type: none"> ● Sustainable business strategies at Mizuho, implementation frameworks and initiatives at our branches and offices

(2) Providing solutions that support clients' transition to a low-carbon society

Clients' initiatives in the area of decarbonization are steadily progressing into a concrete stage of transition strategy formulation and implementation.

At Mizuho, we are expanding solutions for each stage of corporate conduct towards decarbonization and strengthening initiatives across entire value chains and supply chains. We are doing this by monitoring GHG emission levels, formulating and implementing emission reduction plans and transition strategies, and utilizing carbon credits to offset our remaining emissions.

Figure 6: Solutions that support the transition to a low-carbon society



Going forward, we will actively provide financial support to clients implementing transition strategies, while also leveraging our long-cultivated industrial and environmental technology expertise to further expand our ability to provide both financial and non-financial solutions.

(3) Results of sustainable finance and environmental finance promotion

We have been pursuing the long-term target we set for sustainable finance and environmental finance in April 2020 (FY2019 to FY2030: ¥25 trillion, of which ¥12 trillion for environmental finance).

We are making strong progress, as our overall result for FY2019 to FY2021 was ¥13.1 trillion (of which the result for environmental finance was ¥4.6 trillion). The expansion of general corporate purpose instruments financing (sustainability-linked loans, transition-linked loans) and the increase in the number of clients for whom we raise funds through sustainable finance are two examples of how finance-related needs are diversifying. Based on the deep understanding of clients' issues and needs we have gained through engagement, we will continue to develop and provide new financial products that integrate both financial and non-financial elements.

Table 5: Sustainable finance performance, by type of financing

Finance area	Product and service area	Mizuho's main products and services	Applicable business area	Results (Unit: ¥1 trillion)
				FY2019 to FY2021
Environmental finance	Project finance for renewable energy	Arranging of project financing for wind, solar, geothermal, and small hydro power	Loans	1.0
	Green bonds	Underwriting of green bonds ¹	Underwriting	1.7
	Green loans	Arranging of green loans ¹	Loans	0.3
	Other green finance	Arranging of Mizuho Eco Finance	Loans	
		Arranging of renewable energy-related asset-based lending (ABL)	Loans	
		Investment in green project funds	Investments	
		Investment in green projects (including mezzanine finance)	Investments	1.5
		Investment in green bonds	Investments	
Sustainable finance	Loans for green building ²	Loans		
	Subtotal	Other financing and investment	Financing and investment	
				4.6
	Project finance for infrastructure	Arranging of project financing for public transportation and facilities	Loans	0.9
	Social loans	Arranging of social financing ¹	Loans	
	Sustainability loans	Arranging of sustainability loans ¹	Loans	0.4
	Social bonds	Underwriting of social bonds ¹	Underwriting	
	Sustainability bonds	Underwriting of sustainability bonds ¹	Underwriting	1.6
	Other sustainable finance	Arranging of sustainability-linked loans ¹	Loans	
		Arranging of sustainability-linked bonds ¹	Underwriting	2.5
		Arranging of transition loans ¹	Loans	
		Arranging of transition bonds ¹	Underwriting	0.2
		Arranging of Mizuho Positive Impact Finance	Loans	
		Mizuho Sustainability-Linked Loan Pro / Mizuho Sustainability-Linked Private Placement Bond Pro	Loans	
		Arranging of SDG initiative support finance loans / private placement bonds	Loans	
		Lending to innovative startup companies	Loans	
		Lending to support business succession	Loans	
		Net increase in ESG/SDG investment products under management	Asset management	
		Other financing and investment	Financing and investment	
	Subtotal			8.6
		Total		13.1

1. In compliance with principles and guidelines in and outside Japan.
2. Obtained third-party certification as a green building from a government or internationally recognized entity, and achieved above a certain rating (DBJ GreenBuilding 3-star rating, Building-Housing Energy-Efficiency Labeling System 3-star rating, Comprehensive Assessment System for Built Environment Efficiency B+, Leadership in Energy and Environmental Design Silver, Building Research Establishment Environmental Assessment Method Good, or above).

4. Risks posed to the Mizuho group by climate change

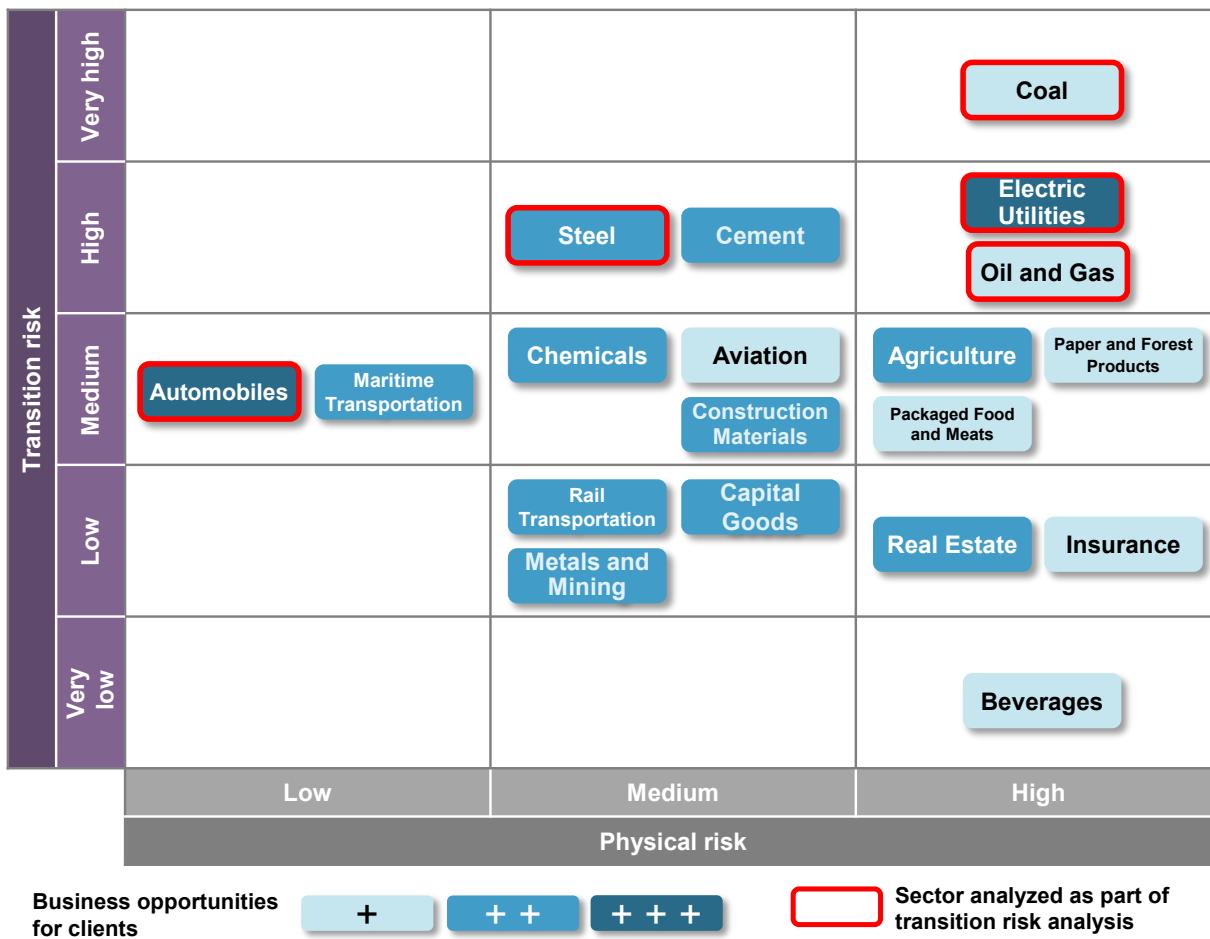
Regarding risks posed by climate change, we expect risks similar to those detailed below in the various risk categories.

Risk category	Definition	Possible impacts (transition risk)	Time frame	Possible impact (physical risk)	Time frame
Credit risk	The risk of losses due to a decline in, or total loss of, the value of assets (including off-balance-sheet instruments), as a result of deterioration in obligors' financial position.	The risk of the Mizuho group's credit-related costs increasing due to clients seeing their business performance deteriorate as a result of the business environment shifting towards decarbonization.	Medium and long term	The risk of credit-related costs increasing due to wind- and water-related damage to Mizuho group's committed collateral assets. The risk of credit-related costs increasing due to clients seeing their business performance deteriorate as a result of business stagnation caused by wind- and water-related damage and changes in the business environment caused by rising temperatures.	Short, medium, and long term
Market risk	The risk of losses due to fluctuations in interest rates, securities, and foreign exchange rates causing the value of the Mizuho group's assets and liabilities to fluctuate. Includes the risk of losses being incurred when market confusion or losses arising from transactions at prices that are significantly less favorable than usual make it impossible to execute transactions in the market (market liquidity risk).	The risk of asset values falling due to companies in which the Mizuho group holds shares (e.g. through cross-shareholdings or funds) facing concerns about deteriorating business performance or suffering reputational damage as a result of changes in the business environment.	Short, medium, and long term	The risk of asset values falling due to companies in which the Mizuho group holds shares (e.g. through cross-shareholdings or funds) facing concerns about deteriorating business performance as a result of wind- or water-related damage.	Short, medium, and long term
Liquidity risk	The risk of losses arising from funding difficulties due to a deterioration in our financial position that makes it difficult for us to raise necessary funds or that forces us to raise funds at significantly higher interest rates than usual.	The risk of deterioration in our capital raising ability and an outflow of deposits due to reputational damage to the Mizuho group. The risk of an increase in funding costs due to changes in regulatory frameworks aimed at more stringently addressing climate change and due to greater concern among investors.	Short, medium, and long term	The risk of outflow of deposits at the Mizuho group due to demand for capital among clients who suffer wind- and water-related damage. The risk of outflow of deposits at the Mizuho group due to serious natural disasters causing deterioration in clients' business performance and a rise in demand for capital. The risk of capital raising difficulties or higher funding costs due to serious natural disasters causing market turmoil.	Short, medium, and long term
Operational risk	The risk of the Mizuho group suffering losses resulting from inadequate or failed internal processes, people, and systems, or from external events.	The risk of losses due to stakeholders filing lawsuits against the Mizuho group alleging that we have not taken appropriate measures to address climate change. The risk of being required to comply with regulatory changes that reflect increasing international demand for more drastic responses to climate change.	Short, medium, and long term	The risk of losses due to natural disasters impacting data centers and causing settlement system failures. The risk of suffering impacts on business continuity and incurring recovery costs due to natural disasters causing loss or damage of Mizuho assets and branches.	Short, medium, and long term
Reputational risk	The risk of the Mizuho group incurring losses due to adverse effects on our reputation or Mizuho's brand when all services provided by and all activities conducted by the group, executive officers, and employees are recognized as widely diverging from the expectations and requirements of our stakeholders, including clients, employees, the economy, and society.	The risk of damage to the Mizuho group's reputation due to inappropriate responses to climate change or inadequate disclosures.			Short, medium, and long term

At the Mizuho Group, we conduct sector-specific qualitative evaluations of risk and opportunity in order to identify climate-related risks. For our FY2021 qualitative evaluations, we expanded our scope to 19 sectors to keep in line with the recommended disclosures from the TCFD Recommendations. (The previous evaluation only targeted 10 sectors.)

Based on sector-specific GHG emissions, carbon efficiency, and other evaluation criteria, we categorized transition risk into five levels: "Very high", "high", "medium", "low", and "very low". These were used as reference when choosing sectors for scenario analysis. We also rated physical risk and the size of clients' business opportunities as fitting into one of three levels, and are working to increase risk awareness regarding climate change. (Table 7)

Figure 7: Qualitative evaluation of sector-specific risks and opportunities (results)



Revision of recommended disclosures, as per the TCFD Recommendations

The supplemental guidance from the TCFD Recommendations stipulates that banking industry disclosures should include credit exposure to carbon-related assets. Following the November 2021 revisions to the guidance, the scope of the recommended sectors has been expanded to the 18 sectors defined below.

Energy	Transportation	Materials and Buildings	Agriculture, Food, and Forest Products
<ul style="list-style-type: none"> • Oil and Gas • Coal • Electric Utilities 	<ul style="list-style-type: none"> • Air Freight • Passenger Air Transportation • Maritime Transportation • Rail Transportation • Trucking Services • Automobiles and Components 	<ul style="list-style-type: none"> • Metals and Mining • Chemicals • Construction Materials • Capital Goods • Real Estate Management and Development 	<ul style="list-style-type: none"> • Beverages • Agriculture • Packaged Food and Meats • Paper and Forest Products

Our qualitative evaluation and the sector-specific analysis of our exposure and financed emissions cover all of the recommended sectors listed above. (A number of the sectors have been split, combined, or added.)

5. Scenario analysis

At Mizuho, we conduct scenario analysis in order to ascertain the future impact of climate change on our group portfolio. We conduct the analysis under a number of scenarios, including a 1.5°C scenario, for the purpose of increasing the flexibility of plans and resilience of strategy in anticipation of various future climate change-related circumstances.

(1) Transition risk scenario analysis

a. Targets of analysis

Taking into account the results of our qualitative evaluation (Figure 7) and the sector-specific status of our portfolio (see page 52 for sector-specific credit exposure), out of the sectors rated as “very high”, or “high” in our qualitative evaluation, the electric utilities, oil, gas, coal, and steel sectors were chosen as the targets of our analysis. In addition, the automobile sector was identified as presenting considerable business opportunities for our clients. As such, we added it to the targeted sectors, as per the previous year, in order to confirm the impact associated risk may have on our pursuit of finance opportunities (Table 6).

Table 6: Target of transition risk scenario analysis

	Previous	Current (underlines indicate changes)
Sectors targeted in transition risk analysis	Electric utilities, oil, gas, coal, and automobile sectors (worldwide)	Electric utilities, oil, gas, coal, automobile, and <u>steel</u> sectors (worldwide)

b. Scenario and analysis methodology

We used the following four scenarios formulated by the NGFS in our transition risk analysis: Net Zero 2050, Below 2°C, Delayed Transition, and Current Policies (Figure 8). We chose to use NGFS scenarios with comprehensive region-specific parameters for our new 1.5°C scenario analysis. In addition, for sectors like the automobile sector, where NGFS scenarios are lacking in parameters, we have supplemented our analysis with literature referenced from the IEA and other sources.

See Table 7 for sector-specific perspectives on each sector. See Figure 9 for the main parameters utilized in our analysis.

Figure 8: Scenario details on transition risk

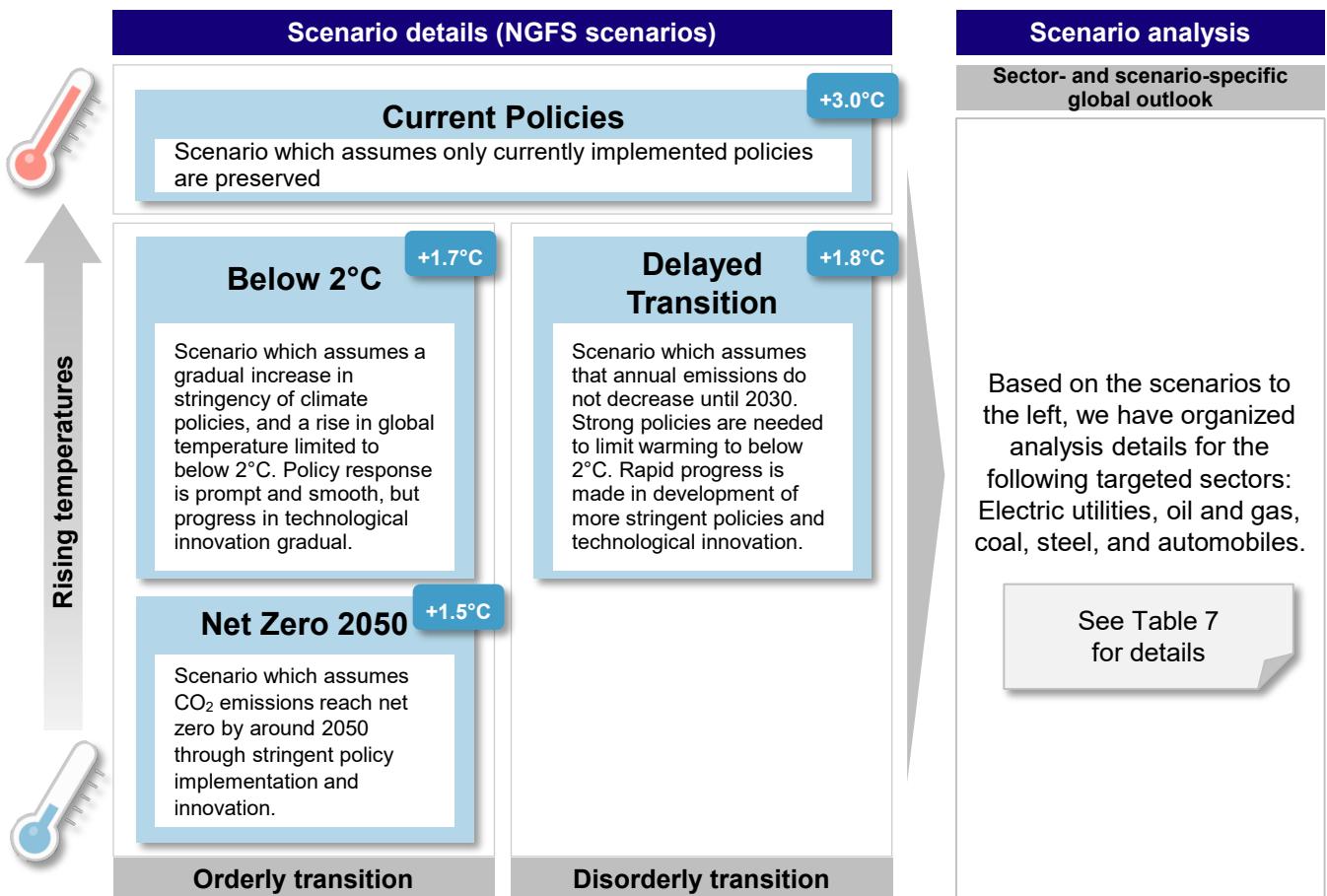
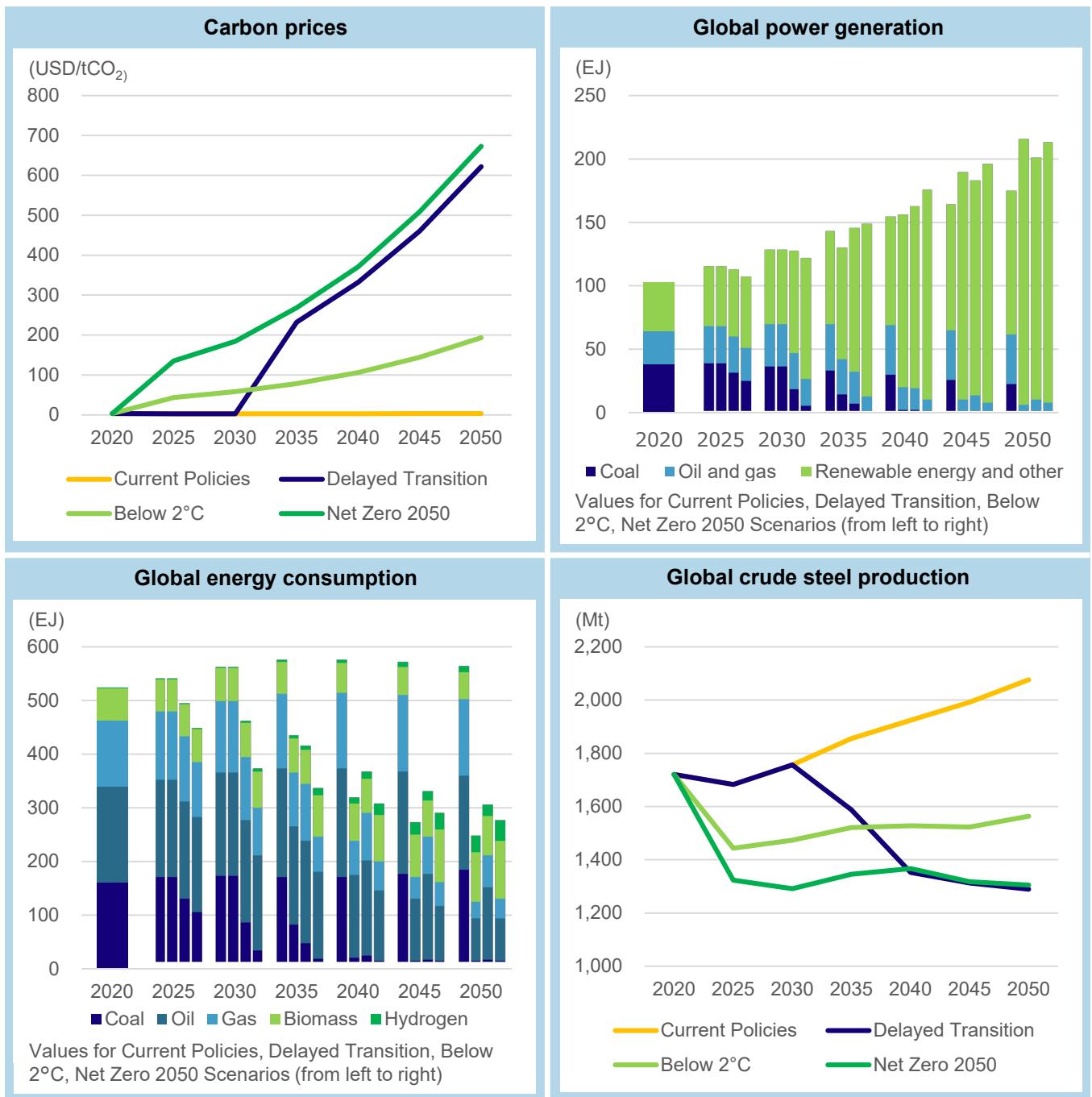


Table 7: Scenario details (sector-specific; scenario-specific)

		Electric utilities	Oil and gas, coal
Current Policies		<ul style="list-style-type: none"> - Fossil fuel consumption continues and overall power generation increases gradually. - Fossil fuels drop from accounting for 63% of overall power generation (current percentage) to 35% by 2050. - Costs associated with carbon taxes and investment in energy transition are limited. 	<ul style="list-style-type: none"> - The proportion of energy consumption (fossil fuels, biomass, and hydrogen) accounted for by fossil fuels in 2050 is 89%, remaining basically unchanged (Currently 88%). - Cost burden from carbon taxes is limited.
Delayed Transition		<ul style="list-style-type: none"> - Overall power generation increases rapidly from 2030 due to the promotion of electrification that comes with the shift to carbon neutrality. - Fossil fuels account for 53% of overall power generation in 2030, and this drops to 3% by 2050. - From 2030, there is a sharp increase in costs associated with carbon taxes and investment in renewable energy. 	<ul style="list-style-type: none"> - Fossil fuels account for 88% of energy consumption in 2030, but this falls to 47% by 2050, due to electrification and other measures aimed at achieving carbon neutrality. - There is a temporary sharp increase in carbon tax costs after 2030, but this gradually falls due to the reduction in CO₂ emissions that follows decreased fossil fuel production.
Below 2°C		<ul style="list-style-type: none"> - Overall power generation in 2050 is double that of 2020. - There are moderate investment outlays with limited-impact. - Fossil fuels account for just 5% of overall power generation by 2050. - There is a carbon tax cost burden, but this gradually decreases as the transition to renewable energy progresses. 	<ul style="list-style-type: none"> - Fossil fuels account for 68% of energy consumption by 2050. - Costs associated with carbon taxes due to CO₂ emissions from fossil fuel production remain even in 2050. However, the cost of carbon taxes gradually accounts for less and less of sales, due to the adoption of CCS and the increase in new energy (hydrogen / biomass) production.
Net Zero 2050		<ul style="list-style-type: none"> - Trends in overall power generation and investment outlay are generally the same as in Below 2°C. - Fossil fuels account for just 5% of overall power generation by 2050. - The cost burden for carbon taxes is higher than in other scenarios, but it gradually decreases as the energy transition progresses. 	<ul style="list-style-type: none"> - Fossil fuel sources account for 45% of energy consumption by 2050. - Expansion of capital investment in CCS in order to reduce production-related CO₂ emissions.
		Steel	Automobiles
Current Policies		<ul style="list-style-type: none"> - Crude steel production quantity continues to rise through 2050. - Manufacturing methods do not undergo any big changes. In 2050, fossil fuels (such as coal) account for 72% of the steel sector's energy consumption (fossil fuels currently account for 78%). - Carbon taxes and investment in transformation of manufacturing methods are limited. 	<ul style="list-style-type: none"> - Rise in number of vehicles sold, primarily due to surging demand in emerging economies. - Proportion of EVs and FCVs (the proportion of the total number of vehicles sold represented by EVs and FCVs) reaches 18% by 2030, and investment in the shift to EVs is limited.
Delayed Transition		<ul style="list-style-type: none"> - Crude steel production quantity falls from 2030. - Fossil fuels account for 74% of energy consumption in 2030, but manufacturing methods undergo a rapid transformation from 2030, which makes use of electric furnaces and hydrogen. By 2050, fossil fuels account for just 34%. - From 2030, there is a rapid increase in carbon taxes and investment outlays for transformation of manufacturing methods. 	<ul style="list-style-type: none"> - From 2030, rapid progress towards decarbonization has its costs (investment in EVs, response to fuel efficiency regulations), but the financial impact is limited.
Below 2°C		<ul style="list-style-type: none"> - Crude steel production quantity plateaus after falling. - Transformation of manufacturing methods progresses, and fossil fuels account for just 49% of energy consumption by 2050. - Increase in carbon taxes and investment outlays for transformation of manufacturing methods. 	<ul style="list-style-type: none"> - Although the number of vehicles sold does increase, tighter regulations mean the increase is modest compared to Current Policies. - Proportion of EVs and FCVs increases to 42% by 2030.
Net Zero 2050		<ul style="list-style-type: none"> - Trends in steel production quantity and investment outlay are generally the same as in Below 2°C - Transformation of manufacturing methods progresses, and fossil fuels account for just 31% of energy consumption by 2050. - CO₂ emissions exist even in 2050, so carbon taxes represent a large cost burden. 	<ul style="list-style-type: none"> - Increase in number of vehicles sold is about the same as in Below 2°C. - Proportion of EVs and FCVs increases to 57% by 2030. - Moderate costs associated with investment and fuel efficiency regulations, but the financial impact is limited.

Figure 9: NGFS scenario parameters



Source: NGFS, REMIND model

For our transition risk analysis, we selected critical risks and opportunities which companies in the targeted sectors are facing and which relate to demand, prices, tighter regulations, and similar. In order to evaluate the risks and opportunities, we defined parameters using the projections from the NGFS scenarios, as well as publicly disclosed data from our clients. Using said data, we then analyzed changes in Mizuho's credit costs by formulating an outlook for the impact on clients' financial results (Figure 10).

c. Scenario analysis results

(a) Results of credit cost calculation

The increase in credit costs by 2050 is calculated assuming that exposure remains at the same level as on March 31, 2022 through 2050.

Compared to the Current Policies scenario, which assumes that only currently implemented policies are preserved, the respective estimated increases in credit costs of the Net Zero 2050, Below 2°C, and Delayed Transition scenarios are ¥1.19 trillion, ¥60 billion, and ¥1.1 trillion. While this does, at most, amount to an increase in credit costs of over ¥1 trillion, that number represents the cumulative amount up until 2050, and we concluded that the financial impact on our group would be limited.

For steel, the newly added target sector, the cost that accompanies decarbonization is larger than that of other sectors. It is thought that, in certain conditions, the sector could suffer a large financial impact. Not just in the steel sector, but across all sectors, there are moderate costs accompanying decarbonization. For an orderly decarbonization process for our clients, we believe it is important for there to be public discussion about the costs. Mizuho will work together with stakeholders and support our clients in their transitions through our business activities across regions and economies, industry groups, and initiatives.

Both the Below 2°C and the Delayed Transition scenarios see temperature rises limited to below 2°C. However, there is a major difference in the results of our credit cost calculations for the two scenarios. While the Below 2°C scenario assumes that the implementation of climate change countermeasures will be efficient and smooth (orderly transition), the Delayed Transition scenario assumes that countermeasures will be delayed until 2030, and will then be implemented rapidly from 2030 (disorderly transition). We calculated that credit costs for the Delayed Transition scenario will drastically exceed those of the Below 2°C scenario in the post-2030 period in particular.

(b) Actions going forward

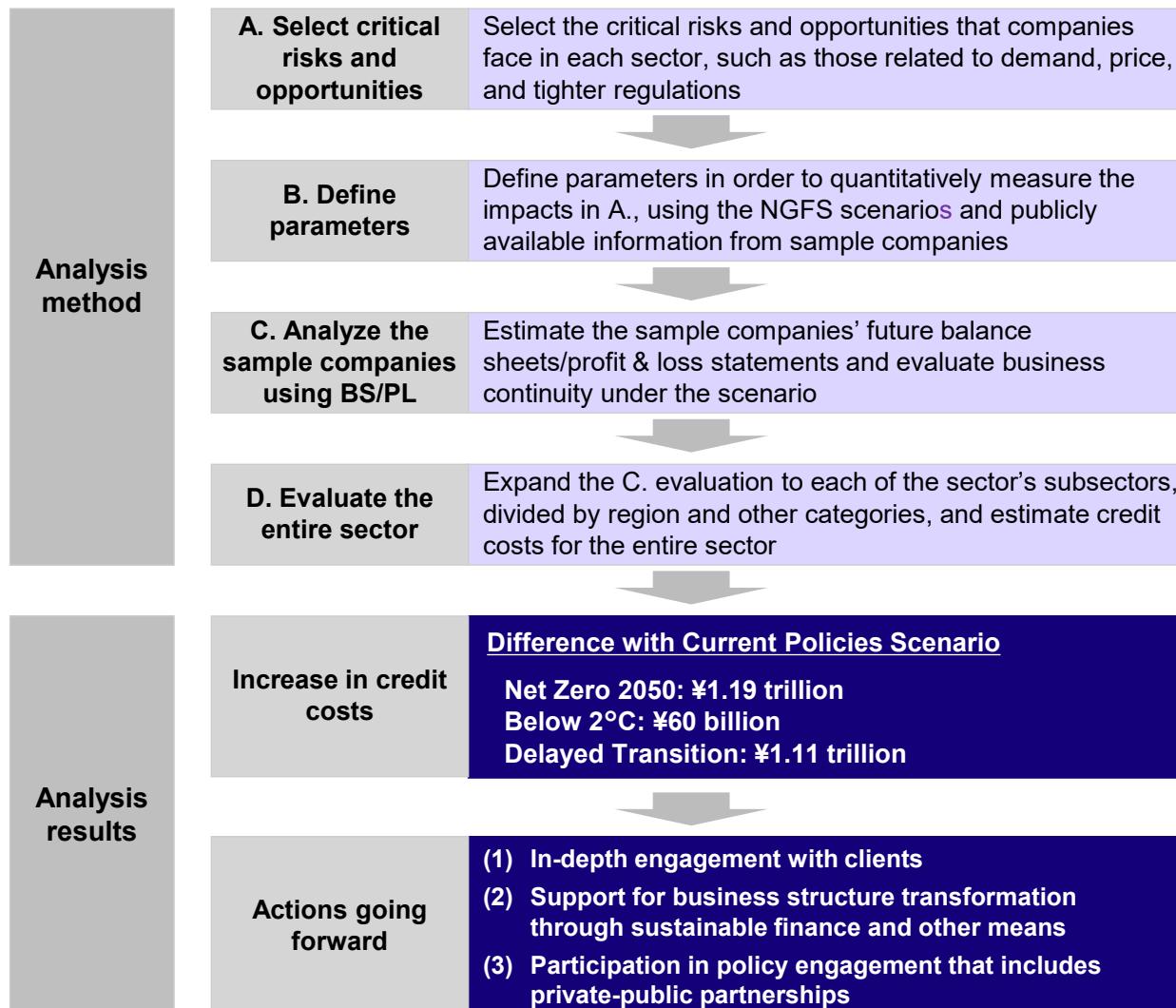
The results of our analysis have reaffirmed the importance of society conducting an orderly transition. Going forward, Mizuho will strengthen our efforts as follows.

- (1) In-depth engagement with clients (See page 31 for details about client engagement)
- (2) Support for business structure transformation through sustainable finance and other means
- (3) Participation in policy engagement that includes private-public partnerships

Mizuho undertakes engagement with clients and requests that they share their transition strategies. Through this engagement, we confirm the status of our clients' transition strategies and provide clients with support that facilitates the execution of said strategies, such as sustainable finance. Furthermore, by participating in policy engagement, we support national governments in their implementation of policies that lead to an orderly transition.

Also, we recognize that there is no internationally agreed upon methodology for scenario analysis and that each firm and organization is advancing their initiatives by a trial-and-error approach. We will continue to keep on top of global trends by engaging in discussions with regulatory authorities and external experts, and by participating in the UNEP FI working groups. While leveraging the expertise of our research and credit divisions, we will continue to expand the target of our sector-specific scenario analysis. We will consider conducting scenario analysis based on individual transition plans to enable closer engagement with our clients, and we will strive to improve available analytical methods going forward.

Figure 10: Transition risk analysis process and results



(3) Physical risk scenario analysis

a. Targets of analysis

Physical risk consists of acute risks (wind- and water-related damages from typhoons and other storms) and chronic risks (increase in heatstroke and infectious disease, rising sea levels, droughts, etc.). In our last analysis, we confirmed that chronic risks are limited in nature. This time, we measured acute risks by including Mizuho group assets (buildings, equipment) as targets of analysis (Table 8).

Table 8: Targets of physical risk scenario analysis

Physical risk (Japan)	Acute risks	Previous	Current (underlines indicate changes)
		Direct impacts (Impact on asset value)	Mortgaged real estate (buildings) - <u>Mizuho group assets (buildings, equipment)</u> - <u>Mortgaged real estate (buildings)</u>
		Indirect impacts (Impact of business stagnation)	Number of days of corporate activity business stagnation
	Chronic risks	- Number of people who contract infectious diseases (malaria, dengue) and heatstroke, number of deaths - Working hours of outdoor laborers	- Number of people who contract infectious diseases (malaria, dengue) and heatstroke, number of deaths - Working hours of outdoor laborers

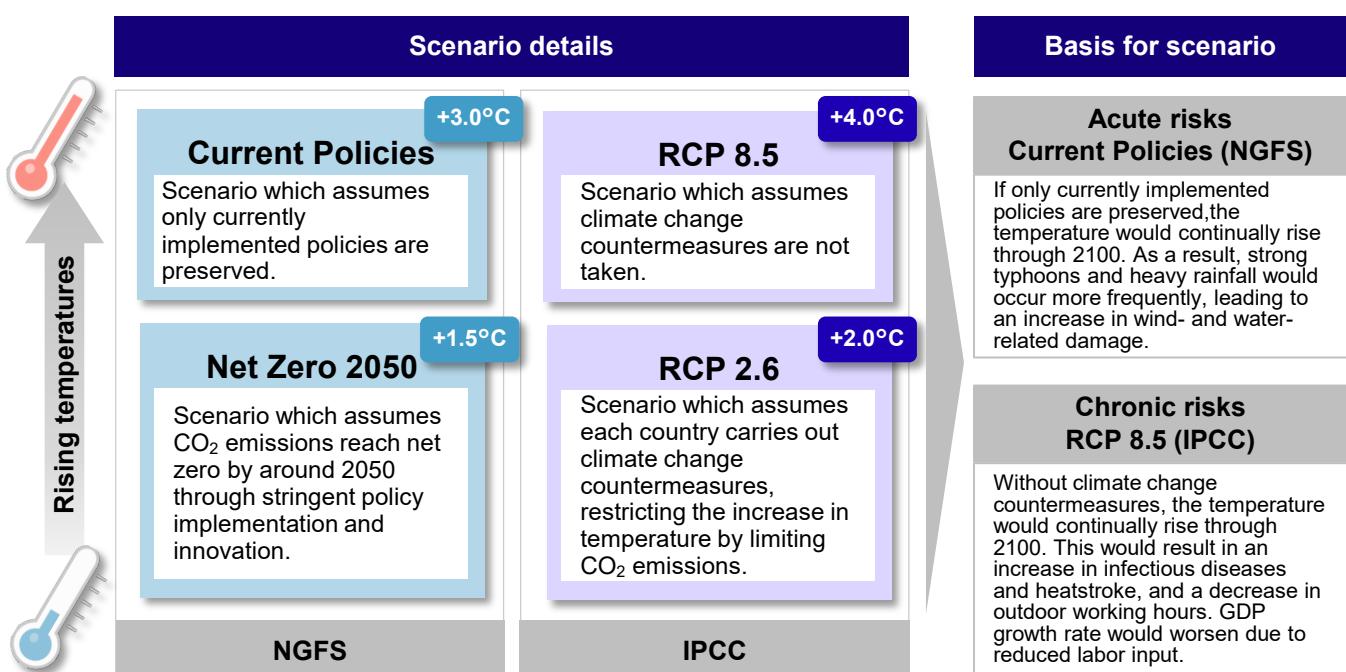
b. Scenario and analysis methodology

We collaborated with a consulting firm to conduct our analysis on physical risk. (Acute risks were analyzed as per the NGFS scenarios. Chronic risks were analyzed as per the IPCC scenarios.) (Figure 11).

Regarding acute risks, we used a Monte Carlo simulation to analyze the impacts of wind- and water-related damage from typhoons and other storms. For direct impacts, we analyzed damage to Mizuho group assets and credit costs from loss or damage of mortgaged real estate. For indirect impacts, we analyzed credit costs from business stagnation among our clients due to wind- and water-related damage.

In regard to chronic risks, we accounted for the rise in average temperatures causing increases in infectious disease (e.g. malaria, dengue) and heatstroke as well as for heatstroke prevention practices causing concomitant decreases in summer working hours among outdoor laborers. We calculated the macroeconomic effects of this reduced labor input and analyzed the changes to Mizuho's credit costs.

Figure 11: Scenario details on physical risk



c. Scenario analysis results

(a) Acute risks

- Direct impacts

We based our analysis on the temperature rises considered in the Net Zero 2050 and Current Policies NGFS scenarios. Rising sea surface temperatures will lead to an increase in atmospheric moisture, and the strength of typhoons that make landfall in Japan will increase. However, due to the smaller difference in sea and air temperatures, the convection currents (rising air currents) that cause typhoons will be weaker, and the number/frequency of typhoons will decrease. As a result, even under the Current Policies scenario which sees worse impacts, we have confirmed a total damage and credit cost of around ¥70 billion through 2100.

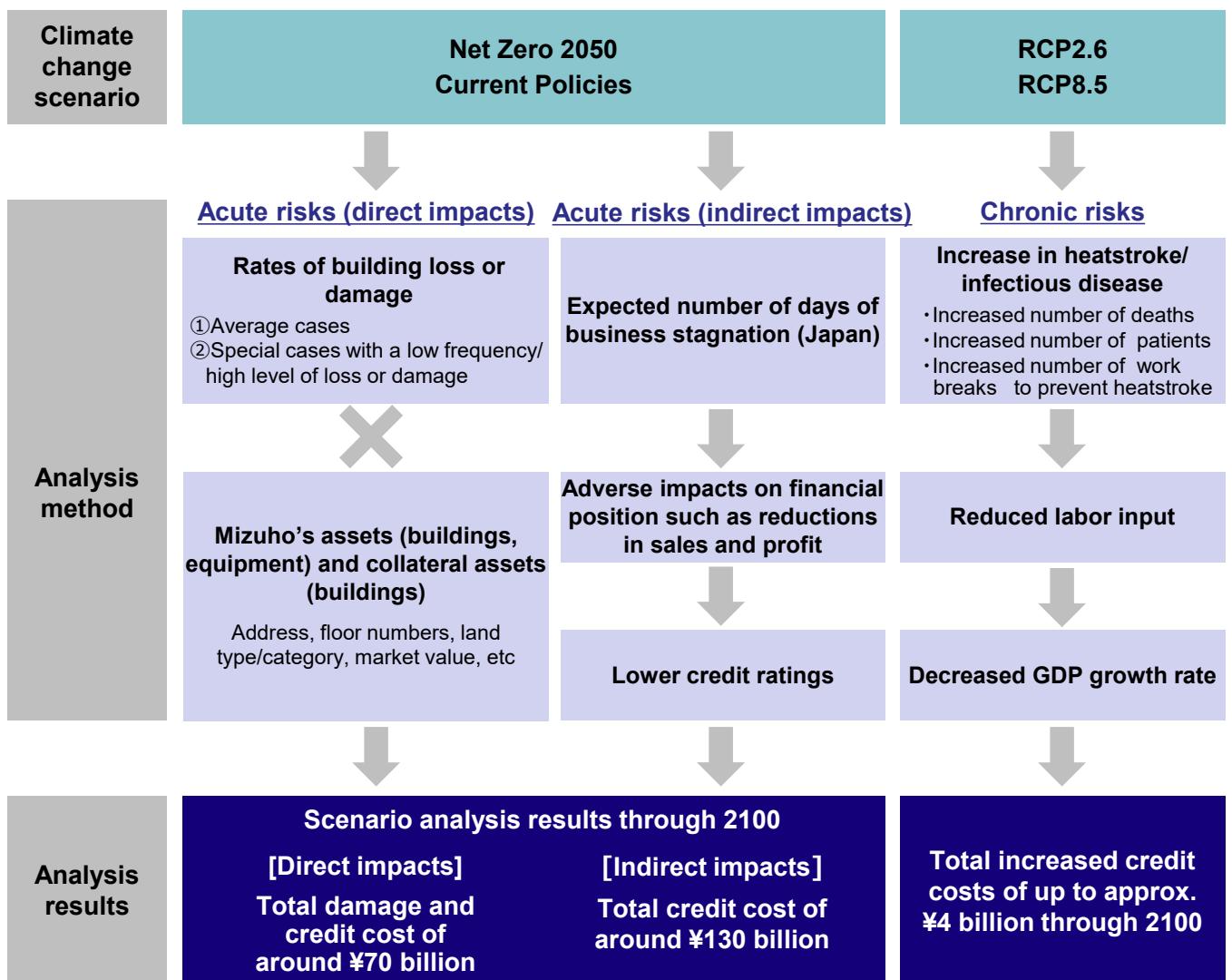
- Indirect impacts

As with the direct impacts, we based our analysis on the temperature rises considered in the Net Zero 2050 and Current Policies scenarios. In our previous analysis, we combined the credit cost ratio of a low credit rating to estimate credit costs as of 2050 for companies that were likely to see more days of business stagnation than the average. This time, we calculated credit costs through 2100 based on how the number of days of business stagnation and the effect it has on corporate finance (sales, business profit, etc.) leads to credit ratings being lowered. As a result, even under the Current Policies scenario which sees worse impacts, we have confirmed a total credit cost of around ¥130 billion through 2100.

(b) Chronic risks

Using the IPCC RCP 2.6 and RCP 8.5 scenarios, we analyzed the change in infectious disease, heatstroke-related patient numbers and deaths, and outdoor working hours under a global average temperature rise of 2°C or 4°C by 2100. We calculated the future impacts on GDP from the change these factors would cause in labor input and then estimated the impact on our credit costs. As a result, we have confirmed total credit costs through 2100 would be limited to at most ¥4 billion.

Figure 12: Physical risk analysis process and results



5. Risk management

We recognize that the appropriate control of risks in line with our particular operations and risks is a key issue relating to overall management. In order to ensure our business remains sound and stable while we elevate our corporate value, we maintain risk management frameworks and control measures. In this regard, we are approaching climate change as a global issue with the potential to impact the stability of financial markets, representing a threat to the environment, society, people's lifestyles and businesses, and we are managing climate-related risks accordingly.

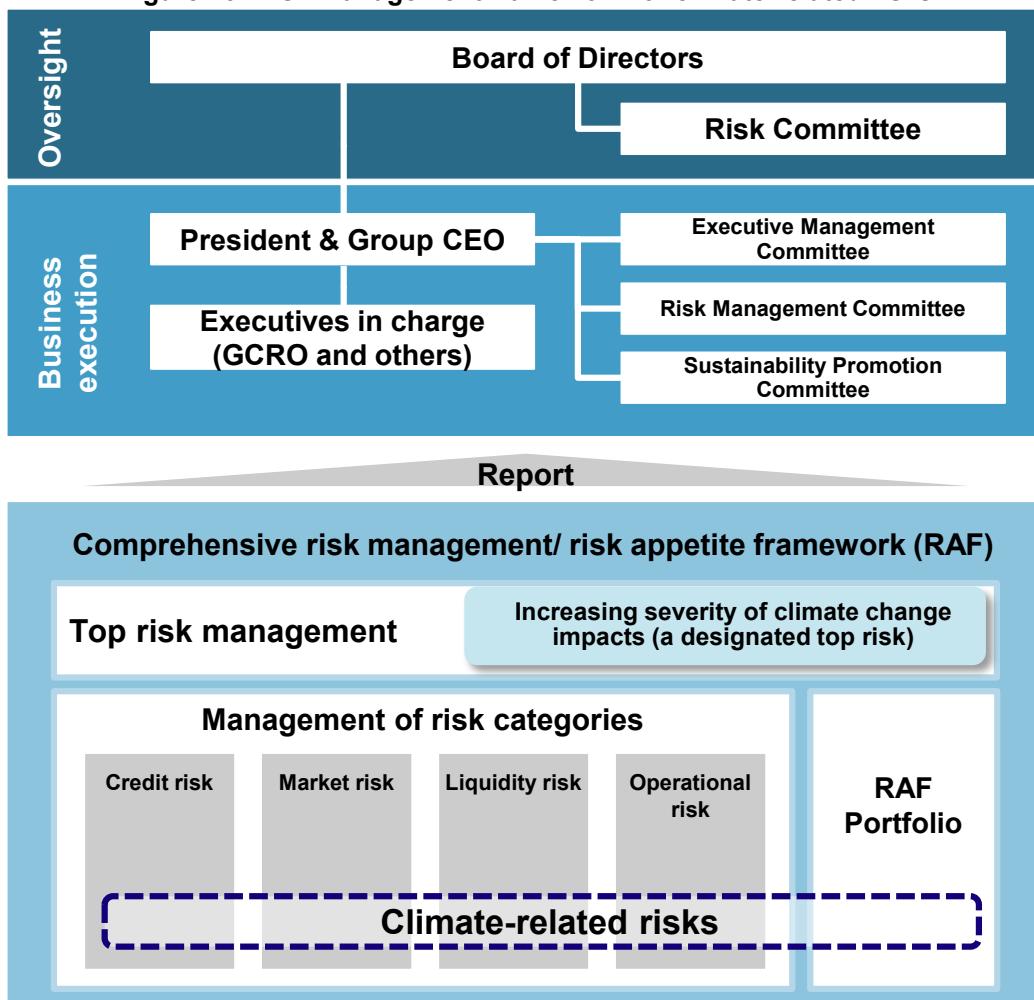
1. Risk management framework for climate-related risks

At Mizuho, we improve corporate value by implementing business strategy, financial strategy, and risk management from an overall perspective. One part of this is our risk appetite framework (RAF). Our Board of Directors determines fundamental matters and specific risk appetites relevant to the RAF in document form as the risk appetite statement (RAS).

We classify risks into risk categories such as credit risk and market risk and manage these risks appropriately in line with their particular nature. Further, we have established a comprehensive risk management structure to identify and evaluate overall risk and to keep risk within limits that are acceptable.

We recognize transition risk and physical risk arising from climate change within this risk management framework, and we identify risks that are critical to the implementation of our business plans. In this way, we are controlling risk in line with the particular nature of each risk category and in line with our business strategy (Figure 13).

Figure 13: Risk management framework for climate-related risks



2. Management of top risks

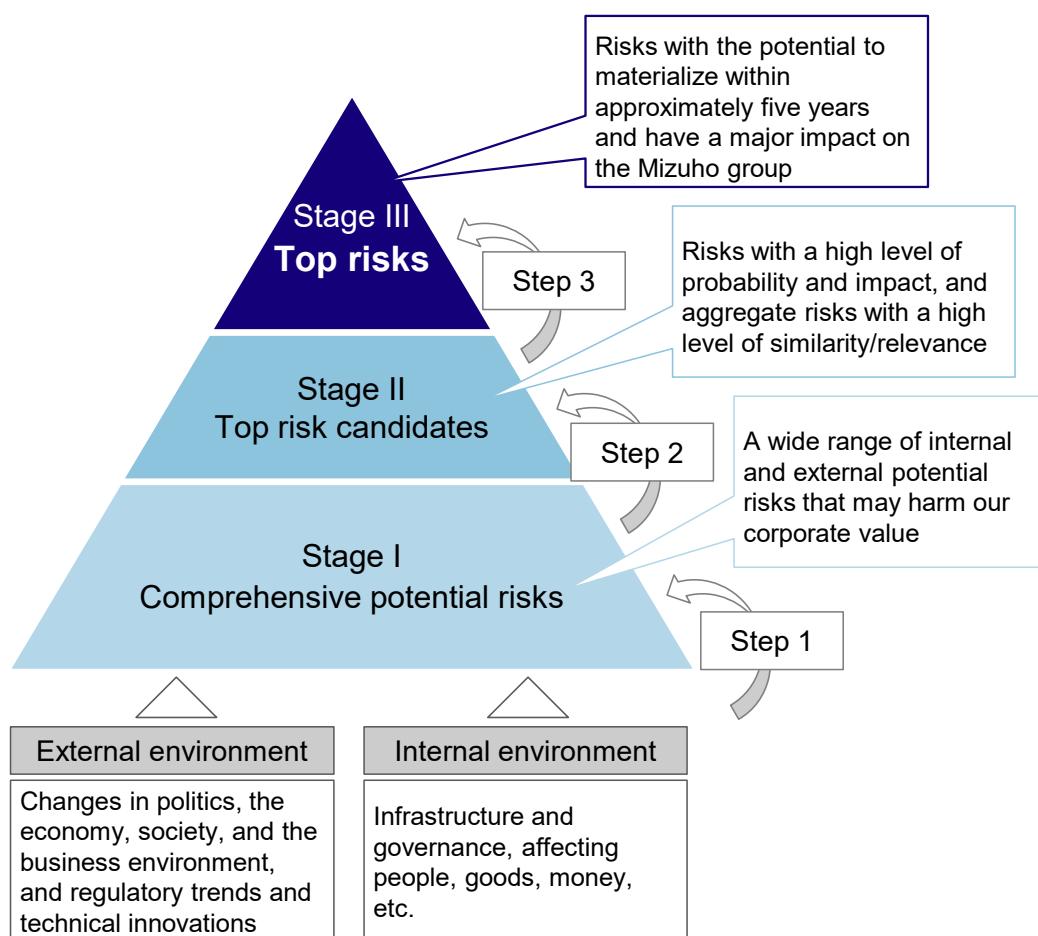
We have in place a “top risk management” system to designate risks with major potential impact on the group.

Executive management determines our top risks by reviewing risk events which may harm our corporate value in light of our particular vulnerabilities, the external business environment, and other factors (Figure 14).

For designated top risks, we endeavor to enhance our additional risk control measures, both preventive and corrective. We also integrate the top risks into our risk appetite policy and business plan as a way of strengthening our governance. In addition, the Risk Committee and Board of Directors, with the participation of external experts and outside directors, implement multifaceted confirmation of the appropriateness of selection and the status of controls.

Regarding climate-related risks, following COP26 global concerns about climate change have escalated further, and a range of stakeholders are expecting and demanding greater action from financial institutions. Under this business environment, we have been taking an expansive view towards climate change risks and reaffirming the hazards that constitute the causes of these risks. Consequently, we have designated increasing severity of climate change impacts as a top risk that our group must recognize and address.

Figure 14: Process for designating top risks



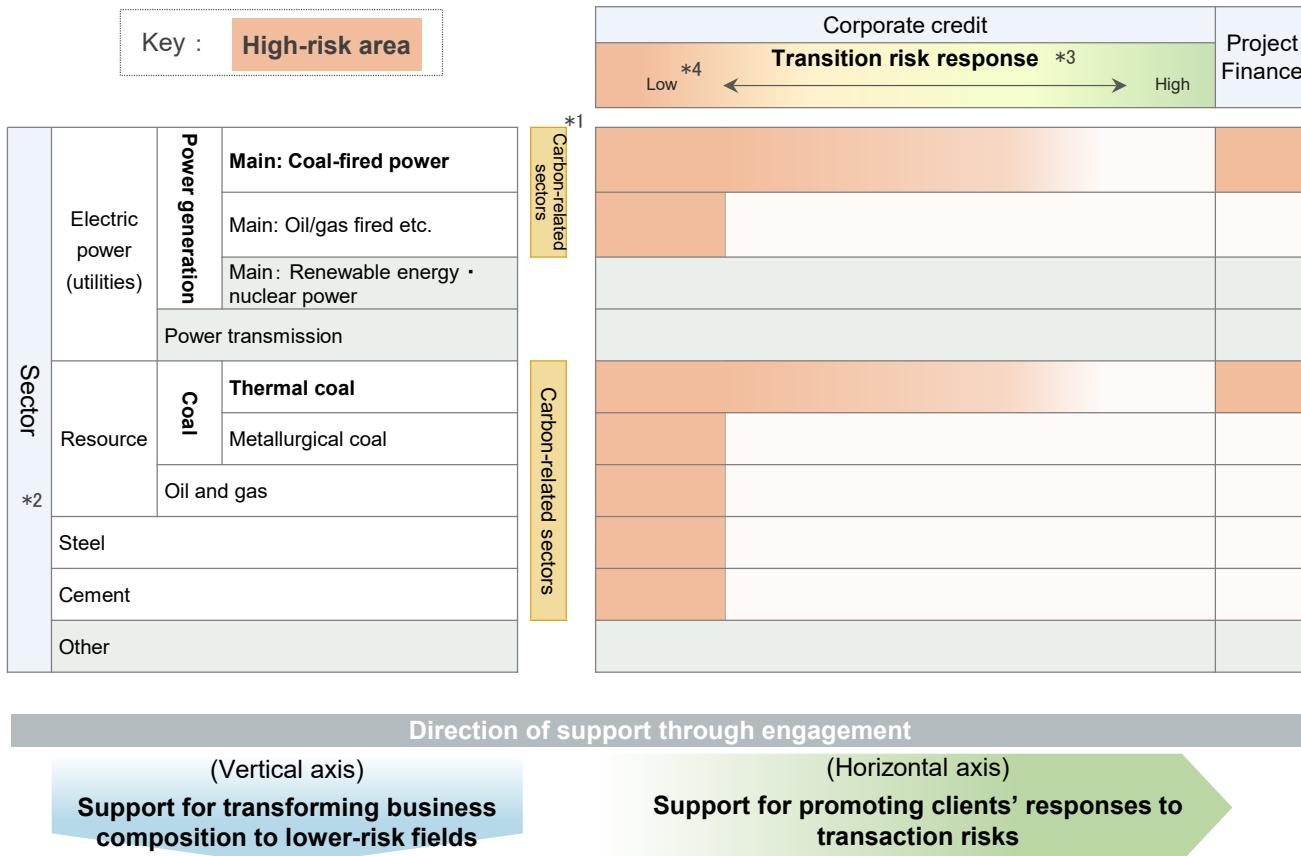
3. Risk control in carbon-related sectors

(1) Overview of risk control framework for carbon-related sectors

At Mizuho, we establish exposure control policies and control risk in high-risk areas among sectors recognized as facing transition risk at particularly high levels (carbon-related sectors).

These high-risk areas are identified by evaluating risk along two axes: (1) our clients' sectors, and (2) our clients' measures to address transition risk. Our risk evaluation determines (1) the client's sector based on the largest component in the sales/energy mix of their business activities, and (2) the client's transition risk response based on their formulation of transition strategies and targets, the level of their targets, the progress on their strategy, and similar factors (Figure 15).

Figure 15: Risk control framework for carbon-related sectors



1. Carbon-related sectors: Sectors Mizuho has recognized through a qualitative evaluation as facing transition risk at particularly high levels.
2. Sector: Companies are divided into sectors based on the largest component in the sales/energy mix of their business activities.
3. Transition risk response: Companies' responses to transition risk are confirmed through engagement. We consider willingness to take measures against transition risks, development of the strategy, setting of quantitative targets, target levels, specificity of means of achievement and status of efforts, performance and objectivity, etc.
4. Transition risk response low: Indicates no willingness to take measures against transition risk and no effective transition strategy have been confirmed.

We control risk in high-risk areas under the following exposure control policy.

- We are more thoroughly engaging with clients to support them in formulating effective strategies for transition risks, in disclosing their progress, and in embarking on business structure transformation towards a lower risk sector at an early stage.
- With the aim of facilitating business structure transformation, we provide any necessary support when we have been able to confirm that the client has set valid targets and planned an appropriate transition strategy in line with international standards.
- We carefully consider whether or not to continue our business with a client in the event that the client is not willing to address transition risk and has not formulated a transition strategy even one year after the initial engagement.
- In this way, we are reducing our exposure over the medium to long term.

Further, we are following international trends and continually striving to clarify and improve our criteria for supporting business structure transformation.

(2) Strengthened risk control in carbon-related sectors (details)

Mizuho is improving risk control in carbon-related sectors in stages (Table 9). In FY2021, we performed another qualitative evaluation of risks and opportunities. The results of the new evaluation led us to add steel and cement, which we identified as high transition risk sectors, to our list of carbon-related sectors and begin undertaking risk control in them (For details on the qualitative evaluation, see page 38).

In addition, we strengthened our handling of cases in which we do not see progress from our engagement, with the aim of raising the effectiveness of our engagement and restraining climate-related risk for both our clients and Mizuho.

**Table 9: Details of strengthened risk control in carbon-related sectors
(Underlined parts indicate strengthened elements)**

Item	Overview	Previous	Current
Carbon-related sectors	Sectors Mizuho has recognized through a qualitative evaluation as facing transition risk at particularly high levels	Electric utilities ¹⁴ , oil, gas, and coal	Electric utilities ¹⁴ , oil, gas, coal, <u>steel</u> , and <u>cement</u>
Risk control in carbon-related sectors	Framework to assess risk along two axes—our clients' sectors, and our clients' measures to address transition risk—as a means of identifying and monitoring high-risk areas	<p>Confirm at least once a year through client engagement and evaluate risk.</p> <ul style="list-style-type: none"> Sector: Companies are divided into sectors based on the largest component in the sales/energy mix of their business activities. Transition risk response: Based on disclosures, interviews, and other sources of information. 	<p>Continuing to implement the measures at the left.</p> <p><u>Clarified the confirmation standards we use in our engagement through our Environmental and Social Management Policy for Financing and Investment Activity.</u> (For details on these confirmation standards, see pages 73 to 83.)</p>
Response policy for high-risk areas	Risk control methods for exposure in high-risk areas	<ul style="list-style-type: none"> We are more thoroughly engaging with clients to support them in formulating effective strategies for transition risks, in disclosing their progress, and in embarking on business structure transformation towards a lower risk sector at an early stage. In undertaking such engagement with our clients, if a client does not make progress on addressing their transition risks even after a certain period of time, we carefully consider our transactions with the client. In this way, we are reducing our exposure in high-risk areas over the medium to long term. 	<p>Made the following additions:</p> <ul style="list-style-type: none"> <u>We carefully consider whether or not to continue our business with a client in the event that the client is not willing to address transition risk and has not formulated a transition strategy even one year after the initial engagement.</u>

(3) Exposure in high-risk areas

Our credit exposure in high-risk areas (electric utilities, oil, gas, coal, steel, and cement) has declined from ¥1.8 trillion as of March 31, 2021 (in electric utilities, oil, gas, and coal) to ¥1.6 trillion¹⁵ as of March 31, 2022. We will continue to improve our scope of analysis and approach for high-risk areas.

¹⁴ Excluding renewable energy, nuclear power, and power transmission.

¹⁵ ¥1.6 trillion when calculated under the same standards as the previous fiscal year (electric utilities, oil, gas, and coal).

(4) Exposure by sector based on recommended disclosures under the TCFD Recommendations

Based on the disclosures recommended within the TCFD Recommendations, our credit exposure¹⁶¹⁷ by sector is as follows. The sectors subject to disclosure are the same as those in the qualitative evaluation described above (Figure 7). Among these sectors, we are undertaking risk control in the ones we have recognized as facing transition risk at particularly high levels (carbon-related sectors).

Table 10: Reference – Credit exposure by sector in line with the recommended disclosures under the TCFD Recommendations (as of March 31, 2022)

Sector (colored text indicates carbon-related sectors)	Exposure (JPY 1T)	Percentage of exposure
Electric Utilities	9.0	3.7%
- Power generation (coal-fired)	1.7	0.7%
- Power generation (oil, gas, others)	3.3	1.4%
- Power generation (renewable energy, nuclear power)	2.7	1.1%
- Power transmission	1.2	0.5%
Coal	0.2	0.1%
- Thermal coal	0.1	0.0%
- Metallurgical coal	0.1	0.0%
Oil and Gas	8.2	3.4%
Energy subtotal	17.4	7.1%
Air Freight	1.2	0.5%
Maritime Transportation	2.0	0.8%
Rail Transport	2.2	0.9%
Automobiles	6.2	2.5%
Transportation subtotal	11.6	4.8%
Metals and Mining	2.0	0.8%
Steel	2.6	1.1%
Construction Materials	0.4	0.2%
Cement	0.2	0.1%
Chemicals	6.4	2.6%
Capital Goods	9.7	4.0%
Real Estate Management and Development	15.8	6.5%
Materials and Buildings subtotal	37.3	15.3%
Beverages	0.8	0.3%
Agriculture	0.2	0.1%
Packaged Foods and Meats	2.6	1.0%
Paper and Forest Products	0.8	0.3%
Agriculture, Food, and Forest Products subtotal	4.3	1.7%
Insurance	1.3	0.5%
Above sectors total	71.8	29.5%
All-sector total	243.8	100%

¹⁶ Sectors: All sectors recommended for disclosure following the November 2021 revision to the TCFD Recommendations, as well as the insurance sector, which we identified as facing high levels of physical risk in our qualitative evaluation. Regarding our classification method, we determine sectors based on the industry type classification established by the Bank of Japan.

¹⁷ Total of Mizuho Bank and Mizuho Trust & Banking's loans, foreign exchange assets, acceptances and guarantees, and committed lines of credit.

(5) Client progress on addressing transition risk

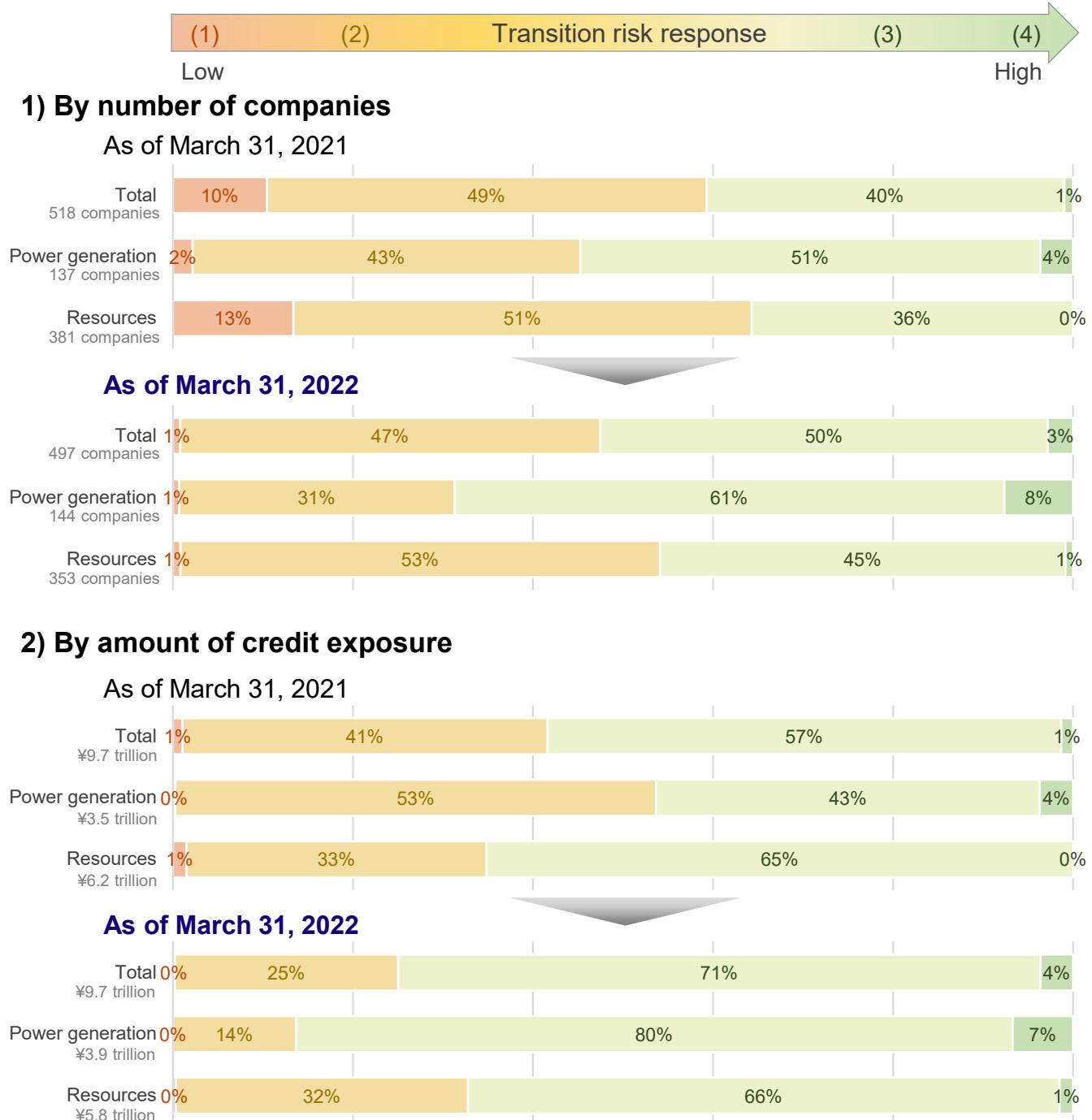
Mizuho confirms clients' measures to address transition risk through engagement and supports clients' progress on transitioning in a phased manner. In FY2021, we saw steady progress on transition risk responses among clients in the energy and resources sectors¹⁸ (Figure 16).

Specific examples of progress

- Declaration of commitment to net zero by 2050 and setting of targets towards that goal.
- Execution of initiatives that look ahead to business structure transformation (including proof-of-concept trials of next-generation technology).

We will continue to practice engagement and provide financial and non-financial solutions to facilitate our clients' progress on pursuing decarbonization and addressing transition risk. In doing so, we will improve climate change resilience for both our clients and Mizuho.

Figure 16: Client progress on addressing transition risk



¹⁸ Scope of calculations: Within carbon-related sectors, corporate credit to the energy (coal-, oil-, and gas-fired power generation) and resources (coal, oil, and gas) sectors, which have been targeted sectors since last fiscal year.

Mizuho divides clients into the following four classifications based on disclosures, interviews, and other sources of information.

- (1) Has no policy to address transition risk and has set no targets
- (2) Has a strategy to address transition risk and has set targets
- (3) Has set targets aligned with those in the Paris Agreement and is implementing specific initiatives
- (4) Has met the requirements in (3) and has also obtained third-party certification

Our engagement has enabled us to make further advancements in ascertaining and understanding our clients' transition risk responses in depth. March 2021 to March 2022 data also covers cases in which a client's classification changed because of such advancements.

Transition risk response results as of March 2021 were confirmed during December 2020 to February 2021 and as of March 2022 during December 2021 to February 2022.

4. Financing and investment accounting for climate-related risks

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

Mizuho commits to considering the environment and respecting internationally recognized human rights in our Mizuho Code of Conduct, Environmental Policy, and Human Rights Policy (Figure 17). We have also established an Environmental and Social Management Policy for Financing and Investment Activity for the purpose of avoiding and mitigating adverse environmental and social impacts resulting from our financing and investment activity.¹⁹ The policy identifies industries and sectors that have a high possibility of contributing to adverse impacts (Figure 18).

Figure 17: Positioning of our Environmental and Social Management Policy for Financing and Investment Activity

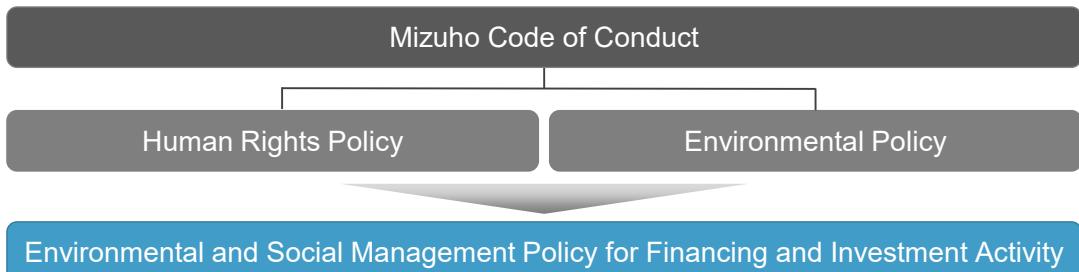


Figure 18: Overview of our Environmental and Social Management Policy for Financing and Investment Activity

Environmental and Social Management Policy for Financing and Investment Activity

When determining whether to engage in transactions, we account for the degree to which the client has taken steps to avoid or mitigate risk and other due diligence as appropriate, based on the characteristics of the services we are providing.

Regardless of Sector	Prohibited	<ul style="list-style-type: none"> ■ Projects with an adverse impact on wetlands designated as Wetlands of International Importance under the Ramsar Convention ■ Projects with an adverse impact on UNESCO World Heritage sites ■ Projects violating the Convention on International Trade in Endangered Species of Wild Fauna and Flora (Washington Convention) ■ Projects which cause forced labor, child labor, or human trafficking
	Additional Due Diligence	<ul style="list-style-type: none"> ■ Projects with adverse impacts on indigenous peoples' local communities ■ Projects involving land expropriation that causes forced relocation of residents ■ Projects which cause violation of human rights in conflict areas
Forced Labor, Child Labor, Human Trafficking		<ul style="list-style-type: none"> ■ Companies exposed to risks of forced labor, child labor, or human trafficking. ■ Policy: Aims to eliminate forced labor, child labor, and human trafficking from our business and value chain and strengthens our human rights due diligence.
Transition Risk Sectors		<ul style="list-style-type: none"> ■ Target: Companies whose primary businesses are in power generation (coal-fired, oil-fired, gas-fired), coal mining, oil and gas, steel, or cement. ■ Policy: Proactively undertake engagement to support transition to a low-carbon society. Check at least once per year on the status of transition risk response. We carefully consider whether or not to continue our business with a client in the event that the client is not willing to address transition risk and has not formulated a transition strategy even one year after the initial engagement.
Specific Industrial Sectors	Weapons	Coal-fired power generation
	Large-scale hydropower	Large-scale agriculture
		Thermal coal mining
		Oil and gas
		Palm oil
		Lumber and pulp

¹⁹ Financing and capital raising support provided by Mizuho. Specifically, lending, trust and custody, and underwriting services provided by our core group companies of Mizuho Bank, Mizuho Trust & Banking, Mizuho Securities, and Mizuho Americas and by subsidiaries of these four companies worldwide.

(2) Implementation based on the Equator Principles

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

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

Our core group companies implement the Environmental and Social Management Policy for Financing and Investment Activity in line with the characteristics of their respective businesses and have developed verification processes for the screening stage and throughout the transaction term (Table 11). In regard to governance, the Executive Management Committee and other committees regularly review whether the policy is appropriate and sufficient, with consideration to changes in the external business environment and the results of implementation. Following these reviews, said committees revise the policy and enhance its implementation. Further, our employees and executive officers are also being well informed and trained.

Table 11: Implementation of Environmental and Social Management Policy for Financing and Investment Activity

Verification process when screening a potential transaction	<ul style="list-style-type: none"> ● We confirm/determine whether or not the prospective client or project for any financing or investment belongs to one of the industries or sectors stipulated in the policy. ● In the event we find when determining whether or not to engage in the transaction that the prospective client does belong to one of these sectors, in line with the policy we may prohibit financing and investment or we may confirm the degree to which the client has taken steps to avoid or mitigate risk and other due diligence as appropriate, based on the characteristics of the services we are providing.
Verification process during the transaction term	<ul style="list-style-type: none"> ● Core group companies engage (hold constructive dialogue) with clients in transition risk sectors and specific industrial sectors at least once yearly in line with the characteristics of their respective businesses. (See pages 73 to 83 for the confirmation standards used in engagement.) <ul style="list-style-type: none"> – Verify the degree to which clients have taken steps to avoid or mitigate environmental and social risks. – With clients in transition risk sectors, discuss medium- to long-term issues and confirm the status of the client's response in regard to climate change opportunities and risks. ● In the event that we identify any acts in violation of the policy during the term of a transaction, we determine whether or not to continue the transaction after responding to the discovery, such as by urging the client to take immediate remedial measures, based on the characteristics of the services we are providing.
Governance	<ul style="list-style-type: none"> ● Our business execution and supervisory lines (see page 14 for details on governance) regularly review whether our measures related to the risks, sectors, and other factors are appropriate and sufficient, with consideration to changes in the external business environment and the results of implementation. Following these reviews, they may revise or otherwise make changes to our policies to enhance their implementation.
Education and training	<ul style="list-style-type: none"> ● To ensure effective risk management, employees and executive officers participate in education and training.
Stakeholder communication	<ul style="list-style-type: none"> ● We place a strong emphasis on engagement with stakeholders to ensure that our initiatives are aligned with society's standards and expectations

(4) Environmental and Social Management Policy for Financing and Investment Activity enhancements and advances

Mizuho periodically revises the policy and strengthens initiatives to avoid and mitigate adverse impacts on the environment and society. This serves to further our measures to respond to climate change, protect biodiversity, and respect human rights and to reflect the expectations and perspectives of stakeholders.

In March 2022, we revised the elements of the policy that cover transition risk sectors, the coal-fired power generation sector, and the thermal coal mining sector in order to enhance our measures to address climate change (Figure 19; see pages 73 to 83 for details on the policy).

Figure 19: Overview of Environmental and Social Management Policy for Financing and Investment Activity and status of additions and revisions (climate change-related)

Targeted sectors	Policy (Underlines indicate revisions made in March 2022.)
Transition Risk Sectors 	<p>Targets</p> <ul style="list-style-type: none"> Companies whose primary businesses are in power generation (coal-fired, oil-fired, gas-fired), coal mining, oil and gas, <u>steel</u>, or <u>cement</u>. <p>Policies</p> <ul style="list-style-type: none"> Proactively undertake engagement to support transition to a low-carbon society. Check at least once per year on the status of transition risk response, based on the following criteria. (<u>Clarified</u>) Confirmation standards: Willingness to take measures against transition risks, development of the strategy, setting of quantitative targets, target levels, specificity of means of achievement and status of efforts, performance and objectivity, etc. <u>We carefully consider whether or not to continue our business with a client in the event that the client is not willing to address transition risk and has not formulated a transition strategy even one year after the initial engagement.</u>
Coal-fired power generation 	<ul style="list-style-type: none"> <u>We do not provide financing or investment to companies with which we have no current credit transactions if the primary business of these companies is coal-fired power generation.</u> We do not provide financing or investment which will be used for new construction of coal-fired power plants or the expansion of existing plants (<u>the same applies to replacement of existing power plants</u>). We will continue to support development of innovative, clean, and efficient next-generation technology that will contribute to the expansion of sustainable energy, as well as other initiatives for the transition to a low-carbon society.
Thermal coal mining 	<ul style="list-style-type: none"> Our decisions regarding financing and investment for coal mining projects involve a thorough examination of the impacts on the environment, industrial safety and health, and other areas. <u>We do not provide financing or investment to companies with which we have no current credit transactions if the primary business of these companies is the mining of thermal coal.</u> We do not provide financing or investment which will be used for new thermal coal mining projects or for expansion of existing mining projects. For cases where it will be used to obtain the rights to an existing thermal coal mining project, we may provide financing or investment, based on careful consideration, only when it is vital to the stable energy supply of <u>a country which has announced a target of net-zero greenhouse gas emissions by 2050</u>.
Oil and gas 	<ul style="list-style-type: none"> Our decisions regarding financing and investment for oil and gas projects involve a thorough examination of the impacts on the environment and of the potential for conflicts with indigenous peoples or local communities. When providing financing or investment that will be used for oil or gas extraction in the Arctic, oil sands, shale oil, and shale gas extraction, <u>and pipeline</u>, we carry out appropriate environmental and social risk assessments.
Large-scale agriculture 	<ul style="list-style-type: none"> Our business decisions involve a thorough examination of whether there are any potential conflicts involving indigenous peoples or local communities, and we take into consideration whether the client/project is addressing environmental and social issues and has received international certification.
Palm oil 	<ul style="list-style-type: none"> We urge clients to formulate policies to respect Free, Prior, and Informed Consent (FPIC) and practice No Deforestation, No Peat, and No Exploitation (NDPE), and <u>to strengthen supply chain management and improve traceability to ensure the same applies to their entire supply chain</u>.
Lumber and pulp 	<ul style="list-style-type: none"> In the palm oil sector, we require that all plantations be certified by the Roundtable on Sustainable Palm Oil (RSPO). When the client does not have any plans to be certified by the RSPO, we ask that they take measures equivalent to those required for the certification and periodically report the status of said measures. <u>In the lumber and pulp sector, when financing and investing in lumbering businesses in countries that are not among the OECD high-income member states, we request them to obtain certification from the Forest Stewardship Council or Programme for the Endorsement of Forest Certification. When the client needs more time to obtain certification, we ask that they formulate a plan with a set deadline to do so.</u>

6. Metrics and targets

1. Overview of metrics and targets

Relation to transition plan	Monitoring indicators	Targets	Recent results	Details
Net-zero GHG emissions	Scope 1 and 2 emissions²⁰	Carbon neutral by FY2030 (Carbon neutrality to be maintained thereafter)	FY2020: 169,237 tCO ₂ - Scope 1: 14,053 - Scope 2: 155,184	pp. 26, 59
	Scope 1 and 2 energy consumption	Brought forward	FY2020: 430,690 MWh - Scope 1: 68,287 - Scope 2: 362,403	
	Scope 3 (business trips) emissions	N/A	FY2020: 1,375 tCO ₂	ESG Data Book ²¹
	Scope 3 (emissions from financing and investment)	Net zero by 2050	N/A	pp. 23 – 25, 59
	- Electric power sector	FY2030: 138 to 232 kgCO₂/MWh New	FY2020: 388 kgCO ₂ /MWh	
Strengthen low-carbon business	Sustainable finance and environmental finance	Total for FY2019 to FY2030: ¥25 trillion (of which the target for environmental finance is ¥12 trillion)	Total for FY2019 to FY2021: ¥13.1 trillion (of which the results for environmental finance is ¥4.6 trillion)	p. 60
Enhance climate-related risk management	Target to reduce the outstanding credit balance for coal-fired power generation facilities based on our Environmental and Social Management Policy for Financing and Investment Activity	Reduce the FY2019 amount by 50% by FY2030, and achieve an outstanding credit balance of zero by FY2040	March 31, 2022: ¥248.6 billion (-17% compared to March 31, 2019)	p. 60
	Exposure to high-risk areas within transition risk sectors	Reduce over the medium to long term	March 31, 2022: ¥1.6 trillion	p. 51

Items for disclosure aside from monitoring indicators

- Sector-by-sector credit exposure in line with the TCFD disclosure recommendations p. 52
- GHG emissions from financing and investment ("financed emissions") based on PCAF methodology pp. 61 – 65

²⁰Target of analysis / scope of data collection: Seven group companies (Mizuho Financial Group, Mizuho Bank, Mizuho Trust & Banking, Mizuho Securities, Mizuho Research & Technologies, Asset Management One, and Mizuho Americas).

²¹ESG Data Book: <https://www.mizuhogroup.com/sustainability/mizuhocsr/report/data>

2. Details about metric and target items

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

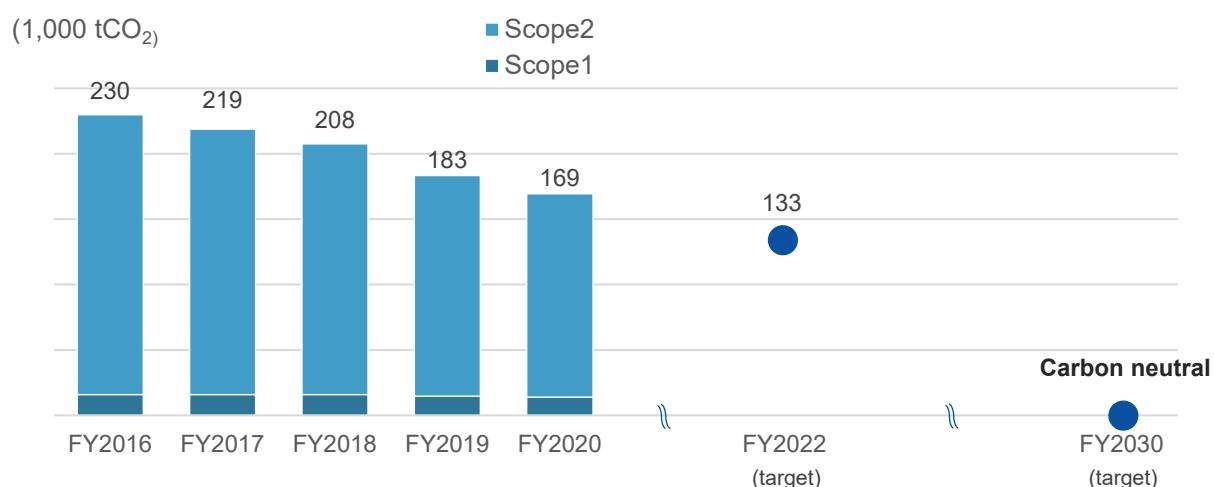
Table 12: Scope 1 and 2 CO₂ emissions and energy consumption

Item	Unit	FY2016	FY2017	FY2018	FY2019	FY2020
CO₂ emissions	tCO ₂	229,735	218,966	207,575	183,278	169,237
Scope 1 (direct emissions)	tCO ₂	16,026	16,028	15,845	14,756	14,053
Scope 2 (indirect emissions)	tCO ₂	213,709	202,780	191,730	168,522	155,184
Energy consumption	MWh	523,309	512,691	499,334	453,129	430,690
Scope 1	MWh	77,573	78,166	77,152	71,437	68,287
Scope 2	MWh	445,736	434,525	422,182	381,692	362,403

Scope of data collection: Eight group companies (Mizuho Financial Group, Mizuho Bank, Mizuho Trust & Banking, Mizuho Securities, Mizuho Research Institute*, Mizuho Information & Research Institute*, Asset Management One, and Mizuho Americas). Up to and including FY2017, the scope included nine group companies, including Trust & Custody Services Bank.

*Mizuho Research & Technologies since April 2021.

Figure 20: Scope 1 and 2 CO₂ emissions



The results for FY2021 will be disclosed in our ESG Data Book once they are calculated.²²

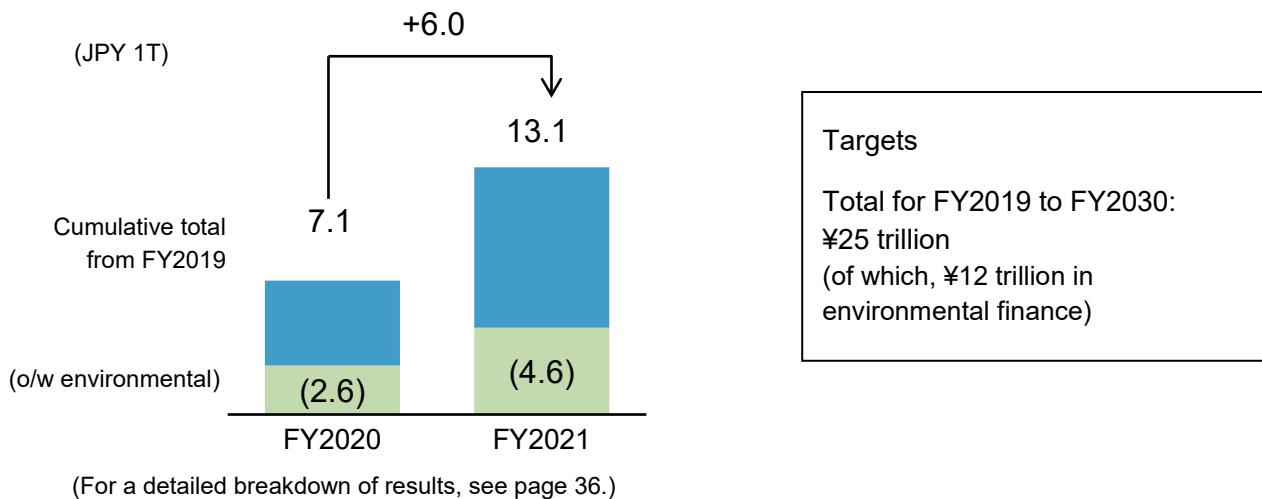
(2) Scope 3 (GHG emissions from financing and investment) mid-term targets

We have a long-term goal of achieving net-zero GHG emissions from financing and investment by 2050. To make the pathway to reaching this goal more tangible, we are pressing forward with setting sector-specific mid-term targets (to be reached by FY2030), starting with priority sectors.

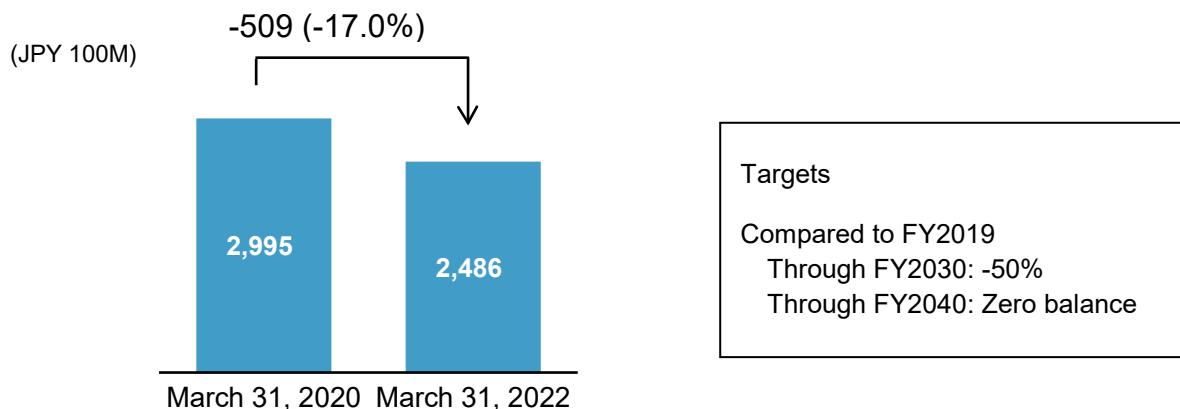
See pages 23 to 25 for details regarding the setting of numerical mid-term targets for the electric power sector, and page 67 for information about sectors planned for target setting going forward.

²² ESG Data Book: <https://www.mizuhogroup.com/sustainability/mizuhocr/report/data>

(3) Sustainable finance and environmental finance



(4) Target to reduce the outstanding credit balance for coal-fired power generation facilities based on our Environmental and Social Management Policy for Financing and Investment Activity



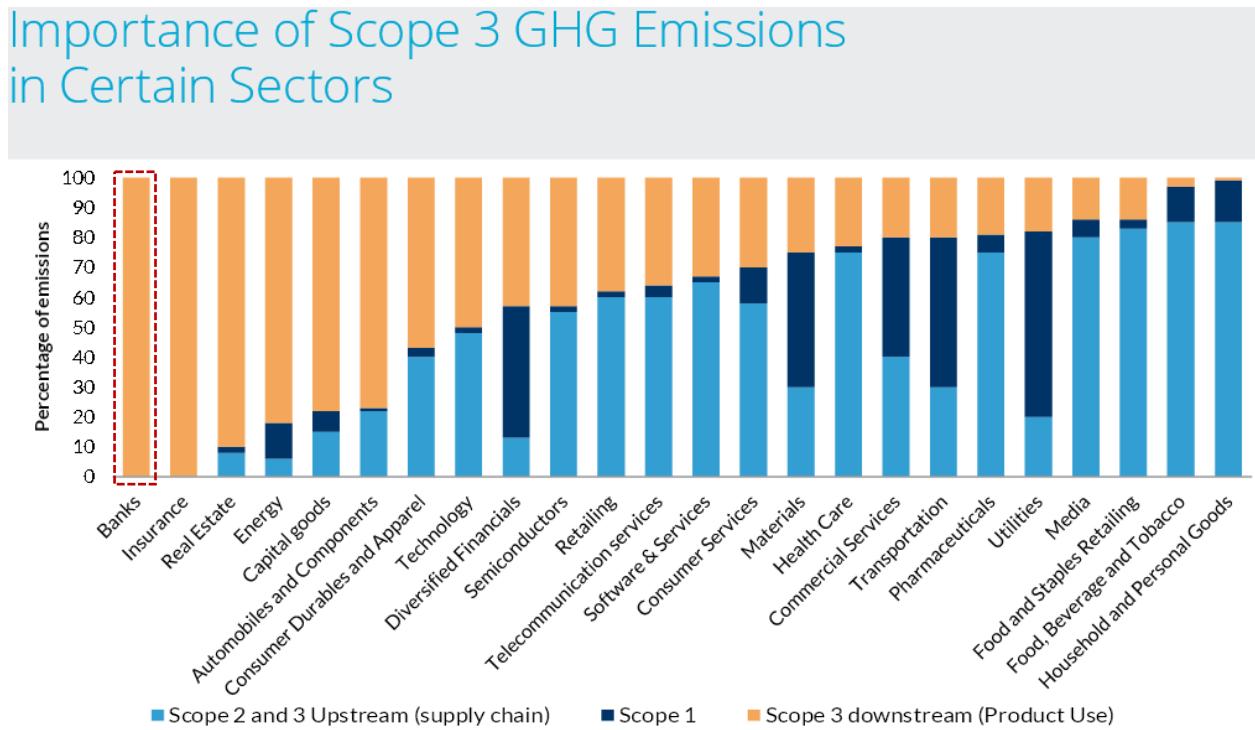
(5) Exposure to high-risk areas within transition risk sectors

See page 51.

3. Measurement of financed emissions based on PCAF

Indirect GHG emissions from financing and investment (financed emissions) occupy the largest share of financial institutions' Scope 1, 2, and 3 emissions. In our view, initiatives towards measuring, monitoring, and reducing these emissions are crucial. At the same time, obtaining usable and accurate data and developing a robust and efficient measurement process remains a challenge.

Figure 21: Reference – Percentages of Scope 1, 2, and 3 emissions by sector



Source: TCFD, *Guidance on Metrics, Targets, and Transition Plans*, October 2021.

Original source: Kepler-Cheuvreux, *Carbon Compass: Investor Guide to Carbon Footprinting*, 360 Report, November 2015.

The red frame indicates an addition made by Mizuho. This data shows that Scope 3 downstream emissions make up the vast majority of Scope 1, 2, and 3 emissions for the banking industry.

Table 13: Reference – 15 categories of Scope 3 emissions

Classification	Category	
Upstream	1	Purchased goods and services
	2	Capital goods
	3	Fuel- and energy-related activities not included in Scope 1 or 2
	4	Upstream transportation and distribution
	5	Waste generated in operations
	6	Business travel
	7	Employee commuting
	8	Upstream leased assets
Downstream	9	Downstream transportation and distribution
	10	Processing of sold products
	11	Use of sold products
	12	End-of-life treatment of sold products
	13	Downstream leased assets
	14	Franchises
	15	Investments

Source: Created by Mizuho based on Greenhouse Gas Protocol and Japan Ministry of the Environment materials.

In our TCFD Report 2021, we estimated our GHG emissions intensity from project finance for power generation projects, based on the Partnership for Carbon Accounting Financials (PCAF) Global GHG Accounting and Reporting Standard for the Financial Industry ("PCAF Standard"). We were the first Japanese bank to publish such a disclosure.

Subsequently, we became the first Japanese financial institution to join PCAF, and we moved forward a range of initiatives for expanding the assets and sectors subject to measurement, for verifying data collection methods, and for making projections using the PCAF database. This year, we are disclosing our financed emissions from corporate finance and project finance across 19 sectors, as below.

Going forward, our measurements may change significantly due to companies expanding their disclosure of their emissions and improving their estimates.

1) Overview of measurement

Targeted assets	Loans (corporate finance and project finance) ²³ Corresponds to the business loans portion of “business loans and unlisted equity” and to “project finance” from among the six asset classes given in the PCAF Standard.								
Targeted sectors	The following 19 sectors based on recommended disclosures under the TCFD Recommendations								
	Electric Utilities	Coal	Oil and Gas	Air Freight	Maritime Transportation				
	Rail Transportation	Automobiles	Metals and Mining	Steel	Construction Materials				
	Cement	Chemicals	Capital Goods	Real Estate Management and Development	Beverages				
	Agriculture	Packaged Foods and Meats	Paper and Forest Products	Insurance					
	These match the sectors in the qualitative evaluation described in section Risks posed to the Mizuho group by climate change (page 38) and the sectors described in section Exposure by sector based on recommended disclosures under the TCFD Recommendations (page 52) . Of the sectors stipulated by the NZBA, aluminum is included under Metals and Mining.								
Basic formula	Financed emissions (FE) = $\sum_c (1) \text{Attribution factor}_c \times (2) \text{Company emissions}_c$								
	(1) Attribution factor =	$\frac{\text{Outstanding loans from Mizuho to clients}}{\text{Clients' corporate value} \\ (\text{total equity} + \text{debt})}$							
	(2) Company emissions =	Clients' disclosed values for Scope 1, 2, and 3 emissions. Estimates used when disclosures not available.							
Target year	Base year: FY2020 – Mizuho loan balance: As of March 31, 2021. – Clients' financial data and emissions data: In principle, the most recent fiscal year data available as of March 31, 2021.								
Sources of emissions data	<u>Corporate finance and project finance (excluding for power generation projects)</u> – We used data from data vendors, company disclosures, and company interviews (equivalent to data quality score 1 or 2). – When the above were not available, we used the emission factors for the sector per unit of revenue from the PCAF database (calculated by region and sector) (equivalent to data quality score 4).								
	<u>Project finance for power generation projects</u> – We estimated by multiplying the project's annual power generation by the power generation emission factor from the IEA World Energy Outlook (calculated by region and sector) (equivalent to data quality score 3).								

²³ Combined figures for the loan balances of Mizuho Bank and Mizuho Trust & Banking. This includes foreign exchange assets, acceptances, and guarantees. It does not include available credit under committed lines of credit, securities, derivatives, and similar. Loans to special purpose vehicles for securitization, trade finance, and sovereign loans are outside the scope of this measurement, as it is not possible to calculate an attribution factor for them.

Table 14: Reference – PCAF data quality score approach

PCAF divides the quality of emissions data as below. In calculating the data quality score for the sectors, we followed the PCAF Standard methodology and aggregated weighted averages for lending in each sector.

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

Source: Mizuho, based on the Partnership for Carbon Accounting Financials, The Global GHG Accounting and Reporting Standard for the Financial Industry.

(2) Measurement results

Electric Utilities	3	Oil and Gas	4	Steel	Automobiles	Capital Goods	Chemicals	Maritime Transportation	Metals and Mining	Foods and Meats	Cement	Paper and Forest Products	Construction Materials	Aviation	Coal	Agriculture	Rail Transportation	Real Estate	Beverages	Insurance
Financed Emissions (MtCO₂)																				
Scope 1 and 2	51.6	44.1	23.4	1.9	2.4	8.6	5.7	2.1	3.8	3.3	2.2	2.0	1.2	1.1	0.4	0.4	0.2	0.2	0.1	
Scope 3	26.5	76.6	13.9	61.7	60.9	32.0	4.1	12.1	6.4	2.2	2.2	1.7	1.3	1.3	1.7	0.5	0.9	0.6	0.2	

Data quality score (1 is the highest quality, 5 is the lowest quality)

Scope 1 and 2	2.4	2.2	1.7	1.8	2.5	2.1	3.0	2.6	3.3	2.1	2.4	2.1	1.9	3.1	2.2	2.5	3.1	2.3	2.3
Scope 3	2.5	2.7	1.7	1.9	2.5	2.4	3.1	2.6	3.4	3.1	3.5	2.2	1.9	3.1	2.2	3.5	3.7	3.0	2.3

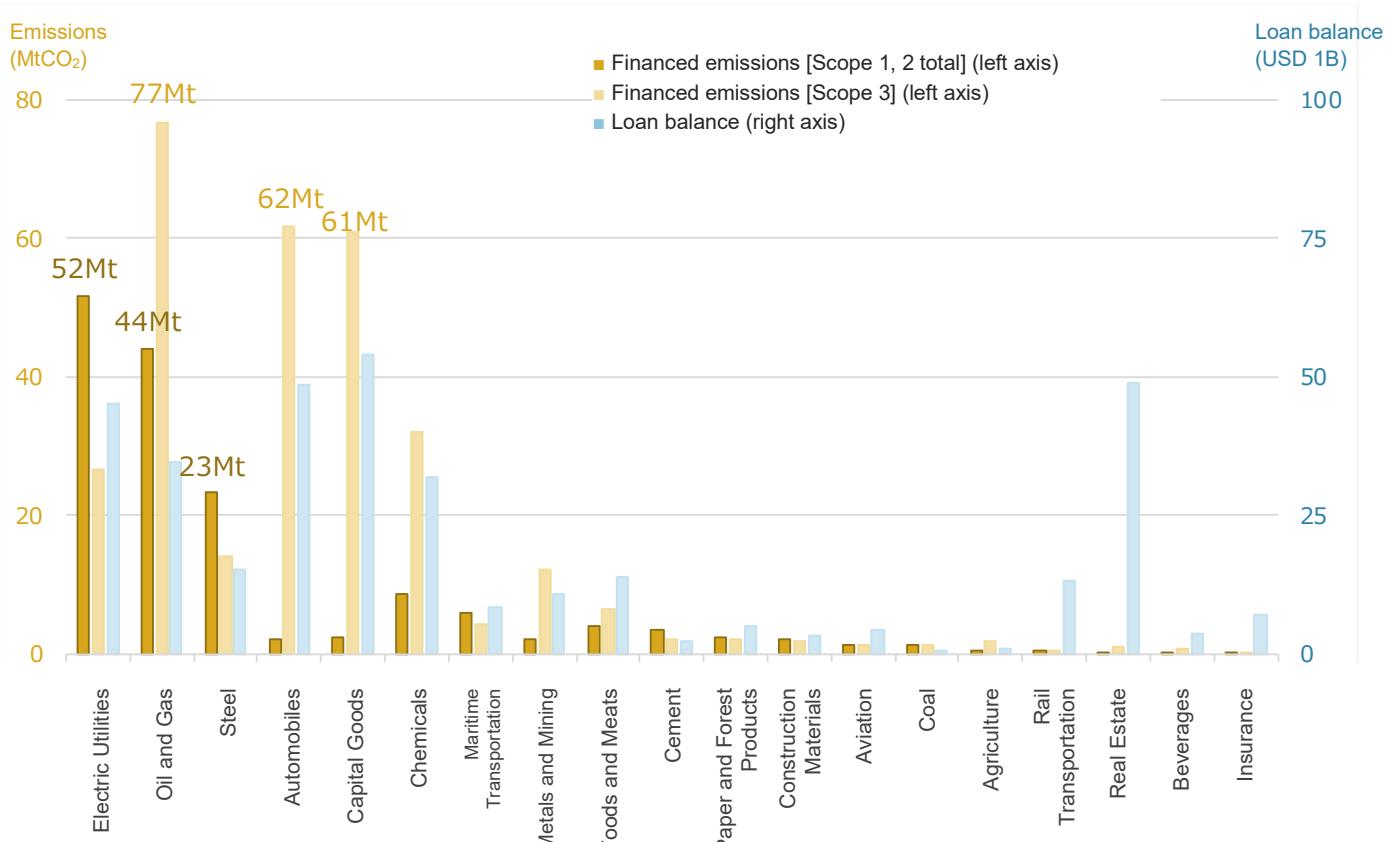
Loan balance (USD 1B) [USD 350B total]

Financed emissions measurements	45	35	15	48	54	32	8	11	14	2	5	3	4	1	1	13	49	4	7
Measurement coverage percentage ¹	97%	80%	100%	100%	98%	97%	72%	99%	97%	99%	92%	100%	91%	100%	100%	99%	88%	96%	93%

Companies / projects² [9,649 total]

Companies / projects measured	427	231	181	990	2,349	888	155	653	742	71	244	92	41	13	10	69	2,372	85	36
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1. Measurement coverage percentage: The percentage of financed emissions that we were able to measure from the targeted loan amounts in each sector. The remaining financed emissions could not be measured due to factors such as the data not having adequate usability or accuracy for calculation of the attribution factor, or such as emissions data not being obtainable either from disclosures or as estimates.
2. Companies/projects: Excluding clients and projects without a loan balance as of the base date and clients without measured financed emissions.
3. Electric utilities sector includes not only power generation businesses but also all companies and projects engaged in power transmission businesses.
4. Oil and gas sector includes not only upstream production businesses but also all midstream and downstream companies and projects



Notes on measurement results

- Scope 1, 2, and 3 emissions data from client reports and disclosures includes data in which the scope of calculations does not extend beyond some consolidated companies and business and data which is still undergoing improvements in calculation methods. As such, the results of measurement of financed emissions may change significantly in the future due to clients expanding their calculations of emissions.
- We applied the emission factor from the IEA World Energy Outlook to estimate emissions from project finance for power generation projects and the emission factors for the sector per unit of revenue from the PCAF database to estimate emissions from corporate finance. These emission factors may be further refined or otherwise modified going forward, which may also lead to significant changes in the results of measurement.
- Methods of measurement may also change in the future due to changes and improvements to the methodology of the PCAF Standard, clarification of practical standards for measurement and target setting (definitions, scope of measurement, time frames, etc.), and similar factors. In the event of such changes, we will clearly state which points have changed when disclosing our measurement results.

(3) Actions going forward

This year we have disclosed measurement results for 19 sectors in corporate finance and project finance, but we still face many challenges regarding measurement. The following are some examples of issues that should be addressed going forward.

a. Scope of measurement

Asset class: Because of a lack of data and of an established methodology, our measurements excluded loans to special purpose vehicles for securitization, trade finance, and sovereign loans, even under corporate finance and project finance. Proprietary trading and underwriting with individual companies was also outside the scope of measurement, as it constituted only a small percentage of the portfolio and did not have an established methodology.

Sectors: We selected sectors covering all of the recommended disclosures (carbon-related assets) under the TCFD Recommendations. However, in order to determine what percentage of Mizuho's portfolio these sectors comprise, we needed to undertake measurement across all sectors. At the same time, as the challenges of obtaining emissions disclosure data from sectors outside the scope of this measurement necessitates the use of estimates, we are aware that from the perspective of ensuring the usability of data we must give attention to accuracy as well.

In light of the above, we will look into the possibilities of further expanding the scope of measurement in phases by employing new methodologies and collecting additional data, while also taking into account our priorities in our goals for measuring financed emissions, such as application in future target setting and monitoring for Scope 3 emissions.

b. Improvement of data quality

We performed the measurement for corporate finance by combining our clients' reported data (data quality score ("score") 1 or 2) with estimates based on company revenue (score 4) and for project finance for power generation projects by integrating estimates based on power generation (score 3). There were more than a few discrepancies between the company/project reported data (score 1 or 2) and estimated data (score 4 or 5). Accurately assessing the real situation will require using more precise data.

While taking into account our priorities in line with our goals for measuring financed emissions, we will pursue greater improvements in the quality of data by utilizing more external data, communicating with vendors, and undertaking engagement with clients and related stakeholders in regard to their disclosures of emissions.

c. Development of an efficient measurement process

Throughout FY2021, relevant departments within the Mizuho group coordinated on the measurement project in a trial-and-error process. Given that measurement standards and data have yet to fully develop, this effort proved to be labor intensive.

Through our activities as a member of the PCAF Japan coalition, we are working to deepen discussions and resolve issues by sharing with other financial institutions the insights and experience we have gained from addressing practical challenges and by taking part in developing a framework for efficiently collecting accurate emissions data. In addition, we are looking into developing our internal framework for ensuring efficient measurement utilizing technology and other means.

d. Our clients' approaches to Scope 3 emissions

Both financial institutions and client companies have only just begun to measure and disclose Scope 3 emissions (categories 1 to 15) and will be gradually strengthening their initiatives going forward. Further, the PCAF database does not currently include data (emission factors) for estimating downstream Scope 3 emissions in each sector, and because of this our financed emissions values may change significantly in the future. Moreover, the definitions of Scope 1, 2, and 3 can lead to multiple companies double counting the same emissions, with the PCAF Standard stating, "Double counting occurs between the different scopes of emissions from loans and investments when a financial institution invests in stakeholders that are in the same value chain. This form of double counting cannot be avoided but can be made more transparent by separately reporting the scope 1, 2, and 3 emissions of loans and investments."²⁴

In light of the above, we believe becoming able to monitor our clients' overall Scope 3 emissions and trends within our financed emissions will take more time. We will continue our efforts to improve measurement.

²⁴ PCAF, The Global GHG Accounting and Reporting Standard for the Financial Industry, p. 101, Box 6.

PCAF and PCAF Japan initiatives

The Partnership for Carbon Accounting Financials (PCAF) is an international initiative that develops and implements open-source methodologies to measure the GHG emissions of financial institutions' lending and investment portfolios. As of May 2022, over 260 financial institutions have joined PCAF, including commercial banks, investment banks, insurance companies, and institutional investors, representing a total of more than USD 73 trillion in financial assets.

November 2021 saw the launch of the PCAF Japan coalition for PCAF member institutions in Japan, and as of May 2022 18 financial institutions are taking part.



Mizuho Financial Group joined PCAF in July 2021, becoming the first Japanese financial institution to do so. In comparison to the previous fiscal year, we have undertaken measurement across a wider range of assets and sectors while utilizing PCAF's insights and emission factors database and taking a trial-and-error approach.

In exploring the estimation of GHG emissions and methods for utilizing such data, we have come across several practical challenges. These include interpretation of industry types according to Japanese standards, insufficient GHG emission and other data from financed entities, a need for efficient data collection methods, and duplicated emissions counting at various levels.

To overcome these challenges, it is important that we further strengthen collaboration with our various stakeholders, including collaboration in the financial sector. One step we took towards this goal was to contribute to organizing the PCAF Japan coalition as the first PCAF member institution from Japan and to serve as chair of the coalition at the time of its launch in November 2021.

After discussion among the participating institutions, the PCAF Japan coalition has established and announced an FY2022 workplan. We are advancing collaboration and the sharing of experience, knowledge, and issues among participating financial institutions to promote enhancement of the measurement and disclosure of GHG emissions from loans and investments (financed emissions), while also strengthening stakeholder collaboration toward solving common issues.

PCAF Japan coalition FY2022 workplan

FY2022 action plan

Advance collaboration and the sharing of experience, knowledge, and issues among participating financial institutions to promote enhancement of the measurement and disclosure of greenhouse gas emissions from loans and investments (financed emissions), while also strengthening stakeholder collaboration toward solving common issues.

	Plans for initiatives	Specific administration details / output	Implementation schedule (FY2022)
Sharing knowledge	<ul style="list-style-type: none"> Share knowledge and experience related to practical issues in measuring financed emissions in order to enhance the efforts of each company. Hold discussions about the measurement methods and discussion papers announced at PCAF. 	<ul style="list-style-type: none"> Present examples of initiatives from each company at regular meetings. Carry out surveys of participating financial institutions to investigate responses in areas with differing interpretations (e.g., financial items, sector classifications, etc.) and the framework of each company (e.g., data collection methods, department/division structures, etc.). Summarize the results as a reference for carrying out measurements. Hold discussions on matters such as the approach to and issues in applying new guidance, and share ideas from PCAF Japan as necessary. 	<ul style="list-style-type: none"> During regular meetings Q1-Q2 <ul style="list-style-type: none"> As appropriate
Identifying common issues	<ul style="list-style-type: none"> Identify and organize issues common among Japanese financial institutions. 	<ul style="list-style-type: none"> Identify the two types of issues below through surveys and other such means and hold discussions on responses. <p>(1) Issues that can be organized through collaboration between participating financial institutions</p> <p>(2) Issues that require cooperation with external stakeholders</p>	<ul style="list-style-type: none"> Q2
Stakeholder collaboration	<ul style="list-style-type: none"> Strengthen collaboration with a wide range of stakeholders toward solving common issues. 	<ul style="list-style-type: none"> Regarding issues that fall under (2) above, good practices in corporate disclosure, etc., share the issues and exchange ideas with relevant stakeholders such as regulatory authorities and industry associations. 	<ul style="list-style-type: none"> Q3
Promoting disclosure	<ul style="list-style-type: none"> Provide examples related to the initiatives and disclosures of participating financial institutions. 	<ul style="list-style-type: none"> Create a collection of example cases from disclosure materials on measurements of financed emissions issued by participating financial institutions. 	<ul style="list-style-type: none"> Q3 onward
Administration plan	<ul style="list-style-type: none"> Hold Japan coalition meetings quarterly (the agenda for each meeting will be discussed between the PCAF Secretariat and the PCAF Japan coalition chair with consideration to feedback from participants). Based on the response policies for issues that fall under (1) above and on the growing number of participating financial institutions, consider holding workshops by topic, sub-meetings by industry/topic, etc. 		

4. Scope 3 (GHG emissions from financing and investment) target setting

(1) Electric power sector mid-term target setting

Described in detail in [4.2. Achieving net zero \(page 23\)](#).

(2) Sectors planned for target setting going forward

In order to pursue efforts to limit the rise in global average temperature to 1.5°C, we have a long-term goal of achieving net-zero GHG emissions from our financing and investment by 2050. To make the pathway to reaching this goal more tangible, we are pressing forward with setting mid-term targets (to be reached by FY2030).

We have already set a mid-term target for the electric power sector. We will account for the sectors stipulated by the NZBA, transition risk evaluations, financed emissions, and feasibility and set further targets one-by-one, beginning from key areas.

Sectors planned for target setting going forward

- FY2022: Electric power sector [Complete]
 Energy sectors (oil, gas, and coal)
- Beginning exploration: Steel sector
 Automobile sector
 Maritime transportation sector

7. Conclusion

Addressing climate change and achieving net zero by 2050 will be a long journey. Every fiscal year we will examine our progress from the previous fiscal year, the external business environment, and other factors, review our action plan based on the findings of our examination, and steadily advance our initiatives. Our FY2022 action plan is shown below.

Starting with our newly established Climate Change Response Taskforce and working groups, we will continue to strengthen and accelerate our response to climate change across the whole group, and will pursue contributions to achieving a low-carbon society, and high corporate value for both Mizuho and our clients.

Table 15: FY2022 action plan

Governance	<ul style="list-style-type: none"> Strengthen and accelerate our business execution line's initiatives to carry out our Net Zero Transition Plan and report to the supervisory line. Build a response framework based on disclosure regulation trends.
Strategy	<ul style="list-style-type: none"> Further improve our ability to provide both financial and non-financial solutions based on client engagement. Initiatives aimed at quantifying the financial impacts (risks and opportunities) that accompany climate change. Expand our scenario analysis to more sectors. Conduct scenario analysis based on internal and external industrial expertise and clients' transition plans.
Risk management	<ul style="list-style-type: none"> Implement appropriate risk management frameworks that takes into account the trends of regulatory authorities around the world. Improve the process for identifying risks and introduce a trial initiative aimed at risk identification and quantification. Improve the control policy and exposure plan for carbon-related sectors. Clarify and improve the requirements for providing business structure transformation support. Revise our policy for financing and investment activity so that it suitably reflects the state of environmental and social issues.
Metrics and targets	<ul style="list-style-type: none"> Gradually set sector-specific mid-term Scope 3 (GHG emissions from financing and investment) targets. Reflect sector-specific mid-term Scope 3 targets in detailed plans and measures for achieving targets. Implement measures for reducing our own GHG emissions, such as shifting to electricity produced by renewable energy.

8. Appendix

1. Details of measurement standards for Scope 3 emissions

(1) Formulas and measurement processes by asset class

a. PCAF Standard formulas and application

Corporate finance

$$\text{Financed emissions} = \sum_c \text{Attribution factor}_c \times \text{Company emissions}_c$$

(with c = borrower or investee company)

For business loans and equity investments to/in private companies:

$$\text{Attribution factor}_c = \frac{\text{Outstanding amount}_c}{\text{Total equity} + \text{debt}_c}$$

For business loans to listed companies:

$$\text{Attribution factor}_c = \frac{\text{Outstanding amount}_c}{\text{Enterprise Value Including Cash}_c}$$

(with c = borrower or investee company)

Source: Partnership for Carbon Accounting Financials, The Global GHG Accounting & Reporting Standard for the Financial Industry.

- Attribution factor

- Numerator: On-balance sheet loans from Mizuho to the client²⁵

Denominator:

Listed companies The client's enterprise value including cash (EVIC; the sum of the market capitalization of ordinary and preferred shares and the book values of total debt (bonds + borrowing) and minorities' interests (with no deductions of cash or cash equivalents))

Private companies Clients' corporate value (total equity + debt)

- Data on listed companies comes from data vendors (Bloomberg). Other data comes from Mizuho's own credit data.
- The PCAF Standard allows for estimating financed emissions by multiplying the amount of financing and investment in the company by the emission factors for the sector per unit of asset from the PCAF database (equivalent to data quality score ("score") 5) when it is not possible to calculate the attribution factor due to missing data. However, when we estimated financed emissions using this method, we found significant gaps between the estimates and companies' disclosed values, which could affect the accuracy of the measurement results. Because of this, we refrained from using estimates equivalent to score 5, and financed emissions for which we were not able to calculate an attribution factor remain unmeasured.

- GHG emissions (company emissions)

We prioritized data in the following order when calculating Scope 1, 2, and 3 emissions.

- Data vendor data (Bloomberg), company disclosure data, company interview data (equivalent to score 1 when certified by a third party, score 2 when not).
- When the above were not available, we multiplied the emission factors for the sector per unit of revenue from the PCAF database (calculated by region and sector) by the company's sales to estimate GHG emissions (equivalent to score 4).

²⁵ Combined figures for the loan balances of Mizuho Bank and Mizuho Trust & Banking. This includes foreign exchange assets, acceptances, and guarantees. It does not include available credit under committed lines of credit, securities, derivatives, and similar. Loans to special purpose vehicles for securitization, trade finance, and sovereign loans are outside the scope of this measurement, as it is not possible to calculate an attribution factor for them.

Project finance

$$\text{Financed emissions} = \sum_p \text{Attribution factor}_p \times \text{Project emissions}_p$$

(with $p = \text{project}$)

$$\text{Attribution factor}_p = \frac{\text{Outstanding amount}_p}{\text{Total equity} + \text{debt}_p}$$

Source: Partnership for Carbon Accounting Financials, The Global GHG Accounting & Reporting Standard for the Financial Industry.

Attribution factor

- Numerator: On-balance sheet loans from Mizuho to the project
Denominator: Total project cost for each project (equity + debt)
- GHG emissions (project emissions)
 - Project finance for power-generation projects: Estimated by multiplying the project's annual power generation by the power generation emission factor from the IEA World Energy Outlook (calculated by region and sector) (equivalent to score 3).
 - Other project finance: Same as the above method for calculating corporate finance company emissions.

b. Measurement process

We have measured emissions from corporate finance and project finance (other than for power generation projects) using the following steps.

- i. Reconciling sector classifications
 - To come up with usable data, we reconciled the sectors in Mizuho's internal credit data (which are the same as in the industry type classification established by the Bank of Japan), in the TCFD recommended disclosures (which have no set classification method), and in the PCAF database (which applies multiple classifications, including the Global Industry Classification Standard (GICS), North American Industry Classification System (NAICS), and Statistical Classification of Economics Activities in the European Community (NACE, from the French abbreviation)).
- ii. Organizing sectors subject to measurement
 - Clients in sectors relevant to the recommended disclosures under the TCFD Recommendations²⁶ were subject to measurement, while others were outside the scope of measurement.
- iii. Organizing Mizuho's internal credit data
 - We determined the parent company/subsidiary relationships for each individual client and organized them on a case-by-case basis according to Mizuho's business relationship with the parent company and subsidiaries and the availability of financial data and emissions data.
 - We reconciled client data from data vendors with Mizuho's internal credit data
- iv. Calculating attribution factors and company emissions
 - As on previous pages.
- v. Calculating financed emissions and data quality scores
 - We combined the two to calculate financed emissions from all sectors subject to measurement.
 - We weighted the average of the scores of the individual output data by the amount of lending by sector to calculate the score for each sector.

²⁶ For target sectors, see page 62.

We have measured emissions from project finance for power generation projects using the following steps.

- i. Extracting the target of measurement
 - We extracted project finance for power generation projects (thermal power generation, renewable energy, and others) from Mizuho's internal credit data.
- ii. Measuring project emissions
 - Annual power generation: We employed internal data to calculate annual power generation per project, accounting for power output and capacity factor.
 - Emission factor by region and sector: We applied the region- and sector-specific emission factors from the IEA World Energy Outlook to the annual power generation per project above to calculate project emissions (equivalent to score 3).
- iii. Measuring financed emissions
 - We applied the attribution factor to measure financed emissions for all projects subject to measurement.

(2) Issues and responses

We undertook measurement throughout FY2021 and in the process encountered a number of issues, which we attempted to resolve through trial-and-error as we came across them. Following are some specific examples.

a. Handling of consolidated and non-consolidated data

- Issue: Boundaries vary depending on the data set. For example, while data on GHG emissions, EVIC, and corporate value in company disclosures is frequently on a consolidated basis, Mizuho's internal credit data is on a non-consolidated basis. Further, some clients in our financing and investment portfolio are subsidiaries in consolidated corporate groups that only make financial and emissions data available on a consolidated basis, impeding correct calculation of the attribution factor. There is a need to organize the approach to the numerator and denominator of the attribution factor and to the boundaries of company emissions in the measurement process.
- Response: We determined Mizuho's business relationship with the parent company and subsidiaries for each individual client in the credit data. When we had loans with both the parent company and subsidiary, we aggregated them under the parent company's consolidated data. When we had loans only with the subsidiary and emissions and financial data were available on a non-consolidated basis or were available only for the parent company on a consolidated basis, we organized the data case-by-case.

We also considered that some clients may use different criteria for consolidating emissions data than they do for consolidating financial data, but given the work involved in confirming the criteria for consolidation at each individual company, we chose to assume that the criteria for both types of data were the same in carrying out our measurements.

b. Reconciling client data from data vendors with Mizuho's internal credit data

- Issue: In merging the company emissions and EVIC data we obtained from data vendors with Mizuho's internal credit data, we needed to perform reconciliation using codes for each client. For companies in Japan, we were able to make the securities code the key for the merge. For companies outside Japan, because our internal data does not include the relevant code, we needed to make the company name the key. Some company names are similar or abbreviated, and reconciling the data based on company names proved to be extremely labor intensive.
- Response: We reconciled client data one-by-one, excluding data that was low priority due to the size of the balance or other reasons. With this measurement process we were able to organize ticker information, and we expect to be able to perform reconciliation more efficiently going forward.

c. Reconciling sector classifications

- Issue: To come up with usable data, we needed to match the sectors in Mizuho's internal credit data (which are the same as in the industry type classification established by the Bank of Japan), the TCFD recommended disclosures (which has no set classification method), and the PCAF database (which applies multiple classifications, including GICS, NAICS, and NACE).
- Response: We linked each sector after confirming the adequacy of the match. For the TCFD sectors and PCAF database sectors, we based the matching on GICS codes.

d. Integrating the PCAF database's region-specific emission factors

- Issue: The PCAF database includes emission factor data (to use in making estimates based on revenue or assets) for a range of countries and regions. This allows financial institutions to make estimates in line with their own country-specific portfolios. On the other hand, there is considerable variation in the values of emission factors for different countries (e.g. a gap of 3,000x between the minimum and maximum), and applying the emission factors as they are runs the risk of producing estimates removed from reality.
- Response: We consolidated PCAF's country-specific data into six world regions and calculated emission factors for each region (the average of emission factors for the countries in each region). We linked this with the location of the headquarters for each of our clients.

e. Obtaining project data

- Issue: Measuring project emissions from project finance for power generation projects requires project data such as power output and capacity factors. While such data was available internally in individual departments, it was not centralized.
- Response: We centralized the project data necessary for measuring project emissions, as well as attribution factor data for each project. Going forward, we will update the data each year as necessary and add more projects subject to measurement. In this way, we will streamline our management of such data.

2. Overview of our Environmental and Social Management Policy for Financing and Investment Activity (complete)

Excerpts of main revisions	
Before revision	After revision (effective July 2022)
Financing and Investment Transactions Prohibited Regardless of Sector	
<ul style="list-style-type: none"> Projects with an adverse impact on wetlands designated as Wetlands of International Importance under the Ramsar Convention Projects with an adverse impact on UNESCO World Heritage Sites Projects violating the Convention on International Trade in Endangered Species of Wild Fauna and Flora (Washington Convention) <u>Projects involving child labor or forced labor</u> 	<p>■ <u>Added</u></p> <p>(Underlined parts of the text to the left are revised as follows)</p> <ul style="list-style-type: none"> Projects which cause forced labor, child labor, or <u>human trafficking</u>
Financing and Investment Transactions which Require Additional Due Diligence Regardless of Sector	
<ul style="list-style-type: none"> Projects with adverse impacts on indigenous peoples' local communities Projects involving land expropriation that causes forced relocation of residents 	<p>■ <u>Added</u></p> <p>(Added the following paragraph to the text on the left.)</p> <ul style="list-style-type: none"> Projects which cause, contribute to, or directly link with violation of human rights in conflict areas
Policies on Forced Labor, Child Labor, and Human Trafficking (New)	
N/A	<p>■ <u>Establishment of new policy</u></p> <ul style="list-style-type: none"> We promise to act in way that respects internationally recognized human rights in the Mizuho Code of Conduct, and in addition, based on our Human Rights Policy, we aim to fulfil our responsibility to respect human rights throughout our global value chain in accordance with the United Nations' Guiding Principles on Business and Human Rights. We expect our clients to understand our commitments to human rights based on the Human Rights Policy and expect them to act to prevent and minimize adverse impacts on human rights throughout their operations and supply chain as well as to provide remedy if necessary. <p>Policies</p> <ul style="list-style-type: none"> Mizuho will strengthen our human rights due diligence with the aim to eliminate forced labor, child labor, and human trafficking from our business and value chain. For a company with which we do not have credit transactions, if there is evidence of forced labor, child labor, or human trafficking caused by the company, then we do not provide financing and investment. If we confirm that a client with which we already have credit transactions is causing forced labor, child labor, or human trafficking, we will urge them to provide remedy and prevent recurrence. If a client does not make progress on addressing our requests even after a certain period of time, we carefully consider whether or not to continue our business with them. If a client is contributing to or is directly linked with forced labor, child labor, or human trafficking, we will request a report on their responses to the relevant issue, and that they take additional steps if needed.

Policy on Transition Risk Sectors	
<p>Subjects</p> <ul style="list-style-type: none"> Companies whose primary businesses are in coal-fired power generation, oil-fired power generation, gas-fired power generation, coal mining, and/or other oil and gas operations <p>Policies</p> <ul style="list-style-type: none"> At Mizuho, we are undertaking engagement with clients to ensure they make progress on addressing transition risks associated with climate change. In undertaking such engagement with our clients, if a client does not make progress on addressing their transition risks even after a certain period of time, we carefully consider our transactions with the client. Further, in our engagement and decision-making, we also take into account the role of the client in national energy policies aligned with the Paris Agreement. 	<p>■ Added sector, clarified and strengthened response policy</p> <p>Subjects (Added the following paragraph to the text on the left.)</p> <ul style="list-style-type: none"> Companies whose primary businesses are steel, or cement <p>Policies (Revised as follows)</p> <ul style="list-style-type: none"> Based on our Environmental Policy, we are reducing the amount of greenhouse gas emissions through a medium-to long-term financing and investment portfolio in order to transition in stages to a portfolio that aligns with the Paris Agreement goals. For that reason, we will actively engage (carry out constructive dialogue) with clients in order to support the transition to a low-carbon society and adapt to climate change, taking a medium to long term view, and in accordance with each client's issues and needs. We will engage so as to strengthen by stages the following initiatives with clients in the transition risk sectors. <ul style="list-style-type: none"> - Develop a strategy for shifting to a low-carbon society - Set quantitative targets and/or KPIs (medium term, long term) to ensure the transition strategy is effective - 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 Through engagement, we will check at least once per year on the status of transition risk response, based on the following criteria. <ul style="list-style-type: none"> - Willingness to take measures against transition risks - Development of the strategy, setting of quantitative targets - Target levels, specificity of means of achievement and status of efforts, performance and objectivity, etc. If there is no willingness to respond to transition risks and no transition strategies have been developed by clients even one year after the initial engagement based on the above²⁷, we make decisions on whether or not to continue our business with them based on careful consideration.

²⁷ "No transition strategies have been developed" indicates the client has no policy, targets, or other measures to address transition risk.

Policies on Specific Industrial Sectors		
Coal-fired power generation	<ul style="list-style-type: none"> We do not provide financing or investment which will be used for new construction/expansion of existing facilities of coal-fired power plants. <u>However, when a proposed coal-fired power plant is essential and will contribute to reduction of greenhouse gas emissions by replacing an existing power plant, we may provide financing or investment for the project, based on careful consideration.</u> We will also continue to support development of innovative, clean, and efficient next-generation technology that will contribute to the expansion of sustainable energy, as well as other initiatives for the transition to a low-carbon society. 	<p>■ <u>Strengthened response policy</u> (Deleted the underlined part of the text on the left)</p> <ul style="list-style-type: none"> We do not provide financing or investment which will be used for new construction of coal-fired power plants or the expansion of existing plants. However, we will also continue to support development of innovative, clean, and also efficient next-generation technology that will contribute to the expansion of sustainable energy, as well as other initiatives for the transition to a low-carbon society. <p>(Added the following)</p> <ul style="list-style-type: none"> We do not start credit transactions with companies with which we have no current credit transactions if the primary business of these companies is coal-fired power generation.
Thermal coal mining	<ul style="list-style-type: none"> We do not provide financing or investment which will be used for new thermal coal mining projects. When an existing thermal coal mining project contributes to the stable energy supply of <u>a country which has announced policies aligned with the Paris Agreement</u>, we may provide financing or investment for the project, based on careful consideration, only in these cases. 	<p>■ <u>Strengthened response policy / clarified wording</u> (Clarified the underlined parts as follows)</p> <ul style="list-style-type: none"> We do not provide financing or investment which will be used for <u>new thermal coal mining projects or for expansion of existing mining projects</u>. For cases where it will be used to <u>obtain the rights to an existing thermal coal mining project</u>, we may provide financing or investment, based on careful consideration, only when it is vital to the stable energy supply of <u>a country which has announced a target of net zero greenhouse gas emissions by 2050</u>.²⁸ <p>(Added the following)</p> <ul style="list-style-type: none"> We do not provide financing or investment to companies with which we have no current credit transactions if the primary business of these companies is the mining of thermal coal.
Oil and gas	<ul style="list-style-type: none"> When providing financing or investment for oil or gas extraction projects in the Arctic Circle or oil sands, shale oil, or shale gas projects, we conduct appropriate assessments of environmental and social risks. 	<p>■ <u>Strengthened response policy</u> (Added the following)</p> <ul style="list-style-type: none"> When providing financing or investment that will be used for pipeline projects, we carry out appropriate environmental and social risk assessments.

²⁸ Nationally Determined Contribution.

Large-scale agriculture	<ul style="list-style-type: none"> We urge our clients to formulate sustainable and human rights policy, such as NDPE and FPIC. 	<p>■ <u>Strengthened response policy / clarified the definition</u> (Clarified the definition of large-scale agriculture)</p> <ul style="list-style-type: none"> Large-scale agriculture covering 10,000 ha or more, planting soy, natural rubber, cocoa, coffee, etc. or used for grazing. <p>(Added the following)</p> <ul style="list-style-type: none"> We urge clients to formulate policies with consideration to the environment and human rights, such as respecting Free, Prior, and Informed Consent (FPIC) and practicing No Deforestation, No Peat, and No Exploitation (NDPE), for their entire supply chains, and to strengthen supply chain management and improve traceability.
Palm oil	<ul style="list-style-type: none"> We urge our clients to formulate sustainable and human rights policy, such as NDPE and FPIC. 	<p>■ <u>Strengthened response policy</u> (Added the following)</p> <ul style="list-style-type: none"> We urge clients to formulate policies with consideration to the environment and human rights, such as respecting Free, Prior, and Informed Consent (FPIC) and practicing No Deforestation, No Peat, and No Exploitation (NDPE), for their entire supply chains, and to strengthen supply chain management and improve traceability.
Lumber and pulp	<ul style="list-style-type: none"> Our business decisions involve a thorough examination of whether there are any potential conflicts involving indigenous peoples or local communities, and we take into consideration whether the client/project has received international certifications such as those for responsible forest management. We urge our clients to formulate sustainable and human rights policy, such as NDPE and FPIC. 	<p>■ <u>Strengthened response policy</u> (Added the following)</p> <ul style="list-style-type: none"> When financing and investing in lumbering businesses in countries that are not among the OECD high-income member states, we require them to obtain FSC or PEFC certification, and, if they require time to obtain such certification, we request them to formulate a plan with a deadline aimed at fulfillment. We urge clients to formulate policies with consideration to the environment and human rights, such as respecting Free, Prior, and Informed Consent (FPIC) and practicing No Deforestation, No Peat, and No Exploitation (NDPE), for their entire supply chains, and to strengthen supply chain management and improve traceability.

Overview of our Environmental and Social Management Policy for Financing and Investment Activity

I. Our approach under our Environmental and Social Management Policy for Financing and Investment Activity

- Companies are expected to contribute to the sustainable development of society as good corporate citizens. In terms of the social and environmental impact of business decisions and business activity, companies need to consider the expectations of their stakeholders and ensure that their actions are not only aligned with international standards but also transparent and ethical.
- Mizuho promises to act in an environmentally responsible manner and to act in a way that respects internationally recognized human rights in the Mizuho Code of Conduct, our Environmental Policy, and our Human Rights Policy. We understand the importance of our social responsibility and duty to the public and we ensure that our corporate conduct fulfills our responsibilities to the communities in which we operate, giving due consideration to the expectations of a diverse range of stakeholders. This enables us to contribute to sustainable social and economic development as well as be part of the solution to issues affecting society.
- In regards to environmental issues, including climate change and conservation of biodiversity, we will endeavor to leverage our financial intermediary and consulting capabilities to maximize beneficial impacts and avoid or mitigate adverse impacts on the environment.
- One of the ways in which we fulfill our social responsibility and duty to the public is to provide financial services such as financing and capital raising support ("financing and investment") to companies which are taking appropriate measures to address environmental and social issues. At the same time, we are also sensitive to the risks involved in engaging in business with companies which are facing environmental or social issues, such as responding to climate change, conserving biodiversity, or respecting human rights, or which are not taking appropriate measures to meet stakeholder expectations.

II. Businesses subject to this policy and implementation methods

(1) Businesses subject to this policy

- Businesses that provide funds to clients based on their own judgement (examples: lending²⁹, proprietary investments in individual stocks), businesses that support the funding of clients (example: underwriting services), or businesses that have assets in their own name and support customer's business (example: trust fiduciary services³⁰).

(2) Implementation methods

- Financing and Investment Transactions Prohibited Regardless of Sector lists projects for which we prohibit any financing or investment.
- Financing and Investment Transactions which Require Additional Due Diligence Regardless of Sector and Policy on Forced Labor, Child Labor, and Human Trafficking, Policy on Transition Risk Sectors, and Policies on Specific Industrial Sectors describe our practices for determining whether to engage in transactions with clients/projects in subject sectors, accounting for the degree to which the client has taken steps to avoid or mitigate risk and other due diligence as appropriate, based on the characteristics of the services we are providing.
- In addition, 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.

III. Specific policy implementation

1. Financing and Investment Transactions Prohibited Regardless of Sector

- In recognition of the serious risks to and adverse impacts on the environment and society, we refuse to engage in

²⁹ Includes corporate finance and project finance.

³⁰ Excludes businesses involved in asset management.

transactions related to the following types of projects:

- Projects with an adverse impact on wetlands designated as Wetlands of International Importance under the Ramsar Convention
- Projects with an adverse impact on UNESCO World Heritage sites, excluding projects that have received prior consent from the relevant national government and UNESCO
- Projects violating the Convention on International Trade in Endangered Species of Wild Fauna and Flora (Washington Convention), excluding cases permitted under any country's reservation(s) to the convention
- Projects which cause forced labor, child labor, or human trafficking

2. Financing and Investment Transactions which Require Additional Due Diligence Regardless of Sector

- In recognition of the serious risks to and adverse impacts on the environment and society, we make decisions on financing and investment for the following types of projects based on a cautious and considered approach aimed at accounting for the degree to which the client has taken steps to avoid or mitigate risk:
 - Projects with adverse impacts on indigenous peoples' local communities
 - Projects involving land expropriation that causes forced relocation of residents
 - Projects which cause, contribute to, or directly link with violation of human rights in conflict areas

3. Policy on Forced Labor, Child Labor, and Human Trafficking

- We promise to act in way that respects internationally recognized human rights in the Mizuho Code of Conduct, and in addition, based on our Human Rights Policy, we aim to fulfil our responsibility to respect human rights throughout our global value chain in accordance with the United Nations' Guiding Principles on Business and Human Rights.
- In addition, we expect our clients to understand our commitments to human rights based on our Human Rights Policy and expect them to act to prevent and minimize adverse impacts on human rights throughout their operations and supply chain as well as to provide remedy if necessary.
- Building on the above, we will establish a policy regarding companies exposed to risks of forced labor, child labor, or human trafficking.

Risks that we should recognize

- Companies are at risk of causing or contributing to forced labor, child labor, or human trafficking through their own business activities, or being directly linked to forced labor, child labor, or human trafficking through their businesses, products, or services.

Policies

- We aim to eliminate forced labor, child labor, and human trafficking from our businesses and value chains, and will strengthen our human rights due diligence.
- Currently, when starting a new transaction such as financing and investment with a company with which we do not have credit transactions, or if we come into information that there is the possibility that a company we already have credit transactions with may be involved in forced labor, child labor, or human trafficking, we will confirm the risks of forced labor, child labor, or human trafficking.
- Building on the results of the above confirmation, we will respond as follows.
 - 1) For a company with which we do not have credit transactions, if there is evidence of forced labor, child labor, or human trafficking caused by the company then we do not provide financing and investment.
 - 2) If we confirm that a client with which we already have credit transactions is causing forced labor, child labor, or human trafficking, we will urge them to provide remedy and prevent recurrence. If a client does not make progress on addressing our requests even after a certain period of time, we carefully consider whether or not to continue our business with them.

- 3) If a client is contributing to or is directly linked with forced labor, child labor, or human trafficking, we will request a report on their responses to the relevant issue, and that they take additional steps if needed.

4. Policy on Transition Risk Sectors

We recognize that climate change is closely tied to various economic and social issues, and that addressing climate change is an important issue in the medium to long term. We will set policies for companies in sectors likely to be exposed to transition risks associated with climate change.

Targets

- Companies whose primary businesses are in coal-fired power generation, oil-fired power generation, gas-fired power generation, coal mining, oil and gas, steel, or cement.

Risks that we should recognize

- Companies whose primary businesses are those above are at a high risk of exposure to transition risks (policy risks, technology risks, reputational risks, etc.) arising from the transition to a low-carbon society, and if their responses to these transition risks are not appropriate, there is the risk of increased concern about climate change and air pollution.

Policies

- Based on our Environmental Policy, we are reducing the amount of greenhouse gas emissions through a medium- to long-term financing and investment portfolio in order to transition in stages to a portfolio that aligns with the Paris Agreement goals. For that reason, we will actively engage (carry out constructive dialogue) with clients in order to support the transition to a low-carbon society and adapt to climate change, taking a medium to long term view, and in accordance with each client's issues and needs.
- We will engage so as to strengthen by stages the following initiatives with clients in the transition risk sectors.
 - Develop a strategy for a low-carbon society
 - Set quantitative targets and/or KPIs (medium term, long term) to ensure the transition strategy is effective
 - 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
- For clients in transition risk sectors, we will specify risk categories based on the primary business of these companies and their transition risk response level.
- Through engagement, we will check at least once per year on the status of transition risk response, based on the following criteria.
 - Willingness to take measures against transition risks
 - Development of the strategy, setting of quantitative targets
 - Target levels, specificity of means of achievement and status of efforts, performance and objectivity, etc.
- If there is no willingness to respond to transition risks and no transition strategies have been developed by clients even one year after the initial engagement based on the above, we make decisions on whether or not to continue our business with them based on careful consideration.

5. Policies on Specific Industrial Sectors

For certain sectors such as those listed below, where there is a high possibility of contributing to adverse environmental or social impacts, our decisions regarding whether to engage in business transactions take into consideration the client's response to environmental and social issues, including climate change, conservation of biodiversity, and respect for human rights:

1) Weapons

- We avoid providing financing or investment which will be used for the manufacture of weapons designed to kill or inflict structural damage during wars or armed conflicts. In addition, we avoid providing financing or investment to any

manufacturer of cluster munitions, antipersonnel landmines, or biochemical weapons, regardless of the purpose of the funding, in view of the inhumane nature of these weapons.

2) Coal-fired power generation

Risks that we should recognize

- Compared to other forms of power generation, coal-fired power generation produces more greenhouse gases, in addition to producing harmful substances such as sulfur oxide and nitrogen oxide. Therefore, it presents a higher risk of contributing to climate change, air pollution, and other environmental impacts.

Policies

- We do not provide financing or investment to companies with which we have no current credit transactions if the primary business of these companies is coal-fired power generation.
- We do not provide financing or investment which will be used for new construction of coal-fired power plants or the expansion of existing facilities.
- However, we will also continue to support development of innovative, clean, and also efficient next-generation technology that will contribute to the expansion of sustainable energy, as well as other initiatives for the transition to a low-carbon society.

3) Thermal coal mining

Risks that we should recognize

- The mining of thermal coal, when not managed properly, entails the risk of adverse environmental and social impacts, which may include damage to ecosystems from hazardous waste produced in coal mines, as well as deaths or injuries resulting from mining accidents. Further, mined coal may also increase greenhouse gas emissions when burned for power generation or other purposes in the future.

Policies

- Our decisions regarding financing and investment for thermal coal mining companies involve a thorough examination of due care to the status of responses to the above risks.
- We do not provide financing or investment to companies with which we have no current credit transactions if the primary business of these companies is the mining of thermal coal.
- We do not provide financing or investment which will be used for new thermal coal mining projects or for expansion of existing projects.
- For cases where it will be used to obtain the rights to an existing thermal coal mining project, we may provide financing or investment for the project, based on careful consideration, only when it is vital to the stable energy supply of a country which has announced a target of net zero greenhouse gas emissions by 2050.

4) Oil and gas

Risks that we should recognize

- Oil and gas extraction and pipeline entail the risk of adverse environmental and social impacts, which may include the pollution of oceans and waterways from oil spills or gas leaks, as well as violations of the human rights of indigenous peoples.
- In addition, pipeline projects have the risks of environmental degradation such as oil leaks not just during construction but in operation, deforestation, and violating the human rights of indigenous peoples.
- We recognize that the Arctic Circle (the region north of 66°33' latitude) requires consideration for the conservation of endangered species and for the lives of indigenous peoples. We also recognize that oil sands, shale oil, and shale gas development causes significant environmental degradation and may violate the human rights of indigenous peoples, among other risks.

Policies

- Our decisions regarding financing and investment for oil and gas projects involve a thorough examination of the impacts

on the environment and of the potential for conflicts with indigenous peoples or local communities.

- When providing financing or investment that will be used for oil or gas extraction in the Arctic, oil sands, shale oil, and shale gas extraction, and pipeline, we carry out appropriate environmental and social risk assessments.

5) Large-scale hydropower

Risks that we should recognize

- Large-scale hydropower construction³¹ entails risk of adverse environmental and social impacts, which may include disturbance of river basin ecosystems and destruction of biodiversity, as well as violation of the human rights of indigenous peoples and local communities due to resettlement.

Policies

- Our decisions regarding financing and investment for large-scale hydropower projects involve a thorough examination of the impacts on the environment and of the potential for conflicts with indigenous peoples or local communities.
- When providing financing or investment for large-scale hydropower projects, we recommend the client perform an environmental and social impact assessment based on the Hydropower Sustainability Assessment Protocol.

6) Large-scale agriculture

Risks that we should recognize

- The development and operation of large-scale agriculture³² may entail environmental issues such as deforestation (including forest burning) and damage to biodiversity, in addition to potential human rights abuses such as the violation of indigenous peoples' rights or the use of child labor.

Policies

- Our decisions regarding financing and investment for such agriculture involve a thorough examination of the client's measures to address environmental and social issues.
- We will urge our clients in these sectors to respect Free, Prior, and Informed Consent (FPIC) in relation to local communities and to formulate sustainable environmental and human rights policy, such as No Deforestation, No Peat, and No Exploitation (NDPE).
- We will request our clients to strengthen supply chain management and traceability to ensure that the policy it has developed will also apply to their supply chain.

7) Palm oil

Risks that we should recognize

- While palm oil is an essential commodity for maintaining our lifestyles and infrastructure, we are also aware of the risks of potential human rights abuses within the production process such as the violation of indigenous peoples' rights or the use of child labor, in addition to environmental issues such as deforestation (including forest burning) and damage to biodiversity.

Policies

- In order to avoid becoming involved in the above projects which may inflict human rights abuses or environmental destruction, our business decisions involve a thorough examination of whether there are any potential conflicts involving indigenous peoples or local communities, and we take into consideration whether the client/project has received international certifications such as those for the production of sustainable palm oil.
- Specifically, we will request that all plantations be certified by the Roundtable on Sustainable Palm Oil (RSPO). When a client needs more time to have all their plantations certified by the RSPO, we will urge them to formulate a plan with a set deadline to receive the certification. When the client does not have any plans to be certified by the RSPO, we will request that they take measures equivalent to those required for the certification and periodically report the status of said measures.

³¹ Output of 25MW or more and dam walls of 15m or more.

³² Agriculture covering 10,000 ha or more, planting soy, natural rubber, cocoa, coffee, etc. or used for grazing.

When the client needs more time to establish such measures, we will urge them to formulate a plan with a set deadline to do so.

- In the event that we identify any unlawful act during the term of a transaction, we urge the client to take immediate remedial measures. In the event that the client has not taken appropriate measures to address social issues, we undertake engagement with the client to promote remedial measures and, if the client's remedial measures are unsatisfactory, we suspend new financing and investment.
- We will urge our clients in these sectors to respect FPIC in relation to local communities and to formulate sustainable environmental and human rights policy, such as NDPE.
- We will request our clients to strengthen supply chain management and traceability to ensure that the policy they have developed will also apply to their supply chain.

8) Lumber and pulp

Risks that we should recognize

- While lumber and pulp are essential commodities for maintaining our lifestyles and infrastructure, we are also aware of the risks of human rights abuses within the production process such as the violation of indigenous peoples' rights or the use of child labor, in addition to environmental issues such as deforestation (including forest burning) and damage to biodiversity.

Policies

- In order to avoid becoming involved in the above projects which may inflict human rights abuses or environmental destruction, our business decisions involve a thorough examination of whether there are any potential conflicts involving indigenous peoples or local communities, and we take into consideration whether the client/project has received international certifications such as those for responsible forest management.
- Specifically, when financing and investing in lumbering businesses in countries that are not among the OECD high-income member states, we will request them to obtain Forest Stewardship Council or Programme for the Endorsement of Forest Certification certification, and, if they need more time to obtain such certification, we will urge them to formulate a plan with a set deadline to receive the certification.
- In the event that we identify any unlawful act during the term of a transaction, we urge the client to take immediate remedial measures. In the event that the client has not taken appropriate measures to address social issues, we undertake engagement with the client to promote remedial measures and, if the client's remedial measures are unsatisfactory, we suspend new financing and investment.
- We will urge our clients in these sectors to respect FPIC in relation to local communities and to formulate sustainable environmental and human rights policy, such as NDPE.
- We will request our clients to strengthen supply chain management and traceability to ensure that the policy they have developed will also apply to their supply chain.

IV. 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 business environment and the results of implementation. Following these reviews, our governing bodies may revise or otherwise make changes to our measures to enhance their implementation.

Mizuho Bank, Mizuho Trust & Banking, Mizuho Securities, and Mizuho Americas are putting in place an operational framework for this policy integrating the most recent revisions and will begin implementing it from July 1, 2022. The global subsidiaries of the four companies above will begin implementing the framework in stages by October 2022.

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 society's standards and expectations.

CEO message

Overview/Introduction

Governance

Strategy

Risk management

Metrics and targets

Conclusion

Appendix

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 web page at www.mizuhofg.com/index.html and also at the SEC's web site 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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