

- Over 80% of emissions in the oil and gas sector are Scope 3 (greenhouse gas (GHG) emissions from burning of sold products). As such, when setting our targets, we covered Scope 3 emissions (indirect) as well as Scope 1 and 2 emissions (direct).
- Compared to Scope 1 and 2, Scope 3 emissions require different actions on the part of oil and gas companies, and also have a different level of impact. In order to raise the effectiveness of our target-setting initiatives, we set separate targets for Scope 1 and 2 emissions (based on GHG emission intensity) and for Scope 3 emissions (based on absolute GHG emissions).

Overview of oil and gas sector targets

Targeted value chain	Companies and projects whose primary business is in upstream production (including integrated oil and gas companies)	
Metric	GHG emission intensity (gCO ₂ e/MJ)	Absolute GHG emissions (Mt CO ₂ e)
Targeted emissions	Direct GHG emissions from oil and gas production operations (including methane leaks) (Scope 1 + Scope 2)	Indirect GHG emissions from oil and gas production operations (Scope 3 (Category 11 ¹))
Targeted production	Upstream oil and gas production volume	
Target assets	Loans (Total across corporate finance and project finance) ²	
Metric formula	$\sum \left(\begin{array}{l} \text{GHG} \\ \text{emission} \\ \text{intensity of} \\ \text{each} \\ \text{company or} \\ \text{project} \end{array} \right) \times \frac{\text{Balance of loans from Mizuho to company or project}}{\text{Overall loan balance across target portfolio}}$	$\sum \left(\begin{array}{l} \text{GHG} \\ \text{emissions} \\ \text{of each} \\ \text{company or} \\ \text{project} \end{array} \right) \times \frac{\text{Balance of loans from Mizuho to each company or project}}{\text{Corporate value}^3 \text{ of each company or project}}$
Target year	Base year: FY2019	Target year: FY2030
Numerical target	FY2030: 4.2 gCO ₂ e/MJ (FY2019 result: 6.6 gCO ₂ e/MJ)	FY2030: Reduction of between 12% and 29% from FY2019 result (FY2019 result: 60.6 Mt CO ₂ e)
Benchmark scenarios	IEA Net Zero Emissions by 2050 Scenario (NZE) ⁴	-29%: IEA Net Zero Emissions by 2050 Scenario (NZE) ⁴ -12%: IEA Sustainable Development Scenario (SDS) ⁴
Data source	Wood Mackenzie, information disclosed by clients, meeting discussion points, etc.	

1. Emissions from use (burning) of sold products.

2. Aggregate for Mizuho Bank and Mizuho Trust & Banking.

3. Total equity + debt of each company and project. Based on the Partnership for Carbon Accounting Financials' Global GHG Accounting & Reporting Standard for the Financial Industry.

4. International Energy Agency World Energy Outlook 2021.

Emissions from financing and investment: Approach to mid-term targets for the oil and gas sector

<p>Reasons for selecting oil and gas sector</p>	<ul style="list-style-type: none"> ● Over 80% of the world's CO₂ emissions come from fossil fuels. Reducing these emissions is essential to achieving a low-carbon society. ● The greenhouse gas methane is second only to CO₂ in driving global warming and is released in the oil and gas production process. There is a need for the oil and gas business to make improvements to production processes, including the reduction of methane emissions. ● The oil and gas sector accounts for a significant percentage of the GHG emissions from Mizuho's financing and investment. ● GHG emissions data is more readily available and science-based scenarios are more advanced for this sector than for other sectors.
<p>Approach to targeted value chain and scope of emissions</p>	<ul style="list-style-type: none"> ● We have focused on upstream production due to the share it comprises of Mizuho's oil and gas sector portfolio and the impact it has on the overall value chain in regard to transition in the real economy. ● Over 80% of emissions in the oil and gas sector are Scope 3 (CO₂ emissions from burning of sold products). As such, we have targeted Scope 3 emissions as well as Scope 1 and 2 emissions.
<p>Approach to metrics</p>	<ul style="list-style-type: none"> ● Decarbonization of the oil and gas sector entails reducing absolute emissions by scaling back use of fossil fuels and reducing emission intensity by having oil and gas companies improve their production processes. ● Compared to Scope 1 and 2 emissions (direct), Scope 3 emissions (indirect) require different actions on the part of oil and gas companies and also have a different level of impact. In order to raise the effectiveness of our target-setting initiatives, we set separate emission targets for Scope 1 and 2 and for Scope 3. <div data-bbox="548 820 2040 906" style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>Scope 1 and 2: GHG emission intensity (gCO₂e/MJ: Metric for measuring oil and gas companies' improvements to their production processes) Scope 3: Absolute GHG emissions (Mt CO₂e: Metric for measuring reduction of emissions from use of sold oil and gas)</p> </div>
<p>Benchmark scenarios</p>	<ul style="list-style-type: none"> ● To pursue efforts to limit temperature increase to 1.5°C, we adopted the IEA NZE scenario. ● However, because the IEA NZE scenario assumes a significant drop in demand for oil and gas leading up to 2030 and because initiatives must match the actual speed of transition in the real economy, we have made our target for Scope 3 emissions (absolute emissions) a range between the IEA NZE scenario and the IEA SDS scenario, which is a well-below 2°C scenario.
<p>Initiatives for achieving targets</p>	<ul style="list-style-type: none"> ● Reducing emissions from the oil and gas sector encompasses both initiatives to reduce emissions from oil and gas companies and initiatives to decarbonize the demand side for use of oil and gas. ● We are engaging with clients in the oil and gas sector, verifying their progress on transition, and providing them with both financial and non-financial solutions. In this way, we are supporting their initiatives to transform their business structures and improve their production processes. ● In tandem, we are furthering our initiatives to encourage decarbonization on the demand side. <ul style="list-style-type: none"> - Progress on mid-term target-setting: Set target for electric power sector in May 2022; looking into setting targets for the steel, automobile, and maritime transportation sectors. - Supporting renewable energy, energy conservation, circular economy, and other initiatives for reducing use of oil and gas. ● We give due consideration to social impacts, such as impacts on stable energy supply, when implementing initiatives.

Emissions from financing and investment: Mid-term greenhouse gas emissions reduction targets for the thermal coal mining sector

In accordance with the Glasgow Climate Pact adopted at COP26 and other agreements, we have set our targets for the thermal coal mining sector as a zero balance of absolute GHG emissions by FY2030 for OECD economies and by FY2040 for non-OECD economies.

Overview of thermal coal mining sector targets	
Targeted value chain	Companies whose primary businesses are in thermal coal mining
Metric	Absolute GHG emissions (Mt CO ₂ e)
Targeted emissions	Direct (Scope 1 + Scope 2) and indirect (Scope 3 (Category 11 ¹)) emissions from thermal coal mining companies
Target assets	Loans (Total across corporate finance and project finance) ²
Metric formula	$\sum \left(\begin{array}{l} \text{GHG} \\ \text{emissions} \\ \text{of each} \\ \text{company} \\ \text{or project} \end{array} \times \frac{\text{Balance of loans from Mizuho to each company or project}}{\text{Corporate value}^3 \text{ of each company or project}} \right)$
Target year	Base year: FY2020 Target year: FY2030, FY2040
Numerical target	Zero balance by FY2030 for OECD economies, by FY2040 for non-OECD economies (FY2020 result: 5.1 Mt CO ₂ e)
Benchmark scenarios	Following the approach of the IEA NZE scenario ⁴
Data source	Wood Mackenzie, information disclosed by clients, meeting discussion points, etc.

1. Emissions from use (burning) of sold products.
2. Aggregate for Mizuho Bank and Mizuho Trust & Banking.

3. Total equity + debt of each company or project. Based on the Partnership for Carbon Accounting Financials' Global GHG Accounting & Reporting Standard for the Financial Industry.
4. Phase-out of unabated coal in advanced economies (2030), phase-out of all unabated coal (2040).

<p>Reasons for selecting thermal coal mining sector</p>	<ul style="list-style-type: none"> ● Over 80% of the world's CO₂ emissions come from fossil fuels. Reducing these emissions is essential to achieving a low-carbon society. ● There is international consensus, most prominently in the Glasgow Climate Pact adopted at COP26, on phasing out coal-fired power generation.¹
<p>Approach to targeted value chain and scope of emissions</p>	<ul style="list-style-type: none"> ● In light of the Glasgow Climate Pact adopted at COP26, we focused on the mining of thermal coal, which is used as fuel in coal-fired power generation. ● Over 90% of emissions in the thermal coal mining sector are Scope 3 (CO₂ emissions from burning of sold products). As such, we have covered Scope 3 emissions as well as Scope 1 and 2 emissions.
<p>Approach to metrics</p>	<ul style="list-style-type: none"> ● Decarbonization of the thermal coal mining sector requires reducing emissions from use of thermal coal. Accordingly, we have made absolute GHG emissions (Mt CO₂e) our metric.
<p>Benchmark scenarios</p>	<ul style="list-style-type: none"> ● To pursue efforts to limit temperature increase to 1.5°C, we have set the targets as a zero balance by FY2030 for OECD economies and by FY2040 for non-OECD economies, based on the Glasgow Climate Pact adopted at COP26 and the approach in the IEA NZE scenario.
<p>Initiatives for achieving targets</p>	<ul style="list-style-type: none"> ● As in our Environmental and Social Management Policy for Financing and Investment Activity, we are phasing out financing for thermal coal mining. ● We are engaging with clients in the thermal coal mining sector, verifying their progress on transition, and providing them with both financial and non-financial solutions. In this way, we are supporting their initiatives to transform their business structures. ● We give due consideration to social impacts, such as impacts on stable energy supply, when implementing initiatives. <p>We set a mid-term target (FY2030 target) for the electric power sector in May 2022 and are continuing to advance initiatives towards achieving the target.</p>

1. Coal-fired power generation with no measures for reducing emissions.

Emissions from financing and investment: Common approaches to mid-term targets for the oil and gas sector and thermal coal mining sector

- We have set our mid-term targets with reference to the Net-Zero Banking Alliance (NZBA)'s Guidelines for Climate Target Setting for Banks, and they have been approved by the Board of Directors of Mizuho Financial Group.
- We will continue striving to improve our setting of mid-term targets and our monitoring of performance based on the following approach.

Method for sorting companies and projects into the portfolio	<ul style="list-style-type: none"> ● The portfolio consists of companies or projects that belong to our clients in the relevant sectors, and whose primary businesses are in the value chain subject to targets. ● We determine sectors and primary businesses based on what represents the largest component of the sales from business activities.¹ ● Regarding our classification method, we determine sectors based on the industry type classification established by the Bank of Japan. 						
Measurement coverage percentage	<ul style="list-style-type: none"> ● When we are not able to obtain emissions data, production data, financial data, or other such data for companies in the target portfolio and are consequently unable to calculate the necessary metric (GHG emission intensity or absolute GHG emissions), we consider them outside the scope of measurement. ● We have been able to calculate metrics for almost 100% of the loan balances of portfolios in the sectors for which we have set our new targets. ● Through engagement, we regularly confirm and update our records of our clients' primary businesses. Because of this, the portfolio and percentage of the portfolio subject to measurement may change going forward. 						
Data quality score	<ul style="list-style-type: none"> ● Following the Partnership for Carbon Accounting Financials' Global GHG Accounting & Reporting Standard for the Financial Industry, we calculated the average GHG emissions data quality weighted by amount of lending.² The results are as below. <table border="1" data-bbox="676 849 1673 1008"> <tr> <td data-bbox="676 849 1023 938">Oil and gas sector</td> <td data-bbox="1023 849 1350 938">GHG emission intensity (Scope 1 and 2) 3.0</td> <td data-bbox="1350 849 1673 938">Absolute GHG emissions (Scope 3) 2.8</td> </tr> <tr> <td data-bbox="676 938 1023 1008">Thermal coal mining sector</td> <td colspan="2" data-bbox="1023 938 1673 1008">Absolute GHG emissions (Scope 1, 2, and 3) 3.2</td> </tr> </table>	Oil and gas sector	GHG emission intensity (Scope 1 and 2) 3.0	Absolute GHG emissions (Scope 3) 2.8	Thermal coal mining sector	Absolute GHG emissions (Scope 1, 2, and 3) 3.2	
Oil and gas sector	GHG emission intensity (Scope 1 and 2) 3.0	Absolute GHG emissions (Scope 3) 2.8					
Thermal coal mining sector	Absolute GHG emissions (Scope 1, 2, and 3) 3.2						
Approach to carbon offsets	<ul style="list-style-type: none"> ● We do not currently take carbon offsets into account. ● We will continue to look into approaches to them while tracking the direction of international discussions and development of international standards. 						
Ongoing data enhancement	<ul style="list-style-type: none"> ● Calculating GHG emissions from financial institutions' financing and investment portfolios requires relevant data on emissions and production aligned with consistent global standards. At present, consistent corporate disclosure data is limited. We have had to rely on data from external vendors with expert insight into the oil and gas sector and coal sector to calculate our results. ● Our figures for GHG emissions and GHG emission intensity may change going forward as companies expand and enhance their emissions disclosures. We will continue endeavoring to improve the accuracy of our methods for collecting data and aggregating results in line with our findings from engagement with clients, the development of our clients' disclosures, and other factors. As part of this, we will revise our results and targets as needed. 						

1. The NZBA stipulates inclusion in target setting of any companies that make 5% or more of their direct sales from the thermal coal mining business. However, there is no established method for identifying these companies. We will continue to examine this issue going forward.

2. A score of 1 indicates high data quality (data from disclosures, certified by a third party) and a score of 5 indicates low data quality (data from estimates, based on asset balances).