Disclosure Based on TCFD Recommendations

The Toho Gas Group recognizes addressing climate change as a critical management issue and endorsed the Task Force on Climate-related Financial Disclosures (TCFD) in April 2020. The Group appropriately discloses information about the impact of climate change on the Company's business activities and its efforts to address these in accordance with TCFD recommendations.

Information Disclosure in Line with TCFD Recommendations

The TCFD encourages companies to disclose information about governance, strategies (risks, opportunities, and responses), risk management, and metrics and targets related to climate change.

1 Governance

The Toho Gas Group recognizes addressing environmental issues, including climate change countermeasures, as a critical management issue.

The Carbon Neutral Promotion Committee, chaired by the representative director and president of the Company and composed of executive officers in charge of relevant departments, is held to conduct discussions on and determine the direction of important matters, including the formulation of policies and plans related to carbon neutrality.

Additionally, the Sustainability Committee, chaired by the general manager of the Sustainability Promotion Department and composed of executive officers in charge of relevant departments, directors, and others from Toho Gas and major affiliates, is convened to discuss and review sustainability policies and targets including climate change countermeasures. Furthermore, with regard to important matters related to climate change, including risks and opportunities, strategies, risk management, and metrics, reports are deliberated by the Management Committee and submitted to the Board of Directors, which oversees their implementation.

The achievement status of climate-related metrics, such as contribution to CO_2 reduction, for each fiscal year is reflected in the remuneration of internal directors.

2 Strategies

The Toho Gas Group implemented a cross-sectional scenario analysis for the year 2050 to identify and evaluate future risks and opportunities related to climate change and strategies to address these, in line with TCFD recommendations.

In terms of scenario analyses, from external scenarios, we selected the 1.5°C scenario, in which temperature rise is limited to 1.5°C, and the 4°C scenario, in which low-carbon initiatives are not promoted.

Main External Scenarios Used in Scenario Analysis

International Energy Agency (IEA)

- World Energy Outlook: NZE, APS, STEPS
- Energy Technology Perspectives: B2DS and RTS

Intergovernmental Panel on Climate Change (IPCC)

- Fifth Assessment Report: RCP2.6 and RCP8.5

Based on the envisioned society in 2050 derived from these two selected scenarios, we identified risks and opportunities considering temporal axes such as short- to medium-term (through 2030) and medium- to long-term (through 2050), and assessed their impact. We are working on enhancing resilience to address both business risks and opportunities.

As a strategy for 2050, we announced the Toho Gas Group 2050 Carbon Neutrality Initiative in July 2021, which required deliberation by the Management Committee and submission to the Board of Directors for discussion. Specific measures include promoting initiatives to decarbonize gas itself through the introduction of e-methane and biogas; establishing a hydrogen supply chain starting from the hydrogen production plant located at the Chita-Midorihama Works; expanding renewable energy sources; promoting the development of CO_2 separation and recovery technologies; and creating environmental value in collaboration with local governments and other entities. By combining and implementing these various measures when and where necessary, we are accelerating efforts to achieve carbon neutrality.

3 Risk Management

The Toho Gas Group promotes organizational identification, assessment, and addressing risk occurrence and change based on risk management rules, and we are working to improve the level of risk management and ensure smooth business operations.

Risks associated with climate change are integrated into the company-wide risk management system and processes based on risk management rules. Risk factors, including those related to climate change, are identified each year, countermeasures are examined, and a comprehensive assessment is performed. The results of the comprehensive assessment and other related information are deliberated by the Management Committee and submitted to the Board of Directors at least once a year, and the Board of Directors oversees the status of company-wide risk management and its implementation.

4 Metrics and Targets

The Company has set environmental action goals as metrics and targets, with progress toward these goals reviewed by the Management Committee, and submitted them to the Board of Directors, which supervises the implementation of these efforts.

Main Climate Change-Related Metrics and Targets

Metrics and items	Targets			
	[2025]	[2027]	[2030]	[2050]
Contribution to CO_2 reduction	1 million t*1		3 million t*1	
Greenhouse gas emissions (Scope 1 to 3)				Carbon neutrality
Gas carbon neutrality rate*2			5% or more of gas sold	
Amount of e-methane, etc., introduced			1% or more of city gas sold	
Renewable energy handled	250 thousand kW		500 thousand kW	
Hydrogen sales	400 t			
J-Credits generated	[2025–2027 cumulative total] 2,000 t-CO_2			
Cryo-Capture® CO_2 separation and capture technology development			Social implementation	
CNxP business sales	13 billion yen			

*1 Cumulative total since FY2021, annual reduction baseline: FY2020

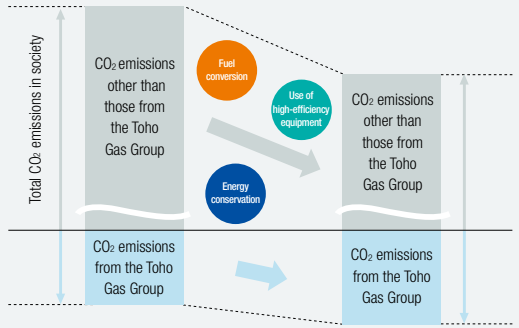
*2 Carbon neutrality rate to be achieved through various means

Contribution to CO_2 Reduction

The contribution to CO_2 reduction volume is the quantified measure of how much Toho Gas products and services have contributed to reducing CO_2 emissions from others.

Calculated based on the "Guidelines for Calculating Contributions to Greenhouse Gas reduction in the City Gas Industry" (Japan Gas Association)

How the Toho Gas Group Affects Total CO_2 Emissions in Society



By transitioning from other fossil fuels to low-carbon city gas, CO_2 emissions from the Group increase, but CO_2 emissions from customers decrease.

1 Promote carbon neutrality 2 3 4 5 6

Target materiality

Disclosure Based on TCFD Recommendations

Risks with comparatively large financial impact Opportunities with comparatively large financial impact

Scenarios and external environment					Short- to medium-term (through 2030)	Medium- to long-term (through 2050)
Major climate change-related risks	1.5°C scenario	Transition risks	Technology	Progress of decarbonization innovation	Poor competitiveness due to delay in technological development	Further loss of competitiveness due to delay in technological development
			Regulation	Carbon pricing	Increased sales prices of gas and electricity	Accelerated overseas relocation of domestic companies
				Energy shift	Reduce amount of energy usage through energy conservation Shift to electrification starting from the ground up	Reduce amount of energy usage through energy conservation Shift to electrification in the thermal sector
			Market	Change in customer preferences	Decreased thermal demand in the industrial sector Promote passenger car electrification Shift to electrification due to ZEH and ZEB (mainly new buildings)	Further decreases in thermal demand in the industrial sector Promote electrification of various passenger car models Shift to electrification due to ZEH and ZEB (new and existing buildings)
			Reputation	Assessment by investors	Lower assessment of companies that are unwilling to decarbonize	Even lower assessment of companies that are unwilling to decarbonize
	4°C scenario	Physical risks	Acute	Increasing weather intensity	Gradual increase in the cost of countermeasures related to production and supply facilities Gradual increase in disaster recovery costs	Further increase in the cost of countermeasures related to production and supply facilities Further increase in disaster recovery costs
			Chronic	Rising temperatures	Decreased demand for heating and hot water Strain on power transmission capacity at peak periods	Further decreased demand for heating and hot water Further strain on power transmission capacity at peak periods
Major climate change-related opportunities	1.5°C scenario	Transition risks	Technology	Progress of decarbonization innovation	Social implementation of decarbonization technology (e-methane, hydrogen, etc.) Expanded use of technology for energy conservation and advanced, high-efficiency energy utilization	Expanded use of decarbonization technology (e-methane, hydrogen, etc.) Further expanded use of technology for energy conservation and advanced, high-efficiency energy utilization
			Regulation	Carbon pricing	Rising demand for gas and electricity (fuel conversion and advanced use)	Expanded use of carbon-neutral energy
				Energy shift	Expanded use of renewable energy and storage batteries Expanded use of cogeneration	Further expanded use of renewable energy and storage batteries Expanded use of decarbonization technology
			Market	Change in customer preferences	Growing need for decarbonization support Expanded use of fuel cell vehicles (passenger vehicles and fuel cell commercial vehicles) Growing need for optimal and advanced energy utilization	Further growing need for decarbonization support Expansion of fuel cell vehicle market (vehicle model expansion, port equipment) Expanded use and expansion of energy demand optimization systems
			Reputation	Assessment by investors	Higher assessment of companies that are proactive in decarbonization efforts	Even higher assessment of companies that are proactive in decarbonization efforts
	4°C scenario	Physical risks	Acute	Increasing weather intensity	Growing need to introduce a highly resilient supply infrastructure and energy system	Further growing need to introduce a highly resilient supply infrastructure and energy system
			Chronic	Rising temperatures	Rising demand for air-conditioning and growing need for high-efficiency HVAC systems Rising demand for products and services that reduce peak electricity usage	Further rising demand for air-conditioning and growing need for high-efficiency HVAC systems Further expanded use of products and services that reduce peak electricity usage

			Main responses
Main responses to climate change	1.5°C scenario	Transition risks	**Gas** ● Explore projects focused on and review feasibility of expanded e-methane and biogas usage ● Demonstrate e-methane production at the Chita LNG Terminal ● Consider CO_2 regional circulation model via e-methane ● Develop CO_2 separation and capture technology ● Promote CO_2 utilization and storage projects ● Create environmental value in collaboration with local governments and businesses ● Promote CNxP business supporting customers' efforts toward reduced carbon and decarbonization ● Support efforts toward reduced carbon and decarbonization in Asian countries **Hydrogen** ● Stably supply and create demand for hydrogen starting from the Chita-Midorihama Works Hydrogen Production Plant ● Expand hydrogen burner lineup **Electricity** ● Maintain renewable energy sources and procurement capabilities ● Expand services for handling and controlling storage batteries and other equipment **We are challenging ourselves to become carbon neutral by 2050 throughout the entire supply chain including customers' sites.** **Toho Gas Group 2050 Carbon Neutrality Initiative** *https://www.tohogas.co.jp/lang/en/corporate/company-vision/pdf/carbon-neutrality-initiative.pdf*
	4°C scenario	Physical risks	● Storm surge and flood countermeasures ● Supply block subdivision ● Expanded use of a highly resilient energy system ● Proposals for energy conservation and advanced energy utilization ● Peak shaving through aggregation and advanced utilization of city gas