

Information Disclosure Based on TCFD Opinions

The Toho Gas Group regards climate change as a critical management issue, and has made proactive efforts to reduce environmental impact through expanding the popularization of natural gas, which is the fossil fuel with the least environmental load, and as well as developing high-efficiency gas equipment and encouraging its adoption. Having endorsed the Task Force on Climate-related Financial Disclosures (TCFD) in April 2020, the Group has been promoting efforts addressing climate change in line with the recommendations of the TCFD and, in July 2021, it enacted and published The Toho Gas Group 2050 Carbon Neutrality Initiative. In addition to promoting low-carbon and decarbonization efforts for our customers' premises, we will work to develop technologies with an eye on future decarbonization of gas itself. We will also work to expand the use of hydrogen, reduce or eliminate carbon in electricity, and promote the transition to carbon neutrality.

Information Disclosure in Line with the Recommendations of the Task Force on Climate-related Financial Disclosures (TCFD)

The TCFD published its final report in June 2017, and has recommended that enterprises and other organizations make disclosures with respect to the following items, including governance related to climate change as well as strategies (risks, opportunities, and responses).



① Governance

- The Group recognizes that response to environmental issues, including climate change countermeasures, is a critical business issue.
- The Carbon Neutral Promotion Committee comprises executive officers from company departments, including the Toho Gas Company President and Representative Director, who acts as head of the committee. The Committee holds discussions to define the directionality for important matters, including policies and plans relating to carbon neutrality.
- With the Executive Office in charge of the CSR Environment Department as the chairperson, the Group Sustainability Committee comprising directors and department heads from Toho Gas and its major subsidiaries is convened to discuss and check policies and targets toward sustainability, including measures to address climate change.
- Such important matters as risks and opportunities, strategies, risk management, and metric reporting relating to climate change are discussed by the Board of Directors through the Management Committee, which supervises the state of execution.

② Strategy

- To assess and evaluate future climate-related risks, opportunities, and responses in line with TCFD recommendations, we are conducting cross-sectional scenario analysis for the year 2050.
- As external scenarios we selected an "under-2°C scenario" in which the increase in global temperatures is held to less than 2°C and a "4°C scenario" in which change to lower carbon does not proceed. Based on the images of society in 2050 drawn out by these scenarios, and taking into account such temporal axes as short- to medium-term (through 2030) and medium to long-term (through 2050), we identified risks and opportunities and assessed their impact.

Main external scenarios used in scenario analysis

International Energy Agency (IEA)

- World Energy Outlook ·NZE scenario ·STEPS scenario
- Energy Technology Perspectives ·B2DS scenario ·RTS scenario

Intergovernmental Panel on Climate Change (IPCC)

- Fifth Assessment Report
- RCP2.6 scenario ·RCP8.5 scenario

- As a strategy geared to 2050, following discussions by the Board of Directors via the Management Committee, the Toho Gas Group 2050 Carbon Neutrality Initiative was formulated and announced in July 2021. With this strategy at the core, we are organizing our response measures for risks and opportunities and evaluating their resilience.

③ Risk Management

- At Toho Gas, we push forward organizational identification, assessment, and response with respect to risk occurrence and change based on Risk Management Rules, and improve the level of risk management and conduct smooth business operations.
- Climate-related risks are integrated into the company-wide risk management system and processes, annual identification of risk factors, including climate-change factors, is conducted, response measures by the assigned department are discussed, and comprehensive evaluation is carried out. The comprehensive evaluation results and other matters are discussed by the Board of Directors through the Management Committee one or more times a year, and the Board of Directors supervises company-wide risk management and its execution status.

④ Metrics and targets

- Environmental action goals and other values are used as metrics and targets.
- Progress relating to these metrics and targets is discussed by the Board of Directors through the Management Committee and the Board of Directors supervises the execution status.

■ Environmental action goals ▶ P.36



● Major Risks Accompanying Climate Change

■ Risks having comparatively large financial impact

Scenarios and external environment			Short- to medium-term (through 2030)	Medium- to long-term (through 2050)	
Under-2°C scenario	Transition risks	Technology	Progress of decarbonization innovation	<ul style="list-style-type: none"> Transition to renewable energy through the development of technology 	<ul style="list-style-type: none"> Lagging behind in competitive ability due to delays in the development of decarbonization technology for non-renewable energy sources
		Regulation	Carbon pricing	<ul style="list-style-type: none"> Increased sales price of natural gas due to carbon pricing 	<ul style="list-style-type: none"> Acceleration of movement overseas by domestic companies due to relative increase in tax
			Transition to renewable energy	<ul style="list-style-type: none"> Transition to renewable energy and a general shift to electrification 	<ul style="list-style-type: none"> Advancement of energy-saving and shift to electrification in the area of heating
		Market	Change in customer preferences	<ul style="list-style-type: none"> Decrease in thermal demand for commercial use due to electrification of passenger cars Shift toward electrification due to the adoption of standard specifications for the new formation of ZEH/ZEB 	<ul style="list-style-type: none"> Decrease in thermal demand for commercial use due to electrification of all vehicles Further shift toward electrification due to the adoption ZEH/ZEB
4°C scenario	Physical risks	Acute	Increasing weather intensity	<ul style="list-style-type: none"> Gradual increases in countermeasure expenses related to production and supply equipment and facilities Gradual increases in disaster-recovery costs 	<ul style="list-style-type: none"> Further increases in countermeasure expenses related to production and supply equipment and facilities Further increases in disaster-recovery costs
		Chronic	Rising temperatures	<ul style="list-style-type: none"> Reductions in demand for heaters and water heaters Strain on electrical power transmission at peak periods attendant upon expanded air-conditioning demand 	<ul style="list-style-type: none"> Further reductions in demand for heaters and water heaters Further strain on electrical power transmission at peak periods attendant upon expanded air-conditioning demand

● Major Opportunities Accompanying Climate Change

■ Opportunities having comparatively large financial impact

Scenarios and external environment			Short- to medium-term (through 2030)	Medium- to long-term (through 2050)	
Under-2°C scenario	Transition risks	Technology	Progress of decarbonization innovation	<ul style="list-style-type: none"> Wider use of technology for energy conservation and advanced and high-efficiency use of energy 	<ul style="list-style-type: none"> Establishment and wider use of decarbonization technology (e-methane, carbon recycling, hydrogen usage)
		Regulation	Carbon pricing	<ul style="list-style-type: none"> Expansion of gas demand through fuel switching and advanced utilization 	<ul style="list-style-type: none"> Expansion of use of carbon neutral energy by domestic businesses due to the establishment of suitable taxation and systems
			Transition to renewable energy	<ul style="list-style-type: none"> Expansion of use of renewable energy sources and batteries Supplementation of renewable energy and wider use of cogeneration that contributes to improved resilience 	<ul style="list-style-type: none"> Wider use of renewable energy and batteries Augmentation of renewable energy and wider use of decarbonization technologies that contribute to enhanced resilience
		Market	Change in customer preferences	<ul style="list-style-type: none"> Wider use of fuel-cell passenger cars and compact specialized vehicles (forklifts, etc.) accompanying improvement of the infrastructure for hydrogen Increased need for optimized utilization and advanced utilization (resource aggregation) of energy, including for heating and electricity 	<ul style="list-style-type: none"> Expansion of the market for passenger cars, buses, cargo vehicles, and other fuel-cell vehicles accompanying the expanded spread of the hydrogen infrastructure Energy supply and demand will be optimized through bidirectional power flexibility involving individuals and through the practice of local production for local consumption
4°C scenario	Physical risks	Acute	Increasing weather intensity	<ul style="list-style-type: none"> Increase in demand for a high-resilience supply infrastructure Increased need for energy systems providing convenience and resilience 	<ul style="list-style-type: none"> Further increase in demand for a high-resilience supply infrastructure Further increase in need for energy systems providing convenience and resilience
		Chronic	Rising temperatures	<ul style="list-style-type: none"> Expansion of demand for air conditioners and increase in demand for high-efficiency air conditioning Increase in demand for products and services that contribute to peak-cut control for electricity 	<ul style="list-style-type: none"> Further expansion of demand for air conditioners and increase in demand for high-efficiency air conditioning Further expansion of the spread of products and services that contribute to peak-cut control for electricity

● Major Responses Addressing Climate Change

Scenarios and external environment			Main responses	
Under-2°C scenario	Transition risks		<ul style="list-style-type: none"> CO₂ separation and capture, e-methane (synthetic methane), and other technological developments leading to decarbonization of gas itself Building the Chita Midorihama Factory-based hydrogen supply chain and increased used of hydrogen in the future Expansion and use of renewable energy power sources, expansion of power services leading to low-carbonized/decarbonized electricity 	
4°C scenario	Physical risks	Acute	Increasing weather intensity	<ul style="list-style-type: none"> High-tide countermeasures such as reinforcement of protective embankments, flooding countermeasures such as water-tightening, and expediting disaster recovery through segmentation of supply blocks and the like Wider use of energy systems offering high energy savings, convenience and resilience (cogeneration and smart towns)
		Chronic	Rising temperatures	<ul style="list-style-type: none"> Provision of advanced utilization of energy and energy savings with respect to increase in demand for air conditioning accompanying rising temperatures Peak-cut control for electricity through resource aggregation (demand response [DR], virtual power plants [VPPs], etc.) and advanced utilization of gas

Toho Gas Group's 2050 Carbon Neutrality Initiative ▶ P.23