



# TCFD

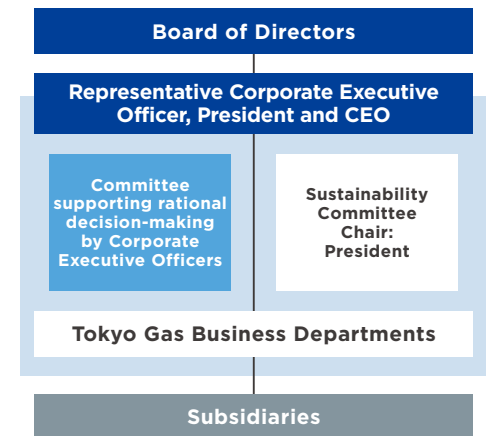
## The Tokyo Gas Group's climate-related initiatives

We regard the Task Force on Climate-Related Financial Disclosures (TCFD) framework as being an effective way to promote information disclosure and dialogue with stakeholders on climate-related issues. We therefore signed the statement of support for the TCFD, in May 2019. We began information disclosure according to TCFD's recommendation in fiscal 2020 and will continue to appropriately disclose information on the impact of climate change on the Tokyo Gas Group's business activities and the measures to be taken.

### Governance

We strive for appropriate, prompt decision-making and efficient execution of business operations by discussing the issue of promoting sustainability as an important matter related to business operation. This is done by a select committee that supports the Corporate Executive Officers' rational decision-making to help it to be proper and effective. When appropriate, Directors are provided with reports on the status of execution of business operations, which are based on decisions made by the Board of Directors, and hold discussions on them as needed. Moreover, a Sustainability Committee, which is chaired by the President and aimed at promoting sustainability issues, has been established to report important matters to the Board of Directors.

### Sustainability promoting structure





## Strategies

In our statement on future management, Compass2030, announced in November 2019 the Tokyo Gas Group declared it was to take up three challenges, including “Leadership in the effort to achieve Net-Zero CO<sub>2</sub>.” Since then, the move toward decarbonization has been gaining momentum in Japan as the Japanese government called for the nation to achieve net zero carbon emissions by 2050 and made a commitment to raise its reduction target in greenhouse gas emissions to 46% compared to the level in 2013.

Under such circumstances, the Tokyo Gas Group is working to increase the volume of natural gas it handles, by expanding overseas businesses and other means, expanding renewable energy sources which have a high affinity with natural gas, and gaining benefits from the decarbonization technology development of gaseous energy, such as hydrogen and methanation. We are dedicated to thereby enhance and increase the initiatives

Feature: Challenge to achieve Net-Zero CO<sub>2</sub> [▶ P.03](#)

aimed at achieving Net-Zero CO<sub>2</sub> emissions and take a leading role in the transition to a decarbonized society.

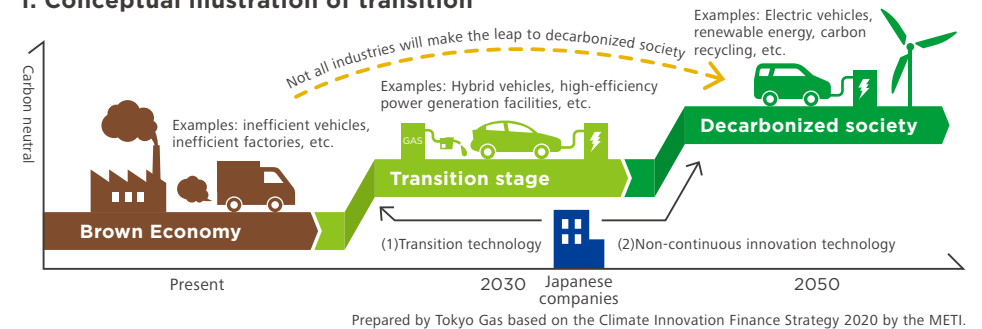
While realization of a decarbonized society is a global common target, the social implementation of decarbonization technology, such as by use of renewable energy, may not be sufficient to draw a viable roadmap to Net-Zero CO<sub>2</sub> for certain industries, countries, or regions. The Tokyo Gas Group therefore believes that it is important to tailor the efforts of transition toward decarbonization and lower carbonization, by making adjustments for the situation of each.

### ▶ 1. Conceptual illustration of transition

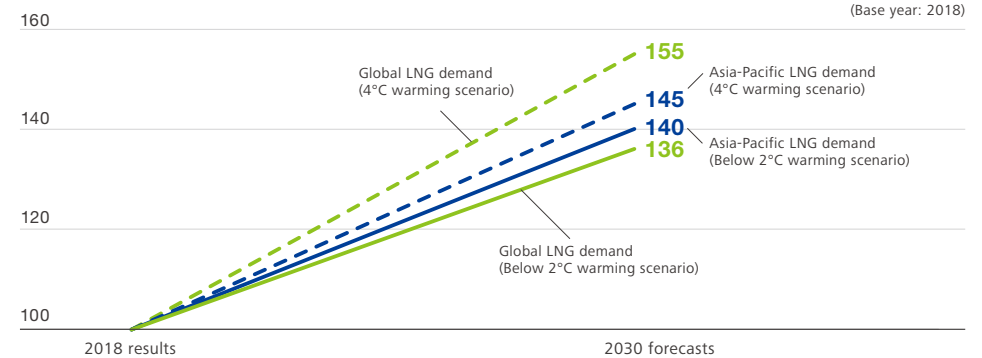
The International Energy Agency (IEA) is projecting growth in global LNG demand and in natural gas demand in Asia-Pacific toward 2030 in its multiple forecast scenarios. As we believe that natural gas provides a fast-acting way to reduce CO<sub>2</sub> emissions, we intend to contribute to the transition in Asia-Pacific via LNG business development, making use of our accumulated strengths and achievements in the LNG business.

### ▶ 2. Global natural gas demand projections

### 1. Conceptual illustration of transition



### 2. Global natural gas demand projections



Source: IEA World Energy Outlook 2020

## Major risks and opportunities driven by climate change, and the Tokyo Gas Group's initiatives

In identifying the Tokyo Gas Group's risks and opportunities related to climate change, we referred to two representative scenarios\*1 of the International Energy Agency and the Intergovernmental Panel on Climate Change -- the below 2°C warming scenario and the 4°C warming scenario -- summarized important factors that may affect our group's business, and evaluated the impacts from two aspects -- magnitude of impact and possibility to be affected -- for both scenarios. We then identified major factors and decided on our initiatives for each factor toward 2030.

### Major initiatives taken in FY2020

		Opportunities and risks	Factors	Details of opportunities and risks	Tokyo Gas Group's initiatives toward 2030	Major initiatives taken in FY2020
Below 2°C warming scenario	Opportunities	Markets	Global increase in demand for natural gas	A)Resources development and expansion of LNG/gas infrastructure and other overseas business to increase the natural gas transaction volume	1)Signing of a joint cooperation agreement with First Gen Corp. to construct and operate a floating LNG terminal in the Philippines	Promoted construction of a floating LNG terminal that enables use of a Floating Storage & Regasification Unit (FSRU), with the aim of introducing LNG to the Philippines as early as in the second half of 2022.
					2)Investment in a gas distribution company in Indonesia	Promoted use of unused gas and shift to natural gas from liquid fossil fuels with high CO <sub>2</sub> emissions, contributing to reduction in CO <sub>2</sub> emissions in the country.
					3)Acquisition of gas assets in Louisiana, U.S. and making Castleton Resources a subsidiary	The acquisition led to an increase by approx. 1.6 times in production volume from approx. 8 million m <sup>3</sup> /day, gas equivalent to approx. 13 million m <sup>3</sup> /day. Increase ownership interest in Castleton from 46% to over 70%.
	Opportunities	Energy resources	Affinity of renewable energy with natural gas	B)Effective use of natural gas to adjust fluctuation of output of renewable energy C)Increase in renewable energy transaction volume in Japan and overseas D)Use of PV, storage batteries, EV, etc. to promote new decentralized power source business and VPP	4)Acquisition of a large-scale solar power generation project in the U.S.	▶ Details on p. 37 example ①
					5)Acquisition of biomass power generation business, using wood pellets, in Takaoka, Toyama Pref. and Ichihara, Chiba Pref.	▶ Details on p. 37 example ①
					6)Investment in Principle Power, a floating wind power technology company in the U.S.	Promoted floating offshore wind power development in Japan and overseas by utilizing Principle Power's technology which excels in stability in maritime conditions.
					7)Evolution into "advanced smart energy"	Advanced smart energy by offering new value, such as use of AI and Big Data, Net-Zero CO <sub>2</sub> by using renewable energy facilities, carbon neutral LNG, etc., and enhanced comfort in offices, in addition to more energy saving, less CO <sub>2</sub> emission, and more resilience.
	Opportunities and risks	Resource efficiency and technology	Decarbonization technology innovation	E)development of decarbonization technologies for gaseous energy such as hydrogen and methanation, etc. F)Introduction and use of CCUS technologies	8)Issuance of the Company's first green bond	Plan to fund a renewable energy project with participation by the Tokyo Gas Group. Total amount: ¥10 billion, term: 10 years
					9)Supply of carbon neutral LNG and city gas, such as by the establishment of Carbon Neutral LNG Buyers Alliance	▶ Details on p. 37 example ②
					10)Accelerated development of CCUS technology and services aimed to be launched in FY2023	▶ Details on p. 03 Feature: Challenge to achieve Net-Zero CO <sub>2</sub>
11)Accelerated development of a low-cost water electrolyzer, using fuel-cell technologies and knowhow					▶ Details on p. 03 Feature: Challenge to achieve Net-Zero CO <sub>2</sub>	
Opportunities and risks	Markets, and policies and laws	Introduction of carbon pricing*2	G)Fuel conversion, etc. to accelerate shift to natural gas (Initiatives B) to F)	12)Launch of a methanation verification test and study of a carbon neutral alliance model in Tsurumi-ku, Yokohama	▶ Details on p. 03 Feature: Challenge to achieve Net-Zero CO <sub>2</sub>	
				Initiatives 1) to 12)		
4°C warming scenario	Opportunities	Resilience	Decentralized energy system using natural gas to enhance resilience	H)Enhanced resilience in the natural gas infrastructure I) Expanded use of decentralized energy system, such as smart energy networks, co-generation, ENE-FARM, etc. that are highly resilient and reduce energy consumption	13)Establishment of Ekimachi Energy Create with the JR East Group	▶ Details on p. 37 example ③
	Risks	Acuteness	Impact on operations, as associated with severer abnormal weather	J) Disaster countermeasures for LNG terminals and power stations to enhance establishment of water hazard-resilient Life Line, and full preparation for BCP.	14)Launch of the Ibaraki Line Service and commercial operation of the LNG tank No. 2 at Hitachi LNG Terminal	▶ Details on p. 37 example ④
					15)Comprehensive disaster-prevention drilling, assuming windstorm and flood damage	Confirmed the initial response, assuming damage caused by river flooding driven by a typhoon

\*1: Scenarios, for reference:

- Scenario of limiting the global average warming by less than 2°C above pre-industrial levels: Sustainable Development Scenario (SDS)(IEA WEO 2019); B2DS (IEA ETP 2017); RCP2.6 (IPCC AR5)
- Scenario of limiting the global average warming by 4°C above pre-industrial levels: IEA Stated Policies Scenario (STEPS) (IEA WEO 2019); RTS (IEA ETP 2017); RCP8.5 (IPCC AR5)

\*2 Introduction of appropriately-designed carbon pricing may promote shift to forms of energy with less CO<sub>2</sub> emissions but, depending on the scheme design, may negatively affect the company's business due to a rise in energy cost and other factors.

**Example 1 Expansion of introduction of renewable power sources**

**Aktina Solar Project** (631MWdc)

The first global solar project in which Tokyo Gas Group will take initiative from construction to commercial operation (Texas, U.S.)



**Fushiki Manyofuto Biomass Power Plant** (51MWdc)

Wood pellet biomass power generation facilities in Takaoka, Toyama Prefecture; to start commercial operation in October 2021



**Example 2 Carbon-neutral LNG and city gas**

Carbon neutral LNG (CNL) is the designation production of which is deemed as offsetting greenhouse gases, which are generated in the process, from extraction to the burning of natural gas. This offset is through the CO<sub>2</sub> reduction effects of support of forest regeneration and other environmental conservation projects. We are promoting improvement of the environment by this support.



On October 1, 2020, Tokyo Gas changed its supply of city gas used for the cogeneration system of Hotel New Otani, Tokyo, to carbon neutral city gas.



The Carbon Neutral LNG Buyers Alliance was established on March 9, 2021. The participating companies will work to increase the recognition of carbon neutral LNG in society and carry out initiatives to improve evaluation of the effects of initiatives by investment institutions and thereby encourage environment-conscious action.

**Example 4**

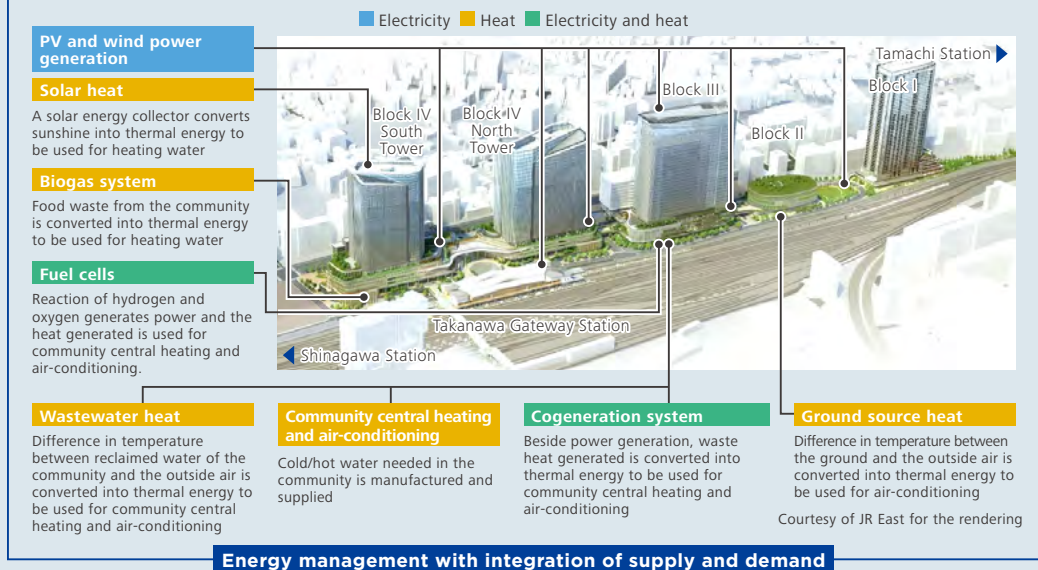
**Launch of the Ibaraki Line Service and commercial operation of the LNG tank No. 2 at Hitachi**



Connected a loop of high-pressure gas pipelines in the North Kanto area and achieved improved supply stability and enhanced gas transmission capacity through a mutual backup system of four LNG terminals

**Example 3 Establishment of Ekimachi Energy Create Co., Ltd.**

**Overview of adopted environmental/energy technologies in the Shinagawa Development Project**



**Risk management**

We have established an enterprise risk management (ERM) system, and explicitly stated major risks in the Risk Control Regulations.

The Risk Management Committee was established to improve the management level of the ERM system. The Committee regularly reviews the risks, and checks how the ERM system is being maintained and operated. It reports to a committee that supports Corporate Executive Officers' decision-making.

**Metrics and Targets**

The Tokyo Gas Group management vision Compass2030 has set the management guidelines and key figures for realizing corporate growth.

	FY2020 results	FY2022	FY2030
Contribution to CO <sub>2</sub> emissions reduction	<b>-6.68</b> million tons	<b>-6.50</b> million tons	<b>-10.00</b> million tons <sup>*1</sup>
Renewable power source transaction volume	<b>1.383</b> million kW	<b>2.00</b> million kW	<b>5.00</b> million kW <sup>*2</sup>
No. of customer accounts	<b>12.31</b> million	<b>14.80</b> million	<b>20.00</b> million <sup>*3</sup>
Natural gas transaction volume	<b>18.20</b> million tons	<b>17.00</b> million tons	<b>20.00</b> million tons <sup>*4</sup>

\*1 Base year: fiscal 2013, including contribution of emissions reduction during consumption by customers

\*2 Domestic and international, including procurement

\*3 Total no. of gas, power, and service agreements (domestic and international)

\*4 LNG equivalent Including overseas business and trading

