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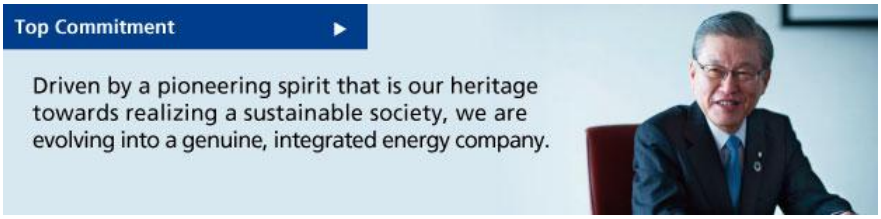

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Recent CSR News Headlines

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10/31/2019 Honorably received the highest rating in the Development Bank of Japan's Environmentally Rated Loan Program.
10/31/2019 We have updated our Sustainability site.
12/13/2018 CSR Report 2018 (PDF) has been published.
11/16/2018 We have updated our Sustainability site.

Related Sites

Integrated Report Tokyo Gas in Numbers

Editorial Policy

Editorial Policy

The Tokyo Gas Group believes that the foundation of its CSR activities lies in achieving its public mission and fulfilling its social responsibilities by conducting daily business activities in accordance with its Management Philosophy and Corporate Action Philosophy. To pursue its CSR activities, the Group has determined its basic policy on CSR, CSR activities, materiality and goals (CSR KPIs).

In addition to providing an overview of the Group's CSR management, this report describes in detail its major CSR activities during fiscal 2018, organized based on the materiality.

Production of this report was led by the Editorial Working Group, whose members were selected from each of the company's divisions and departments. They carefully checked all the information to be published, confirmed the progress of the PDCA cycle in each area of activity, and coordinated all content with the related departments.

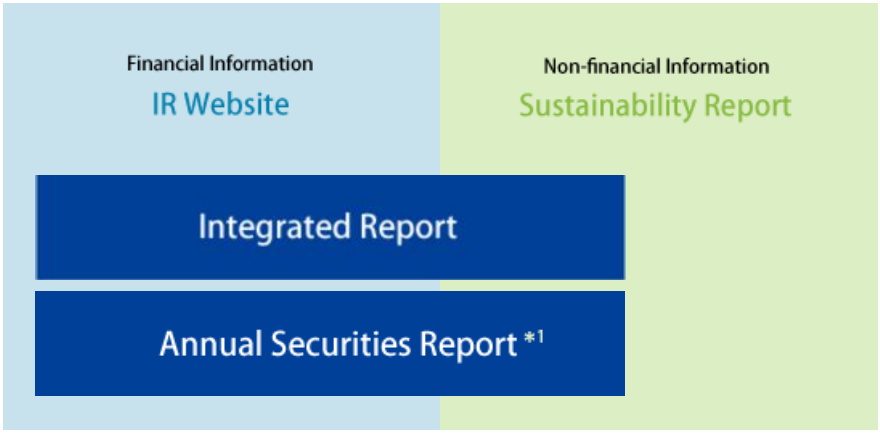
Editorial Working Group

Gas Resources & Energy Production Div., Pipeline Network Div., Residential Sales and Service Div., Energy Solution Div., Regional Development Div., Power Business Div., Global Business Div., Digital Innovation Div., Corporate Planning Dept., Financial Management Dept., Personnel Dept., Purchasing Dept., General Administration Dept., Compliance Dept., Internal Audit Dept., Audit & Supervisory Board Member's Office

Secretariat: Sustainability Department

Report Outline

System of Information Disclosure



*1 Only in Japanese

Period

This report contains material primarily from fiscal 2018 (April 1, 2018 to March 31, 2019), with some additional information from other fiscal years.

Scope

Tokyo Gas Co., Ltd. and its subsidiaries.
Tokyo Gas LIFEVAL and partner companies are also included in some sections. Environmental performance data for fiscal 2018 are for Tokyo Gas and its 44 consolidated subsidiaries in Japan.

Date of Publication

October 2019 (The previous report was published in November 2018. The next report is scheduled for October 2020.)

Referenced Guidelines

▶ GRI “Sustainability Reporting Standards 2016/2018”
Japanese Standards Association “ISO 26000: 2010”
Ministry of the Environment of Japan “Environmental Reporting Guidelines 2018 Version”

The environmental and social performance indicators provided in this report have been third-party assured by KPMG AZSA Sustainability Co., Ltd. (a member of the KPMG Japan group) to enhance the credibility of the data.

■ References

Membership in Industry Associations and Advocacy Organizations

- KEIDANREN (Japan Business Federation)
  (Tokyo Gas Senior Corporate Advisor Tsuyoshi Okamoto serves as vice chair)
- Japan Gas Association
  (Tokyo Gas Chairman of the Board, Michiaki Hirose serves as chairperson)
- Tokyo Chamber of Commerce and Industry
  (Tokyo Gas Chairman of the Board, Michiaki Hirose serves as a special advisor)
- Japan Association of Corporate Executives

Note: As of August 31, 2019

Publication History

FY1994–FY2004	”Environmental Report” issued
FY2005–FY2009	Expanded coverage to include CSR, and issued as the ”Tokyo Gas CSR Report” (website and booklet)
From FY2009	Expanded the scope of the report to include subsidiaries and affiliates (issued only on the website)
FY2010–FY2014	”Tokyo Gas CSR and Corporate Profile” issued (booklet)
From FY2015	”Tokyo Gas Group CSR Report” issued on the website (full report) and as a booklet (digest edition)
From FY2017	In principle, the website is updated upon publication of the report during the first half of the fiscal year and with additional information as needed.

From FY2019	Disclosing all relevant material via the website by suspension of the printed booklet publication. We changed the report title from ”CSR Report” to ”Sustainability Report”.

Top Commitment

Aspiration behind Getting the Blue Sky Back in Tokyo

As an energy company, we bear the responsibility to realize a sustainable society and pass on this beautiful planet to future generations.
Fifty years have passed since Tokyo Gas introduced LNG (liquefied natural gas) to Japan, overcoming numerous obstacles in the process. Before that, we had produced gas from coal and oil, and by shifting to natural gas, a clean source of energy with high calorific value, we significantly reduced emissions of hazardous substances. Despite the rapidly growing demand for energy, we were able to maintain a stable supply of gas with minimum capital investment by enhancing our supply capacity through technological innovation.
In those earlier days, company management aspired that “Getting the blue sky back in Tokyo” and demonstrated foresight through decisions that energized the opening of a new era. Today, natural gas is one of the core energy sources that sustains the Japanese society and economy.

Achieving the Medium-term Management Plan with an Entrepreneurial Spirit from Our Founding Days

As the entire industry faced unprecedented pressures to change, we witnessed the seeds we had sown beginning to sprout in fiscal 2018, marking the first year of our GPS2020 Medium-term Management Plan for the three years through fiscal 2020. While we lost more customers than we had expected to competitors in our gas business, we gained an unexpectedly high number of subscriptions in our electricity business. Even though the gas business has been swept up in a wave of competition from newcomers, we are seeing signs of customers gradually returning by switching back to our service.
Low pricing is not the only criterion that matters to customers in choosing a power company. We believe that we can be the company of choice by gaining customer trust through combined efforts for ensuring secure and safe energy use, including stable supply, reliable safety, and disaster prevention.
Eiichi Shibusawa, who founded Tokyo Gas on October 1, 1885, believed in the concept of unifying morality financial combination theory. He advocated maintaining high aspirations in pursuit of the public good and following the right path in managing a company while at the same time making a profit. Accordingly, the Tokyo Gas Group has sought to sustainably develop both society and the company.

We will inherit this and steadfastly maintain an entrepreneurial spirit of our founding days as we engage in our daily business activities.

Improving Operational Processes to Boost Productivity

A sound workplace environment is essential for realizing a sustainable society through our business operations. Tokyo Gas sets up the Business Transformation Project Dept. for improving operational processes, and it has led the way in implementing internal restructuring for raising productivity, from correcting long working hours and reducing costs to establishing personnel systems and workplace environments that cater to diverse employees.
Since taking office, I have also made a point of regularly visiting each department and subsidiary to exchange ideas, and we have taken the necessary steps to resolve pressing workplace issues. Under the slogan of ECRS (eliminate, combine, rearrange, and simplify), we are beginning to see results, such as improved operating efficiency from introducing IoT. I intend to boost these efforts so that employees can fully demonstrate their maximum abilities with great successes.

Striving to Realize a Sustainable Society in the Next Half Century

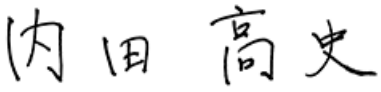
By envisioning the next half century, we are promoting changes in our business structure to attain our immediate target year of 2030. The key factors can be summed up by the four Ds, as in deregulation, decarbonization, decentralization, and digitalization. We will explore ways to address deregulation and intensified competition in the energy sector, demands placed by decarbonized initiatives; the optimal use of distributed energy such as solar power and wind power; and the growing need to apply the latest digital technologies to transform businesses and to create new ones. We consider these to be our top priority issues for the future, along with flexibly responding to the projected decline in domestic energy demand and further expanding our international business. One clue to a potential solution is the concept of Energy as a Service (EaaS), which involves not only supplying gas and electricity but also providing customers with the services they need. The Smart Energy Network is an example. Using clean city gas as fuel, electricity is produced in a combined heat and power (CHP) system*1, and the heat generated as a by-product is used to supply air-conditioning, heating, hot water and steam. By providing a service that combines this process with an ICT-based energy management system, we can contribute to safe and secure communities and urban development.

*1 Gas engine-based CHP systems generate electricity and recover exhaust heat generated as a by-product.

I am convinced that the effective, advanced use of natural gas is essential for realizing a decarbonized society and offers the best shortcut for achieving that goal. For example, natural gas-based thermal power plants offer excellent flexibility as backup power complementing the unstable output of renewable energy and significantly contribute to laying the foundations for introducing and expanding alternative energy sources. We have a possibility to realize a decarbonized society by optimally utilizing hydrogen and distributed renewable energy. Specifically, we envision a future in our next long-term management vision which focuses on 2030.

Our corporate message of “Supporting you always and bettering every day” expresses our aspiration to become a driving force behind daily life and society by meeting challenges and taking action to bring about a vibrant, safe, and pleasant future. To fulfill this responsibility consistently in an ever-changing society, we will address social needs and expectations from a global perspective and contribute to the creation of a sustainable society.

Takashi Uchida



Representative Director, President and CEO
Tokyo Gas Co., Ltd.

Environmental Data

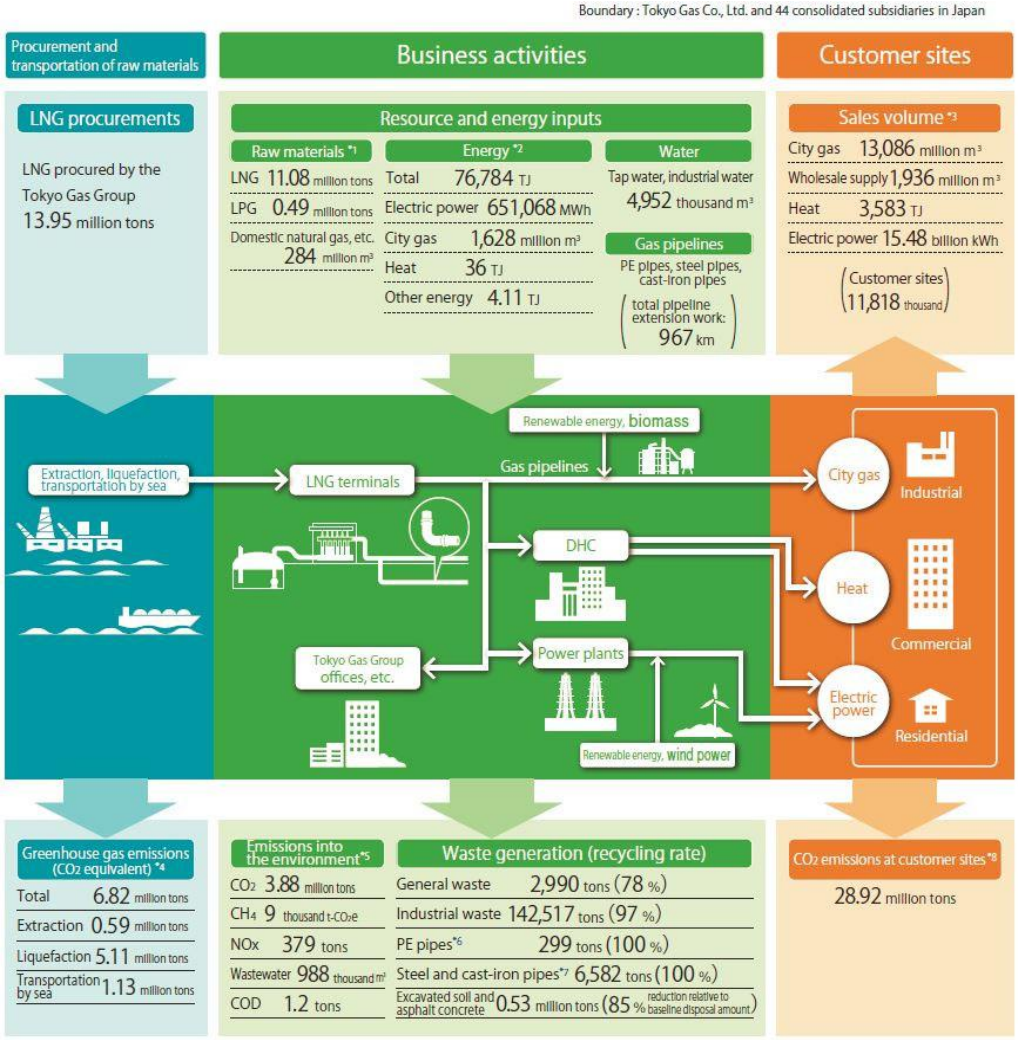
Note: The sum of individual environmental data may not be equal to the total due to the way figures are rounded.

Tokyo Gas Group Business Activities and Material Balance

▸ Third-party Assured

We monitor and manage impacts on the environment at every stage of our LNG value chain to reduce the impact on the environment.

■ Tokyo Gas Group Business Activities and Material Balance (FY2018)



Boundary: ▶ Tokyo Gas Co., Ltd. and 44 consolidated subsidiaries in Japan (PDF: 75KB)

*1 For city gas production by the Tokyo Gas Group.
*2 Energy usage by the Tokyo Gas Group excluding double-counting due to intra-group supply of heat and electricity.
*3 City gas: Volume of gas sales excluding supply to other gas utilities and sales for internal Group use.
Wholesale supply: Volume of gas supplied to other gas utilities.
Heat: Includes sales from LNG terminals as well as district heating and cooling centers and spot heat supply. Includes intra-group supply.
Electric power: Volume of sales of all electric power, including power purchased for business use from other companies and the market as well as Group power stations.
*4 Source: “Study of Life Cycle Greenhouse Gas Emissions of LNG and City Gas 13A” (Proceedings of the annual meeting of Japan Society of Energy and Resources 35, pp. 23–26, 2016) Production: 0.77; Liquefaction: 6.71; Transportation by sea: 1.48 g-CO2/MJ, based on gross calorific value
*5 CO_2, CH_4, NOx: Excludes double-counting due to intra-group supply.
Volume of wastewater: Specified wastewater and domestic sewage.
*6, 7 PE pipes, Steel and cast-iron pipes: Tokyo Gas Co., Ltd.
*8 Gas sales volume multiplied by emission intensity.

▶ Tokyo Gas Group Business Activities and Material Balance (FY2018) (PDF: 1,142KB)

(1) Use of Energy and Water/Emissions into the Atmosphere and Water System

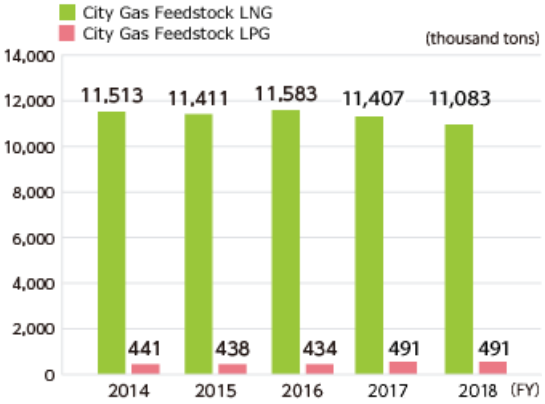
Use of Energy and Water/Emissions into the Atmosphere and Water Systems

▸ Third-party Assured

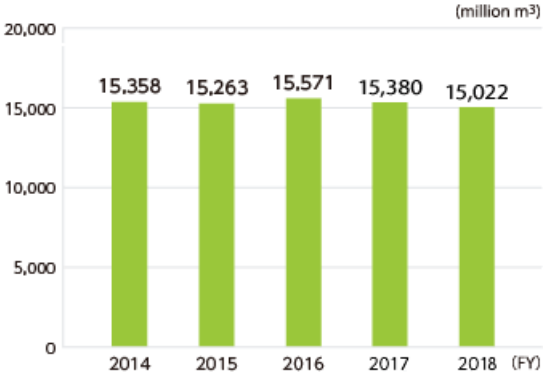
■ Feedstock and Sales Volume

Category		Unit	FY2014	FY2015	FY2016	FY2017	FY2018
City gas feedstock (Note 1)	Feedstock LNG	Thousand tons	11,513	11,411	11,583	11,407	11,083
	Feedstock LPG	Thousand tons	441	438	434	491	491
Production	City gas sales (Note 2)	Million m³	15,358	15,263	15,571	15,380	15,022
	Heat sales (Note 3)	TJ	3,287	3,251	3,451	3,496	3,583
	Power Sales (Note 4)	Billion kWh	10.61	10.96	12.65	14.66	15.48

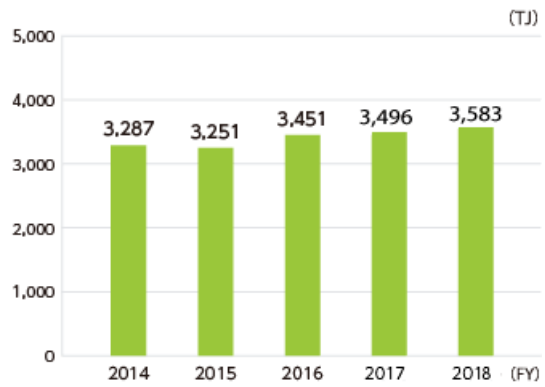
■ City Gas Feedstock (LNG/LPG)



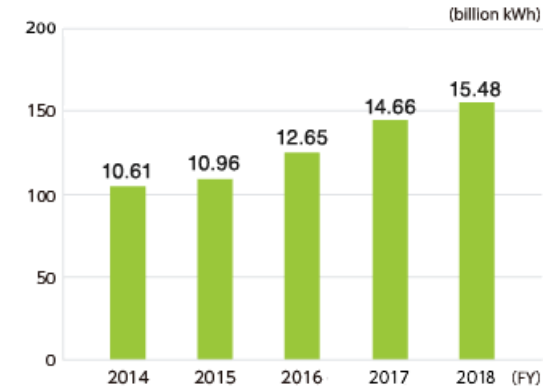
■ City Gas Sales



■ Heat Sales



■ Power Sales



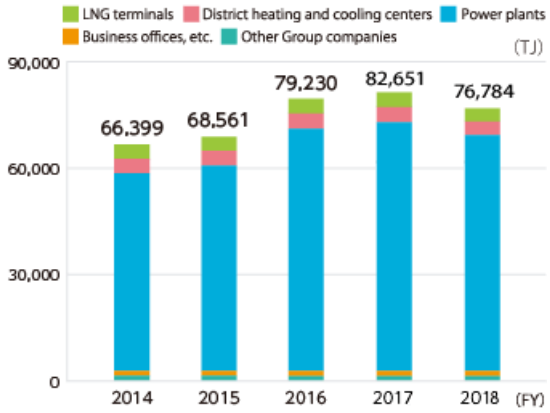
Note 1: For city gas production by the Tokyo Gas Group.
Note 2: Volume of gas sales including supply to other gas utilities and excluding sales for internal Group use.
Note 3: Includes sales volume from LNG terminals, in addition to district heating and cooling centers and spot heat supply. Also includes intra-group supply.
Note 4: Volume of sales of all electric power, including power purchased for business use from other companies and the market as well as Group power stations.

■ Energy Usage[*1, 2]

Category		Unit	FY2014	FY2015	FY2016	FY2017	FY2018
Energy usage (Note 1)		TJ	66,399	68,561	79,230	82,651	76,784
	LNG terminals	TJ	4,069	3,998	4,169	4,291	4,106
	District heating and cooling centers	TJ	4,167	4,167	4,316	4,037	4,173
	Power plants	TJ	55,639	57,871	68,250	71,967	66,322
	Tokyo Gas business offices, etc.	TJ	1,417	1,387	1,483	1,444	1,419
	Other Group companies	TJ	1,490	1,460	1,362	1,368	1,279
	(Tokyo Gas Co., Ltd.)	TJ	5,785	5,678	5,954	6,043	5,877
Electric power (Note 2)		MWh	593,097	615,419	626,729	607,725	651,068
	LNG terminals	MWh	334,229	345,227	363,053	368,259	357,068
	District heating and cooling centers	MWh	90,973	94,640	98,529	84,621	84,722
	Power plants	MWh	8,774	11,407	9,775	10,700	93,486
	Tokyo Gas business offices, etc.	MWh	52,350	52,372	51,526	49,786	49,629
	Other Group companies	MWh	115,677	112,890	103,847	105,089	98,696
	(Tokyo Gas Co., Ltd.)	MWh	391,536	402,357	419,502	422,776	416,928
City gas		Thousand m^3	1,402,022	1,447,012	1,691,380	1,775,849	1,628,350
	LNG terminals	Thousand m^3	18,769	14,600	14,544	16,206	14,450
	District heating and cooling centers	Thousand m^3	74,482	73,328	75,133	72,420	76,216
	Power plants	Thousand m^3	1,289,852	1,341,099	1,582,434	1,668,543	1,519,617
	Tokyo Gas business offices, etc.	Thousand m^3	16,726	15,969	18,209	17,697	17,082
	Other Group companies	Thousand m^3	2,192	2,015	1,060	984	985
	(Tokyo Gas Co., Ltd.)	Thousand m^3	40,994	35,990	38,347	39,676	37,035
Heat (Note 2)		TJ	38	48	71	55	36
	District heating and cooling centers	TJ	203	198	232	211	119

	Tokyo Gas business offices, etc.	TJ	85	88	93	95	96
	Other Group companies	TJ	158	166	195	195	172
	(Tokyo Gas Co., Ltd.)	TJ	94	96	102	104	105
Other fuels		TJ	5.23	5.80	4.89	4.04	4.11
	LNG terminals	TJ	0.22	0.68	0.50	0.53	0.43
	Tokyo Gas business offices, etc.	TJ	0.64	0.60	1.34	0.50	0.55
	Other Group companies	TJ	4.37	4.52	3.04	3.01	3.14
	(Tokyo Gas business offices, etc.)	TJ	0.86	1.28	1.84	1.03	0.98
Fuels for vehicles	Gasoline	kL	3,282	3,219	3,342	3,195	3,263
	(Tokyo Gas Co., Ltd.)	kL	1,425	1,444	1,420	1,335	1,297
	Diesel oil	kL	219	208	198	249	239
	(Tokyo Gas Co., Ltd.)	kL	35	41	47	59	65
	City gas	Thousand m^3	203	175	135	133	65
	(Tokyo Gas Co., Ltd.)	Thousand m^3	172	142	124	124	58
	LPG	kL	280	220	142	114	94
	(Tokyo Gas Co., Ltd.)	kL	-	-	-	-	-
LNG cryogenic energy		Thousand tons	2,289	2,364	2,678	2,890	2,862
	Cryogenic power generation	Thousand tons	460	724	785	787	616
	Portion sent to subsidiaries and affiliates	Thousand tons	853	852	820	820	821
	BOG treatment, etc.	Thousand tons	976	788	1,073	1,283	1,424

■ Energy Usage (by Business)

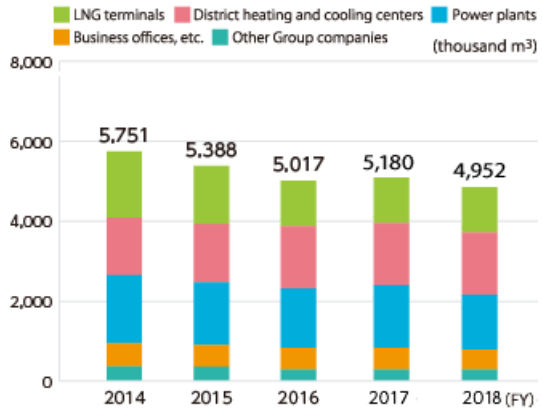


Note 1: Excludes double counting by intra-group supply of heat and electricity.
Note 2: Excludes double counting by intra-group supply. Since fiscal 2018, the amount of heat accommodated was deducted for district heating and cooling centers.

■ Water Usage

Category		Unit	FY2014	FY2015	FY2016	FY2017	FY2018
Tap water and industrial water		Thousand m^3	5,751	5,388	5,017	5,180	4,952
	LNG terminals	Thousand m^3	1,662	1,457	1,138	1,125	1,045
	District heating and cooling centers	Thousand m^3	1,439	1,459	1,552	1,507	1,780
	Power plant	Thousand m^3	1,703	1,569	1,492	1,765	1,325
	Tokyo Gas business offices, etc.	Thousand m^3	572	537	544	506	516
	Other Group companies	Thousand m^3	375	366	290	276	286
	(Tokyo Gas Co., Ltd.)	Thousand m^3	2,276	2,036	1,726	1,674	1,644
Seawater	LNG terminals	Thousand m^3	784,406	773,963	781,879	784,651	738,529

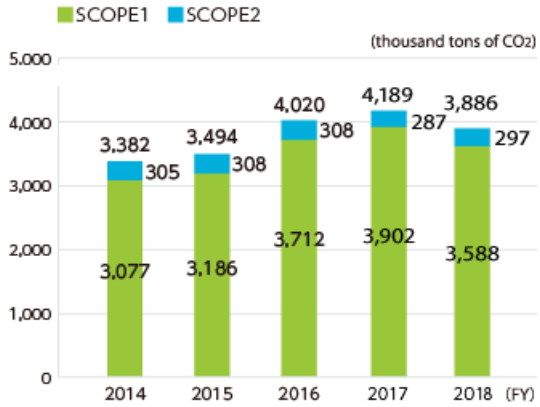
■ Water Usage (Tap Water and Industrial Water)



■ Emissions into the Atmosphere

Category		Unit	FY2014	FY2015	FY2016	FY2017	FY2018
Greenhouse gases	CO_2[*1, 2, 3] (Note 1)	Thousand tons of CO_2	3,376	3,479	4,014	4,179	3,877
	LNG terminals (Note 2)	Thousand tons of CO_2	210	202	206	207	192
	District heating and cooling centers (Note 3)	Thousand tons of CO_2	213	211	217	201	205
	Power plants (Note 4)	Thousand tons of CO_2	2,823	2,938	3,466	3,654	3,370
	Tokyo Gas business offices, etc. (Note 5)	Thousand tons of CO_2	73	71	74	72	71
	Other Group companies (Note 6)	Thousand tons of CO_2	77	75	69	68	62
	(Tokyo Gas Co., Ltd.) (Note 7)	Thousand tons of CO_2	298	288	296	294	280
	CH_4[*3, 4] (Note 8)	Thousand tons of CO_2 equivalent	6	14	5	11	9
NO_x		Tons	272	302	367	402	379
	LNG terminals (Note 9)	Tons	14	11	13	13	12
	District heating and cooling centers	Tons	53	52	51	54	54
	Power plants	Tons	187	223	282	311	294
	Tokyo Gas business offices, etc. (Note 9)	Tons	18	15	21	24	19
	(Tokyo Gas Co., Ltd.)	Tons	32	28	35	38	32

■ Greenhouse Gas Emissions (CO_2 equivalent) (SCOPE 1 + SCOPE 2)



Note 1: Excludes double counting by intra-group supply. Totaling 3,885 (based on basic emission factors) for the Tokyo Gas Group overall.
Note 2: 196 (based on basic emission factors)
Note 3: 206 (based on basic emission factors)
Note 4: 3,372 (based on basic emission factors)
Note 5: 70 (based on basic emission factors)
Note 6: 63 (based on basic emission factors)
Note 7: 284 (based on basic emission factors)
Note 8: About 354 tons of CH4 emissions
Note 9: Emissions from facilities that generate soot and smoke specified in the Air Pollution Control Act.

■ Greenhouse Gas Emissions from Feedstock Procurement (SCOPE 3)

Category		Unit	FY2014	FY2015	FY2016	FY2017	FY2018
LNG procured		Million tons	13.97	13.87	14.25	14.24	13.95
Greenhouse gas (CO_2 equivalent) (Note 1)	Extraction	Million tons of CO_2	0.62	0.58	0.60	0.60	0.59
	Liquefaction	Million tons of CO_2	6.38	5.08	5.22	5.22	5.11
	Transport by sea	Million tons of CO_2	1.50	1.12	1.15	1.15	1.13

Note 1: Calculated based on greenhouse gas emission intensity throughout the lifecycle, from extraction of natural gas to processing and transportation, as analyzed by the LCA approach.

- FY2012–14 emission intensity
  Extraction: 0.81; Liquefaction: 8.36; Transportation by sea: 1.97 g-CO2/MJ, based on gross calorific value
  Source: "Future Forecast for Life Cycle Greenhouse Gas Emissions of LNG and City Gas 13A" (Japan Society of Energy and Resources, presentation report 28 (2), pp. 51–56, 2007)
- Emission intensity from FY2015
  Extraction: 0.77; Liquefaction: 6.71; Transportation by sea: 1.48 g-CO2/MJ, based on gross calorific value
  Source: "Study of Life Cycle Greenhouse Gas Emissions of LNG and City Gas 13A" (Proceedings of the annual meeting of Japan Society of Energy and Resources 35, pp. 23–26, 2016)

■ CO_2 Emissions and Emissions Reduction at Customer Sites (SCOPE 3)

Category		Unit	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018
CO_2	Total amount	Million tons of CO_2	26.94	27.09	27.67	29.36	28.96	29.43	29.60	28.92
	Amount of reduction relative to FY2011	Million tons of CO_2	Baseline	0.87	1.52	3.29	3.43	3.94	4.04	4.52

■ Energy Usage and CO_2 Emissions Associated with Cargo Transportation (Tokyo Gas Co., Ltd.) (SCOPE 3)

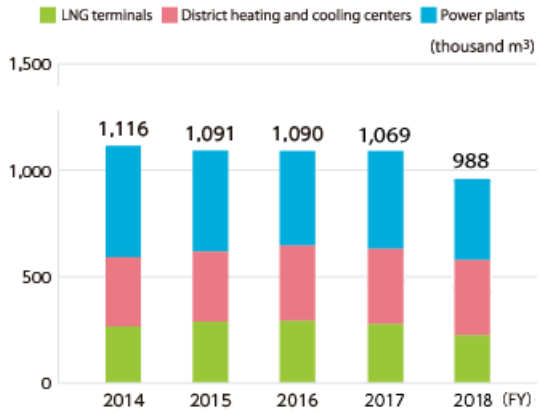
Category	Unit	FY2014	FY2015	FY2016	FY2017	FY2018
Transportation amount	Million tons -km	94.59	98.42	85.70	82.72	93.29
Energy usage (crude oil equivalent)	kL	3,275	3,354	3,165	3,055	3,237
Energy usage intensity	kL/Million tons-km	34.6	34.1	36.9	36.9	34.7
CO_2 emissions	tons-CO_2	8,615	8,810	8,267	7,993	8,520

■ Emissions into Water Systems

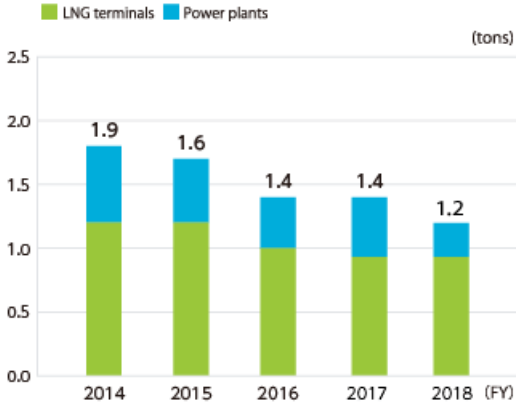
Category	Unit	FY2014	FY2015	FY2016	FY2017	FY2018
Wastewater	Thousand m^3	1,116	1,091	1,090	1,069	988
LNG terminals (Note 1)	Thousand m^3	265	287	291	242	221
District heating and cooling centers	Thousand m^3	325	330	354	330	362
Power plants	Thousand m^3	525	474	445	498	405

(Tokyo Gas Co., Ltd.)	Thousand m^3	273	296	300	258	254
COD	Tons	1.9	1.6	1.4	1.4	1.2
LNG terminals	Tons	1.2	1.2	1.0	0.9	0.9
Power plants	Tons	0.6	0.5	0.4	0.4	0.3
(Tokyo Gas Co., Ltd.)	Tons	1.2	1.2	1.0	0.9	0.9

■ Wastewater



■ COD (Chemical Oxygen Demand)



Note 1: Data are for wastewater discharges from wastewater treatment facilities and sewage discharges.

Conversion Factor, etc.

■ CO_2 Emission Factor

Category		Unit	FY2014	FY2015	FY2016	FY2017	FY2018
City gas (Tokyo Gas 13A) (Note 1)		kg-CO_2/m^3					2.21
Purchased electricity (average of all power sources) (Note 2)		kg-CO_2/kWh	0.530 etc.	0.505 etc.	0.500 etc.	0.486 etc.	0.462 etc.
Heat (Note 3)	Steam (excluding industrial use), hot water, cold water	kg-CO_2/MJ					0.057
	Industrial steam	kg-CO_2/MJ					0.060
Other fuels (Note 3)	Heavy oil A	kg-CO_2/L					2.71
	Diesel	kg-CO_2/L					2.58
	Kerosene	kg-CO_2/L					2.49
	Gasoline	kg-CO_2/L					2.32
	LPG	kg-CO_2/kg					3.00

Note 1: Calculated based on the typical composition of city gas (type 13A) supplied by the Tokyo Gas (15°C, gauge pressure of 2 kPa).
Note 2: Emission factors from electric power companies, released in accordance with the ministerial ordinance stipulated by the Act on Promotion of Global Warming Countermeasures. The basic emission factors were used until fiscal 2017 and adjusted emission factors are used since fiscal 2018.
Note 3: Calculated using the unit calorific value released in accordance with the ministerial ordinance stipulated by the Act on Promotion of Global Warming Countermeasures, and multiplying this amount by the emission factor per unit calorific value and by 44/12.

■ Unit Calorific Value

Category		Unit	FY2014	FY2015	FY2016	FY2017	FY2018
City gas (Tokyo Gas 13A) (Note 1)		MJ/m^3N					45.00
Purchased electricity (Note 2)*5	Daytime electricity	MJ/kWh					9.97
	Nighttime electricity	MJ/kWh					9.28

	Other than general electricity utilities	MJ/kWh	9.76
Heat (Note 2)	Steam (excluding industrial use), hot water, cold water	MJ/MJ	1.36
	Industrial steam	MJ/MJ	1.02
Other fuels (Note 2)	Heavy oil A	MJ/L	39.1
	Diesel	MJ/L	37.7
	Kerosene	MJ/L	36.7
	Gasoline	MJ/L	34.6
	LPG	MJ/kg	50.8
Crude oil equivalent coefficient (Note 2)		kL/GJ	0.0258

Note 1: City gas calorific value of Tokyo Gas (0°C, 1 atmospheric pressure)
Note 2: Act Concerning the Rational Use of Energy (the Energy Efficiency Act)

*1 For district heating and cooling centers that sell power using combined heat and power (CHP) systems (gas engine-based CHP systems generate electricity and recover exhaust heat generated as a by-product), data for energy used for power generation is reflected in "Power plants and data for energy used to produce heat is reflected in "District heating and cooling centers". Data for "Tokyo Gas business offices, etc." does not include energy used for LNG terminals and district heating and cooling centers. "Other Group companies" refers to data on Group companies excluding district heating and cooling centers, and power plants.
*2 Some variance in the data listed under different categories may exist since the data has been processed to properly assess the changes in energy usage intensity for each business activity (such as by reflecting the amounts commissioned by other companies at LNG terminals).
*3 The values are calculated based on the adjusted emission factors since fiscal 2018.
*4 CH4 (methane) emissions were converted to CO2 emissions by multiplying by the global warming potential of 25, as stipulated in the Act on Promotion of Global Warming Countermeasures.
*5 For the crude oil equivalent of electricity usage under "District heating and cooling centers" and "Tokyo Gas business offices, etc.," the amounts purchased from power utility companies were all calculated using daytime electricity factors.

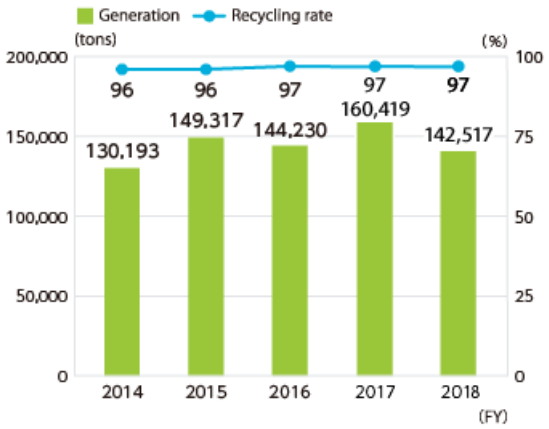
■ (2) Waste

Industrial Waste

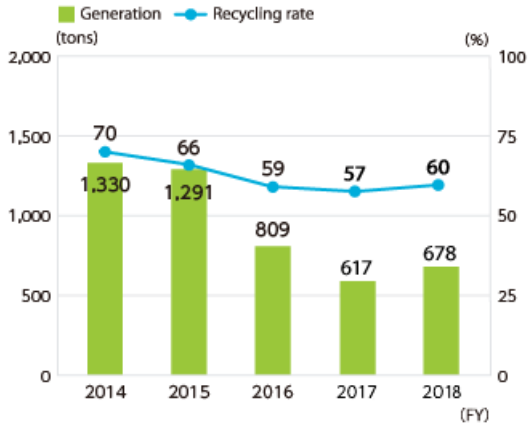
▸ Third-party Assured

Category		Unit	FY2014	FY2015	FY2016	FY2017	FY2018
Industrial waste*1, 2	Generation	Tons	130,193	149,317	144,230	160,419	142,517
	Amount recycled	Tons	124,975	142,629	140,373	156,064	137,712
	Landfill	Tons	3,714	2,433	1,312	1,823	2,483
	Recycling rate	%	96	96	97	97	97
	Landfill rate	%	2.9	1.6	0.9	1.1	1.7
Production plants*1	Generation	Tons	1,330	1,291	809	617	678
	Amount recycled	Tons	925	851	476	354	405
	Landfill	Tons	16	18	2	4	8
	Recycling rate	%	70	66	59	57	60
	Landfill rate	%	1.2	1.4	0.3	0.6	1.2
Tokyo Gas Co., Ltd.	Generation	Tons	4,430	4,462	4,449	5,950	4,767
	Amount recycled	Tons	3,719	3,629	3,701	4,638	3,607
	Landfill	Tons	360	431	389	981	575
	Recycling rate	%	84	81	83	78	76
	Landfill rate	%	8	10	9	16	12

■ Industrial Waste (All)



■ Industrial Waste (Production Plants)



Results by Major Sites (FY2018)

■ LNG terminals (Negishi, Sodegaura, Ohgishima, Hitachi)

Category	Generation (tons)	Amount recycled (tons)	Landfill (tons)	Recycling rate (%)	Landfill rate (%)
Sludge	121.3	24.0	0.1	19.8	0.1
Scrap metal	16.5	16.5	0.0	100.0	0.0
Waste oil	7.2	5.8	0.0	80.5	0.3
Waste plastics	6.9	5.7	0.1	83.1	0.9
Specially controlled industrial waste	17.9	17.2	0.0	95.8	0.0
Other	50.1	2.2	0.8	4.3	1.7
Total	219.9	71.3	1.1	32.4	0.5

■ District Heating and Cooling Centers

Category	Generation (tons)	Amount recycled (tons)	Landfill (tons)	Recycling rate (%)	Landfill rate (%)
Sludge	20.4	4.6	4.0	22.7	19.8
Scrap metal	14.0	14.0	0.0	100.0	0.0
Waste oil	7.0	6.3	0.7	90.1	9.9
Waste plastics	5.9	5.9	0.0	100.0	0.0
Other	48.1	4.9	2.2	10.2	4.6
Total	95.3	35.7	7.0	37.4	7.3

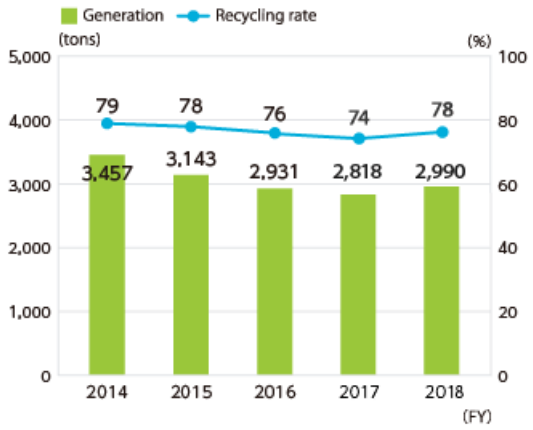
*1 Data for “Production plants” include that from business offices that produce city gas and other products, district heating and cooling centers, and power plants.
*2 Including construction work for customers of our subcontractors, subsidiaries and affiliates.

General Waste

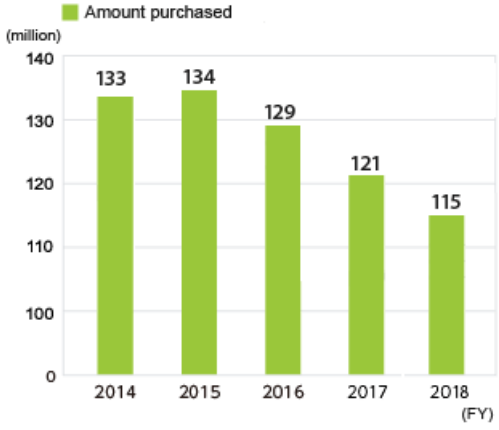
Category		Unit	FY2014	FY2015	FY2016	FY2017	FY2018
General Waste	Generation	Tons	3,457	3,143	2,931	2,818	2,990
	Amount recycled	Tons	2,725	2,441	2,224	2,090	2,333
	Recycling rate	%	79	78	76	74	78

	Tokyo Gas Co., Ltd.	Generation	Tons	1,132	1,016	1,045	1,010	998
		Amount recycled	Tons	967	870	850	806	811
		Recycling rate	%	85	86	81	80	81
Copy paper		Amount purchased	Million	133	134	129	121	115
	Tokyo Gas Co., Ltd.	Amount purchased	Million	66	63	64	59	53

■ General Waste (All)



■ Copy Paper (All)

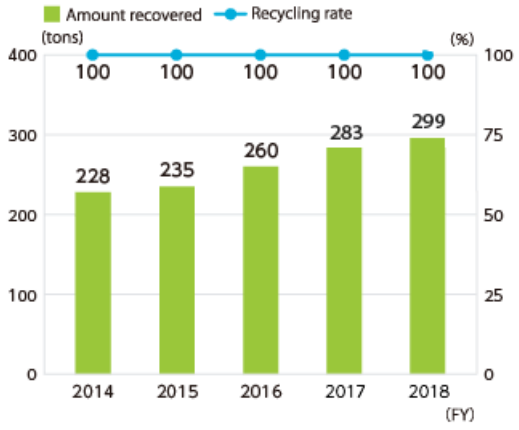


By-products from Gas Pipeline Construction

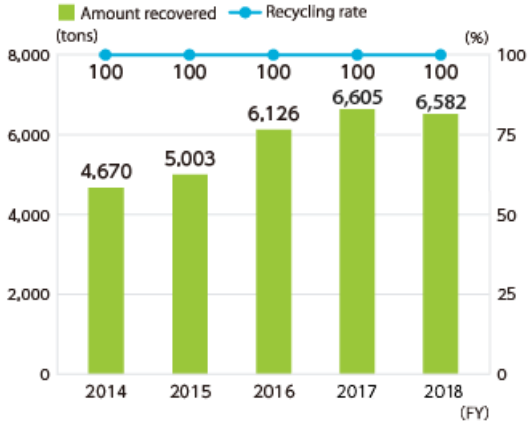
Category			Unit	FY2014	FY2015	FY2016	FY2017	FY2018
Gas pipe (Note 1)	PE pipe	Amount recovered	Tons	228	235	260	283	299
		Amount recycled	Tons	228	235	260	283	299
		Recycling rate	%	100	100	100	100	100
	Steel and cast-iron pipe	Amount recovered and recycled	Tons	4,670	5,003	6,126	6,605	6,582
		Recycling rate	%	100	100	100	100	100
Excavated soil (Note 2)	Gas pipeline extension work		km	1,170	1,121	1,026	1,038	967
	Estimated excavated amount		Million tons	3.71	4.49	3.88	4.03	3.61
	Actual reduced amount	Reduction (by shallower laying of pipes in narrow trenches and non-open-cut method)	Million tons	1.42	1.32	1.35	1.28	1.26
		Reuse (generated soil)	Million tons	0.52	0.84	0.62	0.61	0.55
		Recycle (improved soil, regeneration treatment)	Million tons	1.15	1.33	1.27	1.27	1.27
		Total reduction amount	Million tons	3.09	3.49	3.24	3.16	3.09
		Rate of reduction amount (comparison to estimated excavated amount)	%	83	78	83	79	85

	Residual soil (actual amount)		Million tons	0.62	1.0	0.64	0.86	0.53
	Rate of residual soil (comparison to estimated excavated amount)		%	17	22	17	21	15
Tokyo Gas Co., Ltd. (Note 2)	Gas pipeline extension work		km	1,065	1,020	973	1,003	934
	Estimated excavated amount		Million tons	3.47	4.25	3.75	3.94	3.53
	Actual reduced amount	Reduction (by shallower laying of pipes in narrow trenches and non-open-cut method)	Million tons	1.35	1.25	1.31	1.24	1.23
		Reuse (generated soil)	Million tons	0.47	0.79	0.61	0.61	0.55
		Recycle (improved soil, regeneration treatment)	Million tons	1.12	1.31	1.26	1.25	1.24
		Total reduction amount	Million tons	2.94	3.35	3.18	3.10	3.02
		Rate of reduction amount (comparison to estimated excavated amount)	%	85	79	85	78	85
	Residual soil (actual amount)		Million tons	0.52	0.90	0.57	0.85	0.51
	Rate of residual soil (comparison to estimated excavated amount)		%	15	21	15	22	15

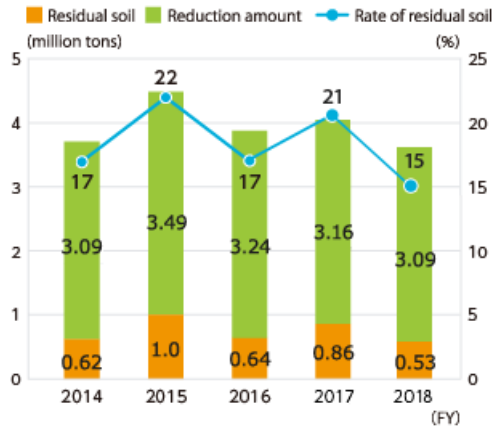
■ PE Pipe



■ Steel and Cast-iron Pipe



■ Residual Soil and Reduction Amount



Note 1: Tokyo Gas Co., Ltd.
Note 2: Data for excavated soil and asphalt concrete.

Recovery of Used Gas Appliances from Customers

Category			Unit	FY2014	FY2015	FY2016	FY2017	FY2018
Waste, etc.	Amount recovered (Note1)	Used gas appliance, etc.	Tons	3,933	3,861	3,715	3,445	3,288
		Other	Tons	5,057	5,075	4,581	4,695	4,103
		Total	Tons	8,991	8,936	8,296	8,140	7,391

Note 1: Excludes waste from specified kinds of home appliances.

■ Breakdown (FY2018)

Category	Amount recovered (tons)	Amount recycled (tons)	Final disposal (tons)	Recycling rate (%)	Final disposal rate (%)
Used gas appliances and scrap metal	3,288.1	3,288.1	0.0	100.0	0.0
Waste plastics	521.0	456.3	64.7	87.6	12.4
Polystyrene foam	13.6	13.6	0.0	100.0	0.0
Cardboard boxes	558.2	558.2	0.0	100.0	0.0
Debris	331.0	294.6	36.4	89.0	11.0
Concrete and tile scraps	200.0	92.0	108.0	46.0	54.0
Other	2,492.5	2,248.9	243.5	90.2	9.8
Total	7,390.7	6,938.1	452.6	93.9	6.1

Compliance with Local Government Ordinances on the Environment and Energy

Tokyo Gas prepares and publishes the following plans and reports in accordance with the ordinances of local authorities.

Tokyo	**Global Warming Action Plan (Large Establishments)** • FY2019 Hamamatsucho (Head Office) Building • FY2019 Senju Techno Station
	• Global Warming Action Report (Small/Medium-Sized Establishments)
	Environmental Energy Reporting Program • FY2019 Energy Status Reports • FY2019 Environmental Energy Plans
Saitama Pref.	FY2019 Global Warming Action Plan Report
Kanagawa Pref.	FY2019 Report on Results of Action against Global Warming in Business
Yokohama City	FY2019 Report on State of Action against Global Warming FY2019 Report and Plan for Promoting Low-carbon Electricity

Assessment of CO_2 Emissions Reduction due to Reductions in Purchased Electricity

Amount of Thermal Power Generation Varies According to Electricity Usage

In Japan, the electricity supplied by electric utilities is generated primarily by thermal power, nuclear power and hydroelectric power plants. Nuclear power plants operate at full capacity except when undergoing a routine inspection, while the annual power output of hydroelectric power plants is determined by the amount of rainfall. The electricity supply is adjusted by operations at thermal power plants. Therefore, in terms of total annual output, it is most likely to be thermal power generation that is cut when electricity use is reduced through energy-saving measures.

Link

▶ The Greenhouse Gas Protocol (Guidelines for Quantifying GHG Reductions from Grid-Connected Electricity Projects)

Social Data

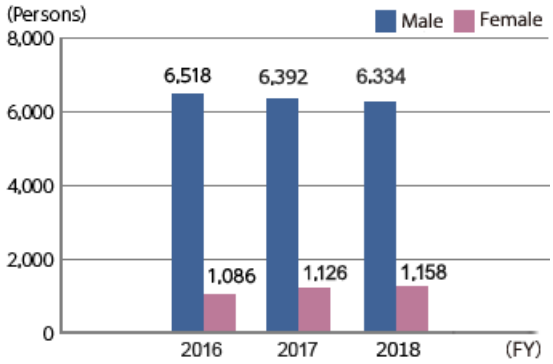
Overview of Employees

▸ Third-party Assured

Number of Full-time Employees by Gender*1, 2, 3, 4

		Unit	FY2016	FY2017	FY2018
Male	Non-consolidated	Persons (%)	6,518 (85.7)	6,392 (85.0)	6,334 (84.5)
	Consolidated		11,745 (84.2)	11,418 (83.4)	11,300 (82.8)
Female	Non-consolidated		1,086 (14.3)	1,126 (15.0)	1,158 (15.5)
	Consolidated		2,212 (15.8)	2,271 (16.6)	2,341 (17.2)
Total	Non-consolidated		7,604	7,518	7,492
	Consolidated		13,957	13,689	13,641

*1 Data are as of the end of March of each fiscal year.
*2 Non-consolidated data exclude personnel on loan to Tokyo Gas from other organizations and include personnel on loan from Tokyo Gas to other organizations (registered personnel).
*3 Consolidated data exclude personnel on loan to Tokyo Gas and its subsidiaries from other organizations and include personnel on loan from Tokyo Gas and its subsidiaries to other organizations.
*4 Data in fiscal 2017 were revised.



Note: Number of Tokyo Gas employees (registered personnel) as of the end of March of each fiscal year.

Breakdown of Employees by Age and Gender*1, 2, 3

Age		Unit	Male	Female	Total
Under 30	Non-consolidated	Persons (%)	1,772 (28.0)	320 (27.6)	2,092 (27.9)
	Consolidated		2,641 (23.4)	615 (26.3)	3,256 (23.9)
From 30 to 39	Non-consolidated		899 (14.2)	154 (13.3)	1,053 (14.1)
	Consolidated		1,989 (17.6)	417 (17.8)	2,406 (17.6)
From 40 to 49	Non-consolidated		1,646 (26.0)	415 (35.8)	2,061 (27.5)
	Consolidated		3,339 (29.5)	802 (34.3)	4,141 (30.4)

From 50 to 59	Non-consolidated		1,984 (31.3)	266 (23.0)	2,250 (30.0)
	Consolidated		3,243 (28.7)	498 (21.3)	3,741 (27.4)
60 and over	Non-consolidated		33 (0.5)	3 (0.3)	36 (0.5)
	Consolidated		88 (0.8)	9 (0.4)	97 (0.7)
Total	Non-consolidated		6,334	1,158	7,492
	Consolidated		11,300	2,341	13,641

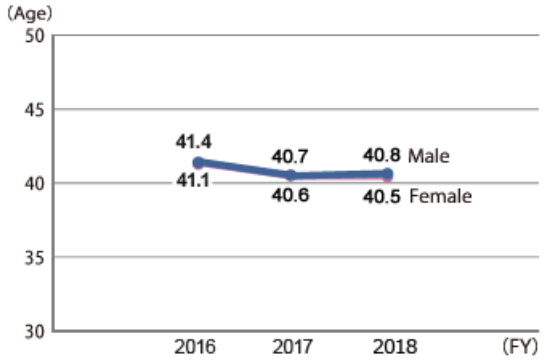
*1 Data are as of the end of March 2019.
*2 Non-consolidated data are for Tokyo Gas employees (registered personnel).
*3 Consolidated data exclude personnel on loan to Tokyo Gas and its subsidiaries from other organizations and include personnel on loan from Tokyo Gas and its subsidiaries to other organizations.

▸ Third-party Assured

■ Average Age by Gender*1, 2, 3

		Unit	FY2016	FY2017	FY2018
Male	Non-consolidated	Age	41.4	40.7	40.8
	Consolidated		41.8	41.2	41.2
Female	Non-consolidated		41.1	40.6	40.5
	Consolidated		39.9	40.0	40.1
Total	Non-consolidated		41.4	40.7	40.8
	Consolidated		41.5	41.0	41.0

*1 Data are as of the end of March of each fiscal year.
*2 Non-consolidated data are for Tokyo Gas employees (registered personnel).
*3 Consolidated data exclude personnel on loan to Tokyo Gas and its subsidiaries from other organizations and include personnel on loan from Tokyo Gas and its subsidiaries to other organizations.



Note: Number of Tokyo Gas employees (registered personnel) are as of the end of March of each fiscal year.

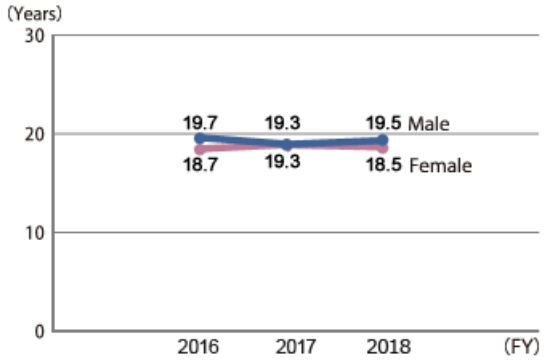
▸ Third-party Assured

■ Average Length of Employment by Gender*1, 2, 3, 4

		Unit	FY2016	FY2017	FY2018
Male	Non-consolidated	Years	19.7	19.3	19.5
	Consolidated		17.1	16.7	17.0
Female	Non-consolidated		18.7	19.3	18.5
	Consolidated		14.4	14.8	14.5

Total	Non-consolidated		19.6	19.3	19.3
	Consolidated		16.7	16.4	16.5

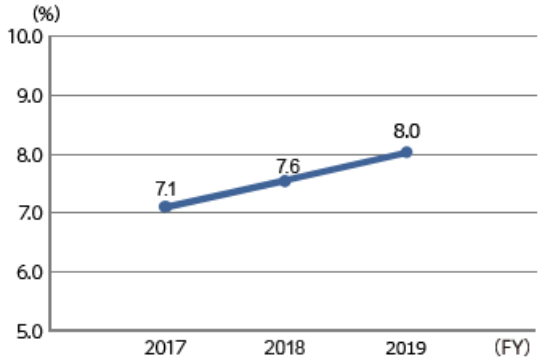
*1 Data are as of the end of March of each fiscal year.
*2 Non-consolidated data are for Tokyo Gas employees (registered personnel).
*3 Consolidated data exclude personnel on loan to Tokyo Gas and its subsidiaries from other organizations and include personnel on loan from Tokyo Gas and its subsidiaries to other organizations.
*4 Data in fiscal 2017 were revised.



Note: Number of Tokyo Gas employees (registered personnel) are as of the end of March of each fiscal year.

■ Ratio of Women in Management*1, 2

▸ Third-party Assured



*1 Number of Tokyo Gas employees (registered personnel) are as of April 1 of each fiscal year.
*2 Employees in supervisory positions, or employees of equivalent status.

▸ Third-party Assured

■ Hiring of New Graduates*1

		Unit	Breakdown of FY2017 Hires		Breakdown of FY2018 Hires		Breakdown of FY2019 Hires	
			Male	Female	Male	Female	Male	Female
Undergraduate and Graduate*2	Non-consolidated	Persons	167	53	125	61	162	62
	Consolidated		-	-	217	127	273	145
High School	Non-consolidated		27	4	18	2	0	0
	Consolidated		-	-	62	11	34	7
Total	Non-consolidated		194	57	143	63	162	62
	Consolidated		-	-	279	138	307	152

*1 Data are as of April 1 of each fiscal year.
*2 Including technical college and junior college graduates.

■ Hiring of Mid-Career Personnel*1

		Unit	May 2016 to April 2017	May 2017 to April 2018	May 2018 to April 2019
Male	Non-consolidated	Persons	12	12	15
	Consolidated		-	234	191
Female	Non-consolidated		2	1	0
	Consolidated		-	66	74
Total	Non-consolidated		14	13	15
	Consolidated		-	300	265

*1 Data includes contract employees who became regular employees.

▸ Third-party Assured

■ Hiring of People with Disabilities*1, 2, 3

	Unit	March 2017	March 2018	March 2019
Number of persons hired (percentage of total employees)	Persons (%)	153 (2.10)	150 (2.10)	167 (2.44)

*1 Data are for regular and contract employees at Tokyo Gas Co., Ltd.
*2 Figures are as of the first day of the month shown for each fiscal year.
*3 Figure has risen to 170 people, or 2.46% of the workforce, as of June 2019.

▸ Third-party Assured

■ State of Reemployment after Mandatory Retirement

		Unit	FY2016	FY2017	FY2018
Total number of retired employees*1		Persons	348	273	172
Number of reemployed*2	Tokyo Gas	Persons (%)	251 (72.1)	203 (74.4)	103 (59.9)
	Subsidiaries		42 (12.1)	46 (16.8)	52 (30.2)
	Total		293 (84.2)	249 (91.2)	155 (90.1)

*1 Number of employees who left the company at the mandatory retirement age of 60 for Tokyo Gas Co., Ltd.
*2 Number of people hired as “career employees” (contract employees rehired after reaching mandatory retirement age).

▸ Third-party Assured

■ Major Programs and Number of Users*1 (Company programs that exceed regulatory requirements are underlined.)

Programs	Outline	Item	Unit	FY2016		FY2017		FY2018	
				Male	Female	Male	Female	Male	Female
Parental leave	Until the end of April immediately following the child’s 3rd birthday (employees are allowed to change the scheduled date of reinstatement if they are unable to enroll their children in a nursery school)	Number of users	Persons	2	65	5	45	5	70
		Percentage returning to work*2	%	100	100	100	92	100	100

Shorter hours for parents of small children	Flextime program available during pregnancy and until the child completes the 6th grade	Number of users	Persons	3	224	3	214	9	220
Nursing care leave	Up to 3 years to provide care for a relative within the second degree of kinship	Number of users	Persons	0	4	0	1	2	0
Nursing care work	Applicable to a relative within the second degree of kinshipFlextime program available up to 3 years to provide care	Number of users	Persons	0	3	0	2	0	3
Leave to accompany partner	For employees accompanying a spouse posted overseas	Number of users	Persons	4		3		4	
Community service leave	Special paid leave for up to 5 days within 1 year	Cumulative number of users	Persons	48		58		61	
Sabbatical system	Commemorative gift and paid leave for employees who reach the ages of 30, 35, 40 and 50	Number of users	Persons	514		673		509	

*1 Data are for Tokyo Gas Co., Ltd.
*2 Percentage of employees who completed parental leaves each fiscal year and those returned to work at the company.

▸ Third-party Assured

■ Number of Employees Leaving the Company *1, 2, 3

		Unit	FY2016	FY2017	FY2018
Male (Percentage of employees leaving the company)	Non-consolidated	Persons (%) *4	58 (0.86)	29 (0.43)	47 (0.72)
	Consolidated		- (-)	203 (-)	216 (1.88)
Female (Percentage of employees leaving the company)	Non-consolidated		9 (0.85)	9 (0.79)	8 (0.68)
	Consolidated		- (-)	113 (-)	89 (3.71)
Total (Percentage of employees leaving the company)	Non-consolidated		67 (0.86)	38 (0.49)	55 (0.71)
	Consolidated		- (-)	316 (-)	305 (2.19)

*1 Non-consolidated data are for Tokyo Gas employees (registered personnel).
*2 Consolidated data exclude personnel on loan to Tokyo Gas and its subsidiaries from other organizations and include personnel on loan from Tokyo Gas and its subsidiaries to other organizations.
*3 Data in fiscal 2017 were revised.
*4 The percentage of people leaving the company is calculated as follows: number of regular employees leaving for personal reasons (as of March 31 of each fiscal year)/number of regular employees (as of April 1 of each fiscal year).

Third-party Assured

Number of Temporary and Contract Employees[*1, 2]

		Unit	FY2017	FY2018	FY2019
Contract employees		Persons	1,728	1,670	1,495
	Male		1,153	1,131	950
	Female		575	539	545
Temporary employees			642	558	589
Total			2,370	2,228	2,084

*1 Data are for Tokyo Gas Co., Ltd.
*2 Data are as of April 1 of each fiscal year.

Third-party Assured

Average Annual Salary[*1, 2]

	Unit	FY2016	FY2017	FY2018
Average annual salary	10,000 yen	640	636	657

*1 Data are for Tokyo Gas Co., Ltd.
*2 Figures exclude the salary of personnel in management positions.

Third-party Assured

Average Overtime Hours[*1]

	Unit	FY2016	FY2017	FY2018
Average monthly overtime hours	Hours/person	16.6	15.9	15.6

*1 Data are for Tokyo Gas Co., Ltd.

Third-party Assured

Days of Paid Leave Taken per Year[*1]

	Unit	FY2016	FY2017	FY2018
Days of paid leave taken per year	Days/person	15.5	15.1	15.4

*1 Data are for Tokyo Gas Co., Ltd.
*2 Data are as of the end of March of each fiscal year.

Third-party Assured

Number of Employees with Right to Collective Bargaining (Employees Excluding Management)[*1, 2]

	Unit	FY2016	FY2017	FY2018
Number of employees	Persons	7,199	6,937	6,906

*1 Data are for Tokyo Gas Co., Ltd.
*2 Data are as of the end of March of each fiscal year.

Average Annual Training Hours[*1, 2]

	Unit	FY2016	FY2017	FY2018
Average annual training hours	Hours/person	18.2	13.5	12.0

*1 Data are for Tokyo Gas Co., Ltd.
*2 Data on training provided by the Personnel Department (excludes training provided independently by other departments).

Implementation of Occupational Safety and Health Education Programs

■ Implementation of Occupational Safety and Health Education Programs[*1]

Details		Unit	FY2016	FY2017	FY2018
Level-specific training on safety and health and on safety planning	New employee training	Persons	291	252	206
	Safety and health training for new managers		306	243	245
Statutory foreman training			156	151	146
Statutory training for safety administrators at the time of appointment[*2]			41	36	40
Hygiene supervisor training			75	74	94
Traffic safety and driving training (for new drivers, persons involved in accidents and others)			898	789	747
Safe driving with attendant instructors utilizing drive recorders			795	798	853
Seminars on promoting health			2,510	2,731	1,452

*1 Data are for Tokyo Gas Co., Ltd.
*2 Data are the results of the Tokyo Gas Group.

Overview of Accidents and Injuries

▸ Third-party Assured

■ Change in Number of Work-related Injuries, Number of Traffic Accidents, Rate of Lost Work-time Injuries, and Severity Rate[*1]

	Unit	FY2016	FY2017	FY2018
Work-related injuries[*2]	Cases	23	38	36
Traffic accidents		141	134	142
Rate of lost work-time injuries[*3, 5]	-	0.41	0.36	0.62
Severity rate[*4, 5, 6]		0.003	0.002	0.005

*1 Data are for regular and semi-regular employees of Tokyo Gas.
*2 Includes accidents not resulting in lost worktime.
*3 Rate of people taking work leave per 1 million total actual working hours.
*4 Number of workdays lost as a result of accidents/injuries per 1,000 total actual working hours.
*5 Includes injuries due to traffic accidents caused by others.
*6 Lost workdays are counted based on standards placed by the Japanese Ministry of Health, Labour and Welfare.

Governance Data

Membership of the Board of Directors, Advisory Committee, Audit & Supervisory Board, and Corporate Executive Meeting

		Unit	As of the end of June 2017	As of the end of June 2018	As of the end of June 2019
Board of Directors	Directors	Persons (Number of female members)	11 (1)	8 (1)	9 (2)
	External		3 (1)	3 (1)	4 (2)
Advisory Committee	Outside directors		2	2	2
	Outside Audit & Supervisory Board members		1	1	1
	Director, Chairman of the Board		1	1	1
	Director, President		1	1	1
Audit & Supervisory Board	Audit & Supervisory Board members		5	5	5
	External		3 (1)	3 (1)	3 (1)
Corporate Executive Meeting	President and CEO*1		1	1	1
	Executive Vice Presidents*1		2	2	2
	Senior Managing Executive Officer		-	2	2
	Managing Executive Officer		11	6 (1)	7 (1)

Note: Data shown are for Tokyo Gas Co., Ltd.
Note: External directors and external Audit & Supervisory Board members are independent officers.
*1 Post is held concurrently by three representative directors.

Training and Consultation on Human Rights and Compliance

■ Participants in Training on Human Rights

	Overview	Unit	FY2016	FY2017	FY2018
Level-specific training	Training upon entering the company, during the third year, and during qualification promotions (two levels)	Number of persons	1,531	1,527	1,291
Workplace workshops	Practical training on topics selected by each workplace		11,699	15,543	15,825
Training programs and follow-up for human rights promotion leaders	First-time leader training (6 months) and follow-up training		225	353	344
Planning-type training	Human rights study sessions		380	350	285

Note: Data shown are for the Tokyo Gas Group.

■ Participants in Training on Compliance

	Outline	Unit	FY2016	FY2017	FY2018
Level-specific training	Training upon entering the company, during the third year, and during qualification promotions (two levels)	Number of persons	1,531	1,527	1,291
Workplace workshops	Training at the individual workplace level led by compliance promoters		25,136	28,726	32,796

Note: Data shown are for the Tokyo Gas Group.

■ Number of Cases Handled by Consultation Desks

Consultation Topics	Unit	FY2016	FY2017	FY2018
Interpersonal relations and harassment	Number of cases	71	58	51
Benefits and working hours		17	35	20
Internal regulations		7	7	11
Laws, regulations, and other matters		11	4	16
Total		106	104	98

Note: Data shown are for the Tokyo Gas Group.

Third-Party Independent Assurance Report

Third-Party Independent Assurance Report

The social and environmental performance indicators (data on human resources and the environment)*1 provided in the Tokyo Gas Group Sustainability Report on this PDF have been third-party assured by KPMG AZSA Sustainability Co., Ltd. (a member of the KPMG Japan group) to enhance their credibility.
We will work to further raise the standard of our CSR activities in the future, taking account of the issues pointed out in the course of the third-party assurance process and the reader feedback received via our website and other channels.

*1 Third-party assured content is indicated by a box next to the subject title.

■ Independent Assurance Report on the Tokyo Gas Group Sustainability Report

KPMG

Independent Assurance Report

To the Representative Director and President of Tokyo Gas Co., Ltd.

We were engaged by Tokyo Gas Co., Ltd. (the "Company") to undertake a limited assurance engagement of the environmental and social performance indicators marked with "Third-party assured" (the "Indicators") for the period from April 1, 2018 to March 31, 2019 included in its Tokyo Gas Group Sustainability Report 2019 (the "Report") for the fiscal year ended March 31, 2019.

The Company's Responsibility

The Company is responsible for the preparation of the Indicators in accordance with its own reporting criteria (the "Company's reporting criteria"), as described in the Report.

Our Responsibility

Our responsibility is to express a limited assurance conclusion on the Indicators based on the procedures we have performed. We conducted our engagement in accordance with the 'International Standard on Assurance Engagements (ISAE) 3000, Assurance Engagements other than Audits or Reviews of Historical Financial Information' and the 'ISAE 3410, Assurance Engagements on Greenhouse Gas Statements' issued by the International Auditing and Assurance Standards Board. The limited assurance engagement consisted of making inquiries, primarily of persons responsible for the preparation of information presented in the Report, and applying analytical and other procedures, and the procedures performed vary in nature from, and are less in extent than for, a reasonable assurance engagement. The level of assurance provided is thus not as high as that provided by a reasonable assurance engagement. Our assurance procedures included:

- Interviewing the Company's responsible personnel to obtain an understanding of its policy for preparing the Report and reviewing the Company's reporting criteria.
- Inquiring about the design of the systems and methods used to collect and process the Indicators.
- Performing analytical procedures on the Indicators.
- Examining, on a test basis, evidence supporting the generation, aggregation and reporting of the Indicators in conformity with the Company's reporting criteria, and recalculating the Indicators.
- Visiting Tokyo Gas Engineering Solutions Corporation's Shinjuku District Heating and Cooling Center selected on the basis of a risk analysis.
- Evaluating the overall presentation of the Indicators.

Conclusion

Based on the procedures performed, as described above, nothing has come to our attention that causes us to believe that the Indicators in the Report are not prepared, in all material respects, in accordance with the Company's reporting criteria as described in the Report.

Our Independence and Quality Control

We have complied with the Code of Ethics for Professional Accountants issued by the International Ethics Standards Board for Accountants, which includes independence and other requirements founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behavior. In accordance with International Standard on Quality Control 1, we maintain a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

KPMG AZSA Sustainability Co., Ltd.

KPMG AZSA Sustainability Co., Ltd.
Tokyo, Japan
December 2, 2019

Special Feature 1

Contributing to a Sustainable Society with 50 Years of LNG Supply Technology

New Era of Natural Gas and Renewable Energy

According to a report published by the International Energy Agency (IEA) in March 2019, global CO_2 emissions reached a record high in 2018. While the use of renewable energy grew rapidly by 10%, it cannot keep up with the growth in electricity demand.
Under these circumstances, we have seen a dramatic rise in demand for natural gas worldwide, which the Tokyo Gas Group has been supplying for as long as 50 years. This clean energy source could help counter climate change because it generates lower CO_2 emissions, linked to global warming, compared to other fossil fuels such as oil and coal. There are abundant reserves of natural gas, and it is both affordable and reliable as a source of energy. With the recent shale gas revolution, the use of natural gas is expected to expand, as it could bolster energy security while balancing the needs of environmental preservation and economic growth.
Moreover, natural gas-fueled power plants can reach full output in minutes, which raises another potential of natural gas as a backup power source for intermittent renewable power generation. It will remain an important source of energy until we realize a low-carbon society, which is why the first half of the 21st century is described as the era of renewable energy and natural gas.
The IEA predicts that demand for natural gas will rise by approximately 43% from 2017 to 2040, with particularly robust demand from developing countries such as China as well as other nations in Asia and the Middle East. The Tokyo Gas Group is committed to expanding its LNG network while building a natural gas infrastructure and basing the development of its value chain on its accumulated technology and experience in order to reliably provide sustainable, clean energy to meet global demand over the next half century.

Introduction of LNG Shifted Japan's Energy Environment

First imported to Japan by Tokyo Gas in 1969 and thereafter spreading throughout the country, LNG (liquefied natural gas) is produced by cooling natural gas to its liquid state at −162°C. Its cubic volume is diminished by 600 times in liquid state, allowing massive quantities of natural gas to be transported on LNG vessels.
As Japan entered the post-World War II period of economic recovery in the 1960s, high economic growth dramatically increased demand for energy, raising the expansion of supply capacity to a top priority. In addition, air pollutants associated with the use of oil, the predominant fuel at the time, had become problematic. To address this, Tokyo Gas began considering natural gas, which offers high calorific value and excellent environmental performance, and decided to import natural gas in its liquefied state on LNG vessels, the best method for transporting gas to Japan as an island nation. Introducing commercial LNG was an unprecedented operation requiring a focus on all our resources on three projects: building an LNG receiving terminal; constructing a main looped pipeline network through the Tokyo metropolitan area; and adjusting the calorific value of customers' equipment. The experience gained as an LNG pioneer became a major asset for the Tokyo Gas Group.

Transferring 50 Years of Technology and Expertise Abroad

The Tokyo Gas Group has been engaged in the design, construction, operation, and maintenance of facilities for receiving LNG as well as producing and supplying city gas for the past 50 years. We began providing our know-how and technology to overseas business operators, starting with the

construction of gas holders in Taiwan in 1980. The accumulated experience from various projects enabled us to develop a track record that has supported our expansion into the consultancy business. Today, we provide overall management of LNG terminal construction projects.
Tokyo Gas Engineering Solutions Corporation currently provides project management consultancy (PMC) services for the construction of the Nong Fab LNG Receiving Terminal in Thailand under contract from the PTT LNG Company Limited (PTTLNG).
This is the second PMC contract we have been awarded by PTTLNG. We are providing overall management for the project on behalf of PTTLNG to facilitate the design, procurement, construction, and test operation of the LNG Receiving Terminal.
Under the contract, we are responsible for engineering the entire process of constructing the terminal, from the initial stage of selecting the site to determining terminal specifications and choosing subcontractors for its design and construction.

Voice

The Tokyo Gas Group possesses the expertise and experience that is only obtainable through operating a terminal. Additionally, it has developed its ability to solve problems under resource constraints to continue the supply of gas. Our mission does not end with building a terminal but rather extends to anticipating what could happen during its subsequent operation. We believe that having this perspective has represented our greatest advantage in working with customers. It is a strength which has earned us recognition by satisfied customers, who repeatedly choose to do business with the Tokyo Gas Group.
Thailand had been using natural gas produced domestically to power development of its social infrastructure. A decline in its gas reserves, however, has created the need for an alternative source of energy. While coal-fired power generation is also under consideration, Thailand is highly environmentally conscious, giving LNG the upper hand. A similar trend is also seen elsewhere in Asia, where LNG has become the foundation for sustaining the necessary infrastructure for the economic and daily livelihood of each nation.
We hope to continue supporting these countries by handing down our experience to the next generation and seeking to develop our business further.

Shingo Arai
General Manager,
Engineering Dept.,
Overseas Business Div.,
Tokyo Gas Engineering
Solutions Corporation

Nong Fab LNG Receiving Terminal

■ Expanding Our Global LNG Network

The LNG market has significantly evolved over recent years. Until recently, LNG transactions were predominantly based on long-term contracts linked to crude oil prices that placed restrictions on the destination and prohibited resale to a third party. Nevertheless, factors such as the rise in demand

primarily from Asia and higher production volume due to the U.S. shale gas revolution have led to a shift from conventional long-term contracts linked to crude oil prices to far more flexible transactions.
Consequently, Tokyo Gas has sought to secure stable supply and competitive pricing by increasing procurement linked to natural gas prices in the US market and transactions based on contracts with no restrictions on the destination. At the same time, we are collaborating with energy companies in Asia and Europe to develop an LNG network that connects markets in Europe, Asia, and North America.
In 2016, Tokyo Gas Co., Ltd. entered into a cooperative agreement with Centrica plc., a leading UK-based energy company. Specifically, we are promoting a scheme under which Tokyo Gas sells LNG procured from the United States to Centrica, while Centrica sells LNG procured in Asia to Tokyo Gas. This arrangement will not only allow for a flexible adjustment of demand and supply but also reduce greenhouse gas emissions and transportation costs by shortening LNG transport distances.
The agreement was made possible through our ongoing effort to allow for greater flexibility in LNG procurement contracts. Such contracts are also expected to correct the imbalance in global pricing for natural gas and LNG.

Voice

On a global scale, the natural gas market is largely divided into the three regions of Asia, Europe, and North America, where each market determines the price of LNG, resulting in disparities from one to the other. The construction of an LNG network connecting Europe with North America, however, has increased the liquidity of LNG transactions, and regional disparities in prices have begun to diminish, driven by the principles of competition. Japan is a major LNG importer that accounts for a quarter of the global demand for LNG. We believe that we can reduce material prices and achieve greater flexibility in adjusting demand and supply by expanding our LNG network. Raising market liquidity will also lead to the development and expansion of a global LNG market.

Saori Hoshino
Manager, LNG Trading Sect.,
Gas Resources Dept.,
Tokyo Gas Co., Ltd.

Developing Society and Solving Problems through the LNG Business

In the 50 years since we introduced LNG to Japan, the experience and efforts accumulated by Tokyo Gas have provided global benefits and particularly contributed to the introduction and expansion of LNG in South East Asia. Our contribution enables the attainment of several Sustainable Development Goals (SDGs), namely “Goal 7: Affordable and clean energy,” “Goal 9: Industries, innovation and infrastructure” and “Goal 17: Partnership for the Goals.” Over the next 50 years, the Tokyo Gas Group will remain committed to advancing into rapidly developing countries and invigorating the LNG market by establishing an infrastructure that includes construction of LNG terminals and LNG network.

Links
- Overseas Business—Building Energy Infrastructure in Southeast Asia
- Stable Procurement of LNG—Further Diversification of LNG Procurement

Special Feature 2

We Can Create an Inclusive Society If We All Offer a Helping Hand and Heart

We Can Create an Inclusive Society If We All Offer a Helping Hand and Heart

In an inclusive society, everyone respects and supports each other, regardless of disabilities. This allows all of us to enjoy life with a sense of confidence. We are inspired by the 10th Goal of the United Nation's Sustainable Development Goals (SDGs), which calls on us to: "Reduce inequality within and among countries." Tokyo Gas is engaged in a wide range of activities to help achieve this goal.

Tokyo Gas is an Official Partner*1 of the Olympic and Paralympic Games Tokyo 2020. The Tokyo 2020 Games, based on the idea that society advances by spontaneously embracing the vast differences among people and demonstrating mutual respect, is intended to serve as a springboard to nurture an inclusive society. Therefore, Tokyo Gas is promoting efforts both inside and outside the company to remove the psychological barriers between people.

If you have experienced breaking a bone, you might be astonished by how inconvenient the inability to use your hands and legs in daily life is. Disability comes in many forms, differing in extent and degree from person to person. Nevertheless, there are many things we cannot understand unless we experience them ourselves.
Tokyo Gas believes that the first step to embracing diversity is to experience and feel differences. Since 2015, we have been dispatching employees to provide opportunities for watching and experience para sports games. We also hold extracurricular events for elementary school students in which they experience simulated disabilities and meet para sports athletes. Tokyo Gas has been creating these opportunities to encourage people to take interest in para sports and become more aware of diversity.
We are also planning to enroll 1,000 employees in the basic service care-fitter training program by 2020, so we can help ensure comfortable lives and develop communities for everyone, including elderly citizens and people with disabilities, beyond 2020.

Tokyo Gas intends to continue these activities even after the Tokyo 2020 Games. We will pursue efforts to achieve an inclusive society and reduce inequality within and among countries by instilling a barrier-free mindset and establishing a supportive attitude deep in people's hearts.

*1 Tokyo Gas is an Official Gas & Gas Utility Services Partner of the Olympic and Paralympic Games Tokyo 2020.

Tokyo 2020 Official Gas & Gas Utility Service Partner logo

Watching para sports games

Basic service care-fitter training program

Voice

Since I applied to serve as a Tokyo 2020 Games Volunteer, I have been given greater opportunities to become involved in para sports. The first time I watched a wheelchair basketball game, I was struck by the way each player sought to do their utmost in playing their positions. I also learned that with or without disabilities, all athletes undergo the same strenuous training.
While I hadn't had the opportunity to get to know para sports in the past, having seen it with my own eyes has made me stop and think about whether my concept of "normal" is the same as that of everyone else. Today, I believe we can come to a better answer by engaging in conversations with diverse individuals. I hope to do my best so that the Tokyo 2020 Games will provide an opportunity for everyone to increase their awareness and change their attitudes.

Shino Tonoki
Financial Management Dept.,
Tokyo Gas Co., Ltd.

Voice

Keiichi Kimura is a Tokyo Gas athlete who competed as a member of Japan's national swimming team in the Rio 2016 Paralympic Games. Working with him as a colleague has made me strongly aware of how society is geared towards able-bodied people, and I've been struck by his tremendous vigor as he strives to survive in such a society. Kimura-san completely lost his sight at the age of two due to a congenital disease, but his spirit of taking on challenges is such that it makes us realize how we create limits. For example, at one time I hesitated to ask him to work with scissors, but it turned out not to be a problem since he had been using scissors in daily life. On another occasion, he told me that a completely barrier-free town with no variations in texture or surface features are difficult for someone blind to navigate, which left a strong impression on me. It made me aware of the different types of support required by various disabilities, and at the same time it made me realize the difficulties in creating an inclusive society.
Through my interactions with Kimura-san, I feel that a sensitivity to diversity has begun to take root and that I can now spontaneously call out to a blind person I meet on the street, I want to better understand diversity and continue to learn more.

Sachiko Takagi
Personnel Dept.,
Tokyo Gas Co., Ltd.

Tokyo Gas Athlete Keiichi Kimura

Link

▶ Initiatives for the Tokyo 2020 Games

Tokyo Gas Group's CSR at a Glance

Stable Supply and Security | Environmental Protection | Human Resources and Organization | Social Contribution | Corporate Governance

Note: Data are as of March 31, 2019.

Stable Supply and Security

Total pipeline length

1.5 times around the Earth

Number of customers

Over **11** million

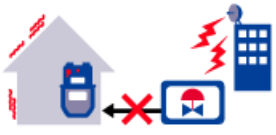
Serious supply disruptions

0 cases

As a gas pipeline operator, we reliably supply clean city gas to more than 11 million customers via pipelines stretching a total of approximately 60,000 km, equivalent to 1.5 times the circumference of the Earth. In fiscal 2018, there were zero serious supply disruptions across the entire 60,000 km of our pipeline network.

Time taken from detecting a major quake to remote shutdown

10 minutes



We have installed approximately 4,000 seismometers within our service area so that gas supply is automatically suspended when a major earthquake is detected. We can also remotely shut down seriously affected areas based on additional earthquake information obtained from our seismometers.

Recovery support for the Osaka earthquake

1,200 personnel

City gas operators in Japan have established a mutual support system for the quick recovery of service after a major earthquake or other disaster. The Tokyo Gas Group dispatched 1,200 personnel at the time of the 2018 Osaka earthquake, which allowed for the resumption of gas supply to all households within six days.

Environmental Protection

Cumulative sales of ENE-FARM

110,000 units

The ENE-FARM residential fuel cell contributes to reducing CO_2 emissions and can also be used as an emergency power source during a blackout. Cumulative sales of ENE-FARM reached 110,000 units in January 2018.

Total efficiency of CHP systems

82%

We have been steadily improving the total efficiency of gas engine-based combined heat and power (CHP) systems and have commercialized an industrial model that boasts a total efficiency of 82.5% in factory settings.

District heating and cooling service

44 districts

We can save energy and reduce CO_2 emissions by supplying heat (air conditioning) to entire districts. As of March 2019, we operate these systems in 44 districts.

Helping reduce CO_2

Reductions in CO_2 emissions during city gas consumption at customer sites

4.52 million tons

By expanding the use of distributed power generation and building smart energy networks, we were able to reduce CO_2 emissions by 4.52 million tons in fiscal 2018 from the fiscal 2011 level.

Recycling used gas pipes

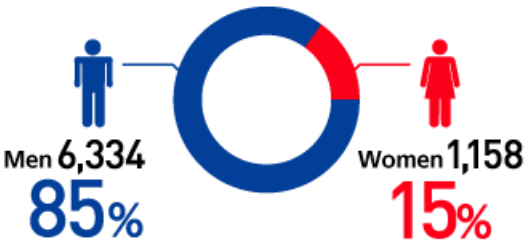
100%

We have established a recycling system for used gas pipes with 100% of our used gas pipes recycled every year since 1999.

Human Resources and Organization

Number of employees

7,492



Average years of service by gender

Men 19.5 years

Women 18.5 years

Percentage returning to work after parental leave

100%

Ratio of women in management

8.0%

We have been creating workplaces that promote diversity and supporting the career development of women. With little difference in the average years of service between men and women, 100% of employees who have taken parental leave have subsequently returned to work. We are also steadily increasing the ratio of women in management towards our goal of 10% by 2020.

Social Contribution

Number of participants involved as earthquake relief volunteers

2,100

(cumulative total)

To date, we have organized 47 relief volunteer activities related to the Great East Japan Earthquake, with a total participation of 2,100 employees and their families.

Number of students attending visiting lectures by employees

approx. 1.1 million

(cumulative total)

Since 2002, we have been conveying the importance of energy and the environment to children in an effort to help cultivate a “zest for life,” a goal of school education. A cumulative total of 1,125,872 students have attended our lectures.

Corporate Governance

Number of outside directors

4/9

The Board of Directors, which meets in principle once a month, is composed of nine directors including four outside directors, of which two are women. Directors serve one-year terms to clarify management responsibility.

Number of outside Audit & Supervisory Board members

3/5

The Audit & Supervisory Board is composed of five members including three outside members, of which one is a woman.
They audit the performance of directors to strengthen sound corporate governance.

Link

▶ Tokyo Gas in Numbers

Perspective of CSR Management

Tokyo Gas Group's Goals of CSR Management

The Tokyo Gas Group has managed energy infrastructures as a pioneer in the city gas business while remaining ever-sensitive to public demands and expectations for solutions that meet society's needs. Since we established our CSR Section in 2004, we have been managing CSR in accordance with the fundamental approach of addressing social issues through business operations. In fiscal 2014, we developed our Basic Policy on CSR to encourage all Group employees to engage in CSR activities. Guided by this policy, we will continue to play our part in building a sustainable society by maintaining the security and safety of daily life with an uninterrupted supply of energy, the foundation of daily life and industry, and by supplying energy that excels in both environmental consideration and cost-effectiveness.

Basic Policy on CSR

The Tokyo Gas Group believes that the foundation of its CSR lies in fulfilling its public mission and social responsibilities by practicing the Management Philosophy and Corporate Action Philosophy in its daily operations.
We aspire to achieve continuous corporate growth by winning the unwavering trust of customers, shareholders, and society, and we strive to contribute to the sustainable development of society by consistently meeting societal demands and expectations in Japan and abroad while steadfastly tackling social challenges through our business activities.

(Established in fiscal 2014)

Promoting CSR and Implementing Our Management Philosophy and Corporate Action Philosophy

Management Philosophy

As a leading energy company with a focus on the natural gas business, the Tokyo Gas Group shall actively contribute to creating a pleasant lifestyle and environmentally friendly society and maintain and enhance its trust from our customers, shareholders, and society.

Corporate Action Philosophy

1. We will continue to grow while maintaining awareness of our company's public mission and social responsibilities.
2. We will provide quality products and services and always endeavor to improve customer satisfaction.
3. We will hold ourselves to high ethical standards and fairly and transparently conduct corporate activities while observing both the letter and the spirit of related laws and ordinances.
4. We will contribute to alleviating global environmental problems as a leader in environmental management.
5. We will remain keenly aware of our obligations to be a good corporate citizen and work towards the betterment of society by contributing to community activities.
6. We will pursue continual innovation to promote a cost-effective business approach that is both flexible and resilient.
7. We will aspire to build organizations that are based upon the full exercise of and respect for the talents, desires, and creativity of each and every employee.

In promoting our CSR, we have identified CSR issues, or materiality, in accordance with international guidelines such as the ISO 26000 standard on social responsibility and the GRI Standards on the disclosure of information related to sustainability. Furthermore, we signed the UN Global Compact*1 in March 2016 to add a global perspective to our CSR activities as a responsible member of the international community, and we will work to achieve the Sustainable Development Goals (SDGs)*2 as we progress our standards of CSR management to a higher level.

*1 A global framework for attaining sustainable growth that consists of ten principles in the four areas of human rights, labour, the environment, and anti-corruption.
*2 17 goals and 169 targets to be met by 2030, adopted at the UN Sustainable Development Summit in September 2015.

Links

- Tokyo Gas Group's Management Philosophy, Corporate Action Philosophy, and Code of Conduct
- Challenge 2020 Vision（PDF : 6,844KB）
- The Tokyo Gas Group FY2018–2020 Medium-term management plan GPS 2020（PDF: 7,403KB）
- Initiatives for realizing the Tokyo Gas Group FY2018–2020 Medium-term management plan GPS 2020（PDF: 7,700KB）

CSR Promotion System

Tokyo Gas established its system for promoting CSR in 2004 by setting up the CSR Section in the Corporate Communications Department and the CSR Promotion Committee, chaired by an executive officer responsible for CSR.
In view of growing public expectations and demand for corporate action towards realizing a sustainable society, we reinforced our efforts to further promote CSR management by integrating the Environmental Affairs Department and CSR Section of the Corporate Communications Department into the Sustainability Department in April 2019.

CSR Promotion System

Sustainability Committee

In fiscal 2019, we set up the Sustainability Committee, chaired by the president, as part of a fundamental reform of the organization under which we had been pursuing CSR management since 2004. The committee determines the overall action policy and plans related to sustainability for the Tokyo Gas Group. Members of the Audit & Supervisory Board also participate in the committee to identify key issues related to sustainability.

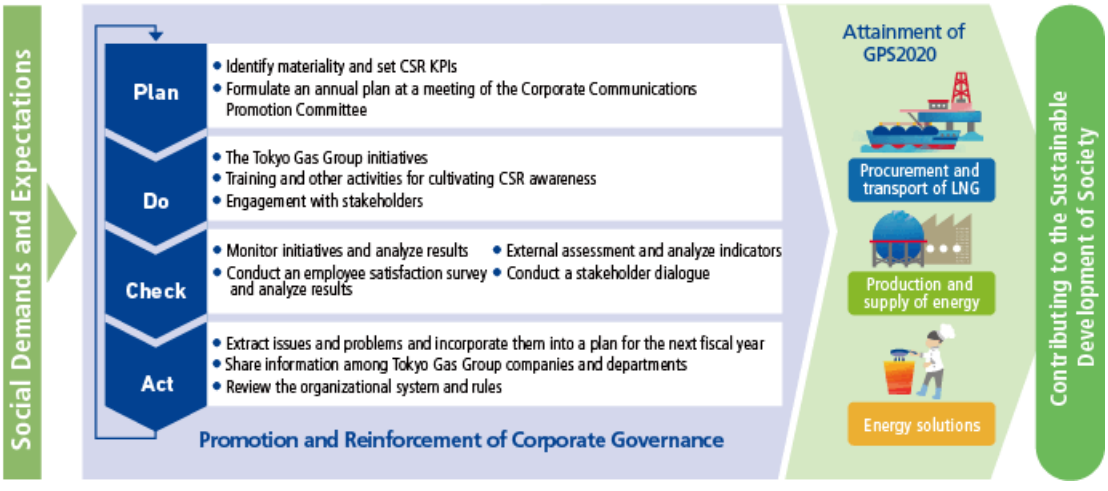
Sustainability Subcommittee

We set up the Sustainability Subcommittee, chaired by the executive in charge of sustainability, in order to set goals and promote activities for practicing the initiatives in accordance with the action policy and plans set out by the Sustainability Committee. As a dedicated section, the Sustainability Department serves as the secretariat that collaborates with related departments within the Group to promote initiatives that contribute to resolving social issues through our business activities.

CSR Management PDCA Cycle

We maintain a keen awareness of the evolving demands and expectations of society to discern the materiality of our CSR activities. In accordance with the direction of our business strategy, we set CSR KPIs and pursue them in the course of our business operations. Progress reports on our CSR initiatives and feedback gathered from stakeholders is then incorporated into our business activities to continue the cycle as our contribution to the sustainable development of society.

PDCA Cycle



Link

▶ CSR Activities and Materiality

Participating in External Initiatives

Participating in the UN Global Compact*

In March 2016, Tokyo Gas declared its support for the UN Global Compact so that it could pursue CSR management from a global perspective as a responsible member of the international community. We will continue to support and practice the ten principles in the four fields of human rights, labour, the environment, and anti-corruption in our CSR management toward realizing a sustainable society.

The Ten Principles of the UN Global Compact

Human Rights	Principle 1 Businesses should support and respect the protection of internationally proclaimed human rights.
	Principle 2 Make sure that they are not complicit in human rights abuses.
Labour	Principle 3 Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining.
	Principle 4 The elimination of all forms of forced and compulsory labour.
	Principle 5 The effective abolition of child labour.
	Principle 6 The elimination of discrimination in respect of employment and occupation.
Environment	Principle 7 Businesses should support a precautionary approach to environmental challenges.
	Principle 8 Undertake initiatives to promote greater environmental responsibility.
	Principle 9 Encourage the development and diffusion of environmentally friendly technologies.
Anti-Corruption	Principle 10 Businesses should work against corruption in all its forms, including extortion and bribery.

Link

▶ The Ten Principles of the UN Global Compact

***UN Global Compact**

The UN Global Compact was launched by then UN Secretary-General Kofi Annan at the World Economic Forum in 1999 and officially inaugurated by the United Nations in New York in 2000. As an international initiative designed to achieve “sound globalization” and “sustainable societies,” it calls on companies to implement their business strategies and activities in adherence to ten principles in the four fields of human rights, labour, the environment, and anti-corruption.

Action on the Sustainable Development Goals (SDGs)

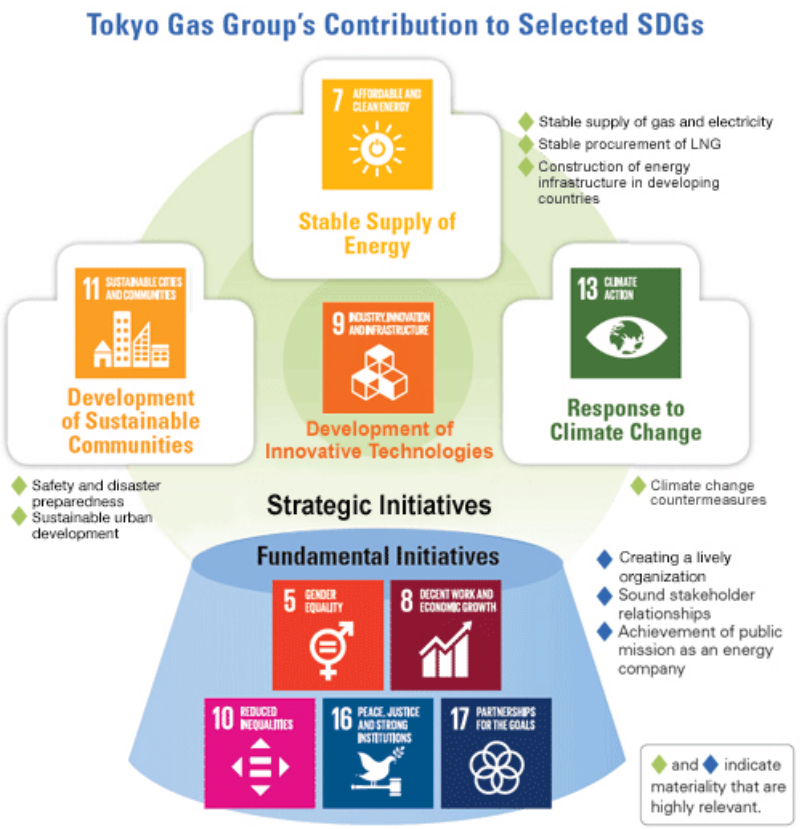
The UN Sustainable Development Summit held at the United Nations Headquarters in September 2015 was attended by the leaders of more than 150 member states and resulted in the adoption of “Transforming Our World: The 2030 Agenda for Sustainable Development.” This plan of action for people, the planet, and prosperity consists of a declaration, 17 SDGs, and 169 targets that businesses are also expected to sign up for and voluntarily work toward achieving.

The Tokyo Gas Group has managed energy infrastructures as a pioneer in the city gas business. We remain ever-sensitive to public demands and expectations and steadfastly pursue CSR activities to address social issues through business activities, as stated in the Group’s Basic Policy on CSR.

The SDGs are based on an approach consistent with the Tokyo Gas Group’s basic policy on CSR, and we believe that we can broadly contribute to achieving the SDGs through our business activities. We leverage the knowledge and technology gained from more than 130 years of experience in the energy business to accelerate the expansion of our global operations. In doing so, we will advance with our stakeholders in promoting initiatives that contribute to resolving social issues through our business in Japan and abroad.

Tokyo Gas Group’s Contribution to Selected SDGs

The Tokyo Gas Group will contribute to achieving the SDGs by delivering a safe, secured, and economical supply of clean energy contributing to sustainable lifestyles and urban development.



- As we strive to become a total energy company with a global presence, we will focus on achieving Goals 7, 9, 11, and 13 through our energy business.
- We will also promote fundamental initiatives for enhancing compliance, diversity, work style reform, and other aspects in our efforts to achieve Goals 5, 8, 10, 16, and 17.
- As we seek to achieve our selected goals, we will also strive to resolve social issues associated with them by adopting a broad perspective on social issues.

Example of Our SDG Initiatives: Launching an Online Shopping Site that Benefits Society

Tokyo Gas Co., Ltd., in collaboration with aucfan Co., Ltd., launched “junijuni sponsored by TOKYO GAS” as an online shopping site intended to benefit society by helping address social issues. The site will collect and sell food and daily goods that manufacturers discard due to the proximity of their “best before date,” repackaging, or end of their promotional campaign period. The price includes donations to various organizations working to resolve social issues. Customers can choose the recipient of their donation when they make a purchase, thereby playing a part in addressing social problems through the combined action of purchasing goods and providing donations.

We named this site “junijuni,” which refers to “juuni,” the number 12 in Japanese, as a reference to Goal 12, or sustainable consumption and production, which highlights the purpose of this site.

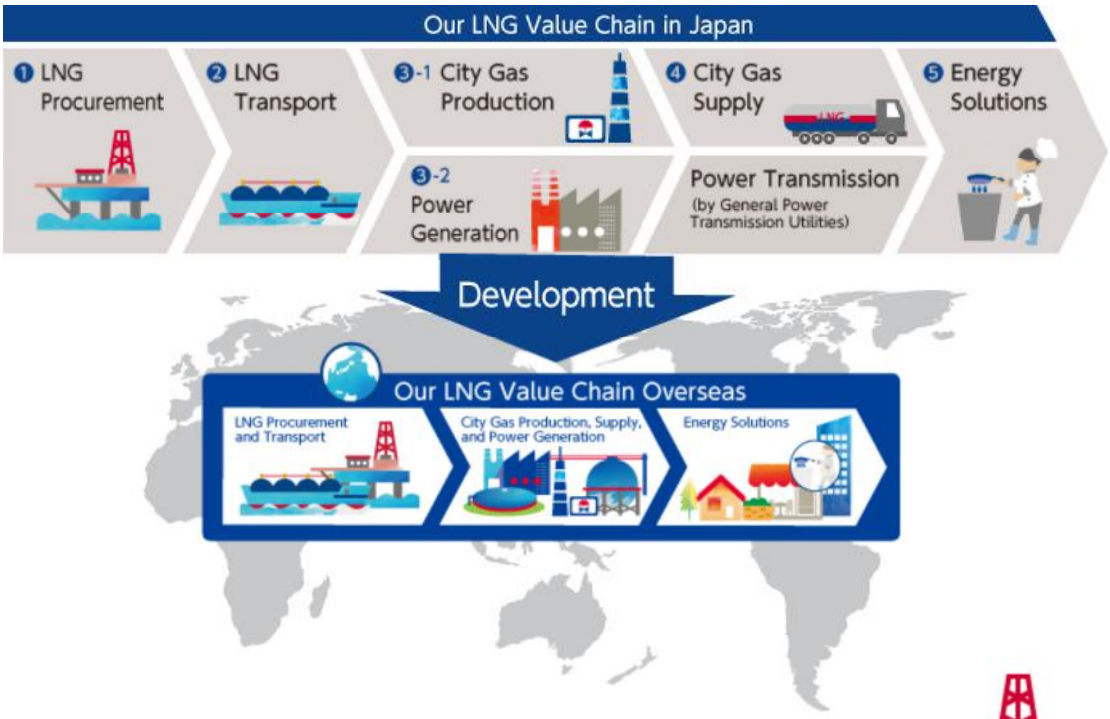
We will continue to create services that bring joy to customers and lead to resolving social issues by joining hands with them to help enrich everyday life.

Links

- ▶ Special Feature 1 Contributing to a Sustainable Society with 50 Years of LNG Supply Technology
- ▶ Special Feature 2 We Can Create an Inclusive Society if We All Offer a Helping Hand and Heart

LNG Value Chain and Key Initiatives Contributing to Sustainable Development

Tokyo Gas Group's LNG Value Chain



❶ LNG Procurement

Major Activities

- Diversification of procurement sources, contract conditions, LNG networks, and more
- Collaboration with diverse partners in and outside of Japan

Key Initiatives Contributing to the Sustainable Development of Society

- LNG procurement to ensure stable and affordable supply
- Reduction of GHG emissions from gas fields and liquefaction facilities of LNG suppliers
- Conservation of biodiversity in the vicinity of LNG sources

❷ LNG Transport

Major Activities

- Operation of our own fleet of LNG vessels

Key Initiatives Contributing to the Sustainable Development of Society

- Reduction of GHG emissions from transport of LNG by vessels
- Conservation of biodiversity through LNG vessels with ballast water treatment equipment

③-1 City Gas Production

Major Activities

- Import of LNG and steady production of city gas
- Development of mutual backup system for four LNG terminals (Negishi, Sodegaura, Ohgishima, and Hitachi)

Key Initiatives Contributing to the Sustainable Development of Society

- Augmentation and development of LNG terminal storage capacity to ensure stable supply
- Prevention of production problems due to natural disasters and other causes

④ City Gas Supply (Safe and secured delivery of city gas)

Major Activities

- Development of our pipeline network
- Delivery of city gas using LNG tanker trucks and coastal tankers
- Expansion of wholesale distribution of gas to other gas suppliers

Key Initiatives Contributing to the Sustainable Development of Society

- Development of the pipeline network and safety measures to ensure stable supply
- Prevention of supply problems due to natural disasters and other risks
- Reduction of emissions of excavated soil during gas pipeline construction and promotion of resource saving and recycling

③-2 Power Generation

Major Activities

- Operation of highly efficient combined cycle natural gas-fired power stations utilizing our LNG procurement capabilities and LNG terminals, pipelines, and other facilities
- Power generation using wind power and other renewable energy resources

Key Initiatives Contributing to the Sustainable Development of Society

- Augmentation and development of capacity to ensure stable power supply
- Reduction of GHG emissions from power stations and conservation of biodiversity

Power Transmission (by General Power Transmission Utilities)

Note: Power is transmitted via a grid operated by general power transmission utilities.

⑤ Energy Solutions

Major Activities

- Promotion of expanded use of gas appliances that reduce CO_2 emissions, energy consumption, and peak load
- Proposal of optimal energy solutions in combination with renewable sources of energy
- Provision of new value and services that enrich the lives of customers

Key Initiatives Contributing to the Sustainable Development of Society

- Reduction of GHG emissions and promotion of resource saving and recycling at customer sites
- Ensuring safety at customer sites
- Ensuring quality and customer satisfaction
- Protecting the personal information of customers
- Contributing to meeting challenges in local communities

Overseas Expansion of Our LNG Value Chain

Major Activities

- Acquisition of participating interests in large-scale LNG projects, unconventional gas such as shale gas, and in small- and medium-scale LNG projects
- Development of the energy infrastructure and stable supply of energy
- Proposals for energy solutions that leverage the Group's technologies and business expertise, particularly focused on customers expanding their overseas operations in Southeast Asia and North America

Key Initiatives Contributing to the Sustainable Development of Society

- Development of the energy infrastructure
- Prevention of bribery and corruption of foreign public officials
- Contributing to meeting challenges in local communities

Key Initiatives Relevant to the Entire LNG Value Chain Contributing to the Sustainable Development of Society

- Enhancement and strengthening of corporate governance
- Respect for human rights
- Promotion of compliance
- Ensuring of information security
- Promotion of employees' occupational safety and health activities
- Development of global human resources
- Development of technologies contributing to safety and environmental friendliness

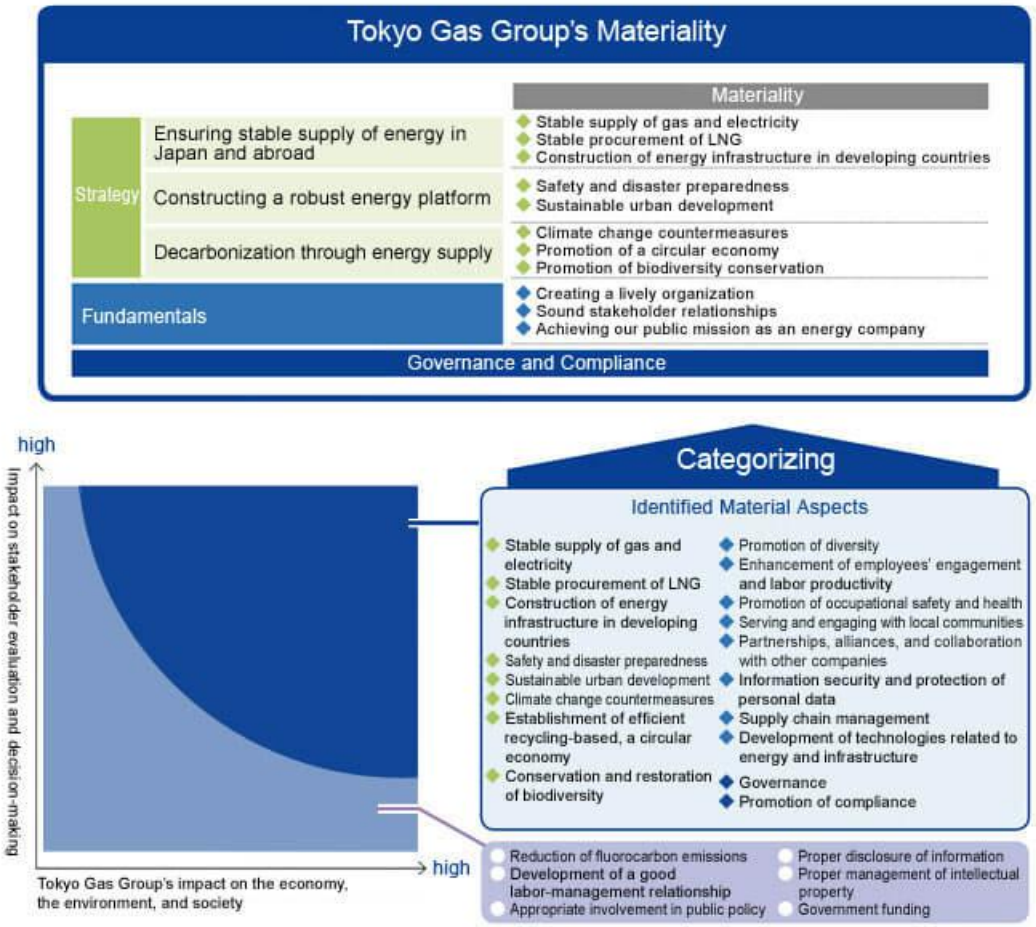
CSR Activities and Materiality

In promoting CSR activities through its business operations, the Tokyo Gas Group has recognized the materiality of social issues that significantly impact its stakeholders and the Group itself. Targets are set for each material issue so we can evaluate the results of our actions to improve our activities and enhance our efforts.

Identifying Materiality

We identified our new materiality in fiscal 2017 in response to the evolving expectations and demands of society as well as the formulation of the Tokyo Gas Group FY2018−2020 Medium-term management plan GPS 2020 in 2017. To promote initiatives aligned with our materiality, we sorted our materiality into strategic issues and fundamental business issues. The strategic issues were furthered broken down into three core areas to express clearly the intention of our activities.

■ Tokyo Gas Group's Materiality



Reasons for Designation of Materiality, and Scope of Impact

	Materiality	Significance (reason behind materiality)	Scope of Impact		
			Tokyo Gas Group		Value Chain
Strategic Issues	Provide stable supply of energy in and outside of Japan				
	◆Stable supply of gas and electricity ◆Stable procurement of LNG ◆Construction of energy infrastructure in developing countries	Upgrade the LNG value chain Contribute to the sustainable development of developing countries	○	○	Customers Communities Government agencies and locals governments Business partners
	Construct a robust energy platform				
	◆Safety and disaster preparedness ◆Sustainable urban development	Contribute to ensuring energy security Contribute to disaster prevention and sustainable development in local communities	○	○	Customers Communities Government agencies and locals governments Business partners
	Decarbonization through energy supply				
	◆Climate change countermeasures ◆Promotion of a circular economy ◆Promotion of biodiversity conservation	Contribute and adapt to the shift towards a decarbonized society Contribute to establishing a zero-emission society Mitigate the impact of business activities on biodiversity	○	○	Customers Communities Government agencies and locals governments Business partners
Fundamental Issues	◆Creating a lively organization	Create a working environment that allows each person to fully demonstrate their capabilities Nurture and utilize human capital as the foundation of value creation	○		
	◆Sound stakeholder relationships	Fulfill responsibility by reflecting society's demands and expectations in business management Achieve sustainable growth for society and the Tokyo Gas Group	○	○	Various stakeholders
	◆Fulfillment of our public mission as an energy company	Fulfill our public mission of supplying energy Establish information security	○	○	Society

Process of Identification and Review of Materiality

STEP 1

Sort social issues

■ Comprehensively identify the issues by consulting the GRI standards, ISO 26000, and other relevant international guidelines on the social responsibilities of organizations as well as the SDGs and criteria used by institutions that evaluate ESG.

STEP 2

Prioritize

■ Map the results of the materiality assessment from the perspectives of stakeholders and the Tokyo Gas Group based on business characteristics, strategies, and scope of impact. Identify the material aspects to be addressed by the Group on a priority basis through internal consultations.

STEP 3

Confirm validity

■ Confirm the validity of material aspects identified based on an assessment by experts in relevant fields to identify materiality. Finalize materiality by obtaining approval from the Corporate Communications Promotion Committee, the body driving CSR.

■ Consult with the relevant business departments to determine targets (CSR KPIs) that correspond to the materiality identified through the process.

STEP 4

Review

■ Assess activities with respect to materiality based on CSR KPIs and disclose the results in the Sustainability Report.

■ Conduct a review for each fiscal year based on the results of internal and external questionnaires, views of outside experts, SDGs, and other international goals and guidelines as well as criteria used by institutions that evaluate ESG. Use the results to review materiality and CSR KPIs toward incorporating them into business and improving the quality of reporting.

Contributing to SDGs through Initiatives on Materiality

The Tokyo Gas Group endeavors to play its part in achieving the SDGs through CSR management by determining their relevance to its materiality.
We will focus on SDGs 7, 9, 11, and 13 through our strategic initiatives, and SDGs 5, 8, 10, 16, and 17 through our fundamental initiatives, while actively pursuing efforts to resolve social issues.

Links

- ▶ Perspective of CSR Management
- ▶ Special Feature 1 Contributing to a Sustainable Society with 50 Years of LNG Supply Technology
- ▶ Special Feature 2 We Can Create an Inclusive Society if We All Offer a Helping Hand and Heart

CSR KPIs and Fiscal 2018 Outcomes

Key Performance Indicators for CSR

Materiality

Key Areas		Materiality
Strategy	Ensuring stable supply of energy in Japan and abroad	• Stable supply of gas and electricity • Stable procurement of LNG • Construction of energy infrastructure in developing countries
	Constructing a robust energy platform	• Safety and disaster preparedness • Sustainable urban development
	Decarbonization through energy supply	• Climate change countermeasures • Promotion of a circular economy • Promotion of biodiversity conservation
Fundamentals		• Creating a lively organization • Sound stakeholder relationships • Achieving our public mission as an energy company
Governance and Compliance		

Link

▶ Fiscal 2018 CSR KPIs: Targets and Outcomes (PDF: 533KB)

■ Strategic Initiatives: Targets and Outcomes

Ensuring Stable Supply of Energy in Japan and Abroad

Criteria for evaluating KPIs

Note: Qualitative CSR KPIs with no evaluation axis are assessed on the basis of whether progress has been made since the previous fiscal year.

○ Target achieved (100% or above)

△ Target not achieved but improved from the previous fiscal year

× Target not achieved

Materiality	CSR KPI	FY2018 Major Outcomes	Evaluation
Stable supply of gas and electricity	Maintain zero occurrence of serious supply disruptions at customer sites	• Serious supply disruptions: 0 cases	○
	Maintain stable operations at power plants	• Installed an additional vaporizer and tank lorry loading facility at an LNG terminal • Began construction of a second LNG tank at an LNG terminal, scheduled for completion in FY2020 • Construction of the Ibaraki Line between Hitachi and Kamisu, scheduled for completion in FY2020	○
Stable procurement of LNG	Achieve stable, low-cost LNG procurement by pursuing diversification in sourcing, contract terms, and LNG networks	• Began receiving shale-derived LNG from the U.S. under a long-term contract • Concluded a sales and purchase agreement for LNG from the LNG Canada Project and Energia Costa Azul LNG Project • Concluded a mutual cooperation agreement with Germany's RWE for reducing cost through optimization of LNG transport • Concluded a sales and purchase agreement with the U.K.'s Centrica on joint LNG procurement from the Mozambique LNG Project • Volume of LNG procured in FY2018 under long-term contracts from 14 projects in 6 countries (as of March 31, 2019): 13.95 million tons	○
Construction of energy infrastructure in developing countries	Support natural gas value chain in Southeast Asia	• Concluded a joint development agreement with the Philippines' First Gen on the construction and operation of an LNG receiving terminal • Tokyo Gas Asia invested in a natural gas distribution	○

		company that became the first fully private company to start supplying gas in the Kingdom of Thailand	

Links

- ▶ Stable Procurement of LNG
- ▶ Production of City Gas
- ▶ Supply of City Gas
- ▶ Development of the Electric Power Business
- ▶ Overseas Business

Constructing a Robust Energy Platform

Criteria for evaluating KPIs

Note: Qualitative CSR KPIs with no evaluation axis are assessed on the basis of whether progress has been made since the previous fiscal year.

- ○ Target achieved (100% or above)
- △ Target not achieved but improved from the previous fiscal year
- × Target not achieved

Materiality	CSR KPI	FY2018 Major Outcomes	Evaluation
Safety and disaster preparedness	Earthquake-proofing of main and branch gas pipelines • FY2018 target: 87.55% • FY2020 target: 88.25% or higher	• Earthquake-proofing of main and branch gas pipelines: 87.96%	○
Sustainable urban development	Increase the cumulative total of regional development projects	• Constructed a smart energy network (SEN) in the northern district near Tamachi Station's east exit • Promoted SENs by supplying energy in the Nihonbashi Muromachi areas, including town blocks	○
	Provide services for comfortable and secure living	• Responded to the full deregulation of the electricity retail market • Promoted and expanded the use of the ENE-FARM fuel cell combined CHP system*1 for detached housing and commercial gas air conditioners and other systems • Provided household services such as processing applications for gas and electricity services in general; sale, repair, and installation of gas appliances; and renovation work for the kitchen, living room, and plumbing.	○

*1 Gas engine-based CHP systems generate electricity and recover exhaust heat generated as a by-product.

Links

- Earthquake and Disaster Preparedness
- Working to Ensure Customer Safety
- Enhancing the Safety of Gas Appliances
- Urban Development
- Enriching Daily Life
- Lifestyle Services

Decarbonization through Energy Supply

Criteria for evaluating KPIs

Note: Qualitative CSR KPIs with no evaluation axis are assessed on the basis of whether progress has been made since the previous fiscal year.

○ Target achieved (100% or above)

△ Target not achieved but improved from the previous fiscal year

× Target not achieved

Materiality	CSR KPI	FY2018 Major Outcomes	Evaluation
Climate change countermeasures	Promote the use of natural gas and introduce highly energy efficient gas appliances and systems to reduce CO_2 emissions at customer sites • FY2018 CO_2 reduction target: 4.3 million tons from FY2011 levels • FY2020 CO_2 reduction target: 8.0 million tons from FY2011 levels	• Reduced CO_2 emissions at customer sites by 4.52 million tons ▸ Third-party Assured	○
	Energy usage*1 intensity at LNG terminals • FY2018 target: 220 GJ/million m^3 • FY2020 target: 250 GJ/million m^3	• Energy usage intensity at LNG terminals: 210 GJ/million m^3 ▸ Third-party Assured	○
	Heat sales intensity*2 for district heating and cooling centers • FY2018 target: 1.19 GJ/GJ • FY2020 target: 1.19 GJ/GJ	• Heat sales intensity for district heating and cooling centers: 1.20 GJ/GJ ▸ Third-party Assured	△
	Energy usage*3 at Tokyo Gas offices, etc. • FY2018 target: 1.69 GJ/m^2 • FY2020 target: 1.71 GJ/m^2	• Energy usage at Tokyo Gas offices, etc.: 1.62 GJ/m^2 ▸ Third-party Assured	○
	Reduction of the CO_2 emission factor at the electricity retail level	• Promoted the procurement of electricity generated by high efficiency thermal power and renewable energy sources	○
	Promote the widespread use of renewable energy	• Prominet Power Co., Ltd. purchased the entire stake of a company that owns and operates solar power plants developed by PHOTON JAPAN LLC (6 plants with a combined	○

		output of 9,090 kW) • Prominet Power Co., Ltd. acquired LIXIL Corporation's solar power generation operations (output: 4,872 kW) based in Kyoto • Continued to make maximum use of renewable and unused energy sources in various SEN projects • 329 thousand m^3 of biogas derived from food waste was fed to city gas distribution pipes	
Promotion of a circular economy	Recycling rate of industrial waste • FY2018 target: 95% or higher • FY2020 target: maintain at 95% or higher	• Recycling rate of industrial waste: 96% ▸ Third-party Assured	○
	Final disposal rate at production sites • FY2018 target: less than 1% • FY2020 target: maintain at less than 1%	• Final disposal rate at production sites: 1.2% ▸ Third-party Assured	×
Promotion of biodiversity conservation	Promote efforts for biodiversity conservation along the LNG value chain	• Surveyed the status of biodiversity consideration at source gas fields and confirmed there were no significant effects • Managed ballast water discharged during LNG transport, conducted habitat surveys at green areas inside the three LNG terminals, and implemented conservation activities • Practiced the 3Rs (reduce, reuse, and recycle) on soil discharged when laying gas pipes to reduce the impact, caused by the excavation of pit sand, on ecosystems • Conducted water risk analysis and evaluation at all Group bases in and outside of Japan and confirmed there were no major risks • Implemented forest conservation activities and conducted habitat surveys at the Nagano Tokyo Gas Forest	○

*1 Energy consumed per unit of gas produced.
*2 Energy consumed per unit of gas sold.
*3 Energy consumed per unit of total floor area.

Environmental Guidelines Not Mentioned Above		FY2018 Major Outcomes	Evaluation
Promotion of a circular economy	Recycling rate for general waste: maintain at 75% or higher until FY2020	• Recycling rate for general waste: 78% ▸ Third-party Assured	○

	Reduction in copy paper usage FY2020 reduction target: 8% from FY2012 levels to 132 million sheets or less	• Copy paper usage: 115 million sheets ▸ Third-party Assured	○
	Soil excavated during gas pipeline construction: maintain at 16% or lower by FY2020	• Soil excavated during gas pipeline construction: 15% ▸ Third-party Assured	○
Promotion of environmental communication		• Provided information on the Tokyo Gas Group's activities and suggested ways to save energy in everyday life through a variety of channels, including participation in environmental events organized by local governments, organizing lectures and tours, and sharing information through our museums and website • Activities to support school education (total attendance: 1,125,872, as of March 31, 2019) • Activities that contribute to the environment and society, including neighborhood cleanup activities at each site and the "Mori Sato Umi Tsunagu (Connecting Forests, Villages and Ocean)" project • Development of environmental awareness through internal educational programs such as study groups on environmental regulations and presentation of the Environmental Program Promotion Award	○
Promotion of environmental technologies	Promotion of the development of technologies for decarbonization	• Sold a cumulative total of 110,000 units of ENE-FARM residential fuel cells • Developed technology that enhances power generation efficiency for solid oxide fuel cells (SOFC) and became first in the world to verify power generation efficiency equivalent to 65% in a 5 kW-class generator • Operated three hydrogen stations • Began a verification test for a more compact "suidel" city gas reforming hydrogen generator • Invested in venture capital firms and venture businesses specializing in energy technologies to realize a decarbonized society through open innovation by incorporating technologies from around the world	○

Links

- Environmental Management
- Climate Change Countermeasures
- Promotion of a Circular Economy
- Promotion of Biodiversity Conservation
- Best Practices at the Electric Power Business
- Technical Development

Fundamental Issues: Targets and Outcomes

Criteria for evaluating KPIs

Note: Qualitative CSR KPIs with no evaluation axis are assessed on the basis of whether progress has been made since the previous fiscal year.

- ○ Target achieved (100% or above)
- △ Target not achieved but improved from the previous fiscal year
- × Target not achieved

Materiality	CSR KPI	FY2018 Major Outcomes	Evaluation
Creating a lively organization	Number of employees working 60 to 80 hours in extra non-legal working hours per month • FY2018 reduction target: 25% from FY2017 levels*1 • FY2020 reduction target: 50% from FY2017 levels; zero employees working 80 hours extra non-legal working hours per month*1	• Reduced the number of employees reporting 60 to 80 hours of extra non-legal working hours per month by 32% of the fiscal 2017 level • Reduced the average amount of overtime by 2% from FY2017 levels	○
	Enhance the teleworking system and expand its application to more workplaces*1	• Allowed the combined application with half-day office work • Implemented considerable enhancements and relaxation of terms for the entire system: expanded the eligibility to more workplaces; simplified the application flow; and eliminated a limitation on frequency of use and work location	○
	Maintain the ratio of employees receiving health checkups at 100% as the foundation for health management	• Maintained the ratio of employees receiving health checkups at 100%	○

*1 For Tokyo Gas Co., Ltd.

Links

- Employment Outlook
- Personnel Programs and Appraisal System
- Personnel and Career Development
- Action on Diversity
- Engaging in Occupational Safety and Health
- Communicating with Employees

Materiality	CSR KPI	FY2018 Major Outcomes	Evaluation
Sound stakeholder relationships	Promote operational improvements based on customer feedback and customer satisfaction surveys	• Customer feedback: 16,069 comments • Identified and analyzed customer feedback and the need for operational improvement • Developed the “Shateki” facility management support app based on voice-recognition AI to assist with customer operations • Offered programs and services related to security and safety, housing facilities, and food and health	○
	Engage in dialogue with shareholders and investors in accordance with the Japanese Corporate Governance Code	• Held IR events for investors • Held face-to-face meetings with institutional investors and analysts in and outside of Japan and organized facility tours for individual shareholders • Provided management with regular feedback on issues discussed in dialogues with shareholders	○
	Develop and implement social action programs for addressing social issues	• Supported youth education through sports, including para sports • Participated in and cooperated with local events and volunteer activities and organized interactive programs • Organized activities such as events related to climate change countermeasures and biodiversity conservation as well as interactive programs for environmental education • Activities to support school education Special classes taught by employees: 761 attended by 23,490 students Training for teachers: 53 sessions attended by 979 teachers	○

Links

- ▶ Efforts to Enhance Customer Satisfaction
- ▶ Dialogue with Shareholders and Investors
- ▶ Contribution to Local Communities

Materiality	CSR KPI	FY2018 Major Outcomes	Evaluation
Achieving our public mission as an energy company	Respond appropriately to trends in personal information protection in Japan and overseas	• Provided e-learning-based training for all Tokyo Gas Group employees to familiarize them with the requirements of the revised Act on the Protection of Personal Information (11,671 participants) • Provided level-specific training and onsite training to establish thorough compliance with rules governing the management and use of personal information	○
	Conduct a CSR survey for supply chain management and analyze the results	• Conducted a survey asking 509 suppliers to provide information on their policies and codes of conduct for promoting CSR (response rate: 89.2%) and analyzed the results	○

Links

- ▶ Respect for Human Rights
- ▶ Information Security Management
- ▶ Proactive Information Disclosure to Customers
- ▶ Supply Chain Management

Our Approach to CSR

Embedding CSR into Our Business

The Tokyo Gas Group strives to raise employee awareness of CSR to develop their understanding of fulfilling CSR through our business and to encourage them to practice CSR in the course of their daily operations. Booklets summarizing the Group's CSR and activities are given to every Group employee to establish a broad understanding of CSR at the Tokyo Gas Group. We also display posters to provide CSR-related information via the intranet and internal newsletters.

Booklet on the Tokyo Gas Group's CSR

Poster showing employees at work in activities

CSR Training for Every Employee

The Tokyo Gas Group has raised CSR awareness among employees through level-specific and workplace-based training as well as other learning opportunities that provide a basic knowledge of and information about the latest CSR trends. The training includes assignments designed to encourage employees to strengthen the relationship between their daily work and CSR.
We are also implementing initiatives for achieving the SDGs and conducting training specifically designed to enable every Group employee to enhance their understanding of the SDGs. We will continue to disseminate the concept throughout the Group.

■ Training Programs in FY2018

Participants		Frequency
Training on CSR		
Level-specific training	For first-year employees, third-year employees and newly promoted managers (organized by the Personnel and Compliance Depts.)	24 sessions
Workplace-specific training	Workplaces that request training (planned and provided by the CSR Section)	3 sessions
Training on the SDGs		
Workplace-specific training	Workplaces that request training (planned and provided by the CSR Section)	9 sessions

e-Learning of CSR

We began implementing e-learning on CSR and the environment in fiscal 2018 so that every employee could gain a better understanding of CSR at the Tokyo Gas Group and promote related activities. Subjects include basic CSR knowledge and the latest developments in communication with stakeholders, ESG, and the SDGs as well as environmental protection, human rights, diversity, supply chain management, and fundamental management issues including corporate governance and compliance. A total of 9,652 employees participated in the course and gained a deeper understanding of fulfilling CSR through business. We will continue our efforts to promote and instill understanding of CSR throughout the Group.

Stakeholder Engagement

■ Stakeholder Engagement

The Tokyo Gas Group maintains communication and dialogue with its stakeholders to better understand their views and requests concerning the Group's business activities, and we apply their feedback while improving our daily operations. We believe this will lead to the steady fulfillment of our social responsibility and continued growth.
Moreover, we receive opinions from our wide-ranging stakeholders and actively adopt valuable suggestions for our business.

●Stakeholder Engagement Policy

Basic Policy

The Tokyo Gas Group's business brings it into contact with a wide range of stakeholders. Guided by our Corporate Action Philosophy and Code of Conduct, all Group executives and employees have sought to develop good relationships with stakeholders and work together with society toward achieving sustainable growth.

Purpose of Engagement

In conducting our operations, we must understand stakeholder expectations for the Tokyo Gas Group and how they evaluate Group performance as well as our own responsibility for stakeholders. That knowledge must then be applied to decision-making and business operations to maximize value creation and minimize negative impacts. We also emphasize developing sound relationships and partnerships with stakeholders and enhancing the transparency of our business activities. We engage with our stakeholders through two-way communication to achieve these goals.

Identifying Our Stakeholders

Our stakeholders are individuals and organizations who are interested in the decision-making and business activities of the Tokyo Gas Group. To further increase the significance of engagement with stakeholders, we associate them with the following categories: (1) those who could be directly or indirectly impacted by our operations, products or services, or who

could impact our operations; (2) those with whom we maintain an economic, social or environmental responsibility; and (3) those who can provide a diverse perspective on our operations, products or services.

Methods of Engagement

The division or site that is most closely related to stakeholders serves as the contact point and takes responsibility for establishing two-way communication with them. Toward making further improvements, the results of engagement are shared within the relevant division, as well as with the Corporate Communications Promotion Committee as necessary. Information is disclosed through such means as our website and CSR reports to maintain our PDCA cycle. Also, we raise employee awareness of stakeholder engagement through training and other activities.

Customers

Expectations and Requests
• Stable supply of energy • Ensuring safety and quality of energy and products • Provision of appropriate information on products and services • Provision of information on environmental protection and environmentally friendly products and services

Tokyo Gas Group's Responses	Engagement and Communication Efforts
• Receipt of applications, feedback and inquiries • Improvements based on feedback	• Periodic safety inspections of gas equipment • Meter readings • Gas appliance repair • Local service outlets (Tokyo Gas LIFEVAL, Enesta, Enefit) • Customer Center (phone and email) • Customer feedback cards • Customer satisfaction surveys
• Provision of information and promotion of understanding concerning measures to ensure stability of city gas supply and prevent disasters	• Tours of LNG terminals and disaster prevention facilities
• Provision of information on energy, the environment, household facilities, appliances, etc. • Provision of information and promotion of understanding regarding the Group's environmental activities • Provision of opportunities to experience environmental activities • Proposal of comfortable home and lifestyle solutions • Offering of cooking classes	• Gas Science Museum • Gas Museum • Shinjuku Showroom and Yokohama Showroom • Cooking studio Kitchen Lands • Gas exhibitions • Events and seminars
• Provision of information on energy, facilities, appliances, and services • Provision of tips for everyday life on cooking, conserving energy and saving money, etc.	• Tokyo Gas website • Email newsletters • Facebook • myTOKYOGAS

Shareholders and Investors

Expectations and Requests
• Maintenance and improvement of corporate value • Fair distribution of returns to shareholders • Timely and appropriate information disclosure

Tokyo Gas Group's Responses	Engagement and Communication Efforts
• Disclosure of information on performance and finances • Explanation of the state of Group activities and plans	• General shareholder's meetings • Financial results briefings • Briefings for individual investors • One-on-one meetings with institutional investors • Facility tours for individual shareholders • Annual Report and Investors' Guide • Newsletter for shareholders • Disclosure of investor relations information on the Tokyo Gas website

Local Communities

Expectations and Requests
• Contribution to solving social issues in individual countries and regions • Support for educating the next generation

Tokyo Gas Group's Responses	Engagement and Communication Efforts
• Provision of information and awareness-raising concerning the Group's disaster prevention activities • Provision of information contributing to safety and peace of mind in everyday life • Monitoring of views/demand and incorporation into activities	• Local activities such as emergency toilet program for preparation against disasters, publication of daily and emergency recipes called "Daily Meals & Emergency Meals," for surviving a disaster, etc.
• Support for para sports • Provision of opportunities for the active engagement in sports through soccer coaching, tournaments, etc.	• Activities as an Official Partner of the Japanese Para-Sports Association • Junior soccer coaching sessions
• Provision of information and awareness-raising on disaster prevention	• Disaster prevention events cohosted with NPOs
• Support for environmental protection activities	• Support for the environmental and the social contribution activity: Mori Sato Umi Tsunagu (Connecting Forests, Villages and the Ocean) Project
• Provision of information, education and opportunities for directly experiencing energy and the environment	• Support for school education (teaching, teacher training, and provision of information via out-of-school learning activities,

	educational materials and an e-learning site) • Donguri (acorn) outdoors environmental education project • Hands-on HIIKU fire education program for the next generation
• Volunteer activities by Group employees and their families	• Support for regions affected by the Great East Japan Earthquake • Collection and donation of used stamps, cards and spoiled postcards
• Support for the Olympic and Paralympic Games Tokyo 2020	• Support activities as an Official Partner (Gas & Gas Utility Services category) of the Olympic and Paralympic Games Tokyo 2020

Government Agencies and Local Governments

Expectations and Requests	
• Tax payments • Compliance with laws and regulations • Cooperation in public policy and programs to solve social issues	
Tokyo Gas Group's Responses	Engagement and Communication Efforts
• Participation in urban development through our main line of business	• Development of smart towns in accordance with government plans • Urban revitalization and housing complex regeneration • Development of smart energy networks through redevelopment projects
• Promotion of disaster prevention activities	• Disaster prevention events organized by local governments
• Provision of information to resolve social issues and promote policy implementation • Participation in central and local government committees and workshops	• Seminars on energy, the environment and community development • Membership of environmental councils and other bodies

Business Partners

Expectations and Requests	
• Fair and equitable business transactions • Practice of CSR procurement • Development of better partnerships and information sharing	
Tokyo Gas Group's Responses	Engagement and Communication Efforts
• Provision of fair and equitable business	• Online publication of Principles and Standards

opportunities through disclosure of standards, policies, etc.	of purchasing practice and Purchasing Guidelines for Suppliers • Briefings for business partners
• Monitoring status of CSR practice	• Surveys of CSR activities by business partners • Dialogue and consultation with business partners
• Improvement of quality and appeal of products in collaboration with business partners	• Recognition of business partners at the Business Partner Appreciation Awards
• Provision of events and opportunities to promote understanding of our operations	• Organization of facility tours for business partners
• Consultations to ensure fair business relations	• Consultations with suppliers of LNG and other supplies and confirmation of transaction details

Universities and Research Institutions

Expectations and Requests	
• Engagement in solving social issues and contributing to better lifestyles and community development	
Tokyo Gas Group's Responses	**Engagement and Communication Efforts**
• Surveys and research to address challenges faced by society and contribute to better lives and community development through our business activities	• Joint research contributing to safety, meter reading, safety services, etc. • Joint research contributing to environmental protection, disaster response, prevention of health hazards and the revitalization of regional economies • Joint research contributing to energy conservation and health • Joint research contributing to better lives in a super-aging society

Group Employees

Expectations and Requests	
• Creation of a comfortable work environment • Promotion of diversity • Development of human resources • Occupational safety and health • Provision of information and awareness-raising on environmental protection	
Tokyo Gas Group's Responses	**Engagement and Communication Efforts**
• Promotion of opportunities for diverse human resources	• Development of the Overarching Commitment

	to Diversity and Basic Policy Regarding Promotion of Diversity • Seminars and lectures on promoting diversity • Introduction of a home working system
• Sharing of information and promotion of understanding within the Group	• Communication of messages from the president • Plenary meetings and briefing sessions to report on conditions at Group companies • Workplace communication activities • Group newsletter and intranet
• Development of employee skills • Counseling for career planning	• Regular interviews with supervisors • Various training
• Handling of consultations on compliance, human rights, etc., within the Group • Monitoring of employee attitudes	• Consultation desks • Employee opinion surveys
• Provision of information and awareness-raising on occupational safety and health • Actions for mental health and prevention of lifestyle-related diseases	• Meetings and training on safety and health • Actions to maintain and improve health
• Sharing of information on Group environmental activities • Provision of information and awareness-raising on environmental protection	• Group environmental contribution award system • Training, study tours and seminars for Group employees
• Development of good labor-management relations	• Labor-management dialogue and consultation

Contact Points for Stakeholders

Shareholders and investors	Investor Relations
Local communities	Inquiries: Personal (residential) customers Tokyo Gas Customer Center Local service outlets Tokyo Gas showrooms Fax service (for customers with hearing or speech impairments) Online inquiries
Government agencies	Department responsible for the field in question
Business partners	Purchasing Department service desk
Employees	Tokyo Gas Labor Union, consultation desks

Stakeholder Dialogue

We aim to be a corporate group that achieves continuous growth by diligently fulfilling our social responsibilities. To realize this, we will communicate and engage in dialogue with our stakeholders, listening to their opinions and requests regarding the overall business activities of the Tokyo Gas Group, and relaying what we learn into improving our daily business activities.
We received diverse comments during the year on various aspects of our daily business from people in a wide range of social positions. We will continue with our efforts to incorporate the voices of our stakeholders into our business activities to the greatest extent possible.

Link

- ▶ Stakeholder Dialogue 2016（PDF : 1,839KB）
- ▶ Stakeholder Dialogue 2015（PDF : 882KB）

Stable Procurement of LNG

Further Diversification of LNG Procurement

We are committed to further diversifying our procurement of LNG to safeguard the stable delivery of affordable supplies of LNG. As Asia leads the expansion in global demand for LNG and deregulation increases the likelihood of greater volatility in LNG demand in Japan, we must be more price competitive and flexible in our LNG transactions. In the coming years, we will seek to increase the flexibility of LNG procurement through such measures as diversifying our conditions while bolstering our alliances in Japan and overseas and enhancing our transactions through higher transportation efficiency and inventory adjustment.

● Three Types of Diversification

1 Procurement sources

We will broaden our procurement sources from conventional sources mainly in Asia and Australia to a wider range of regions around the world, including North America, Central America and Africa.

2 Contract conditions

We will seek to diversify contract conditions by incorporating contracts linked to multiple benchmark indicators such as the Henry Hub price, in addition to conventional crude oil price-linked contracts. We also plan to achieve greater destination flexibility through increasing the number or contracts with no destination clauses.

3 LNG network

By developing an LNG network linking Asia, North America, Central America, Africa and Europe, we aim to reduce regional disparities in market prices, and increase flexibly in supply and demand adjustment.

Since Tokyo Gas became the first company in Japan to procure LNG from Alaska in 1969, our LNG imports have steadily risen each year along with growing demand, with procurement volume reaching 13,950,000 tons in fiscal 2018. The company currently imports LNG under long-term contracts with 14 projects in 6 countries, including Russia (Sakhalin), Qatar and the United States, in addition to other countries in the Asia-Pacific region such as Australia, Malaysia and Brunei.
In October 2018, we entered into a basic agreement for purchasing a maximum of approximately 600,000 tons per year from the LNG Canada project, and a basic agreement for purchasing approximately 800,000 tons per year from the Energia Costa Azul LNG project in November of that year. In February 2019, we signed a new agreement with UK-based Centrica for jointly purchasing approximately 2,600,000 tons per year from the Mozambique LNG project.
Overseas sources include PetroVietnam Gas in Vietnam, Korea Gas Corp., Centrica LNG in the United Kingdom, and RWE in Germany, while partnerships in Japan include utilities such as Kansai Electric Power and Kyushu Electric Power. We are striving to ensure the stable, affordable procurement of LNG and to invigorate the LNG market by diversifying our sources and contract terms and by forming partnerships with companies in Japan and overseas.

■ LNG Project Contract Volume (as of April 2019)

Project name	Contract volume (Unit: 10,000 tons)	Start of operation	Period
Brunei	100	1973	20+20+10 years (until 2023)
Malaysia I (Satu)	Up to approx.50 from 2018 to 2023 Up to approx.90 from 2024	2018	Up to 13 years (until 2031)
Australia (Western Australia)	53	1989	20 + 8 + 7 years (until 2024)
Malaysia II (Dua)	90	1995	20 + 10 years (until 2025)
Qatar	35	1998	24 years (until 2021)
Malaysia III (Tiga)	34	2004	20 years (until 2024)
North West Shelf (NWS) Expansion	107.3	2004	25 years (until 2029)
Darwin (Australia)	100	2006	17 years (until 2022)
Sakhalin II	110	2009	24 years (until 2031)
Pluto (Australia)	150	2012	15 years (until 2025)
Queensland Curtis (Australia)	120	2015	20 years (until 2035)
Gorgon (Australia)	110	2016	25 years (until 2039)
Cove Point (U.S.A.)	140	2018	20 years
Ichthys (Australia)	105	2018	15 years
Cameron (U.S.A.)	Approx. 72	2020 (planned)	Approx. 20 years
Mozambique LNG	260 (joint purchasing with Centrica)	Mid-2020	Up to 20 years

Link

▶ Special Feature 1 Contributing to a Sustainable Society with 50 Years of LNG Supply Technology

■ Enhancement of LNG Transportation Arrangements

Through our wholly owned subsidiary Tokyo LNG Tanker Co., Ltd., we efficiently manage our own fleet of carriers, which transport LNG under long-term contracts from Malaysia, Australia, Russia (Sakhalin), and the United States.
We also built four LNG vessels with a highly efficient design and capable of transiting the Panama Canal, primarily for shipping LNG from Cove Point in the United States. The vessels began operating in 2018.

Energy Liberty

Production of City Gas

Benefits of LNG as Feedstock for City Gas

2019 marked the 50th anniversary of the introduction of LNG to Japan by Tokyo Gas in 1969. The following benefits of LNG include excellent environmental soundness and supply security.

About LNG

LNG is produced by cooling natural gas, which is primarily composed of methane, to its liquid state. Methane is a gas under one atmospheric pressure at 0°C and changes into a liquid when cooled to −162°C, with its cubic volume diminishing by 600 times. Using this property to transport natural gas in the form of LNG on carriers allows for the transport and use of massive volumes of natural gas in regions where it cannot be delivered via pipeline.

Stable Production of City Gas and Stringent Quality Control

Stable Production of City Gas

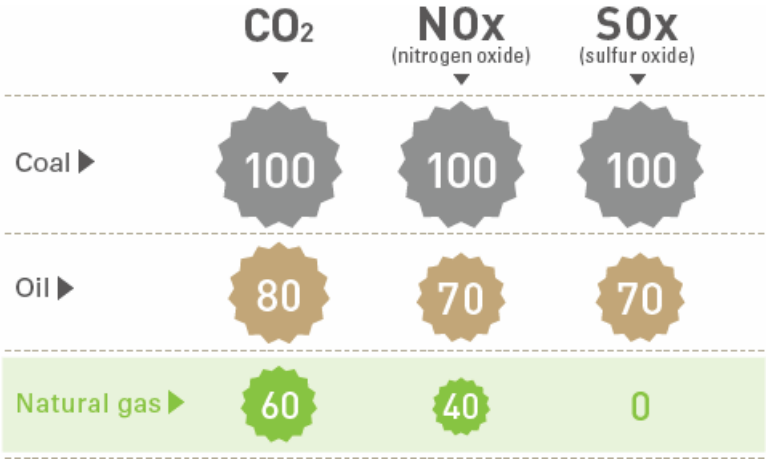
Our four city gas production terminals mutually back up each other so that we can continue to deliver a stable supply of gas to customers, even in the event of power outages or other problems. Highly reliable power receiving systems with core facility redundancy are also in place to ensure steady production of city gas. Each terminal is equipped with highly reliable facilities, and we are enhancing our safety measures by steadily upgrading aging facilities and strengthening earthquake resistance for even greater stability in production.

Link
▶ Addressing Climate Change, Environmental Advantages of City Gas in Terms of Lifecycle CO_2 Emissions

Low Pollution

Natural gas is primarily composed of methane (CH_4), which has a smaller proportion of carbon atoms in its molecule compared to oil or coal and therefore generates the least CO_2 during combustion of any fossil fuel. It also releases almost no sulfur oxide emissions since sulfur and other impurities are removed during liquefaction, making it the most eco-friendly fossil fuel as well.

■ Comparison of Emissions during Combustion (Coal = 100)



Source: Agency for Natural Resources and Energy, Energy White Paper 2013

Economic Advantages of Production

City gas using LNG as feedstock is produced by pouring seawater to vaporize LNG stored in a tank at minus 162°C and adjusting the calorific value. The process does not require large-scale manufacturing facilities, thereby keeping production costs down.

Compliance with Statutory Requirements

To ensure delivery of high-quality city gas to customers, we daily inspect calorific value, combustibility and other properties, as stipulated by law, and strive to improve quality further by conducting independent monitoring regularly while also maintaining and managing facilities though periodic maintenance and daily inspections.

Strategic Development of Production Facilities

We are strategically developing our production facilities from a long-term perspective that emphasizes economic performance, applying a comprehensive approach as we consider issues such as projected future demand for city gas. To encourage the broader adoption of natural gas, a goal under our Challenge 2020 Vision, we began commercial operations at the Hitachi LNG Terminal in March 2016 to meet expanding demand in the northern Kanto region. The Hitachi LNG Terminal has a big jetty capable of receiving large LNG carriers and a 230,000 kl aboveground LNG tank, the largest of its kind in the world. In April 2018, we began constructing a second tank, scheduled to start operating in fiscal 2020, to keep pace with the growing demand for natural gas.

Hitachi LNG Terminal

Initiatives for Handing Down Skills

The Tokyo Gas Group actively manages knowledge by sharing and utilizing the valuable learnings, technology and skills it has acquired over many years of operating terminals in order to deepen each employee's understanding and thereby enhance their performance and abilities. We are also systematically developing human resources to ensure that skills are smoothly transferred to each succeeding generation.

Supply of City Gas

We have been developing our natural gas pipeline network to ensure long-term stable gas supply in line with growing demand for city gas and the expansion of our service area.

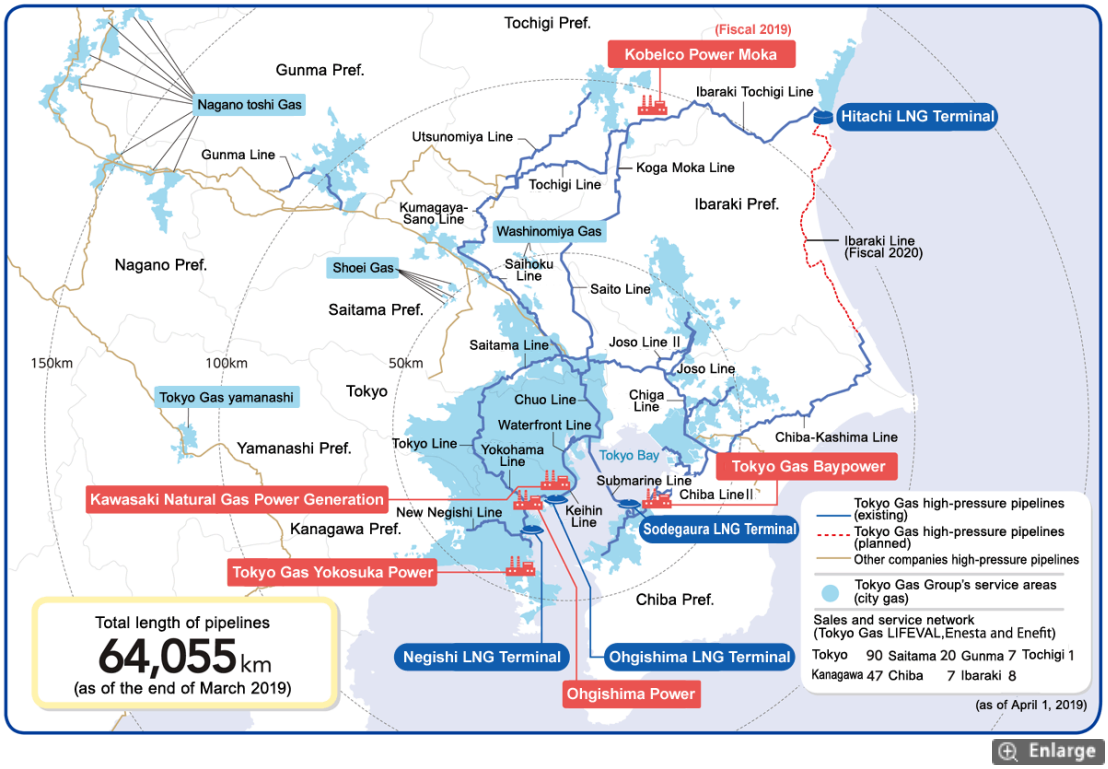
Stable Supply of City Gas

The abundance of natural gas reserves around the world ensures a stable supply of raw material, which is fundamental to providing a stable long-term supply of city gas to customers.

Pipeline Network Development to Meet Demand and Service Area Expansion

We are developing our gas pipeline network to meet customer needs and expand the use of city gas. Our high-pressure pipelines in the Tokyo metropolitan region stretch to a total length of about 980 kilometers. In addition, construction is underway for the Ibaraki Line, scheduled to start of service at the end of fiscal 2020. We are building this high-pressure pipeline to improve supply stability and expand the transmission capacity of the entire network through a looped network of 7 MPa high-pressure pipelines. Moreover, we are laying medium and low-pressure local distribution pipelines while also ensuring supply stability to further develop demand in areas such as the northern Kanto region to seek new customers. As we continue to expand our transmission capacity for city gas, we will also pursue even higher management efficiency to become a streamlined and powerful network operator.
In fiscal 2019, we will continue working to ensure stable supply through such steps as conducting tighter inspections of key supply facilities, for instance high-pressure pipelines, key medium-pressure lines, and facilities for receiving gas from other companies; strengthening our emergency backup system; and conducting emergency drills.

■ Tokyo Gas Group's Energy Supply Infrastructure



■ Plan for Main Supply Infrastructure Buildup

Purpose	Line	Section	Scheduled Opening
Expansion of regional infrastructure	Ibaraki Line	Hitachi City-Kamisu City	Fiscal 2020

■ Initiatives at the Supply Control Center

The Supply Control Center centrally monitors and controls the operational status of city gas production and supply facilities in the Tokyo metropolitan area 24 hours a day and 365 days a year. It accurately guides the adjustment of gas output at LNG terminals, pressure at governor stations, and storage and withdrawal at gas holders to ensure the stable transmission of city gas in the context of regular checkups and maintenance work at LNG terminals as well as on high-pressure trunk lines.
In the event of a natural disaster, the center collects information, assesses the extent of the damage, and handles first-response work for preventing secondary disasters such as a suspension of gas supply. In cooperation with the Cabinet Office and Tokyo metropolitan government, it works to prevent the damage from worsening by sharing information through dedicated communications terminals and discussing responses through teleconferencing.


Supply Control Center

Transportation Service in Responce to the Deregulated Gas Retail Market

Tokyo Gas operates the Transportation Service Center, which was opened in response to Japan's complete deregulation of its gas retail market. The center helps the growing number of new gas retailers to operate smoothly, receiving their applications to use our gas pipelines for consignment supply, and setting up a billing system for after the service starts. We treat all gas retailers fairly and maintain neutrality by physically isolating the center's relevant office to ensure appropriate management of information on gas retailers and banning the use of information related to the service for other purposes.

Working on Aging Gas Pipes and Other Facilities

Replacement of Aging Cast-iron and Other Pipes

We carry out measures to ensure the safety of gas pipes by adequately upgrading and improving equipment such as aging pipes.
Each of our pipeline network centers in charge of gas pipelines works out and properly implements annual plans for replacements and upgrades based on the priorities.

Replacing old pipes

Replacement of Aging House Pipes

We are continuing measures for dealing with aging underground house (galvanized) pipes in buildings requiring high security by informing customers of the need for replacement and working toward our goal of completing all upgrades by fiscal 2020. We are also involved in ongoing negotiations for upgrading aging galvanized pipes under public facilities with the goal of completing that work by fiscal 2020 as well.

Regular Gas Leakage Checks

In accordance with the Gas Business Act, we conduct regular gas leakage checks for the early detection of gas leaks on streets and immediately perform repairs at the identified sites. We follow regulatory and administrative guidelines and notices whenever we plan, conduct, and manage a regular checkup. Besides the legally mandated regular checkups, we plan and constantly carry out our own gas leakage inspections in order to build customer confidence in our services.

Patrolling High-pressure Gas Trunk Lines

High-pressure pipelines are the arteries for transmitting city gas from our four LNG terminals to the Tokyo metropolitan area and the rest of the Kanto region. We go to great lengths to ensure the safe transmission of city gas and use the latest equipment for maintaining and managing these trunk lines. One important effort is to patrol these lines.
During the patrols, we check whether other companies carry out construction work without asking Tokyo Gas in advance about the locations of nearby gas pipes. Also, we watch for any road damage such as cracks or depressions that may affect gas pipes. The patrols also include inspecting gas supply equipment and confirming that pressure regulators that adjust gas pressure and valves which shut off gas flows operate without vibration or noise. Daily patrols for these extensive inspections ensure operation safety.


Patrol for inspecting gas pipeline

Highly Efficient Transportation

When electricity is supplied from a power station to offices and homes, as much as 60% of the energy is lost due to exhaust heat and transmission, which means that only about 40% of the primary energy is actually supplied. On the other hand, city gas is produced by evaporation at the LNG terminal and directly transmitted through pipelines to consumption areas, thereby requiring no energy conversion and resulting in no energy loss during transportation.

Transmitting Gas Safely

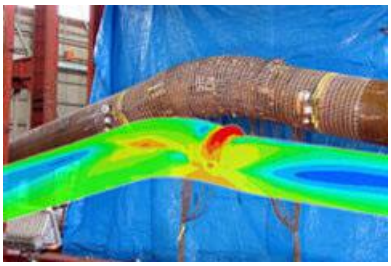
Technologies that Sustain the City Gas Business

In developing our expertise, we focus our research and development on technologies related to combustion, heat transfer, and fluid analysis, all essential for balancing energy efficiency and safety in using gas; technologies for assessing materials and seismic capacity required for ensuring the safety of infrastructure, such as pipeline networks; and gas analysis technologies for maintaining the high quality of the gas supplied to customers. In the event of an accident caused by a natural disaster or faulty gas appliances, engineers specialized in relevant fields respond quickly to investigate the cause and take the necessary measures to prevent the recurrence of a similar accident or equipment failure.
We work to develop and improve methods for pipeline construction, maintenance, and management for continual improvements in the safety and performance of pipeline construction work. As an industry pioneer, we will contribute to improving the safety of gas pipelines and develop the entire gas industry by introducing the fruits of our efforts to other gas utilities.
As a gas supplier, we must maintain both the basic and expert knowledge as well as the technologies associated with gas while also supplying equipment and gas appliances at a higher level than anyone else in order to support customers in the safe use of gas. Furthermore, we will continue to refine our system for passing on basic technologies that are indispensable for customer safety and security as we seek to deepen and broaden our technologies.

Research on Earthquake and Disaster Preparedness of Gas Supply Infrastructure

We conduct research and development on ways to protect pipelines and other gas supply infrastructure from earthquakes and other disasters so customers can use gas safely. Testing with the aid of a 3D shaking table, which simulates ground motions from an earthquake as strong as the 7.3-magnitude Great Hanshin-Awaji Earthquake in 1995, allows us to assess the safety of the various equipment that comprise the gas supply infrastructure. We use numerical analysis simulation, which simulates real-world phenomena on computers, to conduct seismic performance assessments that take into account the complex deformation behavior of underground pipelines. The results of the research have been applied to our own measures to protect gas supply infrastructure against earthquakes as well as similar efforts across the entire gas industry. Looking ahead, we will continue conducting research to strengthen the earthquake resistance of the gas industry as a whole.

Testing seismic resistance with a 3D shaking table



Numerical analysis simulation for pipeline movement assessment

Development of the Electric Power Business

The Tokyo Gas Group is developing its electric power business in the belief that a stable and affordable supply of energy is a vital public expectation, as demand for natural gas has been rising and the domestic environment surrounding energy has been undergoing major changes since the Great East Japan Earthquake.

Expansion of Competitive Power Sources

Building an Optimal Portfolio of Power Sources

Tokyo Gas recognizes that it is more important now than ever before to provide a stable source of electricity, taking into account major changes in the energy-related environment such as power and gas system reforms, and growth in our sales stock. The stable acquisition of power sources is therefore necessary, and we are establishing an optimal power source portfolio that combines our own power source with power purchased from other companies.

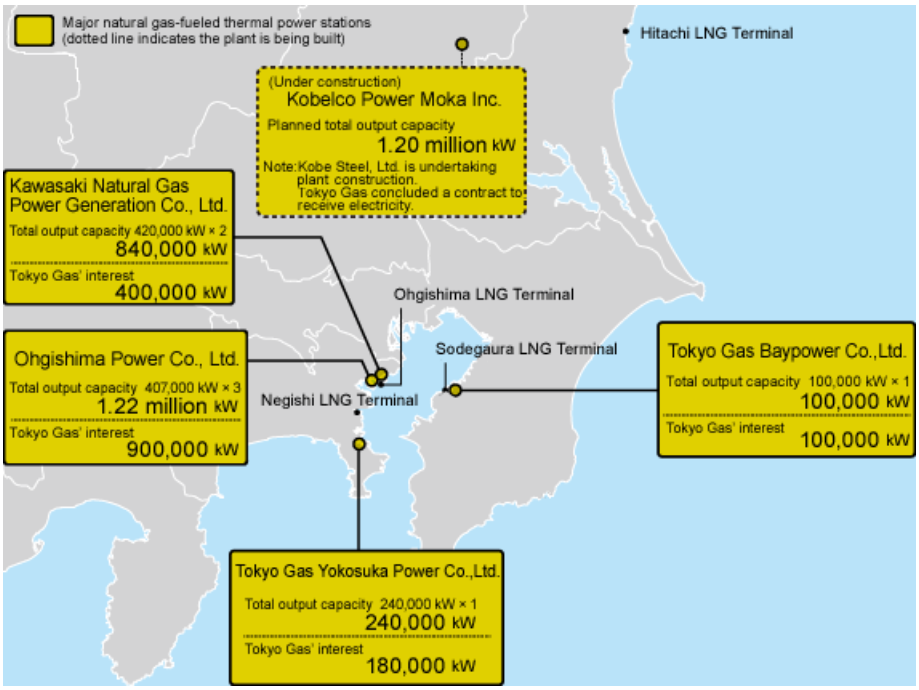
Securing Additional Power Sources

We are promoting the construction of natural gas-fueled power stations and are committed to ensuring stable supply in the following ways. First, we will construct power stations close to areas of demand. Second, we will use highly efficient combined cycle power equipment to reduce environmental impact. And third, we will locate power stations near our LNG terminals to benefit synergies and enable efficient and stable management.
With the commencement of the commercial operation of the Ohgishima Power Station's Unit 3 in 2016, the composition of the Tokyo Gas Group's power sources are:

- Tokyo Gas Baypower Co., Ltd. (a wholly owned subsidiary with a total output of about 100,000 kW),
- Tokyo Gas Yokosuka Power Company, Ltd. (a 75% owned unit with 240,000 kW),
- Kawasaki Natural Gas Power Generation Co., Ltd. (a 49% owned unit with 840,000 kW), and
- Ohgishima Power Company, Ltd. (a 75% owned unit with 1.22 million kW)

In addition, we have decided to receive the entire output of about 1.20 million kW of the Moka Power Station, which Kobelco Power Moka Inc. is building in Moka, Tochigi Prefecture, with supply to start in 2019. As a result, we will establish a system for stable electricity supply by expanding our own power source capacity from the current level of about 1.6 million kW to 3 million kW in 2020. Anticipating future system design requirements and the market environment, we will continue to establish an optimal portfolio to secure a power source capable of generating electricity at the scale of 5 million kW in the 2020s.

■ Tokyo Gas Group's Major Power Sources (as of June 2019)



Stable Power Generation

The Group's thermal power stations are fueled by natural gas produced at our LNG terminals. The stations maintain a stable supply of electricity through their operational and control activities as well as daily checks and periodic inspections. Capitalizing on expertise acquired in the gas service business, we will do our best to ensure safety and stable supply while addressing environmental concerns and also supply electricity at lower cost in our efforts to meet social demand and expectations as a total energy business company.

Link

▶ Best Practices at the Electric Power Business

Overseas Business

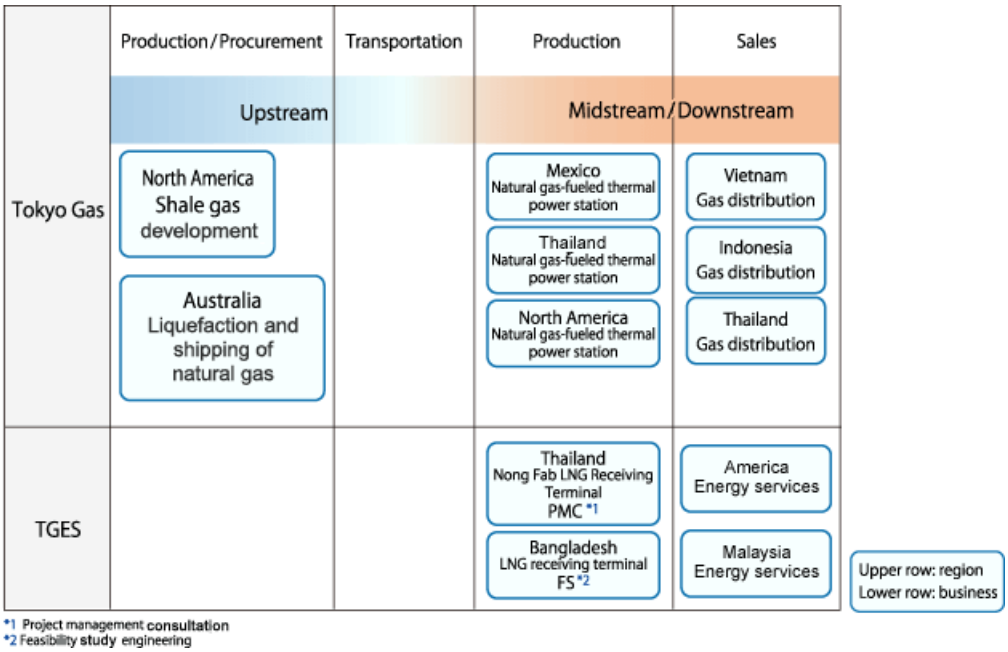
Strengthening Overseas Business

We effectively use the increased number of overseas facilities and personnel and intend to stabilize and boost earnings. We are striving to maximize the value of our projects, primarily in Southeast Asia, North America, and Australia, and join new projects while considering the development of businesses in new sectors and locations.

Overview of Our Overseas Business

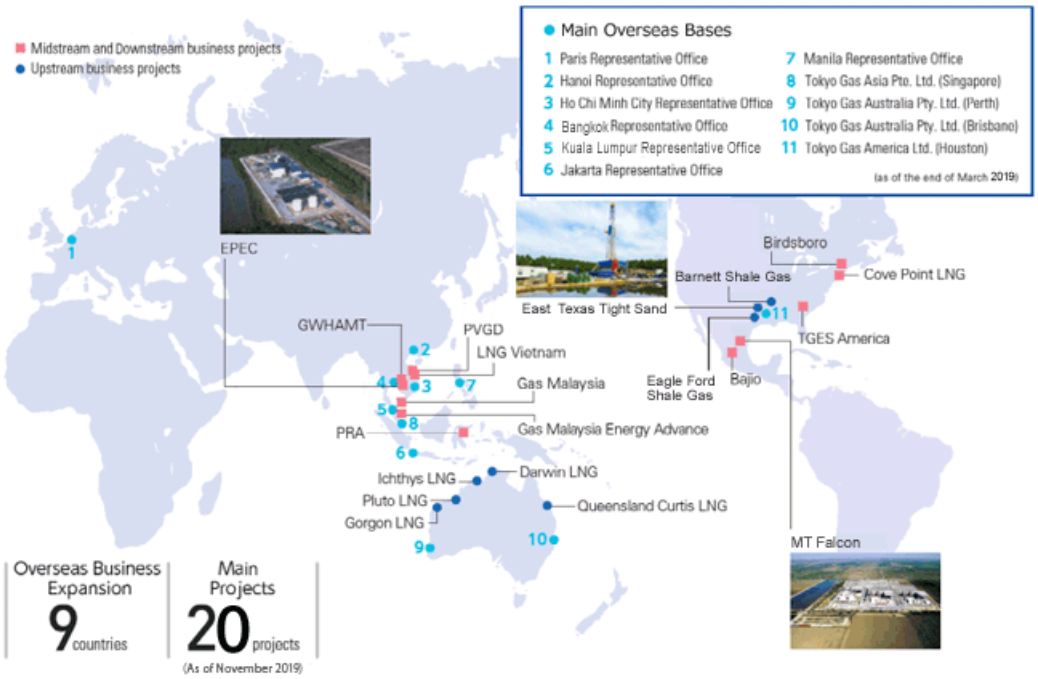
Building on our accumulated experience in developing natural gas and LNG businesses in Japan and elsewhere, we will provide overseas customers with the same advantages, such as stable energy supply and energy saving services. We will particularly raise the proportion of midstream and downstream operations, which include constructing natural gas and LNG infrastructure and supplying gas in Southeast Asia, and participate in shale gas development and power generation projects in North America to help reduce environmental impact through the use of natural gas.

Categories of Overseas Business



*1 Project management consultation
*2 Feasibility study engineering

Tokyo Gas Group Overseas Operations



Enlarge

Topic

Overseas Initiative in Renewable Energy

In April 2019, Tokyo Gas agreed to invest in a joint venture on renewable energy with ENGIE of France. We will acquire 50% of the share of the joint venture company established by ENGIE to develop and operate renewable energy projects in Mexico. The joint venture company is scheduled to own six renewable energy generation projects comprising two onshore wind farms and four solar photovoltaic power stations with a combined electricity output of 899,000 kW. All six projects are scheduled to begin commercial operations by 2020.
The Mexican government is seeking to raise the domestic ratio of clean energy to 35% by 2024. The Tokyo Gas Group will help reduce Mexico's carbon footprint through its first foray into the renewable energy business outside Japan.


Tres Mesas 3 wind farm

Building Energy Infrastructure in Southeast Asia

Business Development in Southeast Asia

In Southeast Asia, demand for natural gas is projected to rise along with the region's economic growth. To meet this demand, we will collaborate with leading local companies to accelerate business development focused on midstream and downstream operations. We will popularize and expand the use of LNG as an environmentally sound source of energy and leverage our technology and expertise to support the construction of infrastructure.

FY2018 Outcomes

Philippines

In December 2018, we signed a joint venture agreement on the construction and operation of an LNG receiving terminal with First Gen Corporation of the Republic of the Philippines. This is the first time for us to participate in an energy infrastructure development project in the country. The Philippines is planning to introduce LNG as an alternative to domestic natural gas, which is projected to decline in terms of production volume as domestic reserves are depleted. Tokyo Gas and First Gen will work together in building and operating the country's first LNG receiving terminal.

Thailand

In January 2018, Tokyo Gas Asia Pte. Ltd. invested in a natural gas distribution company in Thailand, which in December of that year became the first fully private company in the country to start supplying gas to industrial customers within an industrial estate. The industrial estate is located in the Eastern Economic Corridor (EEC), a special economic zone designated by the Thai government for promoting investment. Various companies, including non-Japanese, are eager to enter the industrial estate. Tokyo Gas and Tokyo Gas Asia will seek to expand the gas distribution business there by leveraging know-how on gas distribution backed by years of experience and a successful track record in Japan, together with expertise in managing an LNG value chain, including energy solutions, operational maintenance, and sales support.

Topic

Tokyo Gas Engineering Solutions' Overseas Projects

Tokyo Gas Engineering Solutions Corporation (TGES) provides engineering solutions in and outside of Japan on the basis of its proprietary users' know-how acquired through designing, constructing, operating, and maintaining LNG receiving terminals and city gas supply facilities. Highly regarded for its advanced technology, TGES is currently providing project management consultancy for the construction work of the Nong Fab LNG Receiving Terminal (7.5 million tons/year) in Thailand. This is the second contract awarded by PTT LNG Company Limited, following the construction of the Map Ta Phut LNG Receiving Terminal. The LNG receiving terminals form part of the plans of PTT Public Company Limited, the parent firm of PTT LNG, to boost its capacity for receiving LNG by 2023 and help establish an energy infrastructure in Thailand. TGES is also leveraging its wealth of knowledge and track record in Japan to expand its energy services in the United States and Malaysia, serving Japanese companies venturing abroad by providing a one-stop energy service for saving energy and reducing CO_2 emissions. It is committed to actively expanding its operations outside Japan to play its part in supplying natural gas and other environmentally sound energy sources to overseas markets.

Link
▶ Special Feature 1 Contributing to a Sustainable Society with 50 Years of LNG Supply Technology

Earthquake and Disaster Preparedness

Tokyo Gas addresses earthquake and disaster preparedness under the three pillars of prevention, emergency and restoration so that customers can use gas safely and conveniently at any time, 24 hours a day and 365 days a year. In the event of a disaster, we strive to minimize the impact on customers.

Prevention

Highly Earthquake-resistant Facilities

We employ multiple layers of safety in addition to reinforcing city gas production and supply equipment and facilities. Important facilities are designed to withstand earthquakes as powerful as the 7.3-magnitude Great Hanshin-Awaji Earthquake in 1995 and the 9.0-magnitude Great East Japan Earthquake in 2011.

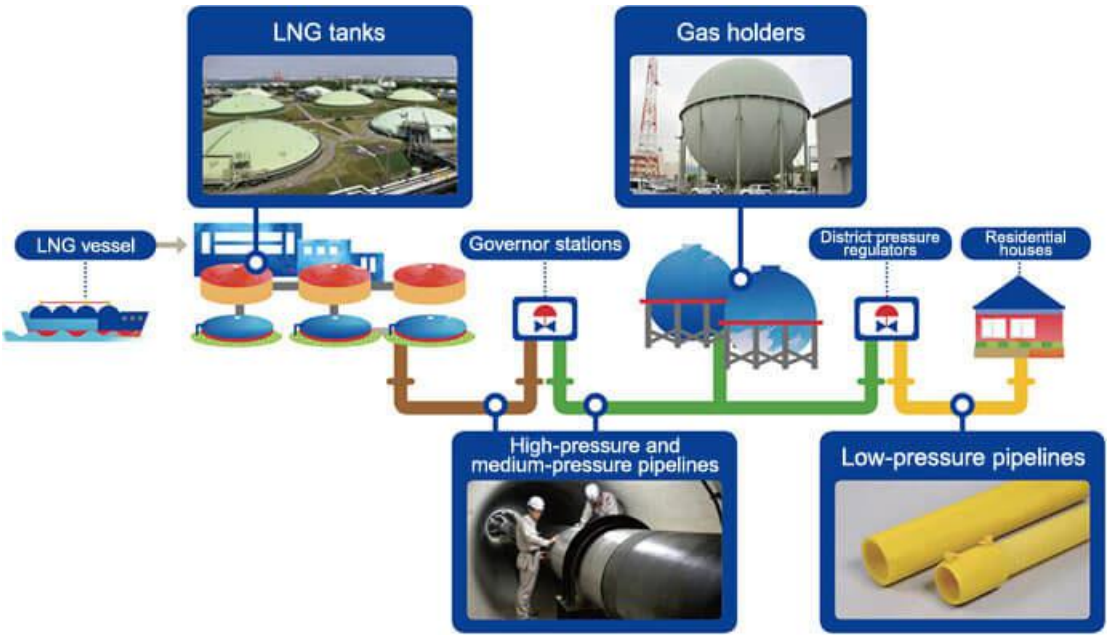
LNG Tanks
Tanks used for storing imported LNG are designed to maintain high structural integrity that can fully withstand major earthquakes. There have been no incidents of LNG leakage from any major earthquake.

High-pressure and Medium-pressure Gas Pipelines
These gas pipelines connect LNG terminals and district pressure regulators, which convert medium-pressure gas to low-pressure gas. They are made of strong, flexible materials that can withstand the impact of ground movement caused by earthquakes.

Gas Holders
These containers hold the gas supplied in response to demand and feature a robust structure of multiple steel plate layers.

Low-pressure Gas Pipelines
A low-pressure gas pipeline comprises about 90% of the total length of a gas pipeline, and newly installed low-pressure gas pipelines are made of polyethylene to minimize damage caused by earthquakes.

■ System for Producing and Supplying Gas



■ Emergency

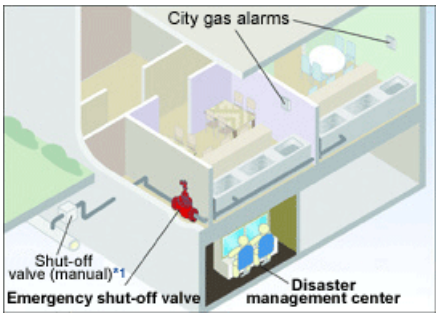
Quick Shutdown of Gas Supply to Prevent Secondary Disasters

Our system is capable of remotely shutting down gas supply to individual buildings as well as to entire zones in the event of a major earthquake. In addition, the gas pipeline network is separated into regional blocks to minimize the inconvenience of a gas supply suspension.

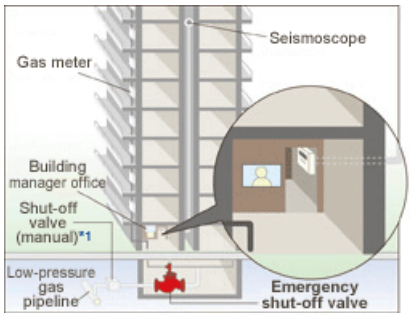
How Gas Supply Is Shut off to Individual Houses

In each house, intelligent gas meters are equipped with a safety device that will automatically cut off gas supply to individual buildings when it detects earthquakes measuring 5 or greater on the Japanese seismic scale or an abnormal gas flow. Moreover, multiple layers of safety, including safety features of gas cocks and appliances, are in place to completely safeguard homes.
Emergency shut-off valves at underground malls and skyscrapers can be remotely controlled from their disaster management center or building manager office to suspend gas supply to the entire facility.

Gas meter



Underground mall/room



Skyscraper

*1 In case of a fire, regardless of whether an earthquake strikes, Tokyo Gas cuts off gas supply to individual buildings, and employees can close shut-off valves to further guarantee safety. These valves cannot be operated by customers.

Shutting off Gas Supply to Entire Districts Severely Impacted by a Disaster

In our service area, about 4,000 district pressure regulators are equipped with seismographs to shut off gas supply automatically when a major earthquake is detected. Gas supply can also be cut off remotely. One seismograph is located in every square kilometer, an unprecedented density in the world, for monitoring the safety of each district.

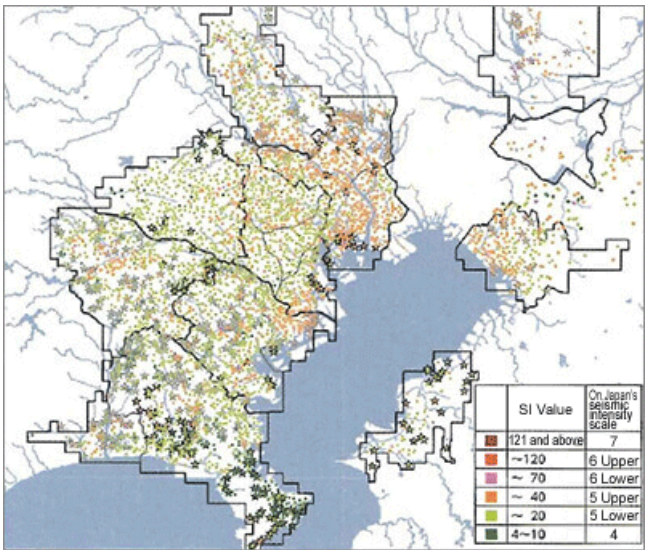
Topic

SUPREME Ultrahigh Density Real Time Earthquake Disaster Prevention System

Tokyo Gas's SUPREME earthquake disaster prevention system uses densely installed seismographs. The system is capable of collecting earthquake data at about 4,000 locations, remotely shutting down district pressure regulators, and estimating damage on gas pipelines in order to monitor district safety. Within about five minutes after a major earthquake, the system identifies damage based on data gathered by seismographs. In about ten minutes, the system swiftly ensures safety by remotely operating district pressure regulators and suspending gas supply to areas where major damage is expected.

SUPREME Ultra-high-density Real-time Earthquake and Disaster Preparedness System

■ Locations of Seismographs in the Tokyo Gas Service Area and Temblor Strengths in the Southern Kanto Region during the Great East Japan Earthquake on March 11, 2011



■ Restoration

Safe and Swift Restoration of Gas Supply

We strive to restore gas supply as soon as possible to end the inconvenience in districts where service has been suspended, by effectively using equipment and systems made available during routine preparations and maintenance work, while closely cooperating with other gas utilities. Furthermore, we began introducing a system for remotely operating district pressure regulators in fiscal 2014 toward realizing same-day gas supply resumption in districts with no earthquake damage. We are working to apply this system to all such regulators.

Post-disaster Relief and Support System

We drew lessons from relief activities after the 1995 Great Hanshin-Awaji Earthquake and 2007 Niigata-ken Chuetsu offshore Earthquake and deployed mobile gas generation equipment (large PA-13A) to high-priority customers such as hospitals to serve as relief and support equipment for those facilities as kitchens. Mobile equipment was actually used in the wake of the Great East Japan Earthquake in 2011. In fiscal 2019, we will continue to update customer information and provide education and training using actual equipment to promote our relief measures.
We have arranged with gas utilities in Japan via the Japan Gas Association to provide personnel and equipment to each other in the wake of a major disaster.

Mobile gas generation equipment

Topic

Relief Response to Osaka Earthquake

On June 18, 2018, gas supply was shut down by an earthquake with an epicenter in the northern region of Osaka Prefecture. Subsequently, the Tokyo Gas Group supported work to restore the city gas service. We set up a local restoration task force within the day and dispatched about 1,200 personnel for restoration work with Osaka Gas Co., Ltd. and other gas utilities. As a result, service resumed for all customers in areas where it was needed, on June 24, six days after the quake. During the restoration period, the entire Tokyo Gas Group provided support, including a gas pipeline construction company, Tokyo Gas LIFEVAL, and Enesta as well as a drafting company and other partner companies. The entire Group is ready to do everything possible to restore service in response to future disasters.

Workers engaged in restoring gas service

Personnel working in a shelter to collect data on valves opened after the shut-off

■ Routine Disaster Preparedness

Tokyo Gas has established a business continuity plan (BCP) and routine disaster preparedness system against the risk of a major earthquake in the Tokyo metropolitan area.

Development of a Business Continuity Plan (BCP)

To cut off gas supply to prevent secondary disasters while continuing to safely supply gas in less affected areas, Tokyo Gas reviews all of its more than 600 operational procedures to prioritize business activities in times of a disaster.
When the supply of gas has been interrupted in certain areas, a company-wide effort is made to

promptly restore service through such measures as assigning staff responsible for operations in the suspended areas to recovery work.

Establishment of Backup Centers

Our systems are housed in a data center that meets high seismic standards. We have also established a backup center in case of a major disaster to maintain access to equipment and data primarily for safeguarding systems related to customer information and emergency safety operations so that we can swiftly restore services. In addition, emergency drills are regularly conducted, and redundancy is built into power supply and communication systems to minimize impact on customers during an emergency.

Comprehensive Disaster Prevention Drills

We have conducted comprehensive disaster prevention drills annually since 1983 to raise the level of the Tokyo Gas Group's response to disasters. The drills are intended to confirm and verify that every team from the Emergency Response Organization is capable of acting in accordance with the guidelines to provide an initial response, facilitate transition to recovery, and ensure reliable collaboration with other gas retailers.

Emergency Response Organization meeting during a comprehensive drill

Disaster Recovery Systems

Tokyo Gas operates an integrated system for monitoring the real-time status of our disaster response, which enables employees to share accurate information and swiftly take appropriate action to minimize damage. Earthquake data collected by our SUPREME system is sent to employees' mobile phones within minutes of an earthquake and can also be used to confirm their safety and deliver instructions on reporting for duty during an emergency. Our earthquake data is also used by local authorities and government agencies.

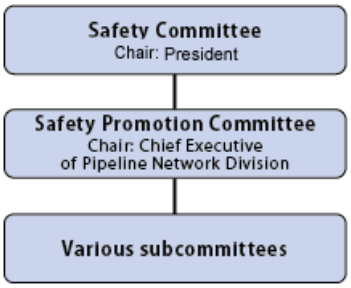
The "Disaster Information Station" site on the Tokyo Gas intranet

Working to Ensure Customer Safety

Safety Management System

The Tokyo Gas Group established its safety management system while recognizing its fundamental mission as an energy company for whom safety represents a material issue that requires the direct involvement of top management. We also established the Safety Committee, chaired by the President, to coordinate and promote safety measures. Under the Safety Committee we set up the Safety Promotion Committee, chaired by the Chief Executive of the Pipeline Network Division, as well as several subcommittees in order to ensure prompt response to various safety issues.

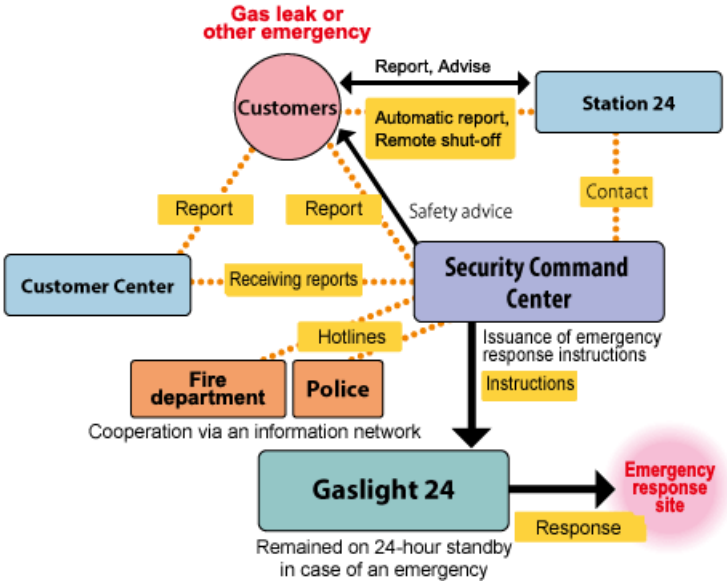
■ Safety Management System



Security System

Tokyo Gas maintains a 24-hour, 365-day emergency response system so that it remains prepared for gas leaks and other contingencies. To ensure customer safety, we operate a thorough security system for handling any incident.

■ Tokyo Gas Security System



Security Command Center

Any report of a gas leak to a Tokyo Gas facility is transferred to the Security Command Center. The center closely follows up on the situation and provides safety advice to the informant. Gaslight 24 personnel, after receiving directions from the center, will immediately rush to the gas leak site from their respective locations. We have also established police and fire department hotlines to facilitate cooperation.

Security Command Center

Gaslight 24

Gaslight 24 teams are 24-hour emergency dispatch groups capable of responding immediately to a gas leak or other emergency. Approximately 600 personnel specialized in emergency safety response are stationed at 49 bases within the service area. They are on call around the clock and respond swiftly in accordance with instructions from the Security Command Center.
Emergency vehicles are equipped with a mapping system that can instantly display gas pipelines and facilities at a site.

Gaslight 24 emergency vehicle

■ Periodic Safety Inspections of Gas Equipment

Under the Gas Business Act, the Tokyo Gas Group periodically inspects gas equipment at all customer sites at intervals mandated by law. As a general gas pipeline operator, we check for gas leaks on customer premises. As a gas retailer, we visit customers to inspect gas appliances as well as air supply and exhaust systems. In addition, as necessary, we recommend the installation of gas alarms and provide contact information for occasions when an industrial ventilation alarm is activated.
We will maintain and improve the quality of our work through continued education for inspectors and other measures to create an environment in which customers can safely use gas.

■ Improving the Quality of Gas Equipment Installation Work and Passing on Skills

To provide safety, security, and reliability for customers in addition to comfort, Tokyo Gas continually holds exhibitions on emergency safety techniques and skills for enhancing the quality of our emergency safety operations and pass on these skills to each new generation of employees.
At the exhibitions, teams representing Tokyo Gas and subcontractors demonstrate their techniques

and skills for daily operations to further inspire each other and hone their skills. In fiscal 2018, 471 people attended, including those from other gas service companies and gas retail companies. During the event, the participants were quite active in demonstrating their skills through competition and role-playing and in exchanging information. Through these efforts, we endeavor to raise awareness and ensure safety, security, and reliability for customers.

Skills exhibition

Enhancing the Safety of Gas Appliances

To make sure customers are able to safely use our gas equipment and appliances, we conduct legally mandated periodic safety inspections of gas equipment thoroughly. In terms of software, we provide customers and appliance manufacturer information on safe use.

Launch of Voluntary Action Plan on Product Safety

Under the Consumer Product Safety Act, we have formulated the Voluntary Action Plan of Tokyo Gas Concerning Product Safety as a company that repairs, installs and sells residential gas appliances, with the intention of ensuring product safety and fostering a culture of product safety. Under the plan, we strive to ensure and improve safety to meet social demands and expectations. Moreover, in our drive to promote a culture of gas appliance safety, we post important notices on the use of residential gas appliances on our website to enable customers to find accurate information quickly on the correct use of products as well as recalls and reported problems.
The entire Tokyo Gas Group is committed to acting quickly and effectively in order to ensure safety and improve the quality of gas appliances under our three pillars of safety, security, and reliability.

Voluntary Action Plan of Tokyo Gas Concerning Product Safety

Launched on November 7, 2007

Tokyo Gas defines the following Voluntary Action Plans to ensure product safety and establish a culture of product safety, thereby strengthening our group values of “Safety, Security, and Reliability” in our role as a company that sells, repairs and installs home gas appliances.

1. **Compliance with laws**
   We shall comply with laws and regulations concerning product safety, formulate in-house voluntary standards for repair and installation work, and strive to ensure product safety.
2. **Establishment of a product safety promotion system**
   We shall improve our company’s product safety promotion system to ensure product safety.
3. **Risk reduction of product-related accidents**
   We shall contribute to reducing the risk of product-related accidents by sending feedback on product-related accidents and problems that come to our attention to the manufacturers and importers of gas appliances.
4. **System for collecting and transmitting information on product-related accidents**
   Whenever we learn of a product-related accident we will promptly forward the information to senior management and related departments in the company, as well as to manufacturers and import companies.
5. **Maintenance and enhancement of product safety**
   We shall promote awareness and disseminate information to our customers on the proper use of gas products, follow-up on questions from customers on product safety and commit to the cultivation of a culture of product safety.
6. **Cooperation with manufacturers and importers**
   Whenever manufacturers or importers recover products due to recalls or other reasons, we shall cooperate with them to efficiently facilitate product recovery.

Improvements for Safer, User-friendly Gas Appliances

Measures to Improve the Quality of Gas Appliances

We address gas appliance failures or accidents at a section dedicated to quality in order to quickly identify the causes and determine effective responses. A new section was created in April 2011 to strengthen these efforts.
In the event of any gas appliance accident or gas appliance failure that requires the identification of a technical cause, we strive to ease customer concerns by immediately investigating the cause and taking the necessary actions in cooperation with manufacturers.
We share the results of any investigations of gas appliance failures along with the expertise gained through the analysis of past repair data with other gas utilities and gas appliance manufacturers to prevent similar failures in new products and improve product quality. For example, all balanced-flue bath boilers are equipped with safety devices to prevent irregular ignition caused by improper handling and also to prevent the boiler from being left on. Moreover, some of our popular models remind the user by an alert light or remote control error message that the equipment has to be checked when its use has exceeded its designed operating life. These features reflect our ongoing efforts to advance safety measures in step with the industry.

Safety and Convenience that Serve Daily Needs

In April 2008, the Japanese gas industry, including gas suppliers and gas appliance manufacturers and sellers, enforced self-regulating standards for all of their household gas stoves*1. As an industry, we are collectively making gas stoves safer by providing standard safety functions for preventing the overheating of cooking oil or flame failure as well as for automatically shutting down the burner after a given period should the user forget to turn it off.
Tokyo Gas has been selling highly safe gas stoves that exceed industry standards. Also, we have been selling alarms that detect and warn users of a gas leak or fire. Recently, in addition to improving the function as an alarm, we have begun selling models with other useful functions for daily life. For example, they detect changes in room temperature and humidity, which aids in personal health management, and they can also serve as a nightlight.

*1 Excluding single-burner tabletop stoves.

Kaiteki Watch comfort sensor (left) and alarm with nightlight function (right)

Promoting Switchover to Safer Appliances

We have been encouraging the switchover to safer appliances since January 2007. We recommend by direct mail or on the occasion of periodic safety inspections of gas equipment that customers who use water heaters or bath boilers not equipped with devices to prevent incomplete combustion to replace them with safer equipment. This has helped to bring down the number of such appliances in our service area from about 160,000 at the start of the replacement campaign to 15,371 at the end of March 2019. We will continue supporting this effort and steadily work to improve safety so that customers can safely use gas appliances.

■ Progress in Switchover to Safer Appliances

Air supply and exhaust method	Target appliances	Number of units targeted for replacement at campaign start	Number of units at end of FY2018
Open-type gas appliances	Small water heaters	37,000	2,242
	Wire mesh stoves	4,200	418
Semi-closed-type gas appliances	Conventional flue-type water heaters and bath boilers / forced exhaust-type water heaters (with downdraft diverters)	120,000	12,711
Total		161,200	15,371

Urban Development

Tokyo Gas Group Urban Development

As a total energy company, the Tokyo Gas Group ensures effective use of energy through the development, utilization, and management of real estate while building safe, secure communities that are resilient to disasters.

Urban Development Service (Real Estate) Business

We engage in real estate development primarily in the Tokyo metropolitan area through the use of owned land, acquisition of new real estate, and joint ventures with business partners.

Office Rental Business

Tokyo Gas engages in the construction, ownership, and rental management of several buildings mainly in central areas of Tokyo to provide high-quality office spaces. Major projects are as below.

- Shinjuku Park Tower
  A high-rise complex completed in 1994.
- msb Tamachi
  Directly connected to the JR Tamachi Station and featuring Smart Energy Networks (SENs) and support for business continuity plans (BCPs), with Phase I completed in May 2018 and Phase II scheduled for completion by summer 2020.
- Shiba Park Building
  A large-scale office building in Hamamatsu-cho and the Daimon area and boasting one of the largest floor areas in Tokyo.


Shinjuku Park Tower


msb Tamachi


Shiba Park Building

Residential Leasing Business

We developed the “LATIERRA” series of rental condominiums, which primarily serve popular urban areas, to offer housing for safe and comfortable living. In May 2018, we began construction on the Toyotama Rental Housing (provisional name) as our first medium-scale project on land owned by Tokyo Gas, and we acquired four new buildings for rental housing during the fiscal year.

LATIERRA Toritsu-daigaku

Toyotama Rental Housing (provisional name)

■ Building SENs

Expanding SENs

The Tokyo Gas Group focuses on SENs that capitalize on the advantages of combined heat and power (CHP) systems[*1] to optimize local generation and consumption of energy. This is done by linking heat, electricity and information networks toward making communities more energy efficient, environmentally friendly and resilient to disasters.

With CHP systems at the core, SENs raise energy efficiency by making maximum use of renewable and underused energy sources, which are integrated with information and communications technology (ICT) to construct an optimal energy system for accurately managing supply and demand. This also improves disaster resilience and so meets BCP needs while enhancing the value

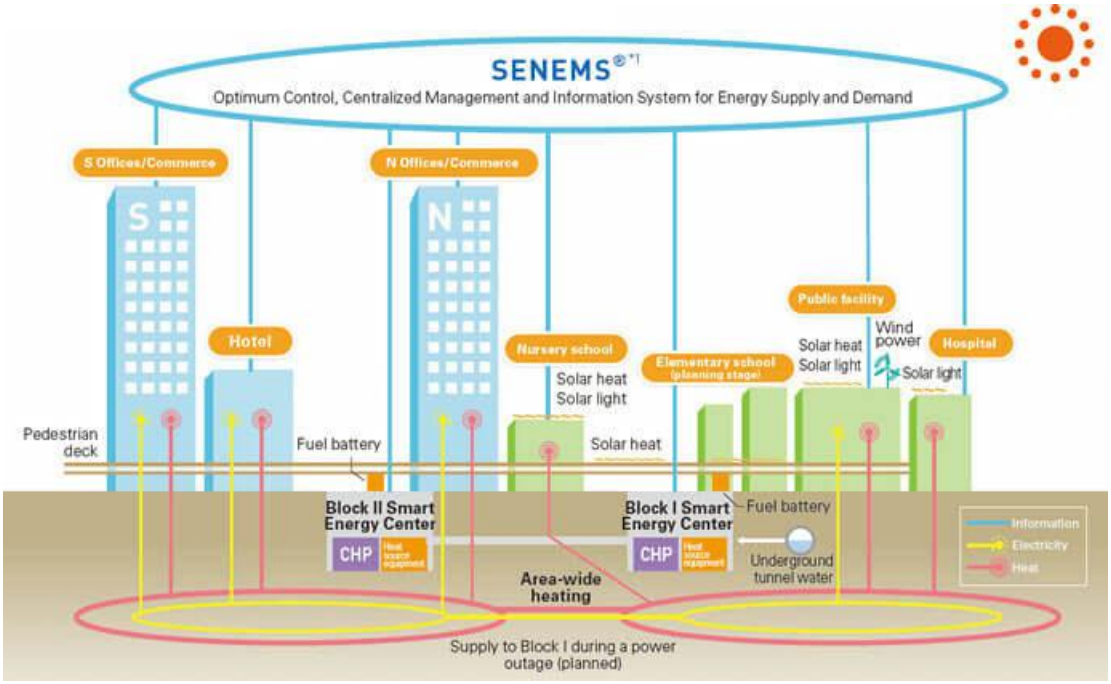
that cities offer. SENs are now being developed in redevelopment zones and other areas in the Greater Tokyo Area. One is the Tamachi SEN, which was awarded the Minister of Economy, Trade and Industry Award for joint projects in the Successful Case of Energy Conservation category at the Energy Conservation Grand Prize Awards in fiscal 2016.

*1 CHP systems generate electricity and recover exhaust heat generated as a by-product.

SEN in the Northern District Adjacent to Tamachi Staion's East Exit

The Tokyo Gas Group has been collaborating with Minato Ward in Tokyo to develop a low-carbon, disaster-resilient community in the northern district adjacent to the east exit of Tamachi Station. The project is intended to optimize energy demand, save energy and enhance disaster resilience by building a SEN. In 2014, construction of the Block I Smart Energy Center was completed and began supplying heat and electricity to the Minato Park Shibaura, a hospital and child welfare facility in the Life Zone. In May 2018, the Block II Smart Energy Center began operations within the New Urban Zone and started supplying energy to office buildings and a hotel. This public-private project is also intended to optimize energy management across the entire area by having the two SENs supply heat to each other, thereby reducing CO_2 emissions by 30% below 2005 levels.

■ SEN for the Northern District Adjacent to the East Exit of Tamachi Station

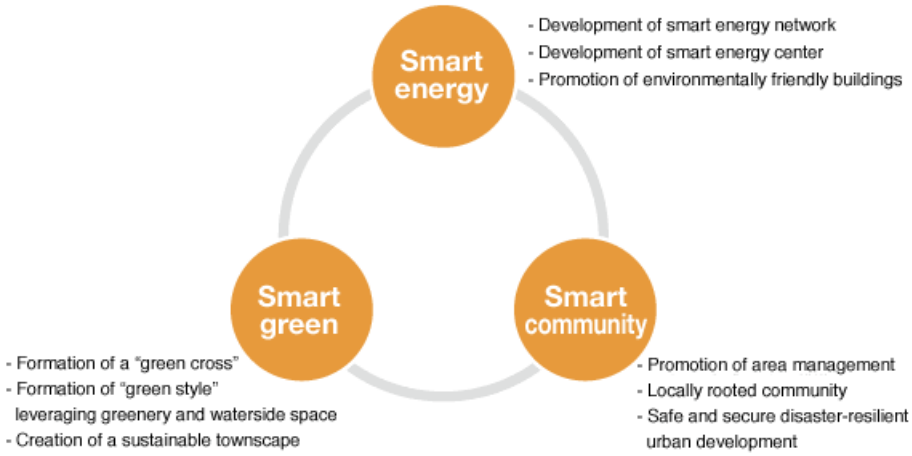


*1 Smart Energy Network Energy Management System

SEN Development in the Toyosu Wharf District

The Tokyo Gas Group is pursuing urban development with the potential to extend deep into the 22nd century in a redevelopment area located around land the Group holds in the Toyosu wharf district of Tokyo's Koto Ward. Under this project, "Tokyo Smart City TOYOSU 22," we are undertaking futuristic urban development guided by the three concepts—"smart energy," "smart green," and "smart community,"—from a long-term perspective looking beyond the Tokyo 2020 Olympics and Paralympics, as a high-quality development to raise the value and appeal of the area.

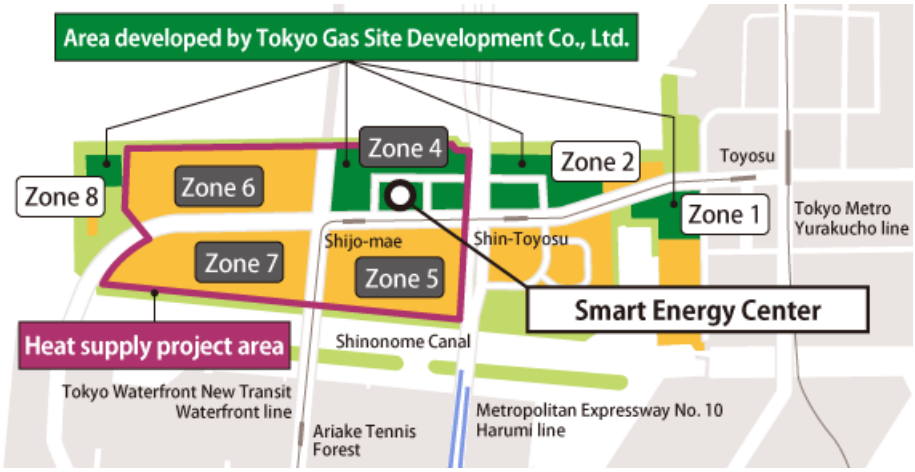
■ TOYOSU 22 Urban Development Concept



In May 2016, we completed construction of a smart energy center in Zone 4 (see figure below), owned by Tokyo Gas Real Estate Co., Ltd., in preparation for development of a SEN in the Toyosu wharf district. This is the second SEN to be developed by Tokyo Gas in an urban redevelopment district, following the Tamachi SEN. The newly completed smart energy center is equipped with one of the world's most efficient CHP systems, which supplies electric power to the Toyosu wholesale market while using its exhaust heat to power equipment at the center. Environmental friendliness has been enhanced by adopting gas pressure differential power generation*1. By applying CHP systems with blackout start specifications*2 to construct the systems, laying independent power lines*3 and employing disaster-resistant medium-pressure gas pipelines, we have created a system capable of an uninterrupted supply of heat and electricity, even during power outages or other emergencies, thus enhancing the district's resilience to disaster. The network also has a "SENEMS"*4 for centrally managing and controlling energy throughout the district using ICT. SENEMS will instantly analyze and process real-time information on supply and demand, weather conditions and specific characteristics associated with each day of the week in order to automatically optimize energy demand and supply for the area. We plan to progressively expand the heat and power network as the development of Zones 4 and 2 progresses.

*1 Power generation based on the use of gas supply pressure.
*2 Method for independently restarting generators during a power outage. The installation of independent power lines and disaster-resistant medium-pressure gas pipelines ensure supply of electricity and heat, even during interruptions in the power grid.
*3 Power lines laid independently by an operator. They can be used at a customer's discretion when grid power has been interrupted.
*4 Abbreviation for Smart Energy Network Energy Management System.

■ Toyosu Wharf District Development Area



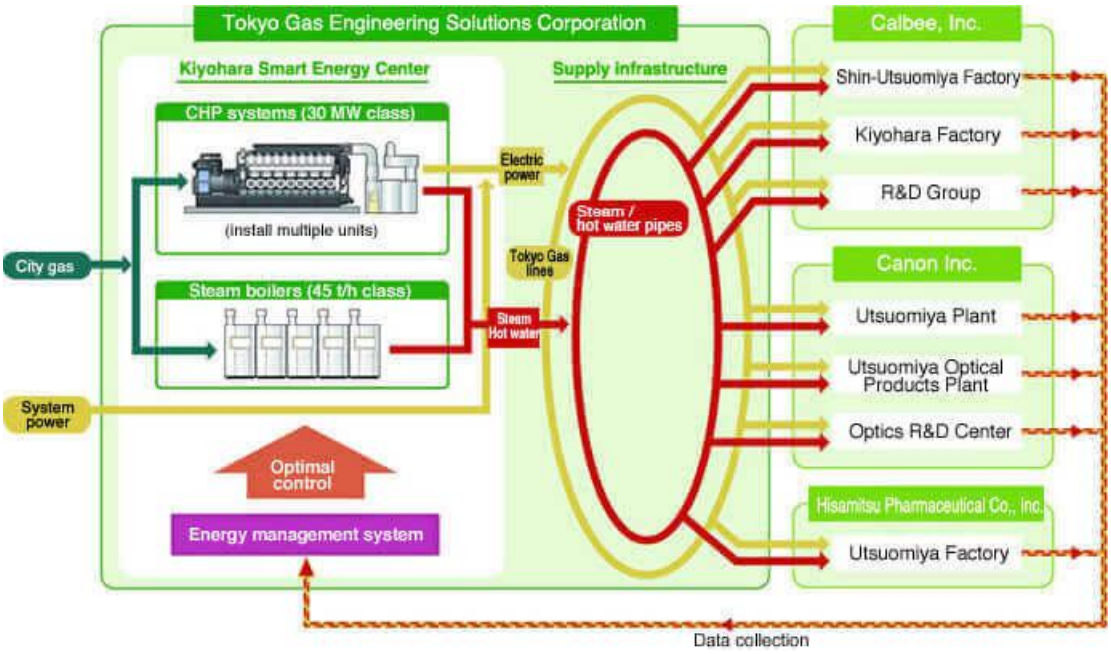
Tokyo Gas's Toyosu Smart Energy Center

Kiyohara Smart Energy Center

In October 2016, Tokyo Gas and Tokyo Gas Engineering Solutions Corporation began constructing the Kiyohara Smart Energy Center. This is based on a large-scale CHP system that will supply electricity and heat in the form of steam and hot water to seven plants operated by three companies in the Kiyohara Industrial Complex on the outskirts of Utsunomiya City in Tochigi Prefecture.
The project will supply a combination of electricity and heat to multiple plants in different industries as Japan's first integrated energy-saving project serving multiple plants[*1] in an inland industrial park. Also, the project will incorporate an energy management system[*2] to concentrate data on electricity and heat (steam and hot water) usage for multiple plants in different industries with varying demand.
By efficiently meeting those needs, we expect a reduction of approximately 20% in energy consumption[*3] and CO_2 emissions,[*4] respectively.
In addition, blackout start specifications will be adopted to supply energy to each plant in the event of a prolonged power outage or a disaster, thereby enhancing security.
The center's construction is compatible with Tochigi Prefecture's energy strategy and Utsunomiya City's action plan on addressing climate change, formulated by referencing the government's reduction targets for greenhouse gas emissions and other goals. It is therefore expected to serve as a model for other regions in Japan. In fiscal 2016, the project was selected to receive a subsidy from the Ministry of Economy, Trade and Industry for supporting energy conservation at plants and other worksites.

*1 Project for saving energy by integrating production lines and sharing utilities between multiple plants to facilitate the mutual use of energy and products.
*2 System for realizing optimal operation and control of CHP systems by visualizing the energy use of each company and predicting electricity and thermal load trends.
*3 Rate of reduction compared to the combined electricity and gas usage data in fiscal 2015 for seven plants operated by Calbee, Inc., Canon Inc. and Hisamitsu Pharmaceutical Co., Inc.
*4 Rate of reduction compared to the combined CO2 emissions data in fiscal 2015 for seven plants operated by Calbee, Inc., Canon Inc. and Hisamitsu Pharmaceutical Co., Inc.

■ Overview of Electricity and Heat (Steam and Hot Water) Supply

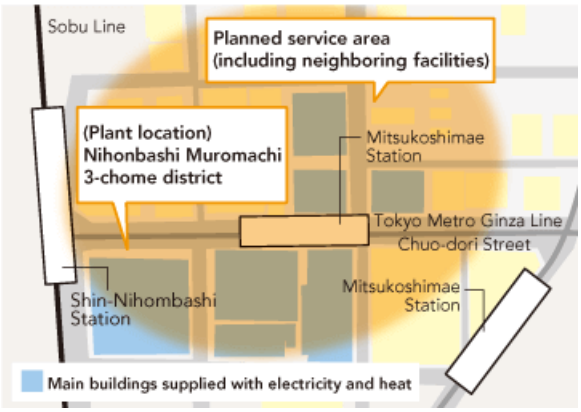


Kiyohara Smart Energy Center

Japan's First SEN, including Existing Buildings in Nihonbashi

A large high-efficiency CHP system has been installed in the redevelopment zone in Nihonbashi Muromachi 3-chome to serve as an independent distributed power source.
The system supplies electricity and heat to office buildings and commercial facilities in the surrounding area as well as within the redevelopment zone, making it the first such project in Japan. New projects of this kind will encourage the area-wide adoption of smart energy technologies and contribute to the development of cities that are much more resilient to disasters.
The project, run by Mitsui Fudosan TG Smart Energy, Inc., a joint venture formed by Mitsui Fudosan and Tokyo Gas, was completed in April 2019 and started to supply electricity and heat.

Japan's First SEN to Serve Neighboring Facilities in Nihonbashi Muromachi



Redevelopment zone in Nihonbashi Muromachi 3-chome

Participation in Yokohama's Tsunashima-Higashi Smart Town Project

The Tokyo Gas Group is pursuing a number of projects, including development of an energy center, in Tsunashima Sustainable Smart Town, a next-generation urban smart city that will be developed on the former site of a Panasonic factory in the Tsunashima-Higashi district of Kohoku Ward in Yokohama, Kanagawa Prefecture.
The first energy services came on line in December 2016. We have developed energy supply systems based on an advanced model for sharing heat and power supplies to diverse facilities over a compact area. Supply continuity is ensured by installing a CHP system in the energy center and using multiple power sources and disaster-resistant medium-pressure gas lines.
At the same time, we are making operations more environmentally sound through the use of more efficient equipment and area-wide energy utilization while also providing energy services to ensure the financial viability of the systems.

Artist rendering of the town energy center

Enriching Daily Life

Tokyo Gas Group's Contribution to Enriching Daily Life

Since its founding in 1885, Tokyo Gas has been providing gas-powered appliances that are deeply woven into daily life. Major examples include rice cookers which make housework easier, heating equipment that generates warmth in winter, and water heaters for providing hot water at any time. Over the past 130 years, we have sought to maintain a close relationship with everyday life and continue advancing our R&D so customers can enjoy comfortable, fulfilling lives.

Cooking Appliances that Revolutionized the Kitchen

Until the late 19th century, cooking rice required bending down to tend a fire, which was burdensome for housewives. The task was made easier with gas cooking stoves, which we began selling in 1902. Gas use made standing while cooking rice possible, and oven and indoor spaces were cleaner without soot. The automatic gas rice cooker, developed in 1957, further reduced the workload by automatically extinguishing the fire when the rice was ready. Since then, we have continued to develop rice cookers that are easier to use and even more convenient.
The gas kitchen stove was another appliance that made cooking easier. In 1920, we commercialized the tabletop stove at a more reasonable price than that of the imported variety which had become popular among the upper class around the turn of that century. We also sought to provide greater convenience by attaching a base to the product along with other improvements to its shape in order to better accommodate Japanese kitchen utensils. In 1956, we introduced the automatic ignition gas cooking stove, which did not require a match to light, and in 1977 we began selling a gas table that incorporated electronic technology to prevent gas leaks by automatically shutting off gas supply when a fire is inadvertently extinguished. Throughout its history, Tokyo Gas has endeavored to develop safe and secure products to support Japanese eating habits.

■ History of the Rice Cooker

1902	1957
 Gas cooking stove	 Automatic gas rice cooker

■ History of the Gas Kitchen Stove

1920	1956	1977
 Tabletop gas stove	 Automatic ignition gas cooking stove	 Gas table with automatic safety shut-off feature

Gas Heaters that Bring Warmth to Cold Winters

The gas stove, developed in 1927, became a popular appliance to counter the winter cold in the 1930s. Based on a British model imported around the turn of the 20th century, adaptations to the design were made to better fit with the Japanese lifestyle and bring warmth to daily life. Following the forced draft balanced flue-type gas heater developed in 1971, we adopted a warm-air heating method in addition to conventional direct-fire heating for significantly improved safety. With the gas fan heater commercialized in 1980, we increased the product's power while reducing its size. Since then, we have continued to develop products that excel in comfort and safety and are environmentally sound, by adding safety devices and energy-saving features.
The use of gas hydronic underfloor heating is increasing. In underfloor heating, a gas water heater boils water that is circulated through underfloor pipes to heat a room. The unit has become especially popular in homes with children who suffer from allergies and those of the elderly, as it does not produce dust and so the air stays clean.

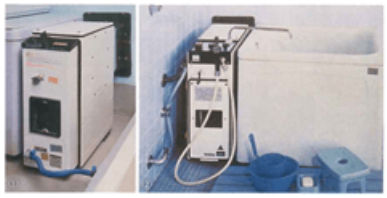
■ History of Gas Heaters

1927	1971	1980	1988
 Gas stove made in Japan	 Forced draft balanced flue-type gas heater	 Gas fan heater	 Underfloor heating

Gas Bath Heaters for More Comfortable Living

Being able to take a hot bath at any time by burning gas has brought greater comfort and convenience to everyday life. In 1965, we began providing the balanced-type bath boiler, in which the boiler is installed next to the bath tub. The product prevented incomplete combustion inside the bathroom by using outside air for combustion and externally discharging the exhaust, thereby improving the security and safety of taking a bath. In 1976, we developed the outdoor installation bath heater, in which the boiler is separated from the bath tub and installed outdoors. This removed concerns related to air supply and exhaust and freed up bathroom space.
We have continued to focus on developing products that contribute to enriching daily life, such as the fully-automated bath heater, and have also recently commercialized environmentally sound products. One such product is the Eco-JOES water heater, equipped with a latent heat recovery system, which we began selling in 2001 as a model that significantly contributes to reducing energy consumption and CO_2 emissions.

■ History of Water Heaters

1965	2001
 Balanced-type bath boiler	 Highly efficient water heater equipped with a latent heat recovery system (Eco-JOES)

Lifestyle Services

Tokyo Gas Group's Community-based Service System

To meet specific needs and foster a close relationship with each customer, the Tokyo Gas Group set up the Tokyo Gas LIFEVAL network as a one-stop shop for products and services that improve the quality of life. As of April 1, 2019, the network consisted of 30 corporations in 62 regional blocks. Tokyo Gas LIFEVAL performs a number of tasks, such as periodic safety inspections of gas equipment, meter readings, opening and closing of gas valves, the sale, repair, and installation of gas appliances, and processing of applications for gas and electricity services. In addition, they provide information related to energy and daily life, such as plumbing renovations, energy conservation and power generation, to help local residents enjoy safe, environmentally friendly, comfortable lives. We also hold various events in our showrooms, where we encourage visitors to see, touch, and experience the appliances and facilities we recommend. And we offer cooking classes in which participants can experience firsthand the advantages of a gas-powered kitchen. The Group provides a number of services for added comfort. These are provided through the Enesta and Enefit service outlets in addition to LIFEVAL.

An employee talking with a customer at the LIFEVAL event

Installing equipment

Always Reliable Services

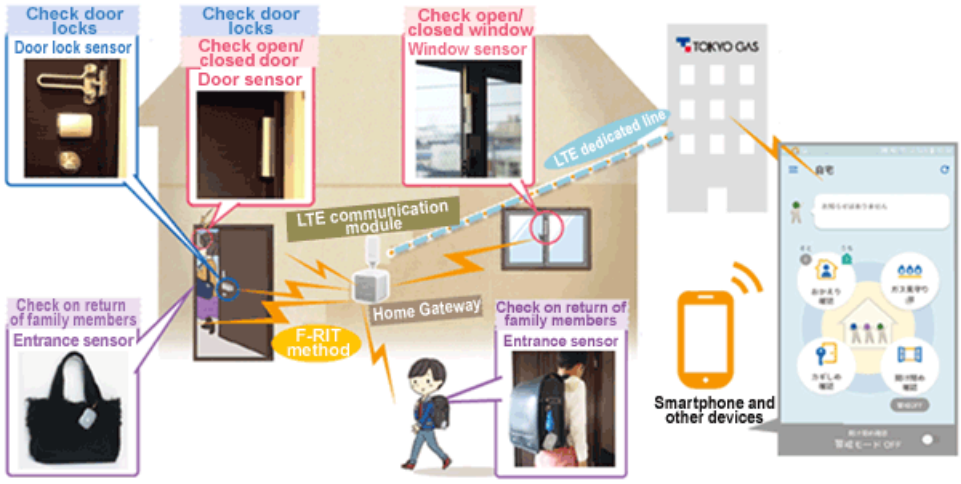
So that customers can have peace of mind when using gas appliances, we address a broad range of daily needs, primarily through our "Always Reliable Services." In addition to gas fixture troubleshooting support and a round-the-clock response to emergencies related to plumbing and house door locks, we are expanding our monitoring services which apply digital technology to the provision of security for daily living and families.

Always Reliable Services

Gas Fixture Special Support	We perform onsite repairs of home-use city gas appliances and hot-water terminal equipment made by Japanese manufacturers. For a monthly fee, the service can be used as often as needed for an unlimited number of appliances. Moreover, our generous services support the use of gas in daily life, including subsidizing part of the purchasing cost for gas appliance replacement.

Gas Fixture Troubleshooting Support		To alleviate concerns over repair costs, we perform onsite repairs of city gas water heaters and kitchen stoves, without charging travel expenses, for gas service customers.
Emergency Home Assist Services		We reassure customers by responding around the clock to unexpected emergencies related to plumbing, house door locks, and more. Users have expressed their gratitude for our quick response to plumbing problems and for providing the service free.
Electricity Troubleshooting Support		We also perform electricity troubleshooting for customers of the Tokyo Gas electricity service. We aim to reassure customers during an emergency by addressing concerns not only related to gas but also to electricity, which sustains our daily lives.
Residential Monitoring Services	Gas Monitoring	We alleviate any daily concerns customers may have by enabling them to check if gas equipment has been turned off or if gas supply has been shut off remotely. Also, they receive an automated notice when gas equipment has been left on, family members living far away can be monitored for gas use irregularities.
	Home and Family Monitoring	We provide everyday security in terms of enabling customers to check from outside the home whether or not a house door has been locked, if windows are opened or closed, and if family members have returned.

■ Overview of Residential Monitoring Service (Home and Family Monitoring)



Tadaima (I'm Home) Paccho (Tokyo Gas's Mascot Character)

We began offering the Tadaima Paccho security service in February 2019, which is compatible with the Amazon Alexa*1 cloud-based voice recognition service provided by Amazon. The service can be used by customers with a terminal equipped with Amazon Alexa functions such as Amazon Echo*2. When a customer returns home, they can call out, "Alexa, tadaima (I'm home), Paccho." The terminal will respond in Paccho's voice and inform family members of the customer's return by email. The service can be used as a tool to keep a tab on family members in way similar to that of the Residential Monitoring Service.
The service can be used by anyone with a terminal equipped with Amazon Echo and other Amazon Alexa functions.

*1 Amazon Alexa is a continually evolving cloud-based construct that serves as the brain of Amazon Echo.
*2 Amazon Echo is a terminal that can be operated hands-free by means of voice recognition. Customers with Amazon Echo or a similar terminal can call out a request from different parts of a room for certain information, music playback, or details in the news or weather forecasts, and Alexa will promptly respond.

■ Service Overview

Note: Amazon, Alexa, and Echo are trademarks owned by Amazon.com, Inc. or its associated companies.

■ Services for Homes

We provide services that meet a broad range of needs around the home. With "Always Reliable Home Support," we offer diverse services for the home that include minor home repairs and dealing with plumbing problems in order to deliver comfort and safety to customer homes.

Always Reliable Home Support*1

Minor Home Repairs and Renovation	Our reliable services include everything from minor repairs and changing wallpaper or screens, as well as adjusting or replacing doorknobs, to renovating and upgrading home facilities and appliances for the bathroom, kitchen, washroom with a toilet, and other rooms.
Plumbing Troubleshooting	We quickly respond to plumbing problems such as leaks and clogged drains.
Gas Appliance Repairs	We respond to sudden failures and other problems related to gas appliances around the clock, year-round.
Home Safety Measures	Our services for home safety measures include installing alarms and handrails and providing fire extinguishers and other emergency supplies.
Housework Support	We collaborate with the Aeon Group's Kajitaku Co., Ltd. to provide house cleaning, home-delivered laundry, and housekeeping services at reasonable prices*2.

*1 We may not be able to meet requests that involve only installing equipment purchased by the customer. In some regions, the service may be performed by partner companies. Service areas differ depending on the service.
*2 Tokyo Gas customers can use the service at a 10% discount from regular online prices offered by Kajitaku (as of April 2019, with some exceptions). Specifications and pricing of the service are subject to change without prior notice. For more information, please consult the Tokyo Gas website.

Torisetsu and Torisetsu+HOME

We have been providing a free-of-charge service since autumn 2017 that allows for the integrated management of information on gas and electronic appliances at home through a collaboration between Torisetsu*1, the smartphone app that provides easy access to user guides, and myTOKYOGAS. This partnership enables customers to register their major gas appliances automatically and easily obtain user guides for gas appliances and contact information about nearby LIFEVAL and Enesta service outlets in the event of a failure.
In August 2018, we began providing the Torisetsu+HOME*2 service for residents of condominiums. It allows them to easily obtain user guides for residential facilities and appliances, as well as the common spaces in condominiums, on their smartphones and other devices. Furthermore, the

service enables condominium operators to provide a set of user guide documents via a smartphone app and website as well as to carry out integrated management of information on residential facilities and appliances, thereby raising the accuracy of their responses to inquiries.

*1 Torisetsu is a service provided by TRYGLE Co., Ltd. that allows for the integrated management of user guides and other information on household appliances through smartphones and personal computers.
*2 Torisetsu+HOME is a service provided to condominium operators during the construction phase.

■ Overview of the Torisetsu Service

■ Overview of the Torisetsu+HOME Service

■ Services that Enliven People

Heat Shock Forecasts

Tokyo Gas has been providing Heat Shock Forecasts, jointly developed with the Japan Weather Association, on the JWA's tenki.jp website since October 2017. The service displays heat shock potential*1 calculated from indoor temperature differences on the basis of weather prediction information and is intended to highlight the need to take baths safely in the winter. In addition, through the myTOKYOGAS service, we provide personalized heat shock forecasts tailored to specific indoor conditions based on the type and age of the customer's house. Our information on bath use patterns of customers and expertise on housing and air-conditioning equipment contributed to the development of the heat shock forecast service.
In autumn 2018, Tokyo Gas led the launch of the STOP! Heat Shock® Project as a collaborative corporate initiative aimed at raising awareness of heat shock. It has continued with this effort to further educate about and alert the public to related countermeasures.

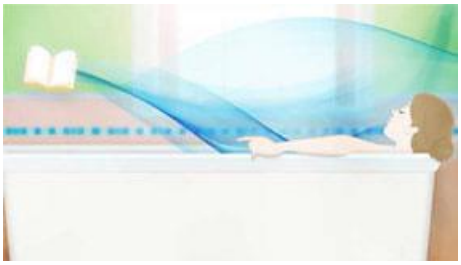
*1 Forecasts are provided during the winter season only. However, in fiscal 2019, the service is scheduled to begin in or around October.

STOP!ヒートショック®

「STOP！ヒートショック」とは、ヒートショックに関する正しい理解と対策方法を社会に広め、一人でも多くの方にリスクを回避いただけるように、企業協働で推進する啓発活動です。

Audiobook Service Furomimi

We provide an audiobook service allowing users to listen to books while taking a bath. Furomimi was jointly developed with OTOBANK Inc. and QUANTUM Inc. with the concept of aural refreshment. Using waterproof smartphones, users can enjoy taking a bath with Furomimi, which provides original content such as stretching exercises for use in the bathroom and voice training as well as books.
We entered into a capital and business alliance with OTOBANK Inc. in November 2018 and plan to provide new audio content services that support various aspects of daily life, such as preparing children to sleep and other childcare as well as cooking and doing other housework.



Overview of service

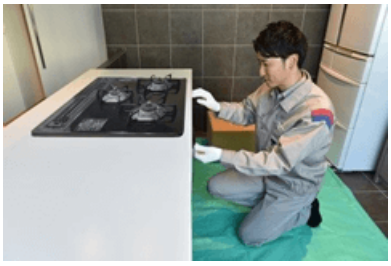
■ Expanding Sales Channels for Our Products and Services

Tokyo Gas Web Shop

We operate the Tokyo Gas Web Shop*1 to sell gas appliances and related parts as well as selected goods for daily use. With the service, customers can get an estimate, place an order, and pay by credit card on their personal computer or smartphone around the clock, year-round. Those in two-income families or with small children, who may find it difficult to obtain a service if they feel they have to come to our shop or during a staff visit, can easily purchase goods and services via our website which will improve the quality of their lives. For gas appliances that require installation work, customers can place an order for the work when they purchase the product. Moreover, they can pay using their Paccho points*2 awarded to them according to how much gas and electricity they use. In addition, Paccho points are awarded for the purchase of the product itself, corresponding to the amount paid.

*1 The use of this website is limited to customers registered with the myTOKYOGAS free membership Web service for the home.
*2 Loyalty program for myTOKYOGAS members.

Tokyo Gas Web Shop

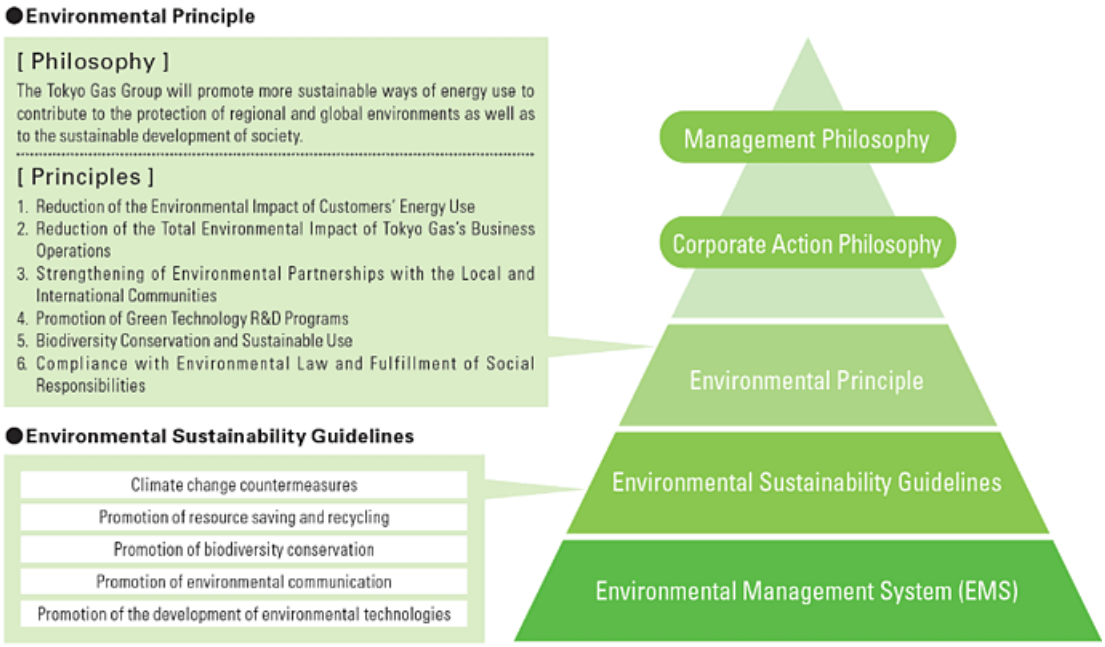


Installing an appliance

Basic Policy

Environmental Policy and Environmental Sustainability Guidelines

The Tokyo Gas Group conducts environmental management through a concerted effort and has established its Environmental Principle based on its Management Philosophy and Corporate Action Philosophy as well as its Environmental Sustainability Guidelines to define concrete initiatives and quantitative targets.
The president of Tokyo Gas releases a message every June, Japan's Environment Month, to remind all Group employees of the need to address environmental issues continuously and strive for a sustainable society as part of an enterprise that leads in environmentally friendly corporate management through its Environmental Philosophy.



Links
- ▶ CSR KPIs and FY2018 Outcomes—Strategic Initiatives: Targets and Outcomes
- ▶ Supply Chain Management – Basic Policy

Chronology of Environmental Activities

Tokyo Gas has supplied energy to customers since its foundation in 1895. It introduced eco-friendly LNG (liquefied natural gas) to Japan for the first time in 1969 and now uses it for city gas as well as power generation. In 2005, it obtained Group-wide certification for the ISO 14001 international standard and is actively engaging in environmental protection. The company will continue to promote eco-friendly corporate management toward creating a decarbonized society and a circular economy and developing a society that coexists with nature.

Chronology of Tokyo Gas Environmental Activities

Tokyo Gas		Social Developments
Cumulative sales of ENE-FARM reached 100,000 units Tokyo Gas Group as a whole began implementing EMS*1 Revision of Environmental Sustainability Guidelines	2018	Ocean Plastics Charter
The Tokyo Gas Group FY2018-2020 Medium-term Management Plan Shifted to ISO 14001:2015 GPS2020	2017	Full liberalization of Japan's gas retail market
The Tokyo Gas Group's Total Energy Service Plan	2016	Full liberalization of Japan's electricity retail market Paris Agreement adopted (COP21)
10th anniversary of the Nagano Tokyo Gas Forest Participation in the United Nations Global Compact	2015	U.N. SDGs Intended nationally determined contributions Japan's Act on Rational Use and Proper Management of Fluorocarbons
First general commercial hydrogen station opened Number of students in public schools taught by Tokyo Gas employees reached 1 million Environmental Sustainability Guidelines revised	2014	Japan's revised Air Pollution Control Act
Tokyo Gas Kininaru Project, Tree Planting Project started	2013	Japan's measures to fight climate change under the Cancun Agreements (thru 2020) Japan's Revised Act on Rationalizing Energy Use Japan's Small Electronic Appliances Recycling Law
Cumulative sales of ENE-FARM reached 10,000 units Guidelines for Climate Change Countermeasures revised	2012	Rio+20 in Rio de Janeiro
Challenge 2020 Vision Participation in the Shonai Wind-Power project Smart house pilot project in Yokohama's Isogo Ward	2011	Japan's mandated energy conservation under the Electricity Business Act after the Great East Japan Earthquake
Smart energy network pilot project in Senju district in Tokyo's Adachi Ward	2010	Japan's Revised Wastes Disposal Law(greater responsibility on prime contractors) Japan's revised Act on Rationalizing Energy Use (reporting by every business operator) Ordinances for a safe environment in Tokyo and in other localities Conference of the Parties (COP 10) (Nagoya Protocol, Aichi Target)
ENE-FARM launched Environmental Sustainability Guidelines revised The Tokyo Gas Group's 2009–2013 medium-term management plan	2009	Japan's revised Soil Contamination Countermeasures Act
Tokyo Gas Environment Support Fund set up	2008	Kyoto Protocol's first commitment period (thru 2012) G-8 Hokkaido Toyako Summit Japan's Basic Act on Biodiversity
Number of Tokyo Gas customers reached 10 million	2007	Japan's revised Fluorocarbons Recovery and Destruction Law
Caloric value change (45 MJ/m3) The Gas Science Museum opened	2006	Waste Management and Public Cleansing Law (Stronger Asbestos Measures)
Environmental Sustainability Guidelines revised; obtained company-wide ISO 14001 certification Home-use fuel cell CHP system launched The Nagano Tokyo Gas Forest opened	2005	Kyoto Protocol coming into effect/Japan's plan to achieve Kyoto Protocol goals Japan's revised Act on Promotion of Global Warming Countermeasures (reporting mandated) Japan's revised Act on Rationalizing Energy Use (comprehensive management of heat and electricity)
Combined heat and power (CHP) exceeded 1 million kW Code of Conduct established	2004	ISO 14001 revised
Entry into power generation business; Energy Frontier LNG carrier launched Senju Hydrogen Station built; ESCO*2 business started	2003	Japan's revised Gas Business Act (broader liberalization) Japan's revised Act on Rationalizing Energy Use
The Tokyo Gas Group Frontier 2007 Medium-term Management Plan drawn up ISO 14001 certification for head office	2002	Japan's Soil Contamination Countermeasures Act; Basic Act on Energy Policy Japan's revised Outline for Promotion Effects to Prevent Global Warming Johannesburg Summit
Announcement of results of soil investigations started; Management Philosophy revised School Education Information Center set up Introduced the Environment Management Systems at subsidiaries and affiliates	2001	Japan's Ministry of the Environment launched; Japan's Fluorocarbons Recovery and Destruction Law
New environment policy formulated New Environmental Sustainability Guidelines drawn up Environmental accounting introduced	2000	Japan's Green Purchases Law Japan's Basic Act on Establishing a Sound Material-Cycle Society
Soil pollution investigations started Latent heat recovery-type hot water system commercialized	1999	Japan's Act on Special Measures against Dioxins
Energy & Earth Exploratorium (the Wondership) opened	1998	Japan's Act on Promotion of Global Warming Countermeasures; Japan's Outline for Promotion Effects to Prevent Global Warming Japan's Home Appliances Recycling Law
Negishi, Sodegaura LNG Terminals acquired ISO 14001 certification (first in gas industry)	1997	Kyoto Protocol adopted (COP 3); Japan's Environmental Impact Assessment Law
Green Purchases started	1996	ISO 14001 issued Japan's Containers and Packaging Recycling Law (1995)
Eco-friendly cooking classes started Tokyo Gas customers reached 8 million	1995	Japan's Containers and Packaging Recycling Law
Environmental Report, SRIMS*3 started Recycling of polyethylene gas pipes started; route services by natural gas buses started	1994	United Nations Framework Convention on Climate Change coming into effect Japan's revised Gas Business Act (deregulation) Japan's Basic Environment Law (1993)
Environmental Affairs Department set up;general environmental policy formulated Non-open-cut construction put into practical use	1992	United Nations Conference on Environment and Development (Earth Summit)
First prototype natural gas vehicle built	1984	Basel Convention (1991) Japan's Law on Protection of Ozone Layer (1988)
Installation of CHP system at the National Stadium	1981	Japan's Act on Rationalizing Energy Use (1979)
Administration Section Office opened	1973	First oil crisis
Antipollution Section Office opened Calorific value change (thru 1988)	1972	United Nations Conference on the Human Environment
District air-conditioning and heating service started (Shinjuku Metropolitan District)	1971	Japan's Environment Agency established
Absorption chiller-heater installed (Kuramae Kokugikan sumo hall)	1970	
Use of LNG (liquefied natural gas) started	1969	Japan's Air Pollution Control Act (1968) Japan's Basic Act for Environmental Pollution Control (1967)
Tokyo Gas founded	1885	Japan's first gaslight service (Yokohama) (1872)

The Gas Science Museum

Sodegaura LNG Terminal

LNG terminal/oil gas generation equipment in 1972

Gas storage equipment/watered gas holder in 1974

Gaslight on Benten Bridge in Yokohama

*1 EMS (Environmental Management System): Established environmental management at subsidiaries and Tokyo LIFEVAL companies, and introduced an original EMS.

*2 ESCO (Energy Service COmpany): A service to provide a package of necessary systematic solutions to save energy, such as technologies, equipment, human resources and funds.

*3 SRIMS: Tokyo Gas original waste collection and recycling system, which collects waste during the delivery of gas appliances and parts and piping materials to partner companies.

Note: Laws' enactment years are shown.

Links

- Chronology of Environmental Activities （PDF : 1,168KB）
- Production of City Gas—Benefits of LNG as Feedstock for City Gas
- Addressing Climate Change, Environmental Advantages of City Gas in Terms of Lifecycle CO_2 Emissions

Environmental Management

Environmental Management Promotion System

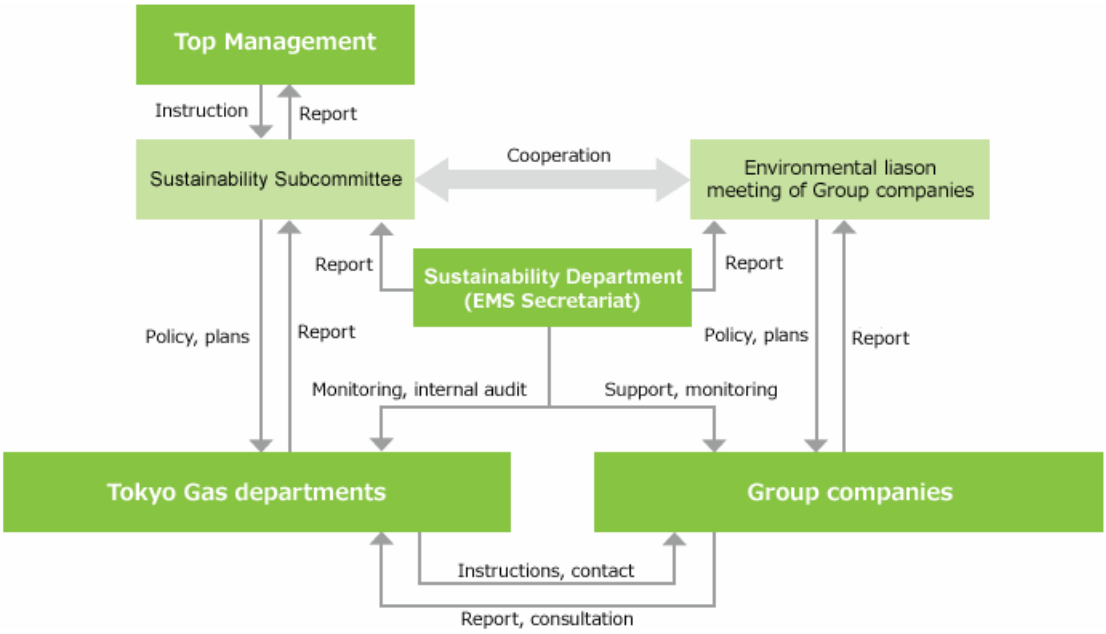
Tokyo Gas established a Sustainability Committee chaired by the president to deliberate on matters concerning sustainability. The Sustainability Department serves as the secretariat of this committee and reports on important matters to the Board of Directors. The Audit & Supervisory Board members also attend to this committee as an observer.
The Sustainability Subcommittee spearheads the Group's environmental management by carrying out tasks including planning environmental targets and overseeing progress toward achieving them.

■ System for Promoting Environmental Management

Continual Improvement to the Environmental Management System

Tokyo Gas has practiced effective and efficient environmental management under the leadership of top management since establishing its Group-wide environmental management system (EMS) in 2005 to comply with the ISO 14001. In fiscal 2017, we started operating an EMS that meets the revised ISO 14001:2015. By implementing PDCA cycles under the EMS we can ensure legal compliance and reduce environmental impact, preserve biodiversity and strengthen environmental partnerships, making our environmental protection activities both systematic and substantive.
To strengthen the Tokyo Gas Group's environmental governance, we constructed the environmental management system, described below, and support the operation of environmental management systems at each Group company.

■ Environmental Management System



■ Status of Tokyo Gas Group Operations Related to Environmental Management Systems (as the end of March 2019)

Name of Organization		Type of Management System
Tokyo Gas Co., Ltd.		ISO 14001
Residential Sales and Service Division	Capty Co., Ltd.	ISO 14001
	Tokyo Gas Living Holdings Co., Ltd. Tokyo Gas Living Engineering Co., Ltd. Tokyo Gas Lease Co., Ltd. Tokyo Gas Remodeling Co., Ltd. Tokyo Gas Customer Support Co., Ltd. Tokyo Gas Living Line Co., Ltd. Tokyo Gas Lifeval Nishi-Ota Co., Ltd. Tokyo Gas ST Comunet Co., Ltd. Tokyo Gas Lifeval Chiba Co., Ltd.	Other environmental management system[*1]
Energy Solution Division	Tachikawa Toshi-Center Co., Ltd.	Other environmental management system
Regional Development Division	Nagano Toshi Gas Co., Ltd.	ISO 14001
	Tokyo Gas Yamanashi Co., Ltd. Washinomiya Gas Co., Ltd. Shoei Gas Co., Ltd. Showa Unyu Co., Ltd.	Other environmental management system
Pipeline Network Division	Capty Tech Co., Ltd.[*2] Kawasaki Gas Pipeline Co., Ltd.[*3]	ISO 14001
	Tokyo Gas Pipeline Co., Ltd. Tokyo Gas Pipe Network Co., Ltd.	Other environmental management system
Gas Resources & Energy Production Division	Tokyo Gas Baypower Co., Ltd. (Sodegaura Power Station)[*3] Tokyo LNG Tanker Co., Ltd.[*3]	ISO 14001
	Tokyo Gas Yokosuka Power Co., Ltd. Ohgishima Power Co., Ltd.	Other environmental management system
Power Business Division	Nijio Co., Ltd.[*3]	ISO 14001
IT Division	Tokyo Gas i Net Corp	Other environmental management system

	Tokyo Gas Urban Development Co., Ltd.*4 Tokyo Gas Facility Service Co., Ltd.*5	ISO 14001
Others	Tokyo Gas Engineering Solutions Corporation Tokyo Gas Liquid Holdings Co., Ltd. Tokyo Gas Energy Co., Ltd. Enelife Carrier Co., Ltd. Tokyo Auto Gas Co., Ltd. Tokyo Gas LPG Terminal Co., Ltd. Tokyo Gas Chemicals Co., Ltd. Tokyo Oxygen And Nitrogen Co., Ltd. Tokyo Carbonic Co., Ltd. Tokyo Rare Gases Co., Ltd. Tokyo Gas Real Estate Holdings Co., Ltd. Tokyo Gas Site Development Co., Ltd. Park Tower Hotel Co., Ltd. Tokyo Gas Communications, Inc.	Other environmental management system

*1 Tokyo Gas developed its own EMS for subsidiaries
*2 Included in the EMS activities of Capty Co., Ltd.
*3 Included in the EMS activities of Tokyo Gas Co., Ltd.
*4 ISO registration covers business activities related to a building rental at Shinjuku Park Tower (excluding the hotel).
*5 ISO registration covers the head office and management division of the Park Tower.

Internal Audit Results

The internal audit in fiscal 2018 found that the EMS's in all our sections complied with the requirements specified by the ISO 14001: 2015 and that the EMS's were effectively operated.

Compliance with Environmental Laws

As in the previous year, the Group was not involved in any accidents that significantly impacted the environment nor was it cited for any violations of environmental laws or regulations in fiscal 2018.

■ Management of Chemical Substances

The Tokyo Gas Group adheres to prevailing laws and regulations for effectively controlling hazardous substances in its production and supply of gas and electricity and is working to reduce the release of these substances.

Compliance with PRTR Law and Other Laws and Regulations

▸ Third-party Assured

The following amounts of chemicals subject to reporting requirements under the pollutant release and transfer register law and the Ordinance for the citizens of Tokyo*1 in fiscal 2018. We had no subsidiaries for which reports were required in fiscal 2018.

*1 The act on confirmation, etc., of the release of amounts of specific chemical substances in the environment and promotion of improvements to their management and the Ordinance on the environment to ensure the health and safety of citizens of Tokyo

■ The amounts of chemicals subject to reporting requirements under the register law: Tokyo Gas

Substance	Handled amount (kg)	Release (kg)	Transfer (kg)	Note
Xylene	3,681	0.3	0.0	Refueling
1,2,4-Trimethylbenzene	2,899	1,045.9	0.0	Refueling and coating

Toluene	7,131	1.7	0.0	Refueling
N-hexane	3,178	5.3	0.0	Refueling

Measures to Address Fluorocarbons

▸ Third-party Assured

Tokyo Gas inspected products specified by the Act on Rational Use and Proper Management of Fluorocarbons (commercial air conditioners, refrigerators and freezers) that it manages and is legally required to check as of the enforcement of the law in April 2015. In fiscal 2018, Tokyo Gas and its subsidiaries did not exceed the 1,000 t-CO_2 threshold. As a registered operator for fluorocarbon refill and recovery, we collected and appropriately handled fluorocarbons that were removed during inspections and maintenance of products with global warming potential (GWP).

■ Leakage Calculated as Manager: Tokyo Gas

Substance	Calculated Leakage (t-CO_2 equivalents)
HCFC	5.6
HFC	82.4
Total	88.0

■ Refill, Recovery and Destruction as a Registered Fluorocarbon Refill and Recovery Operator: Tokyo Gas

Substance	Refill (kg)	Recovery (kg)	Destruction (kg)
HCFC	18.0	0.0	0.0
FC	34.1	20.8	20.8
Total	52.1	20.8	20.8

Anti-VOC Measures

Since fiscal 1991 Tokyo Gas has strived to reduce volatile organic compounds (VOCs), which are released from such operations as painting gas holders. Also, we have recently shifted to a painting method that uses weaker solvent paint (a low-VOC painting method) to reduce VOC emissions further.

Gas holder painting work

Hazardous Waste Management

We appropriately store and manage polychlorinated biphenyl (PCB)-containing hazardous waste in our possession and process it by the required deadlines in accordance with the Act on Special Measures concerning Promotion of Proper Treatment of PCB Wastes.

Environmental Risk Management

Mitigating Environmental Risks

All business offices of the Tokyo Gas Group operate environmental management systems under which they annually assess the environmental risks of all operations. We endeavor to improve high-risk operations by setting concrete targets and also conduct employee training, including study groups on relevant laws and regulations, to mitigate risks by raising environmental awareness. In the event that any violations of environmental laws occur, we seek to prevent any recurrence by sharing information and applying the learnings to similar operations across the Group.
For the crisis management system, we formulated the Emergency Response Regulations, with which the Emergency Response Organization will respond accordingly and immediately in the event of a crisis. In addition, we are strengthening the system by conducting periodic training and formulating a business continuity plan (BCP) to address major risks.

Climate Change Mitigation and Adaptation

The Group recognizes concerns that climate change may affect our business activities in the following ways and is responding appropriately.

Climate Change Countermeasures (Climate Change Mitigation)

To reduce greenhouse gas emissions, which are associated with rising global temperatures, the Group has drawn up the Guidelines for Global Warming Countermeasures. Also, it is working to reduce emissions from city gas production facilities, power plants, district heating and cooling centers and offices as well as from customer sites, which account for the largest share of CO_2 emissions in the LNG value chain. Our efforts to combat climate change also include the development and dissemination of low-carbon systems.

Links
- ▶ Measures at the City Gas Production and Supply Stages
- ▶ Reduction of CO_2 Emissions at Customer Sites

Natural Disaster Response (Adaptation)

Climate change-induced disasters, such as localized torrential downpours and storm surges, may damage city gas production facilities and delay or halt LNG transport. We have formulated disaster preparedness plans at production, supply and other facilities as well as business continuity plans (BCPs) to prepare for a major accident, large-scale power outage or outbreak of disease caused by a major typhoon. In addition, we believe that diversifying the suppliers of LNG, which is used to produce city gas, will help minimize the risk of supply chain disruption when any single source is affected by a natural disaster.

Responding to Stricter Regulations to Fight Climate Change

The introduction of emissions trading systems and carbon taxes could lead to restrictions on the use of fossil fuels. We are committed to creating a low-carbon society by bolstering our efforts to encourage a fuel conversion from oil and coal to natural gas, the cleanest fossil fuel, expanding the use of highly energy-efficient appliances and systems such as combined heat and power (CHP) systems[*1], promoting renewable energy use, and building smart energy networks.

*1 Gas engine-based CHP systems generate electricity and recover exhaust heat generated as a by-product.

Managing Water Risk

Recognizing water risk as a key management concern, Tokyo Gas seeks to manage the risks by addressing issues such as water demand and supply, flooding, and public health.

Response to Water Risk

Water Demand

For the three years from fiscal 2016 through fiscal 2018, we combined the use of such international indicators as the WRI Aqueduct, WWF-DEG Water Risk Filter, and WWF-DEG Water Risk Filter (Map) to conduct comprehensive assessments and analyses on current risks, such as water demand, flooding, public health, and biodiversity as well as future risks, including the impact of climate change and securing water resources. The results showed that there currently are no major risks at any of the Group's operational bases in Japan and abroad.
We also sought to confirm the presence of risks at our suppliers by conducting a questionnaire that includes efforts made by suppliers to reduce water use.

Flooding

To ensure stable energy supply, we have taken steps to protect LNG terminals and gas pipeline-related and other vital facilities from flooding associated with climate change, such as localized torrential downpours and storm surges, as part of our overall actions against natural disasters.

Public Health and Other Issues

We are striving to use water resources sustainably by monitoring the volume of water use and conservation as well as appropriately managing wastewater.

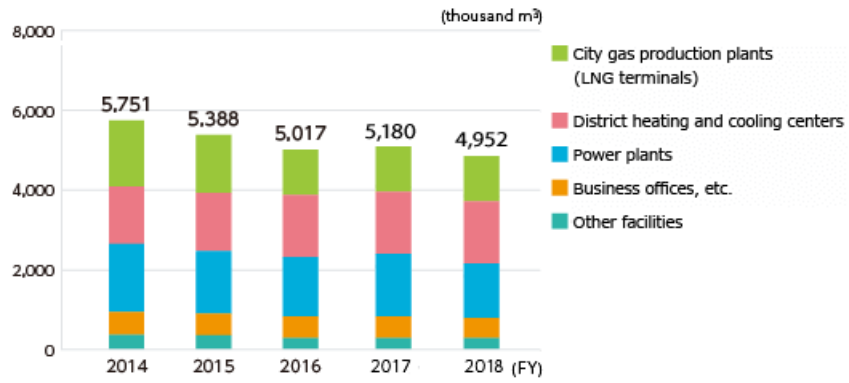
Status of Water Resource Use

▸ Third-party Assured

In fiscal 2018, we used a total of 4,952 thousand m^3 of freshwater at LNG terminals where city gas is produced, district heating and cooling centers, power plants using LNG, offices and other facilities in Japan. We are working to reduce process water consumption at LNG terminals, district heating and cooling centers and power plants through such means as optimizing boiler operation, reducing steam loss and replacing chillers with more efficient electric turbo types. To reduce our use of tap water at offices and similar facilities, we are increasing our use of recycled water, installing water-saving toilets and encouraging employees to conserve water. Regarding waste water, we measure discharges and manage water quality through the use of indicators, such as pH, COD[*1], and nitrogen and phosphorus concentrations, in accordance with national laws and regulations, local government ordinances, agreements and other rules. We use seawater mainly at LNG terminals and power stations as a heat source and then return the entire amount to the sea.

*1 Chemical Oxygen Demand

■ Water Resource Inputs of the Tokyo Gas Group (Tap and Industrial water)



Combating Soil Pollution

Since fiscal 1999, we have been conducting soil tests and groundwater surveys on land currently or previously owned by Tokyo Gas, such as former plant sites, with potential soil pollution and taking the necessary measures when pollution has been confirmed. We proactively disclosed information through reports to relevant authorities, explanations to nearby residents and press releases. Depending on specific circumstances, we have paved over or excavated and removed contaminated soil to prevent its dispersal. Also, we have installed impermeable walls or pumped out contaminated underground water to refrain it from spreading.
We continue to control soil pollution, reporting excavation work to authorities and conducting surveys in accordance with the Soil Contamination Countermeasures Act and relevant ordinances. Furthermore, we ensure that contaminated dirt is not dispersed and that excavated soil is handled properly.
With the revision of the act in April 2010, we have taken action to address soil pollution caused by natural factors or landfill with the same commitment as legally mandated interventions for pollution associated with our business operations.

Link
▶ Disclosure of Incidents That Affected Our Stakeholders

Providing Group Employees with Environmental Education and Commendations

Environmental Education for Group Employees

The Group's system of environmental education for employees comprises: training for new employees to learn about the environmental activities they should practice as soon as they start work, annual Group-wide training for deepening the basic understanding of environmental issues as well as our Group's environmental initiatives, and EMS training to build the knowledge necessary for environmental management and enhance expertise as leaders and responsible staff at each workplace.
Additionally, we have offered eco-driving training to develop skills for green and safe driving, a class for eco-cooking instructors to learn eco-friendly diets, and other practical programs that are helpful in reducing environmental impact and facilitating environmental communication.
We encourage employees to learn at their convenience through the corporate intranet about climate change-related issues and developments in and out of the company and considerations for handling waste.

■ Main Environmental Education Programs in Fiscal 2018

Type		Period	Number of participants
Stratified training	Trading for new employees	April	636
	Trading for mid-career employees (e-learning)	February–March	9,652
EMS education	Training for new leaders for environmental management	April–June	2
	Training for EMS promoters	May	60
	Study group on environmental laws and regulations	January	205
Eco-driving course ▶ Promotion of eco-driving		September, October	114

Environmental Program Award

We recognize workplaces and partner companies for their efforts to provide models for the Tokyo Gas Group, such as reducing environmental impact, increasing brand value, and contributing to communities, for the sake of raising environmental awareness throughout the Group by sharing best practices. Under the commendation system launched in fiscal 1999, we presented 25 awards in fiscal 2018, which consisted of 2 Eco-Friendly Business Promotion Awards, 4 Eco-Office Activity Awards, and 5 Eco-Citizen Activity Awards as well as 11 Eco-Rookie Awards and 3 Environmental Sustainability Guidelines Excellence Awards, both established this year.

Award winners at the fiscal 2018 presentation ceremony


At LIFEVAL Higashi-Koto, the company uniform signals “no need for plastic shopping bags” at supermarkets after daily communications and practices in local community

Environmental Awareness Survey

We have conducted employee surveys since fiscal 2001 to ascertain their environment awareness, environmental behavior and understanding of our environmental activities, and we use the results as basic information for formulating the plans for the following year’s activities. The fiscal 2016 survey gathered 9,890 valid answers for a response rate of 58%. We make use of survey results to reinforce measures to raise the environmental awareness of the Group employees and improve educational programs.

Addressing Climate Change

■ Addressing Climate Change

Climate change has emerged as one of the highest risks to achieving a sustainable global economy. The Tokyo Gas Group has been striving Group-wide to address global warming by setting concrete numerical targets under the Guidelines for Global Warming Countermeasures, which apply to our business operations as well as to customer sites where the portion of CO_2 emissions are the largest across our value chain.
In light of the Paris Agreement, adopted at the COP21 conference, as well as movements against climate change in Japan, we have been actively pursuing decarbonization initiatives. These include implementing a wider use of natural gas, which has a lower CO_2 emission factor, developing and expanding Smart Energy Networks (SENs) that combine heat and power (CHP) systems*1 and other highly efficient equipment with advanced energy management, and embracing digitization technologies and innovation.
In our electric power business, we will develop an optimal power source portfolio with eco-friendly natural gas-fired power plants, renewable energy, and so on. Furthermore, in our overseas business we will deploy technologies that excel in reducing CO_2 emissions and energy consumption across our LNG value chain as a contribution to global efforts to address climate change.

*1 Gas engine-based CHP systems generate electricity and recover exhaust heat generated as a by-product.

Topic

First in Japan to Receive a Cargo of Carbon Neutral LNG

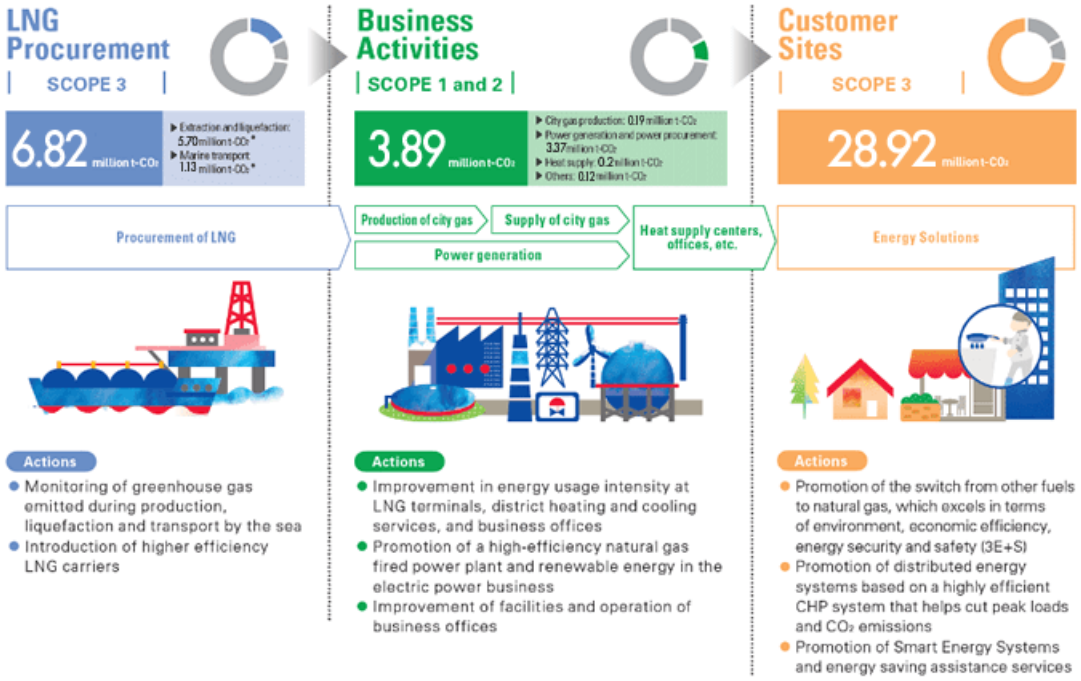
In July 2019, Tokyo Gas received a shipment of carbon neutral liquefied natural gas (LNG)*1 from Shell Eastern Trading (Pte) Ltd., becoming the first company in Japan to do so.
Since we received Japan's first-ever LNG cargo in November 1969, we have been working to expand the use of natural gas, which generates the least CO_2 among fossil fuels. With this latest move of procuring carbon neutral LNG, Tokyo Gas will reinforce its efforts in developing a decarbonized society as well as providing a new decarbonized product to our customers.

For the next 50 years
LNG50th

*1 With regard to this supply of carbon neutral LNG, Shell 's carbon credits will be used to compensate the full carbon dioxide (CO2) emissions generated – from exploring for and producing the natural gas to use by the final consumer. The carbon credits are purchased by Shell from a global portfolio of nature-based projects, and each carbon credit is subject to a third-party verification process.

■ Greenhouse Gas Emissions along the LNG Value Chain (FY2018)

▸ Third-party Assured



Source: "Study of Life Cycle Greenhouse Gas Emissions of LNG and City Gas 13A" (Proceedings of the annual meeting of Japan Society of Energy and Resources 35, pp. 23–26, 2016)
SCOPE1: Business's own direct emissions of greenhouse gases.
SCOPE2: Indirect emissions from consumption of electricity, heat, and steam supplied by others.
SCOPE3: Indirect emissions other than covered in SCOPE2 (emissions by other parties involved with business's activities).

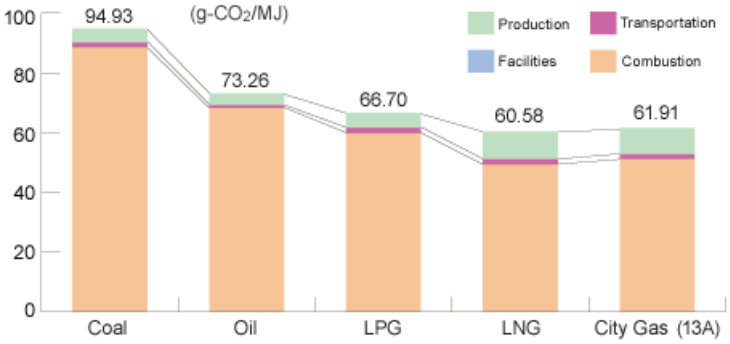
Links

- ▶ Production of City Gas—Benefits of LNG as Feedstock for City Gas
- ▶ The Tokyo Gas Group Business Activities and Material Balance (PDF : 869KB)

Topic

Environmental Advantages of City Gas in Terms of Lifecycle CO_2 Emissions

Greenhouse gases are released not only when fossil fuels are burned but also when they are extracted, processed, and transported. It is therefore important to take into account emissions throughout the fossil fuel lifecycle. From the lifecycle perspective, natural gas generates the lowest CO_2 emissions of any fossil fuel.



Source: "Future Forecast for Life Cycle Greenhouse Gas Emissions of LNG and City Gas 13A" (Japan Society of Energy and Resources, presentation report 28 (2), pp. 51–56, 2007)

Reduction of CO_2 Emissions at Customer Sites

Reduction of CO_2 Emissions at Customer Sites

The Tokyo Gas Group endeavors to reduce CO_2 emissions at customer sites where the portion of CO_2 emissions are the largest across our LNG value chain. Specifically, we promote the use of natural gas, for example by a fuel shift, by installation of distributed power generation utilizing combined heat and power (CHP) systems*1, by promoting the buildup of smart energy networks, saving energy services, and the use of renewable energy support. Additionally, we propose exemplary energy-saving lifestyles for customers.

*1 Gas engine-based CHP systems generate electricity and recover exhaust heat generated as a by-product.

Sponsoring Energy-related and Environmental Seminars

We have been sponsoring seminars on energy, the environment and community development since 2000, targeting local government policy planners. We invite experts to provide information on such issues as climate change mitigation and natural disaster prevention, with the number of participants reaching about 300 every year.

Reduction of CO_2 Emissions at Customer Sites

Expanding the Use of Highly Efficient Residential Gas Appliances and Systems

Tokyo Gas develops and promotes kitchen stoves fit with highly efficient burners, highly efficient water heaters that recover latent heat, and residential power generation systems that utilize exhaust heat.

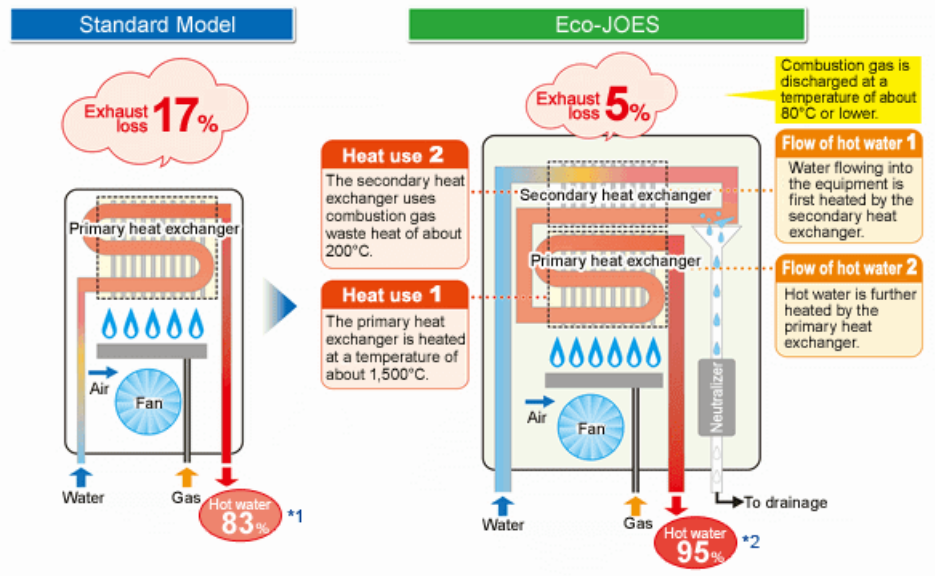
Popularization of Highly Efficient Kitchen Stoves

In 1998, Tokyo Gas began selling a kitchen stove equipped with highly efficient burners that allow less heat to escape from the bottom of the pan. We made efforts to spread the product, and almost all stoves were equipped with this type of burners by 2006. The high-efficiency burner excels in energy conservation and helps reduce CO_2 emissions from households. At the same time, it is safer and easier for the users since the flames are less likely to spill out from under the pan, even when the flame level is raised.

Popularization of Highly Efficient Eco-JOES Water Heaters

While conventional residential gas water heaters have a maximum heating efficiency of 83%[*1], the Eco-JOES highly efficient, home-use water heaters are equipped with an exhaust heat and latent heat recovery system that boosts efficiency to as high as 95%[*2]. Assisted by the industry-wide Eco-JOES Adoption Campaign to promote the introduction of Eco-JOES, the number of residential installations is rising every year. As of the end of March 2018, shipments reached about 8.29 million units in Japan, according to data compiled by the Japan Industrial Association of Gas and Kerosene Appliances.
Due to their efficient use of heat, the Eco-JOES water heaters reduce exhaust heat into the air and help reduce CO_2 emissions and combat global warming as well. Their remote control devices incorporate the EneLook[*3] function, which displays gas and hot waterusage information, as a visualization function that motivates users to save water and energy.

■ How the Eco-JOES highly efficient water heaters work



*1 For RUF-A2405AW(B), a conventional water heater.
*2 For F-E2405AW(A), an Eco-JOES model. Calculations for both *1 and *2 were made using the JIS S 2109-stipulated methods.

(However, heating efficiencies depend on the conditions of use.)
*3 Some remote controllers do not support EneLook.

Blue & Green Project: Popularizing Highly Efficient Gas Appliances and Planting Trees

Tokyo Gas, along with other members of the gas industry, participates in the Blue & Green Project organized by the Center for Better Living to promote the use of gas water heaters and room heaters that offer energy savings and benefits for the betterment of society. Under the project, we have sought to popularize our highly energy-efficient ENE-FARM and Eco-JOES in combination with tree planting activities since June 2006 so we can hand over a verdant planet to the next generation. During the first phase, we planted one tree for each unit of target appliances sold in Vietnam. We planted about 3.9 million trees over the ten-year project, which was recognized with a certificate of gratitude from the Vietnamese government.
Since April 2014, we have been supporting reforesting activities in Rikuzentakata City in Iwate Prefecture to restore the pine forest of Takata-Matsubara, which had been destroyed by the Great East Japan Earthquake. Following experimental planting, full-scale reforestation began in fiscal 2017, and a total of around 10,000 pines will be planted over a three-year period. We will continue to promote the sale of highly efficient appliances while offering support to reviving the natural environment and historical features of areas affected by the earthquake.


Tree planting test in Takata-Matsubara

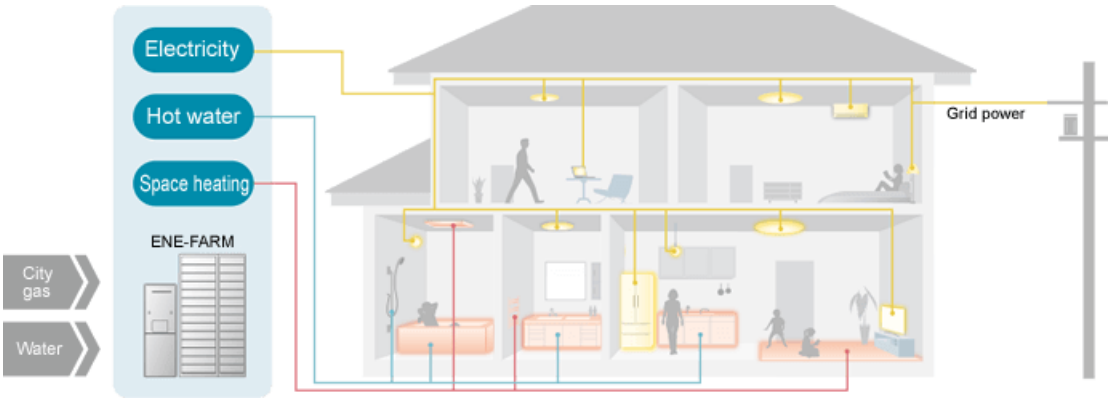
■ Residential CHP Systems

Residential power generation employs combined heat and power (CHP) systems that had been primarily used at large plants and buildings. This energy-saving system extracts two types of energy from one energy source by effectively using heat generated as a byproduct of producing electricity. The system also generates a sense of delight through the value of generating power at home. At the same time, it helps reduce energy consumption and CO_2 emissions.

Saving Energy and Curbing CO_2 Emissions through Residential Power Generation

Energy that can be directly collected in nature is called as primary energy, while energy such as electricity, generated through the use of primary energy, is defined as secondary energy. Properly assessing energy conservation and measures to fight global warming requires taking into account changes in primary as well as secondary energy. Since residential power generation takes place where electricity is also consumed, exhaust heat can be used for such purposes as heating water, which is not always possible at thermal power stations.

■ Residential CHP System (overview of the system for the Panasonic ENE-FARM 2019 model)



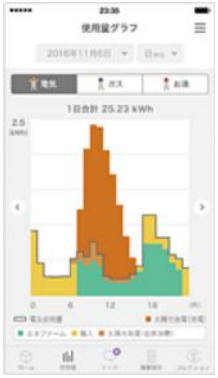
Note: Hot water used for reheating bathwater and heating rooms is generated by a backup power source. In some models, exhaust heat is reused for underfloor heating and reheating bathwater.

ENE-FARM Residential Fuel Cell CHP System

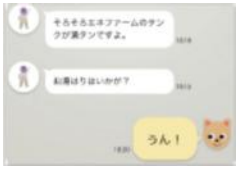
In May 2009, we introduced the world's first fuel cell combined CHP system for detached housings, called the ENE-FARM, as a result of collaboration with Matsushita Electric Industrial Co., Ltd. (now Panasonic Corporation).

In April 2017, we launched the resilient model, which incorporates a continuous power generation function that allows residents to use lighting and communication equipment during power outages caused by natural disasters. In this model, the system continues to supply electricity even during a power outage as long as ENE-FARM is generating power. Maximum output is approximately 500 W and lasts for eight days. Residents can draw electricity from a special outlet reserved for use during a power outage. The system is expected to contribute to meeting the growing social need to enhance energy security.

Furthermore, a network access service that started in August 2017 now allows users with an Anata-to-Enepa smartphone application to obtain information on ways to use energy efficiently as well as turn their bath or underfloor heating on or off from outside their home, check the status of power generated by ENE-FARM, and view household energy consumption. Users will also be able to remotely update their ENE-FARM software over the Internet, while maintenance staff will be able to remotely monitor the status of malfunctioning appliances, which provides a greater sense of security when using the system.

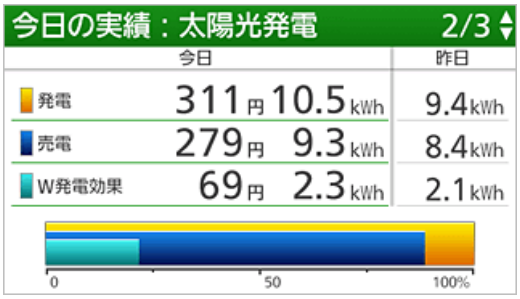


App screen showing electricity, gas and hot water usage



Enepa app's message window

ENE-FARM residential fuel cell CHP system (for detached houses, manufactured by Panasonic Corporation)

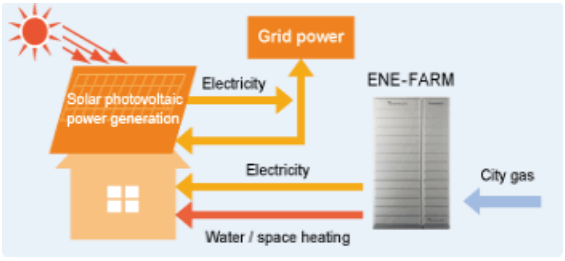


Remote controller display for checking energy use status

Active Utilization of Solar Energy

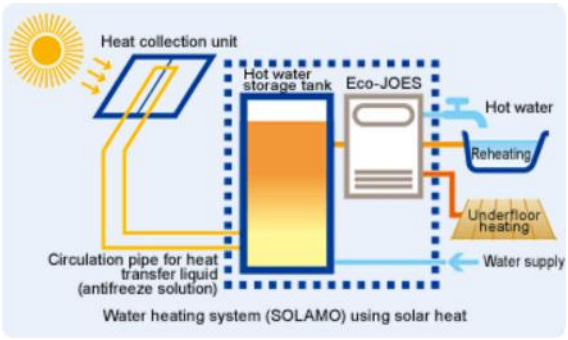
For household use, Tokyo Gas proposes dual power generations, one of which combines solar photovoltaic power generation and the ENE-FARM, and the other is the SOLAMO and Eco-JOES, which combines solar heating and highly efficient water heater. Each combination significantly reduces a household's environmental impact and works as a backup system required to actively utilize solar energy, to stabilize the fluctuated output of secondary energy.

■ Dual Power Generation by Solar Power and the ENE-FARM



Note: The solar photovoltaic power generation system is not a Tokyo Gas product.

■ Gas water heating system based on solar heat that uses solar energy to boil water (SOLAMO)



Reduction of CO_2 Emissions at Customer Sites
Expanding the Use of Highly Efficient Industrial Gas Appliances and Systems

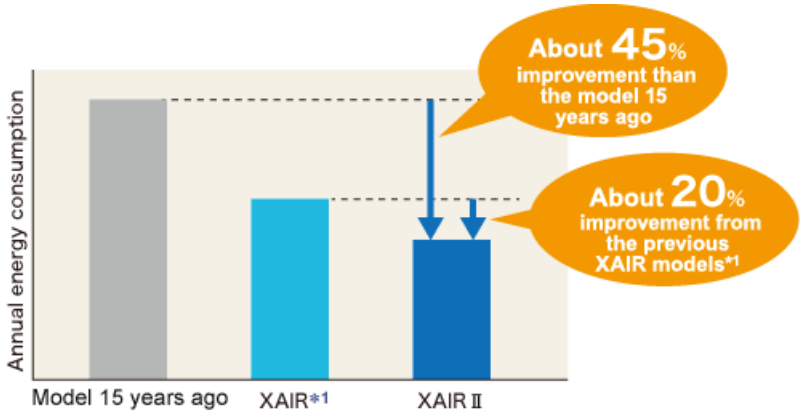
■ Development and Promotion of Air Conditioning Systems

In the commercial air conditioning equipment business, we are promoting installations of the GHP XAIR II gas heat pump air conditioning system, which reduces annual energy consumption compared to conventional systems, and natural chillers, which use natural refrigerants. We also proactively recommend restaurants and hotels to introduce “Suzuchu” cool kitchen systems, which lower kitchen heat and reduce environmental impact.

Promotion of Highly Efficient Gas Heat Pump Air Conditioners

Tokyo Gas emphasizes the promotion of the GHP XAIR II series among its gas heat pump (GHP) air conditioners, which saves both electricity and energy. The series reduces 20% of annual primary energy consumption, the highest level of efficiency, compared to the previous XAIR. This is achieved by slowing down engine rotation speed during low load operation, which accounts for a significant portion of their running hours.

■ Annual Energy Consumption Improvement by XAIR Series



*1 Energy consumption reductions from the model 15 years ago and XAIR are based on actual performance, while comparisons between the conventional XAIR and XAIR II are based on Tokyo Gas estimates.

“Green Help Pro”*1 Energy-Saving Operation Service for Gas Heat Pump Air Conditioners

Our Green Help Pro service achieves energy savings without sacrificing comfort by enabling gas heat pump air conditioners to be remotely controlled over the Internet so users can operate them more efficiently and track their status at a glance.

*1 Green Help Pro is a registered trademark of Tokyo Gas Co., Ltd.

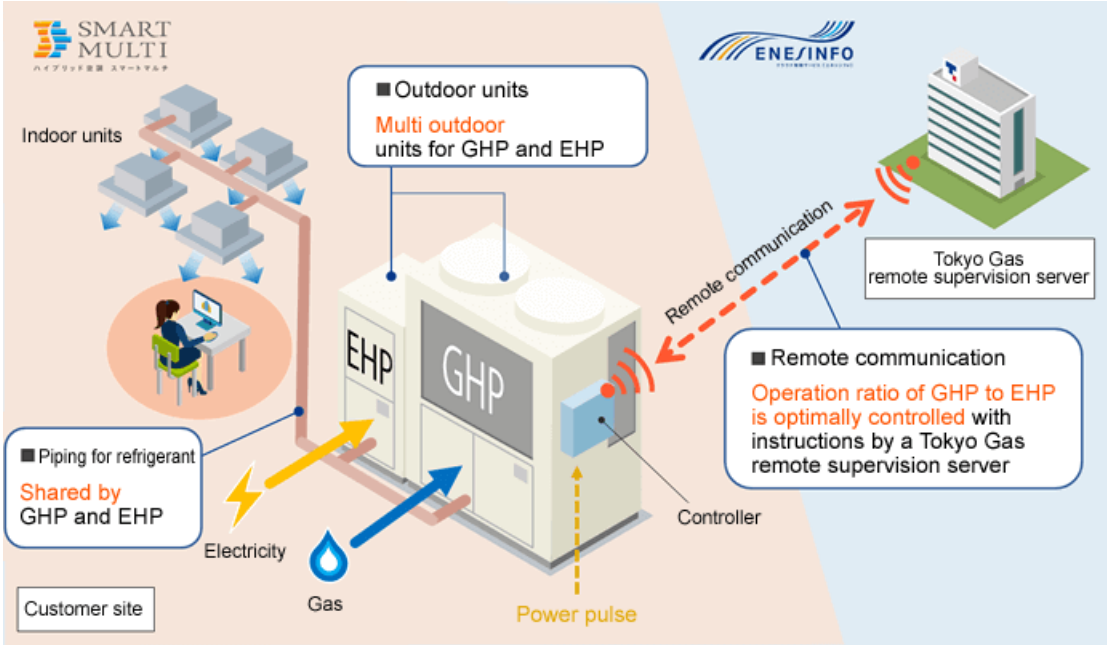
Smart Multi Hybrid Air Conditioner, ENESINFO Optimal Control Service*1

The Smart Multi is a hybrid air conditioning system jointly developed with Osaka Gas Co., Ltd., Toho Gas Co., Ltd., and Panasonic Corporation. It is the world’s first air conditioning system to integrate a GHP and an electric heat pump (EHP) into the same refrigerant line and is optimally operated by remote control. The Smart Multi was introduced into the market in April 2016. In April 2017, Panasonic was joined by Aisin Seiki Co., Ltd., Daikin Industries, Ltd., and Yanmar Energy System Co., Ltd. in sales of the system. In addition, it received FY2018 Energy Conservation Grand Prize Special Judging Committee Award (Product and Business Model Category) which is sponsored by

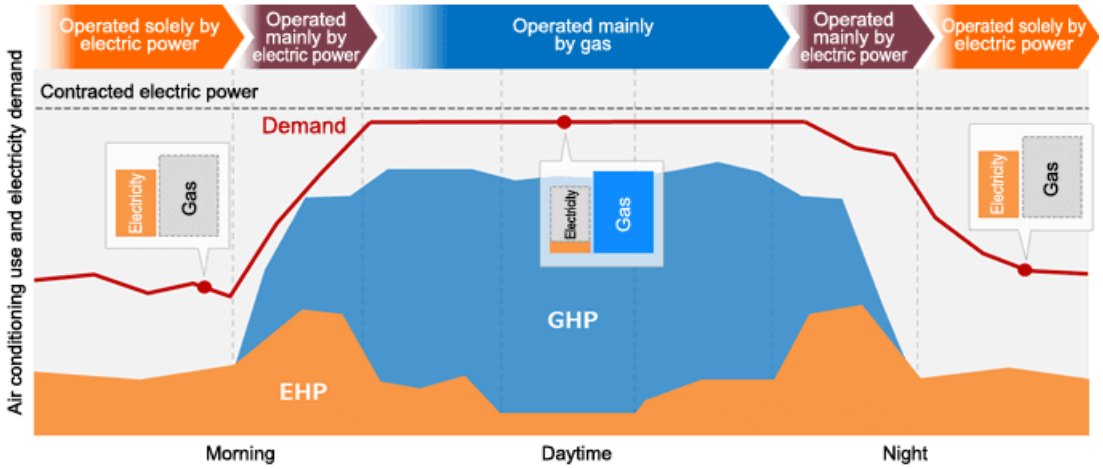
Ministry of Economy, Trade and Industry.
The ENESINFO is our originally developed service to supervise optimal operation of the Smart Multi by remote control. The service effectively balances GHP and EHP operation to reduce energy costs, confirming the status of their operation, energy demand and supply situations and energy prices, which vary by season and time of day. It helps to save energy and reduce CO_2 emissions by adjusting the operation ratio of the GHP to the EHP to minimize energy consumption and CO_2 emissions in accordance with the customer's pattern of system use. Looking ahead, we intend to adapt the service as we anticipate changes in power demand and supply and in electricity prices associated with such factors as the increasing use of solar and wind power and other renewable energy as well as the deregulated electricity retail market. We will also respond to requests for saving electricity in the face of a tight demand and supply balance as our contribution to society as a whole.

*1 Smart Multi and ENESINFO are registered trademarks of Tokyo Gas Co., Ltd.

■ ENESINFO Optimally Controlling the Smart Multi



■ Optimal Control by ENESINFO



Active Use of Solar Energy

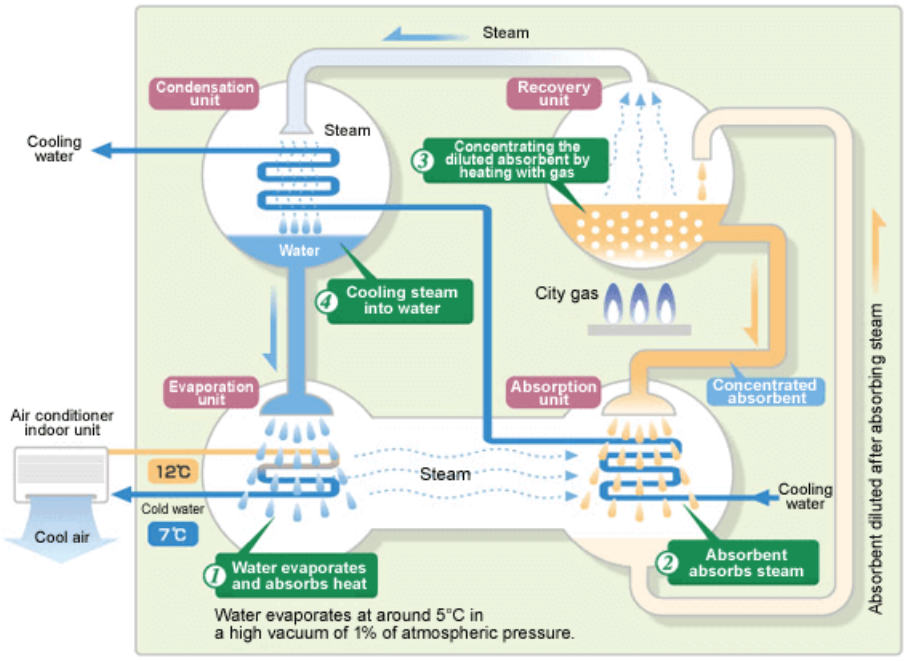
We support the introduction of renewable energy with a solar cooling system for commercial use that applies solar thermal energy for air conditioning.

Popularization of Air Conditioning to Use Water Evaporation Heat

Natural chillers cool air inside rooms by producing cold water in a cycle of water evaporation, absorption, recovery, and condensation. The system uses water as a refrigerant and a lithium bromide[*1] water solution as an absorbent that does not include fluorocarbons.

*1 An absorbent absorbs water and a lithium bromide water solution exhibits the properties of saltwater.

■ How Natural Chillers Work



Natural chillers can effectively use renewable energy such as solar heat and low-temperature untapped energy sources such as sewage water, river water, seawater, and groundwater, thereby achieving additional reductions in energy use and CO_2 emissions. Moreover, the use of city gas as a backup for the unstable supply of renewable energy ensures the steady functioning of the system. The latest green models[*2] boast a higher efficiency than that of conventional units. Using these models as replacements ensures significant cuts in energy use and CO_2 emissions.

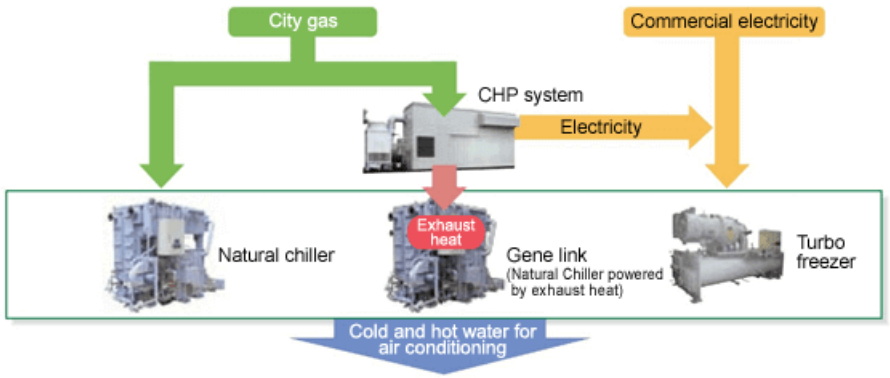
*2 Green models are the most eco-friendly and reliable gas-using natural chillers and natural chillers that use waste hot water from CHP systems, selected by Tokyo Gas, Co., Ltd., Osaka Gas Co., Ltd., and Toho Gas Co., Ltd.

Combining Natural Chillers with CHP Systems

Combining natural chillers with combined heat and power (CHP) systems[*1] allows for the effective use of exhaust heat and reduces gas consumption, which leads to further energy savings.

*1 Gas engine-based CHP systems generate electricity and recover exhaust heat generated as a by-product.

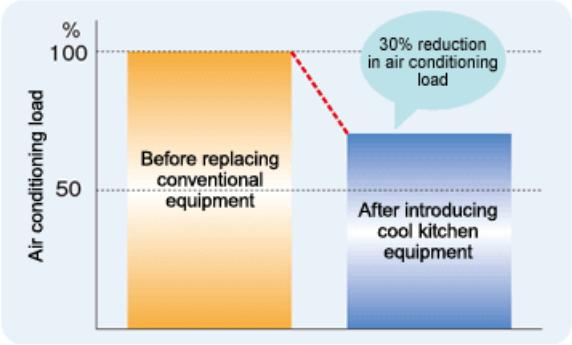
■ Example of Combination



Cool Kitchens to Reduce Air Conditioning Load

We recommend equipment that reduces kitchen heat. The so-called “cool kitchen equipment” reduces air conditioning load by 30%[*1] compared to conventional kitchen equipment, and this helps to improve the kitchen environment while saving energy and cutting CO_2 emissions.

■ Air Conditioning Load Reduction Rate with Cool Kitchen Equipment



Simulation Conditions

- Calculation is based on a school lunch kitchen with a floor area of 1.8 × 8.5 meters and a height of 2.5 meters
- Displacement ventilation method is used
- Air supply amount comes to 40 kQ
- Equipment (5 rotary pans, 4 multistory rice cookers, 1 oven, 1 gas table)

*1 Sourced from Presentation materials of Nishikawa and Omori at Society of Heating, Air-Conditioning and Sanitary Engineers of Japan (Sept. 2009)

■ Development and Popularization of High-performance Industrial Furnaces and Steam Systems

The industrial sector dramatically reduces CO_2 emissions by switching away from the use of fuels such as oil and LPG to natural gas and installing more efficient industrial burners and furnaces.

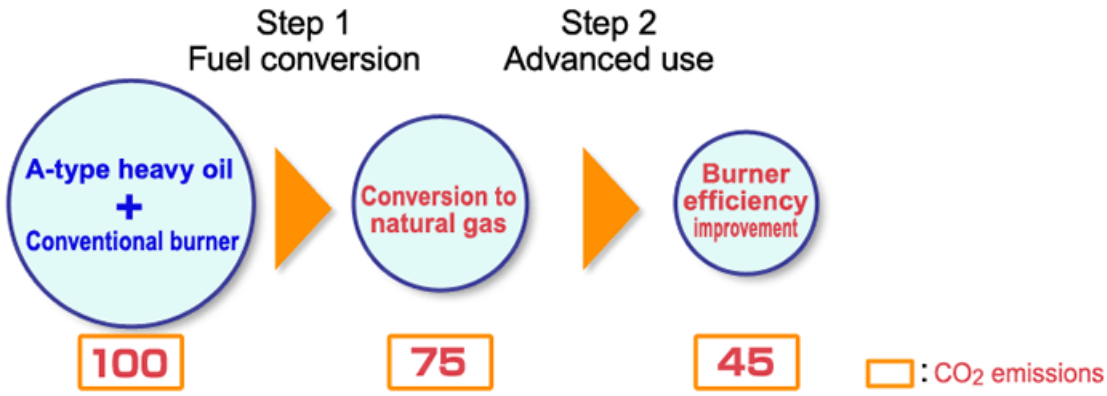
Promotion of Highly Efficient Burners for Industrial Furnaces

Regenerative burner systems capture heat from exhaust gas into a heat storage unit and use it to preheat an air feed. They boast extremely high combustion efficiency and low nitrogen oxides (NOx) emissions. Also boasting energy savings up to 50%, they have been drawing attention as the ultimate industrial furnaces for reducing CO_2 emissions.

Regenerative burner system

Reducing CO_2 Emissions by Switching to Natural Gas, and Using it More Efficiently

Switching from fuels such as oil and LPG to natural gas reduces CO_2 emissions by about 25%, however, emissions can be curbed further by switching to more efficient equipment and systems and making more sophisticated use of natural gas.



Reducing CO_2 Emissions by Switching to Natural Gas, and Using it More Efficiently

Promotion of Highly Efficient Steam Boilers

We offer energy savings by replacing conventional large-capacity boilers with small, highly efficient once-through boilers and controlling multiple units. Tokyo Gas has already commercialized small, highly efficient once-through boilers in partnership with manufacturers and is also developing larger once-through boilers featuring outstanding efficiency and durability. We consistently meet the needs for saving energy, cutting CO_2 emissions, and reducing costs by promoting and expanding the use of our Steam Fit energy service in combination with these boilers in order to provide an analysis of energy savings at each stage, from the installation of high-efficiency boilers and supply of steam to consumption by the end-user.

Multiple installation of small once-through boilers

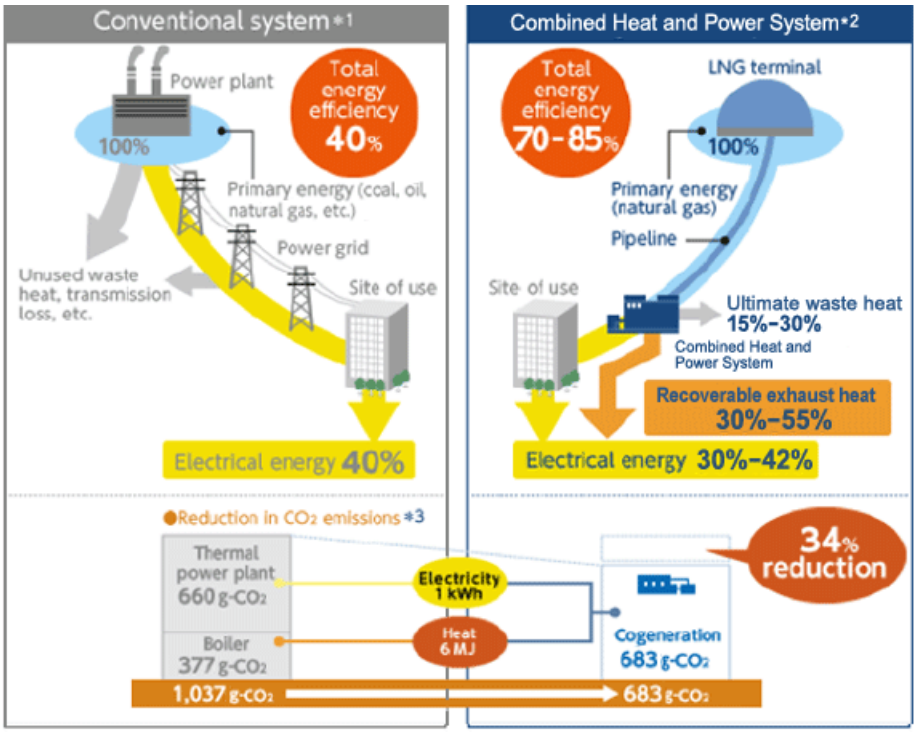
■ Development and Popularization of CHP Systems

CHP systems are energy distribution systems that generate electricity by natural gas-fueled highly efficient engines, turbines or fuel cells and supplies, as well as the steam or hot water produced by using the exhaust heat from power generation. The systems are eco-friendly, and also contribute to the business continuous plan and power reduction in an emergency.

Environmental Friendliness of CHP Systems

CHP systems achieve high energy efficiency because they generate power on users' site, which realizes no transmission loss and effectively use of exhaust heat from power generation.
Using exhaust heat in centralized power generation is difficult because electricity is transmitted from remote areas. As a result, 60% of the primary energy for power generation remains unused.
Heat source equipment that uses exhaust heat is suitable for a wide range of uses, such as production processes at plants, hot water or steam supply at hotels and hospitals, air conditioning, and warming baths or swimming pools.
The pursuit of power generation efficiency by R&D allows most CHP systems to achieve an efficiency rate that exceeds the average rate of conventional power generation and supply systems (on the demand side at substations, including transmission loss) and to significantly save energy and reduce CO_2 emissions.

■ Using Energy Effectively and Reducing CO_2 Emissions with CHP Systems*1

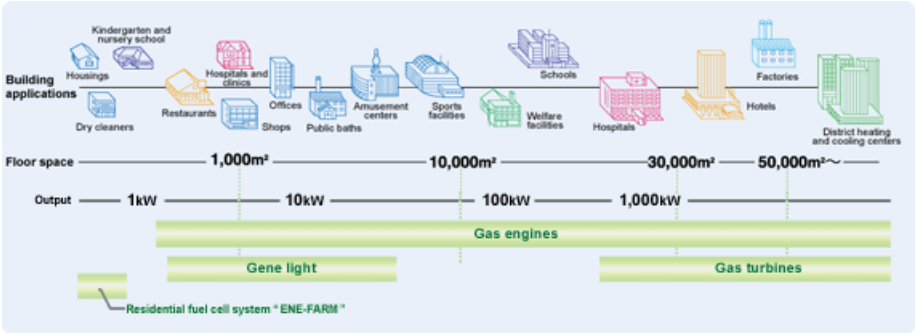


*1 Estimated by Tokyo Gas
*2 On a lower heating value (LHV) basis. The heat efficiency and total loss at thermal power plants were calculated on the basis of the operating performance of Japan's nine major power utilities plus power wholesalers in fiscal 2003 (Subcommittee on Classification Standards for Plants and Other Facilities, September 2005).
*3 Efficiency of CHP systems is on an LHV basis using the recommended configuration.
*4 Emission factor of the nine power utilities: 0.66 kg-CO2/kWh (average factor for fiscal 2030 in thermal power generation in the government's Plan for Global Warming Countermeasures announced in May 2016).

Status of Diffusion of CHP Systems

As of March 2018, CHP systems with a total output of 2,057,000 kW (excluding household units) are in operation in our service area. They are increasingly adopted across a wider range of fields, such as small- and medium-scale consumer use beyond residential use, owing mainly to the development of small models with an output of one kW to tens of kW, in addition to models chiefly designed for plants and commercial facilities with large heat loads.

■ Diffusion of CHP Systems



Enlarge

Promotion of Energy Saving and Reduction of CO_2 Emissions through Energy Services

The Tokyo Gas Group strives to provide the energy-related solution experiences to our customers and promotes efforts to save energy and reduce CO_2 emissions. To this end, we develop services by learning how customers use energy and identifying the problems they have, and introduce advanced equipment, visualize energy use, and provide services to improve equipment operation.

Energy Savings Support Service by One-stop Solutions

We strive to provide one-stop solutions for customer issues related to energy. Concluding package contracts that cover finance, design and construction work, equipment ownership, energy procurement, maintenance, and other matters allows us to address those issues and meet customer needs in order to save energy and cut CO_2 emissions so we can provide an environment in which customers can focus on their business operations.

Energy-saving Services for Plants

We provide various solutions to plants that not only save energy but also reduce CO_2 emissions and costs. Our TG Miru-Net Service visualizes energy use with online measurement and analyses of equipment in order to save energy. The Steam fit service provides comprehensive, ongoing support for steam systems from design to operation. These menus meet the needs for saving energy, cutting CO_2 emissions, and reducing cost with a variety of approaches.

Reduction of CO_2 Emissions at Customer Sites
Best Practices of Smart Networks

Creating a sustainable society strongly requires every citizen to address issues such as saving power and ensuring energy security in addition to the long-sought effort of reducing CO_2 emissions. As a means of solving these issues, the Tokyo Gas Group promotes the development of smart communities that wisely use energy in a heat and power supply network connecting buildings. The Group also pursues efforts to introduce smart energy use for entire buildings, including energy renovations of office buildings and plants.

Promoting Community-wide Smart Energy Use

To create smart energy communities, we construct smart energy networks that optimize energy demand and supply through a heat and electricity network and energy management by using information and communication technology (ICT).
A smart energy community shares a combined heat and power (CHP) system*1, which generates heat and electricity on site, and renewable or unused energy sources to leveling energy demand so that the community can reduce peak load. The region-wide economical use of heat and electricity increases the energy efficiency of the entire community and sustains business activities and everyday life in the event of a power outage while enhancing the value of urban living.
Development of smart energy communities is increasing in the Tokyo area in line with national and local government policies.

*1 Gas engine-based CHP systems generate electricity and recover exhaust heat generated as a by-product.

Link
▶ Urban Development—Building SENs

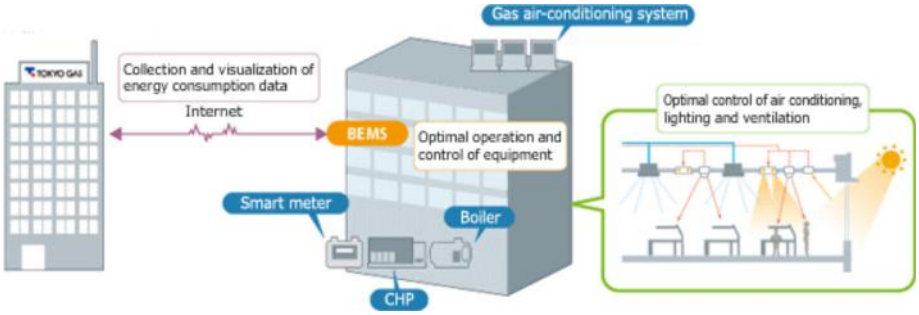
Smart Gas Meters

Smart Gas Meters with communication function facilitate measuring and controlling the flow of gas. Besides their incorporation into home energy management systems, they are used for externally confirming whether gas appliances have been turned off and remotely shutting off gas.
The introduction of Smart Gas Meters is intended to increase customer convenience and provide added value through the use of measured data in addition to improving operational efficiency.

Smart Gas Meter

Promoting Visualization of Energy Use at Office Buildings

■ Office Building Visualization



"TG Green Monitor" to Visualize Energy Use

The TG Green Monitor service measures energy use at customer sites and visualizes the usage of gas and electricity as well as the status of equipment operation. The service allows customers to view data shown in simple charts on a special website designed for each customer so they can easily track energy consumption and effectively save energy and costs.

TG Green Monitor Screenshot

Building Communities as a Base of Sustainable Way of Life

Promoting Smart Energy Communities with CHP as a Key

Tokyo Gas takes into account community characteristics in building smart energy networks (SEN). The disaster-resilient and decarbonized energy supply contributes to developing sustainable communities with superb environmental protection as well as disaster preparedness and management.

Developing a SEN in the Northern District Adjacent to the East Exit of Tamachi Station

The Tokyo Gas Group is constructing a smart energy network (SEN) in the Northern District adjacent to the East Exit of Tamachi Station[*1] in Tokyo in collaboration with its municipality Minato Ward. We first built the Smart Energy Center in the Block I and started providing heat and energy to Minato Park Shibaura, a municipal office, Aiiku Hospital, and a child welfare facility in November 2014. This was the first project in Japan to introduce a SEN as part of the new urban development. Moreover, we have introduced a SEN at msb Tamachi in the Block II-2 (West area), which was partly opened in April 2018. We built the Block II Smart Energy Center in step with this development of a business complex at a Tokyo Gas-owned site. We hope to reduce CO_2 emissions in the entire North District by 30% below 2005 levels through the coordinated operation of the two Smart Energy Centers.

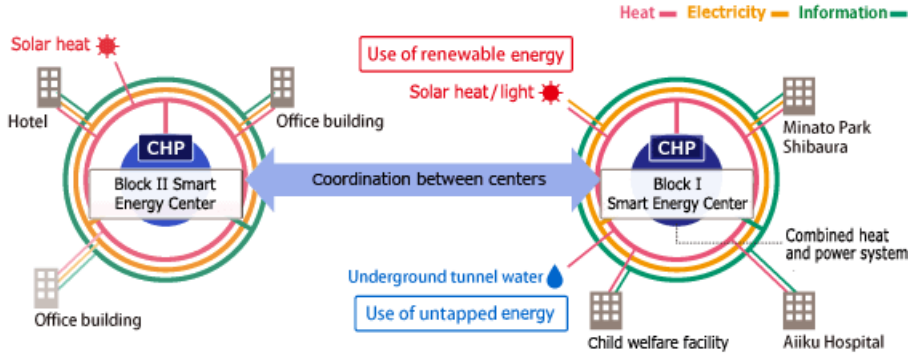
*1 The SEN project in the Northern District adjacent to the East Exit of Tamachi Station received the Minister of Economy, Trade and Industry Award in the Successful Case of Energy Conservation category at the Energy Conservation Grand Prize awards in fiscal 2016.

■ Main Features of a SEN in the Northern District Adjacent to the East Exit of Tamachi Station

Linkages among multiple facilities with different purposes	Public facility, hospital, office, commercial facility, etc.
Maximum adoption and effective use of renewables, untapped energy, etc.	Use of solar heat and heat of underground tunnel water for air conditioning (first application in Japan for district heating)
Contribution to BCPs	Capability of uninterrupted power supply to disaster management base (Minato Park Shibaura) and uninterrupted heat supply to Aiiku Hospital during power outages Power and air conditioning used in office common spaces, etc., for certain durations
Optimal supply/demand control by SENEMS*2	Optimization for area-wide heat and power according to outside air conditions and energy usage (first in Japan)

*2 SENEMS: Smart Energy Network Energy Management System

■ Smart Energy Network in the Northern District Adjacent to Tamachi Station's East Exit



Reduction of CO_2 Emissions at Customer Sites
Reducing the Transportation Carbon Footprint

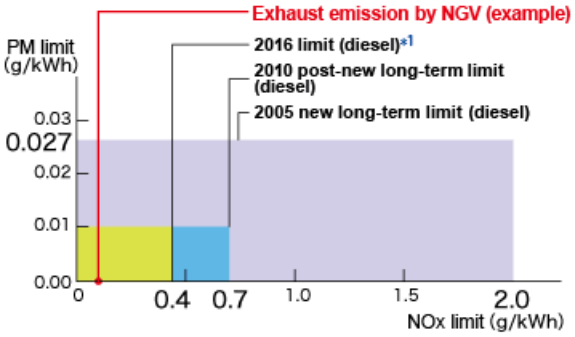
Reducing the Transportation Carbon Footprint

Tokyo Gas has been working on popularizing the use of natural gas vehicles (NGVs), which are clean and feature low CO_2 emissions. Along with this effort, we are now laying the foundation for hydrogen supply, including technology development, in the hope of also popularizing fuel cell vehicles. Natural gas refueling stations will withstand earthquakes of a magnitude equivalent to that of the Great East Japan Earthquake and thereby strengthen national resilience.

Environmental Friendliness of NGVs

NGVs, fueled by natural gas instead of diesel or gasoline, emit only small amounts of nitrogen oxides (NOx) and release virtually no black smoke, particulate matter (PM) or sulfur oxides (SOx), which are known to cause respiratory diseases such as asthma. They release about 10% to 20% less CO_2 emissions than gasoline vehicles and are recognized as environmental friendly vehicles.

■ NGV Exhaust Performance



*1 Diesel limits are for diesel vehicles weighing over 3.5 tons GVW.

Topic

New Long-Range, Heavy-Duty CNG Truck Launched (Isuzu Motors Limited)

The environmental friendliness and superior energy security of NGVs make them a highly viable alternative to gasoline vehicles, and freight trucks, buses, garbage trucks, vans and other NGVs are already in widespread use on urban roads. With fuel diversification required for long-distance, inter-city trucking, Isuzu Motors Limited released a new heavy-duty compressed natural gas (CNG) truck in December 2015. Efforts are going on throughout the logistics sector to reduce CO_2 emissions and diversify fuels.

Contribution to National Resilience

The transportation sector is highly dependent on oil, which accounts for as much as 98% of the fuel it uses, and so the use of natural gas has been expected to expand in order to improve energy security by diversifying fuel sources. Almost all the gas supplied to natural gas refueling stations is medium-pressure gas, and the pipelines that carry it are built to withstand earthquakes of a magnitude equivalent to that of the Great East Japan Earthquake. The gas stations are capable of continuously supplying natural gas to fuel vehicles even in the aftermath of a major disaster and thus contribute significantly to maintaining the resilience of transport and logistics.

Reduction of CO_2 Emissions at Customer Sites
Energy Saving Life with Stakeholders

Energy Saving Life with Stakeholders

We offer lifestyle proposals, including the visualization of energy use and approaches to saving energy, to help our customers make better use of energy in their everyday lives.

Visualizing Energy Use

Meter readings slips are distributed to customer sites every month so they can compare monthly gas and power consumption with the previous year and month. Moreover, after registering for the free myTOKYOGAS online service, they can view their monthly gas and electricity bills and consumption with simple charts on a computer or smartphone. They can also access information, such as advice and alerts, to support energy conservation. The EneLook remote control at homes visualizes energy usage as well, showing gas and water used by home hot water equipment.
In addition to these efforts, the Eco-JOES latent heat recovery hot water system features an eco-friendly operation function that helps users save water and energy. Our smartphone app for the ENE-FARM residential fuel cell combined heat and power (CHP) system[*1] allows users to enjoy visualized contents on energy and encourages them to continue saving energy and reducing CO_2 emissions pleasantly.

*1 Gas engine-based CHP systems generate electricity and recover exhaust heat generated as a by-product.

EneLook remote control

App for smartphones

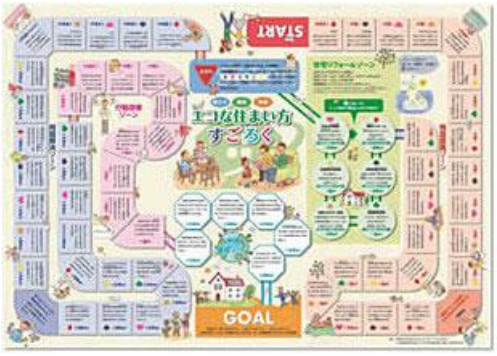
Topic

Exploring Effective Ways to Promote Energy Saving Actions for Consumers

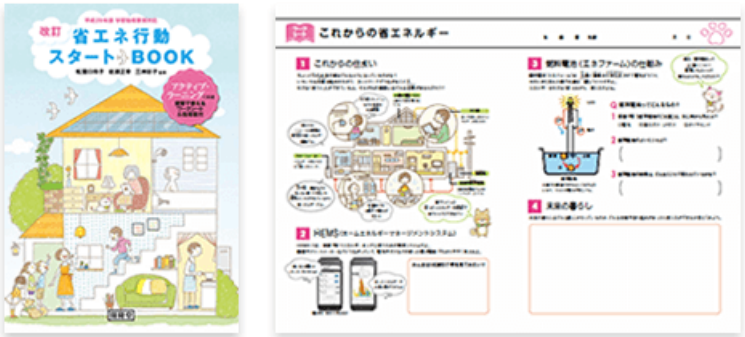
Tokyo Gas is a member of the Kurashi Sozo Kenkyukai (daily life creation research group) comprising experts and housing-related organizations, and the Behavior, Energy & Climate Change Conference, which collaborates with the Kurashi Sozo Kenkyukai. We participate by conducting research and surveys on popularizing and promoting energy saving actions while also developing effective tools that can be easily popularized by housing-related companies and consumers.
To date, we have developed Energy-saving Behavior Card Game, which can be used to play games such as Sevens as a simple way to learn about energy saving actions. We also

developed the Energy Saving, Healthy and Comfortable Home – Eco-Living board game that allows players to feel the effects of housing reform and energy-saving appliances as well as the "Revised Starting Energy-saving Behavior BOOK," a textbook with worksheets for instructors which can be used to teach energy conservation in schools. We also confirm the effectiveness of such tools for altering people's behavior related to energy conservation and promote their use.
Moreover, since fiscal 2017 we have been participating in the Ministry of Environment's Project for promoting autonomous efforts in residential sector, etc. by using behavioral insights including nudges that elicit low-carbon behavior changes. Through this project, we are developing educational programs for energy conservation and measuring their effects.

Energy-saving Behavior Card Game



Energy Saving, Healthy and Comfortable Home – Eco-Living board game



Revised Starting Energy-saving Behavior BOOK

Energy Savings and Reduction of CO_2 Emissions in Business Operations
Measures at the City Gas Production and Supply Stages

Actions at the City Gas Production and Supply Stages

Natural gas extracted abroad is liquefied at -162°C and transported by tanker as LNG. Tokyo Gas produces city gas at the Negishi, Sodegauwa, Ohgishima, and Hitachi LNG terminals and delivers it to customers via its extensive pipeline networks.
The energy efficiency in producing city gas from LNG stands at 99% or more. Energy loss is also extremely slight in city gas supply because it is transmitted directly through pipelines to consumption areas. In addition, we are making further efforts to save energy, such as by using LNG cold energy.


Ohgishima LNG Terminal

Using LNG Cold Energy

▸ Third-party Assured

Using cold energy of -162°C LNG at various temperatures, we engage in cryogenic power generation, operate cold storage warehouses and produce dry ice. The Negishi LNG Terminal depends on cryogenic power generation for about 38% of its power consumption. In fiscal 2018, it generated 24,751 MWh of electricity, using cold energy of LNG, and reined in CO_2 emissions by about 17,000 tons.

■ Cold Energy Use (FY2018)

Purpose	LNG Used for Cold Energy (1,000 tons)
Supplied to subsidiaries	821
Electricity generated using cold energy	616
BOG*1, other	1,424
Total	2,862

*1 Boil-off gas is generated by evaporation of LNG due to heat entering tanks.

Measures to Reduce Methane Emissions

Methane accounts for less than 1% of the Tokyo Gas Group's greenhouse gas emissions. It is released mainly during city gas production and gas pipeline construction work. The Group strives to further reduce methane emissions by, for example, cutting the amount of sampling gas used in analyzing produced gas, preventing venting during the shutdown of a calorific value adjustment system, planning pressure reductions to curb methane emissions into the atmosphere during pipeline construction work, and developing gas adsorption and recovery systems.

Energy Savings and Reduction of CO_2 Emissions in Business Operations
Best Practices at the Electric Power Business

The Tokyo Gas Group has contributed to mitigating climate change by actively developing its renewable energy business, including the use of wind power to generate electricity, in addition to natural gas-fueled thermal power generation, which is highly efficient with a low impact on the environment. Since the full deregulation of Japan's electricity retail market, Tokyo Gas, as an electricity retailer, has been promoting electricity procurement, primarily from highly efficient thermal power plants and renewable energy power generators, while working to curb CO_2 emissions at the retail stage. The company partners with other power utilities to realize a decarbonized society via the Electric Power Council for a Low Carbon Society, in which it has been a member since its foundation.

Most Advanced, Highly Efficient Natural Gas-Fired Thermal Power Plant

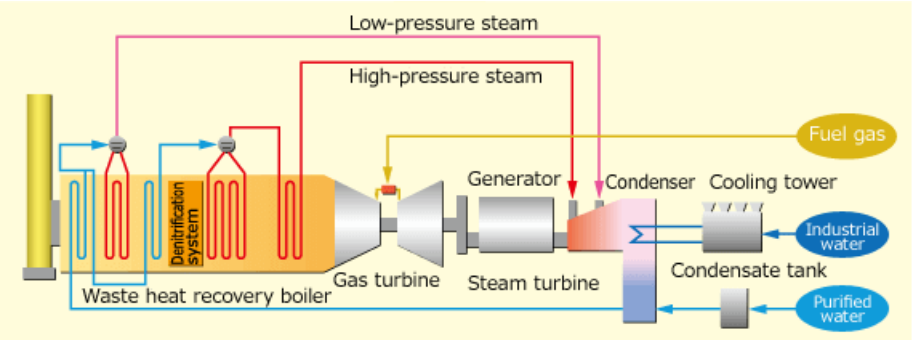
Tokyo Gas-affiliated power plants are operated by Tokyo Gas Baypower Co., Ltd. (100,000 kWh, wholly owned by Tokyo Gas, 50% maximum efficiency on a lower calorific value, or lower heating value (LHV), basis at the generating end), Tokyo Gas Yokosuka Power Co., Ltd. (240,000 kW, 75% owned by Tokyo Gas, 51% maximum efficiency), Kawasaki Natural Gas Power Generation Co., Ltd. (840,000 kW, 49% owned by Tokyo Gas, 58% maximum efficiency), and Ohgishima Power Co., Ltd. (approximately 1.22 MW, 75% owned by Tokyo Gas, 58% maximum efficiency).
In addition, we decided to receive the entire output, approximately 1.2 MW, of the Moka Power Station, which Kobelco Power Moka Inc., a wholly owned subsidiary of Kobe Steel, Ltd., is building in Moka City, Tochigi Prefecture. The plant's first unit will be completed in the second half of 2019 and its second in the first half of 2020.
These plants are all highly energy-efficient natural gas-fueled power plants that generate electricity using cutting-edge gas turbine combined cycle technology.
Generating electricity at these newly built highly efficient power plants in place of existing thermal power plants will help reduce our CO_2 emissions.


Ohgishima Power Station

Gas Turbine Combined Cycle Technology

Combined cycle power plants that use liquefied natural gas (LNG) as fuel achieve higher power generation efficiency as they draw upon the heat from gas turbines to convert water to steam, which is then collected to run power-generating turbines.

■ The process of combined cycle power generation



■ Promoting Renewable Energy

The Tokyo Gas Group has been seeking to acquire renewable energy sources focused on land-based wind power. In fiscal 2017, we began expanding our efforts to include solar power and offshore wind power generation. We intend to accelerate our participation in joint ventures with business partners in projects not only in Japan but also in other countries and regions. Our immediate goal is to acquire renewable energy sources capable of generating electricity at the scale of 1 million kW (400,000 kW in Japan and 600,000 kW overseas).

Wind Power Generation

We built our first wind power plant at our Sodegaura LNG Terminal with an output of 1,990 kW in October 2005. Our second venture into the wind power business began with the announcement in April 2011 of our investment in Shonai Wind-Power Generation Co., Ltd. Shonai now operates two wind power plants in Yamagata Prefecture, including the Yuza Wind Power Plant, in operation since December 2010, with a combined power generating capacity of 16,360 kW.

Major Projects in Recent Years

- January 2015: Signed a power purchasing agreement with Kuroshio Furyoku Hatsuden K.K.
- April 2015: Began purchasing approximately 12,000 kW of electricity generated by plants operated by Kuroshio Furyoku Hatsuden in the Kanto region, such as the Choshi Takada-cho Wind Power Plant, which entered service in 2006 with one 1,990 kW turbine, and the Shiishiba Wind Power Plant, which entered service in 2009 and has five 1,990 kW turbines.

Yuza wind power plant

Solar Power Generation

We also promote capital and business tie-ups and collaborations with other companies on projects related to solar power generation to conduct operations leveraging our integrated expertise and expand the use of renewable energy. We will continue to engage in joint development and operations to acquire more sources of solar power by incorporating the expertise of our partners.

Major Recent Projects

- February 2017: Entered a capital partnership with Shizen Energy Inc.
- August 2017: Established Prominet Power Co., Ltd.
- May 2018: Prominet Power Co., Ltd. and Kyudenko Corporation acquired part of Tokyo Century Corporation’s stake in a wholly owned company, SKF Power Co., Ltd., with six power plants and a combined output of 9,717 kW.
- June 2018: Through JE Capital Partners Ltd., Prominet Power Co., Ltd. purchased the entire stake of a company that owns and operates solar power plants developed by PHOTON JAPAN LLC (six plants with a combined output of 9,090 kW).
- January 2019: Prominet Power Co., Ltd. acquired LIXIL Corporation’s solar power generation operations (output: 4,872 kW) based in Kyoto.

Kumagaya solar power plant in Saitama Prefecture

As part of our efforts to create a decarbonized society, we will continue to explore the possibilities of acquiring electricity generated by various renewable energy sources, such as wind power, biomass with its high facility utilization factor, and solar power featuring high potential capacity.

Energy Savings and Reduction of CO_2 Emissions in Business Operations
District Heating and Cooling Services

District Heating and Cooling Services

The Tokyo Gas Group operates district heating and cooling services, including small-scale heat supply, in 44 districts. We supply steam and hot /cold water with combined heat and power (CHP) systems*1 consisted of absorption chillers and boilers, powered by natural gas. We seek to enhance energy efficiency by fine-tuning operations and working to achieve even higher efficiency with our equipment.

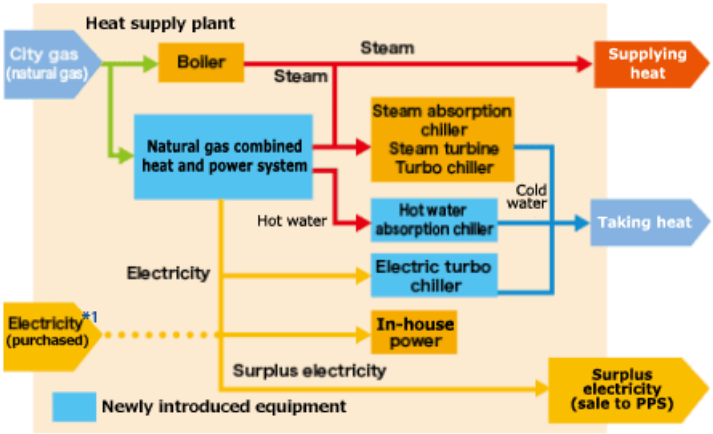
*1 Gas engine-based CHP systems generate electricity and recover exhaust heat generated as a by-product.

Makuhari District Heating and Cooling Center

Makuhari District Heating and Cooling Center

We upgraded the Makuhari District Heating and Cooling Center to a regional energy center for power generation and heat supply that promotes region-wide reductions of energy use and CO_2 emissions, from a conventional district heating and cooling center that supplied only heat by renewed heat source equipment. We have optimally mixed the use of the latest highly efficient large-scale CHP system with a total capacity of 15.7 MW, an electric turbo chiller, a boiler and an absorption chiller while also reducing fuel consumption by 19% and CO_2 emissions by 19% (fiscal 2015).

■ Operational Chart of the Makuhari District Heating and Cooling Center after Renewal



*1 Only when the CHP system cannot meet demand.

The Makuhari New City area is provided with district air-conditioning and heating services

Energy Savings and Reduction of CO_2 Emissions in Business Operations
Best Practices at Business Offices

Effective Energy Use by Combined Heat and Power (CHP) Systems

Tokyo Gas started its energy-saving efforts with the introduction of a CHP system[*1] at the Hamamatsucho Head Office Building as early as in 1984. We upgraded the system in April 2009 to the best available technology[*2]. It largely contributed to save energy by reducing the building's annual CO_2 emissions by about 1,400 tons. In the time of tight power supplies in the summer of 2011, after the Great East Japan Earthquake, we significantly reduced electricity use by putting all the Group's CHP systems to work.

*1 Gas engine-based CHP systems generate electricity and recover exhaust heat generated as a by-product.
*2 Upgraded CGS: Two 930 kW-class gas engines, total efficiency of 72% (38% power generation, 32% exhaust heat capture)

Renewal of Old Buildings to Energy-Saving and Environmentally Friendly Offices

Tokyo Gas introduced the Design Guidelines that care about energy conservation, seismic safety and durability in 2010 as part of its activities taking the environment into consideration. We follow the new guidelines in drawing up plans to reconstruct buildings owned by the Group.

TG Hiranuma Building that Received the Environment Minister's Award for a Global Warming Prevention Activity

The TG Hiranuma Building is a middle-scale, energy-saving and eco-friendly office building (five stories above ground, about 7,200 m^2). Completed in March 2013, it was the first reconstructed building based on the 2010 Design Guidelines. It has a solar cooling system, which utilizes solar energy and exhaust heat from its CHP system and significantly reduces mainly daytime CO_2 emissions from regular air-conditioning and heating loads. Individual, selective air-conditioning by the GHP XAIR, a highly efficient gas heat pump air-conditioner, deals sensitively with air-conditioning and heading loads, which vary according to the time of day and number of people inside. The building also uses such equipment as solar power generators and other renewable energy equipment as well as natural ventilation systems. Without sacrificing internal comfort, it uses about 30% less energy than other office buildings of similar scales.

The building was selected as a Leading Project for CO_2 Reduction[*1] by the Ministry of Land, Infrastructure, Transport and Tourism in fiscal 2011. It was given the Environment Minister's Award for Global Warming Prevention Activity (Early Adopter of Solution Technology category) in December 2015. In fiscal 2016, it obtained the BELS[*2] certification for buildings that meet the government's energy-saving criteria. (The assessment was four stars, out of five.)

The Group works to promote the wider use of energy-saving and CO_2-cutting technology adopted in the TG Hiranuma Building, aiming for a zero-energy building (ZEB)[*3] deployment.

*1 The government gives subsidies for leading housing and construction projects for CO2 emission reduction after publicly soliciting applications.
*2 The Building Energy-Efficiency Labeling System. In the system, a third-party evaluation body assesses and certifies the energy-saving capabilities of green buildings under the Act on the Improvement of Energy Consumption Performance of Buildings (Building Energy Efficiency Act).
*3 A zero-energy building (ZEB) aims to achieve zero net primary energy consumption, or the equal balance between total energy used and renewable energy generation, on an annual basis. The government is promoting these buildings, putting the initiative into its basic energy program.

TG Hiranuma Building

Earth Building Tachikawa (TG Tachikawa Building) Acquisition Top CASBEE Certification

The Earth Building Tachikawa (TG Tachikawa Building), was renewed in July 2015 as a middle-scale office building (five stories above ground, about 10,600 m^2). Aiming for a ZEB, we have given environmental consideration, such as the use of renewable energy and highly efficient equipment and appliances, in operating the Earth Building Tachikawa. The building also excels in ensuring business continuity in case of an earthquake with its system that combines seismic isolation and vibration suppression equipment. It received the top S certification in CASBEE*4 for buildings, the first for a Tokyo Gas building. In fiscal 2016, it acquired BELS certification. (The assessment was four stars, out of five.)

*4 Comprehensive Assessment System for Built Environment Efficiency: assesses the environment performance of buildings and gives ratings on a scale of five.

TG Tachikawa Building

Earth Port as ZEB

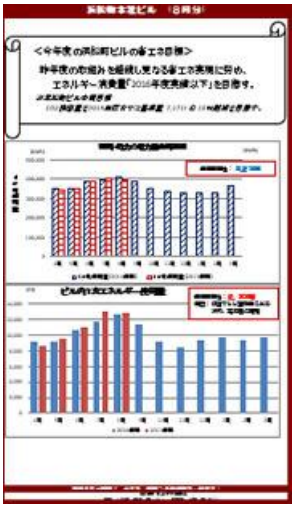
In 2010, we began renovating the Tokyo Gas Kohoku New Town Building, dubbed Earth Port. The primary goal is to achieve zero net primary energy consumption on an annual basis by 2030 by increasing the efficiency of equipment and optimizing energy use at a number of buildings. We were able to reduce the building's primary energy consumption by about as much as 49% and CO_2 emissions by around 54% in fiscal 2015 by incorporating renewable energy sources such as solar thermal and photovoltaic power generation and optimizing the operation of the CHP system.

Earth Port (after refurbishment)

Saving Energy through Better Management of Equipment and Facilities

Saving Energy through Better Use of Equipment and Facilities

We hold an energy-saving committee at each building where we lease an office, among the building's owner and equipment administrator and the relevant section of ours. The committee helps examine energy use, optimize temperature and humidity and arrange energy conservation patrols, encouraging each of our employees to promote energy-saving activities.
The Tokyo Gas Group as a whole engages in energy conservation though campaigns in the summer and winter, when power use peaks.
In capital spending, we promote the introduction of more efficient lighting equipment at our offices and facilities, such as LED and high frequency-ballast fluorescent lights, to increase energy-saving.



Example of visualization at the Hamamatsucho head office building

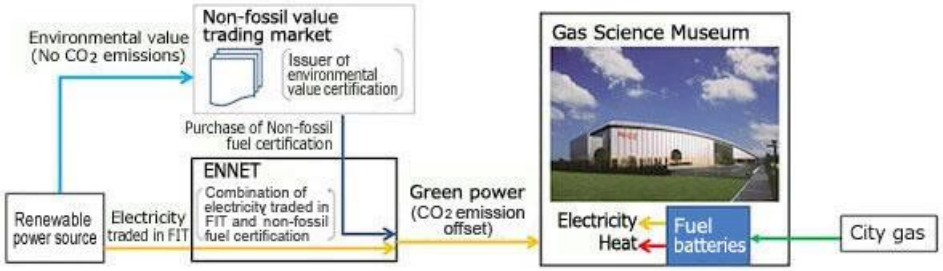
Poster for an energy conservation campaign

Topic

First Group Purchase of Renewable Energy with Non-Fossil Fuel Certification

In July 2018, the Gas Science Museum began purchasing renewable energy based on non-fossil fuel certification under the FIT*1 program to cover approximately 30% of the electricity used at the facility. As a result of this shift, the museum's actual CO_2 emissions from purchased electricity for fiscal 2018 declined by 78% from the previous fiscal year. The remaining 70% of the energy used at the facility is generated by highly efficient fuel cells using clean natural gas.

■ Power Supply System for the Gas Science Museum



*1 A Green Menu offered under the ENNET program based on a CO2 emission factor of zero. Of electricity provided under the program, Tokyo Gas purchases electricity from renewable energy sources by using non-fossil fuel certification in the FIT program.

Energy Savings and Reduction of CO_2 Emissions in Business Operations

Best Practices to Reduce CO_2 Emissions with Our Stakeholders

Best Practices to Reduce CO_2 Emissions with Our Stakeholders

Promotion of Eco-driving

We encourage employees to obtain green and safe driving skills in September and October every year. These practice sessions are led by professional trainers who have been certified as eco-driving instructors and draw about 100 participants. We also designate November as eco-driving month, and each employee selects one special interest from a list of 10 eco-driving tips for being an eco-driver. In fiscal 2018, we reduced CO_2 emissions from corporate business vehicles by 4.1% from the previous year.

Briefing a trainee on the key points of eco-driving

Topic

Introducing Environmentally Friendly Vehicles

We encourage the use of low-emission, fuel-efficient vehicles to reduce emissions of nitrogen oxides (NOx), particulate matter (PM) and CO_2. As of the end of March 2019, Tokyo Gas has introduced 53 fuel cell vehicles and 3 electric vehicles in its corporate fleet.

Forest Conservation Activities at Nagano Tokyo Gas Forest

Tokyo Gas owns a 194-hectare forest in the town of Miyotamachi in Kitasaku-gun of Nagano Prefecture and engages in conservation activities to help mitigating global warming, such as planting and thinning trees under a forestry management plan. We use the forest as an ideal site for providing environmental education to the Tokyo Gas Group employees.


Nagano Tokyo Gas Forest


Employees participating in an environmental workshop

Link

▶ Biodiversity Activities with Our Customers and Local Communities, Biodiversity Conservation Activities at Nagano Tokyo Gas Forest

Mori Sato Umi Tsunagu (Connecting Forests, Villages and Ocean) Project*1

The Mori Sato Umi Tsunagu (Connecting Forests, Villages and Ocean) Project is intended to help develop sustainable communities and lifestyles through activities to fight global warming and preserve biodiversity in an area where rivers connect forests, villages and the ocean. In fiscal 2018, we extended our support to the Tokyo government's human resource development program "Listen, Write and Draw" for junior high school students and the forest management project in Saitama Prefecture in our forest activities. In our ocean program, employees joined local teams in the spring and autumn to restore eelgrass, which provides shelter for small fish and other marine creatures, to help clean up the sea and reduce CO_2 emissions. Customers who supported the project joined through their Paccho (Tokyo Gas's mascot character) point*2 contributions, which are channeled to donations for organizations engaged in social contribution activities for forests, villages, the ocean and rivers.

We hope that broadening these connections will contribute to achieving the SDGs through both business operations and social activities.


"Listen, Write and Draw – Tokyo Nature Park" dictation program for junior high school students


Participants work on the sea in an Umi (ocean) program jointly undertaken with the Amamo (eelgrass) Restoration Collaboration in Kanazawa-Hakkei, Tokyo Bay Area

*1 For this project, we set up the Mori Sato Umi Tsunagu (Connecting Forests, Villages and Ocean) Project Committee in cooperation with the Japan Philanthropic Association to discuss and determine which subsidies and contributions are in the public interest and fair.

*2 This reward point program is for myTOKYOGAS members and therefore requires prior registration. Members earn Paccho points by using various Tokyo Gas services and participating in campaigns. The points can be exchanged for those of the loyalty programs of tie-in companies. Contributions to the project begin with 100 points.

Topic

Joining Carbon Offset Programs of the G-7 Ise-Shima Summit, Intercity Baseball Tournament, and J.League

To contribute to the development of a low-carbon society, Tokyo Gas uses the J-Credit Scheme[*1], operated by the government to certify greenhouse gas emission reductions, and participates in internal and external carbon offset programs. We provided carbon credits equivalent to 1,190 tons of emissions to offset greenhouse gas emissions at the Group of Seven Ise-Shima Summit in May 2016, Japan's annual nonprofessional Intercity Baseball Tournaments, held from 2016 to 2018, home games of the professional soccer team F.C. Tokyo during the 2017 and 2018 seasons, and our own events.

*1 Under this scheme, the Japanese government certifies credits for greenhouse gas emission reductions, absorption and sinks achieved by using energy-saving equipment, forest management and other activities. The credits are used for various purposes, such as carbon offsets and efforts to achieve the goals of business circle action plans for a low-carbon society.

Promotion of a Circular Economy

Creating a Recycling Society

The Tokyo Gas Group strives to create a zero-waste society by implementing its Guidelines for Promoting Resource Saving and Recycling and rigorously practicing the 3Rs of reduction, reuse and recycling of waste across the Group. Specifically, we seek to achieve zero waste emissions at production sites, reduce the amount of soil excavated during gas pipeline construction, reuse old gas meters and recycle used gas pipes (steel, cast-iron, and polyethylene pipes) at every stage of our business activities.

Total Volume of Generated Waste, and Recycling Rate

▸ Third-party Assured

Every Group office produces various types of industrial waste, such as plastics from containers and packaging and waste from technological development and training as well as maintenance work at customer sites. The Group is strongly committed to waste separation and strives to recycle and properly handle waste.
We promote efforts at offices to reduce the use of copy paper, generate less paper waste and recycle used paper.

■ Industrial Waste (FY2018)

Item	Generation	Amount recycled	Landfill	Recycling rate	Landfill rate
	(t)	(t)	(t)	(%)	(%)
Industrial Waste	142,517	137,712	2,483	97	1.7
Production Plants*1	678	405	8	60	1.2
Tokyo Gas Co., Ltd.	4,767	3,607	575	76	12

*1 Production plants includes data at facilities that make products, including city gas, and district heating and cooling centers as well as power plants.

■ General Waste (FY2018)

Item	Generation	Amount recycled	Recycling rate
	(t)	(t)	(%)
General Waste	2,990	2,333	78
Tokyo Gas Co., Ltd.	998	811	81

■ Copy Paper (FY2018)

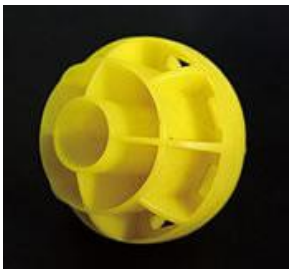
Item	Amount purchased
	(million)
Copy Paper	115
Tokyo Gas Co., Ltd.	53

■ Promoting the 3Rs

Working to Reduce Waste

Efforts Concerning Excavated Soil

Underground construction works of gas pipelines entails excavating roads so, pit sand is used to refill gaps. Reducing the use of pit sand suppresses environmental destruction and lowers CO_2 emissions generated by the vehicles transporting sand to construction sites. The Tokyo Gas Group strives to reduce the volume of excavated soil and the use of pit sand by laying pipes in shallow, narrow trenches and has adopted the non-open-cut construction method.
To reduce the use of pit sand further, we are pursuing 3R efforts such as increasing the use of excavated soil (reuse), improved soil, recycled road surface materials (recycle), and Eco-balls (reduce, reuse) for refill work.



"Eco-ball", an innovative temporary backfiller

Gas pipeline installation work using Eco-balls

Measures at Production Plants

▸ Third-party Assured

We take steps to reduce waste toward achieving zero emissions (a landfill rate of less than 1%) not only at LNG terminals, but also at city gas production plants, power plants and district heating and cooling centers. In fiscal 2018, total waste from our business was 678 tons, of which 8 tons were subjected to landfill, and a landfill rate reached as small as 1.2%*1.

*1 Calculation excludes hard-to-recycle industrial waste such as asbestos.

Initiatives for Reuse

Reuse and Recycling of Gas Meters

▸ Third-party Assured

We have played a leading role in reusing gas meters immediately after initial introduction of gas meters, prior to other gas service companies and companies in other industries.
Gas meters installed at customer sites are regularly replaced before the expiration of their 10-year certified life. However, we collect such retired gas meters, replace consumable parts, recalibrate them and reuse them for up to three cycles, which means 30 years at the longest.
In fiscal 2018, we reused 326 thousand gas meters, thereby succeeding the suppression of 1,358 tons of potential waste. Gas meters reused for three cycles have been materially recycled through our own channel and effectively used as material for new products by electric furnace makers and other companies.

Gas meter

Disassembled gas meter

Recycling Initiatives

Recycling of Used Gas Pipes

Third-party Assured

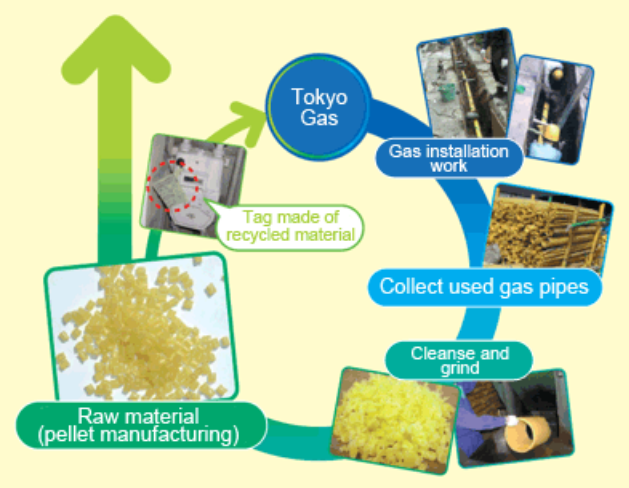
In fiscal 1994, we established a system for recycling used gas pipes, which are recovered during gas pipeline installation work. We have achieved an annual recycling rate of 100% for polyethylene (PE) pipes*1, which are recycled into raw materials for plastics, and for steel and cast-iron pipes that are reused as materials for metals. We also materially recycle PE pipes in-house by reprocessing them into such items as gas meter instruction tags that show how to restart gas delivery after shut-off in the event of an emergency such as big earthquakes.

*1 PE pipes have been in widespread use since the Great Hanshin-Awaji Earthquake in 1995 because of their earthquake resistance and anticorrosive property.

■ Recycling Rate for Used Gas Pipes

		FY2014	FY2015	FY2016	FY2017	FY2018
Gas pipes	PE pipes	100%	100%	100%	100%	100%
	Steel and cast-iron pipes	100%	100%	100%	100%	100%

■ PE pipes are reborn as excellent materials



Plastics Smart

Plastics Smart: Campaign led by Japan's Environment Ministry to promote efforts aimed at resolving the global issue of marine plastic pollution through broad collaboration and cooperation among individuals, local governments, NGOs, companies and research institutions. Tokyo Gas has registered its initiative as a Plastics Smart campaign.

Dealing with Waste at Customer Sites

We promote the 3Rs at customer sites as well by controlling waste generation through the business value chain from the design stage, reducing container and packaging waste, to collecting used appliances.

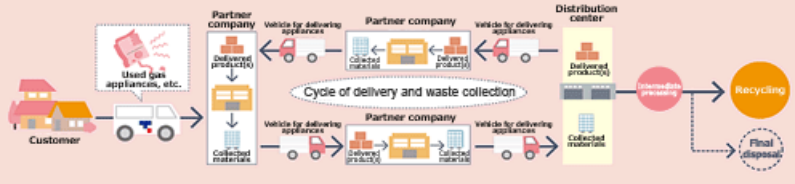
System for Collecting and Recycling Waste such as Used Gas Appliances (SRIMS)

Third-party Assured

We collect used gas appliances and waste from replacement works at customers and gas installation or home renovation work. Since August 1994, we have been operating our own Saving & Recycling

Innovative Model System (SRIMS), which offers the combined benefits of reducing environmental impact and cutting costs. Under the system, we collect waste when we deliver gas appliances, parts and piping materials to partner companies. In fiscal 2018, we collected 7,391 tons of waste and recycled 6,938 tons.

■ Saving & Recycling Innovative Model System (SRIMS)



Enlarge

Assisting Recycle Home Electric Appliances

The so-called “A Group”, mainly organized by Panasonic Corporation and Toshiba Corporation, collects and recycles Tokyo Gas-brand household gas air conditioners and clothes dryers. These are eligible for recycling under the Act on Recycling of Specified Kinds of Home Appliances (Home Appliance Recycling Law).

■ Recycling under the Home Appliance Recycling Law (FY2018)

Item		Unit	Air conditioners	Clothes dryers
Collected at specified places		Number	12,979	6,039
Transported to processing plants		Number	12,990	6,036
Recycling	Recycled by number of units	Number	13,123	6,047
	Recycled by weight	t	540	245
	Recycled products by weight	t	494	216
	Recycling rate	%	91	88
Fluorocarbons	Collected	kg	8,246	-
	Destroyed	kg	999	-

Reducing Waste of Containers and Packaging

▸ Third-party Assured

We have made it a rule to collect discarded containers and packaging to reduce waste at customer sites when partner companies sell and install gas appliances.
Collected containers and packaging are recycled in the Saving & Recycling Innovative Model System (SRIMS). In fiscal 2018, approximately 558 tons of corrugated cardboard and 13.6 tons of polystyrene foam were recycled.
In addition, we work to reduce the quantity of containers and packaging for gas appliances.
These efforts include reducing cushioning through the redesigning of cardboard packaging, cutting back on the use of cardboard through shrink wrapping in plastic film, and adopting returnable packaging, in which packaging materials are collected and reused repeatedly.


Cardboard boxes designed to require less cushioning


Shrink wrapping


Returnable packaging (repeatedly used containers)

Best Practices in Dealing with Waste from Various Business Activities

Dealing with Waste from Construction Work

The Tokyo Gas Group deals with waste from gas equipment installation work under direct contracts with gas utilities, gas pipe work at customer sites, installation of air-conditioning, heating and hot water systems, and home renovation work. We are making our utmost efforts to reduce such waste, which is mainly construction rubble and sludge, scrap metal, and woodchips.

Working to Reduce Waste in Installation Work for New Gas Equipment

We have adopted the prefabrication and precut method for piping work for the TES (Tokyo gas Eco System) gas/water heating equipment. Pipes and joints as well as other materials are processed at manufacturing plants and supplied as piping sets in time for installation work at each house. The only work necessary at the worksite is connecting and fixing the pipes to appliances. In addition, we are cooperating with manufacturers and installation contractors to promote this method, which generates less waste by requiring no onsite processing.

Working to Achieve Zero Mixed Waste in Gas Equipment Renewal Work

Replacement of equipment or pipes for our HEATS gas central air-conditioning and heating system installed at condominiums requires dismantling and removal work. While the scale of the work is relatively small, waste separation is limited by work periods and space considerations, which often results in disposal as mixed waste. The recycling rate for mixed waste is low, with most of it disposed in landfills. We have therefore reinforced our efforts to formulate a waste separation protocol at the planning stage of construction work in coordination with relevant parties and educating staff on waste separation. Consequently, we have achieved zero mixed waste from construction work and reduced the volume of landfill waste disposal.

Promotion of Biodiversity Conservation

Efforts for Biodiversity Conservation

Promoting Biodiversity Conservation for Sustainability

The Tokyo Gas Group has established the Guidelines for Promoting Biodiversity Conservation, recognizing the critical value of nature's blessings and to ensure that we continue to enjoy these blessings into the future. Under the guidelines, we strive to understand and alleviate the impact of our business activities on biodiversity, promote the sustainable use of resources, and partner with local communities in biodiversity conservation activities.

Carrying Out Environmental Impact Assessment

Extracting natural gas and constructing LNG (liquefied natural gas) terminals or power stations have a far from negligible impact on the landscape and natural environment. Tokyo Gas reviews the state of biodiversity conservation at overseas gas wells from which it procures LNG and confirms that local ecosystems are being considered. In Japan, we conduct the required environmental assessments for the construction of LNG terminals and power plants and cooperate with nongovernmental organizations to undertake such activities as managing green spaces with due consideration for ecosystems.

Link

▶ Impacts on Biodiversity and Responses along the LNG Value Chain (PDF : 163KB)

Measures in Our LNG Value Chain

We are working to conserve biodiversity by accurately understanding the impact of each segment of our LNG value chain, from natural gas procurement to transportation, production and supply.

Procurement

Measures at LNG Suppliers

In gas fields from which Tokyo Gas procures LNG, our suppliers implement measures to conserve biodiversity, such as by protecting endangered species and forests and engaging in afforestation and protecting marine ecosystems.
For example, in our LNG project in Malaysia, we installed 1,500 artificial reef balls in a national park. It was consequently confirmed that sea turtles last seen along the park's coast in 2010 have been returning since 2015 to lay eggs. And in our LNG project in Australia, we are working jointly with the Australian Institute of Marine Science to record the status of the coral reef and marine life in the area of our business activities and to conduct research on bleaching and rehabilitating the coral reef.

Installing artificial reef balls
Source: Petronas, “Bringing life to a barren ocean”

Measures during LNG Transport

Concerns have risen over the potentially adverse impact on ecosystems of aquatic organisms contained in the ballast water*1 of LNG vessels, as they are transported outside their normal habitat and discharged at ports where LNG is loaded. Although we have already taken some steps, such as discharging ballast water on the high seas, we are also installing ballast water treatment equipment on LNG vessels that we own and operate, including those under construction, to reduce the impact on ecosystems under the International Convention for the Control and Management of Ship’s Ballast Water adopted by the International Maritime Organization, which came into effect in September 2017.

LNG vessel

Hard clams not previously found in Japanese waters

*1 Seawater taken into a vessel as a counterweight to maintain stability after LNG is unloaded.

Measures at City Gas Production Sites

We are greening the sites of the Sodegaura, Negishi, Ohgishima, and Hitachi LNG Terminals by only partially mowing grass fields and curbing the use of herbicides.
In addition, we collaborate with the Jumoku Kankyo Network Society, a nonprofit organization, in conducting research on birds, insects and plants. Thinning trees on the basis of proven research and stacking eco-piles of rotting timber and other matter have led to an increase in the number of species of flowers with a positive impact on insects. We have also confirmed that Japanese rice fish, an endangered species, are breeding naturally in the artificial ponds at our LNG terminals.

NPO conducting an ecosystem survey

Japanese rice fish in our artificial pond

Measures during City Gas Supply

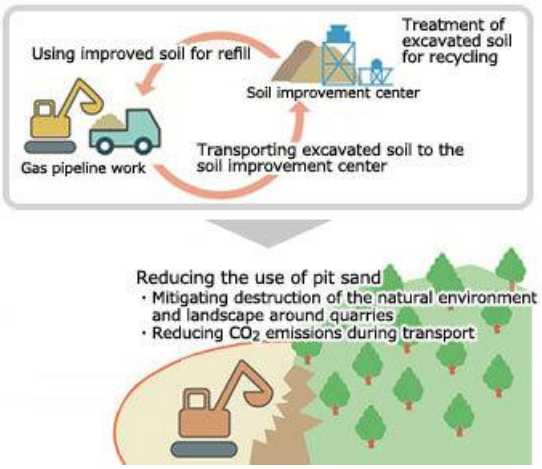
We use pit sand to refill sites excavated for gas pipeline work. Reducing the use of pit sand, however, mitigates environmental destruction and reduces CO_2 emissions by vehicles that carry sand to worksites. The Tokyo Gas Group seeks to lower its impact on the ecosystem by laying pipes

in shallower, narrower trenches than conventional installations and adopts a non-open cut construction method, which enables minimizing road excavation, to reduce the volume of excavated soil.

Departure shaft in a non-open cut gas pipeline construction

"Eco-balls", an innovative temporary backfiller in pipeline works

■ Recycling Excavated Soil



Measures at Offices

We plant trees on rooftops and create green curtains at our offices and corporate museums. We have greened the rooftop of the Gas Science Museum and opened to public for communicating with customers as well as local elementary schools and other community groups. At the Kumagaya Building, plants growing on the walls and near the windows provide shade to lower indoor temperatures.

Greened rooftop of the Gas Science Museum, open to public

Green curtain of Tokyo Gas Kumagaya Building; plants growing on the walls and windows

Biodiversity Activities with Our Customers and Local Communities

We participate in forest preservation activities at the Nagano Tokyo Gas Forest, which opened in 2005, and the Mori Sato Umi Tsunagu (Connecting Forests, Villages and Ocean) Project, which started on June 1, 2017, to examine the connections among forests, villages and the sea through environmental activities, the Donguri (Acorn) Project in partnership with customers, and the Watashi no Mori (My Forest) Project. These are all part of our efforts to address climate change and conserve biodiversity.

Biodiversity Conservation Activities at the Nagano Tokyo Gas Forest

We have been monitoring the environment at the Nagano Tokyo Gas Forest since 2007 together with a local nonprofit organization in an effort to conserve biodiversity. We have confirmed a total of 447 species of living organisms in the forest (351 plants, 17 mammals and 79 birds) based on our flora survey and biota monitoring conducted.

A hare in the Nagano Tokyo Gas Forest

A wren

Link

▶ Best Practices to Reduce CO_2 Emissions with Our Stakeholders, Forest Conservation Activities at Nagano Tokyo Gas Forest

Environmental and Social Contribution Activities in the Mori Sato Umi Tsunagu (Connecting Forests, Villages and Ocean) Project

Link

▶ Best Practices to Reduce CO_2 Emissions with Our Stakeholders, Mori Sato Umi Tsunagu (Connecting Forests, Villages and Ocean) Project

Basic Policy

Basic Policies on Human Resources

Tokyo Gas has developed its personnel programs with recognition that its vitality depends on its people, and that Company growth cannot be achieved without the growth of its personnel.
In order to raise the value we provide to our customers and to enhance our competitiveness, we are developing our environment where personnel with diverse values exercise their abilities to the full while strengthening our human resources through hiring and education.
Our programs for remuneration, benefits and promotion are designed to reflect the performance of each employee over a given period so that everyone is confident that their efforts and contributions to Company performance will be appropriately rewarded. By offering a variety of benefits and compensation, we want to enhance the motivation and satisfaction of our employees and create a lively, dynamic organization.

Employment Outlook

Employment Situation

As of March 31, 2019, our workforce totaled 7,492 (male: 6,334, female: 1,158)*1

*1 Numbers include employees loaned by Tokyo Gas to other organizations but exclude those loaned to Tokyo Gas from other organizations (hereafter, “registered personnel”).

Number of Full-time Employees by Gender*2, 3, 4, 5

▸ Third-party Assured

		Unit	FY2016	FY2017	FY2018
Male	Non-consolidated	Persons (%)	6,518 (85.7)	6,392 (85.0)	6,334 (84.5)
	Consolidated		11,745 (84.2)	11,418 (83.4)	11,300 (82.8)
Female	Non-consolidated		1,086 (14.3)	1,126 (15.0)	1,158 (15.5)
	Consolidated		2,212 (15.8)	2,271 (16.6)	2,341 (17.2)
Total	Non-consolidated		7,604	7,518	7,492
	Consolidated		13,957	13,689	13,641

*2 Data are as of the end of March in each fiscal year.
*3 Non-consolidated data are for Tokyo Gas employees (registered personnel).
*4 Consolidated data exclude personnel on loan to Tokyo Gas and its subsidiaries from other organizations, and include personnel on loan from Tokyo Gas and its subsidiaries to other organizations.
*5 Data in fiscal 2017 were revised.

Average Age by Gender*6, 7, 8

▸ Third-party Assured

		Unit	FY2016	FY2017	FY2018
Male	Non-consolidated	Age	41.4	40.7	40.8
	Consolidated		41.8	41.2	41.2
Female	Non-consolidated		41.1	40.6	40.5
	Consolidated		39.9	40.0	40.1
Total	Non-consolidated		41.4	40.7	40.8
	Consolidated		41.5	41.0	41.0

*6 Data are as of the end of March of each fiscal year.
*7 Non-consolidated data are for Tokyo Gas employees (registered personnel).
*8 Consolidated data exclude personnel on loan to Tokyo Gas and its subsidiaries from other organizations, and include personnel on loan from Tokyo Gas and its subsidiaries to other organizations.

Turnover Rate*9

▸ Third-party Assured

$$\frac{\text{Number of voluntary leaves (April 1, 2018 – March 31, 2019)}}{\text{Number of employees at the beginning of the term (Number of employees as of April 1, 2018)}} = \frac{55}{7{,}712} = 0.71\,\%$$

*9 Data shown are for Tokyo Gas Co., Ltd.

Transparent Hiring Practices

Our recruitment activities comply with the guidelines of KEIDANREN (Japan Business Federation). We also disclose corporate information and job offers at an early stage so students can maintain a focus on their studies and have sufficient time to research and select companies. Moreover, we host various seminars for students to gain a clear understanding of our company.

■ Hiring of New Graduates[*1]

▸ Third-party Assured

Category	Unit	FY2017	FY2018	FY2019
Undergraduate and Graduate[*2]	Persons	220	186	224 (male 162, female 62)
High school		31	20	0
Total		251	206	224 (male 162, female 62)

*1 Hiring status of Tokyo Gas Co., Ltd. as of April 1 of each fiscal year.
*2 Includes technical college graduates.

Personnel Programs and Appraisal System

Personnel Programs (Roles and Qualifications System, Contribution-Type Personnel Management System)

Our Roles and Qualifications System puts employees into five categories based on individual development and the degree to which they contribute to the organization. We also maintain the Contribution-Type Personnel Management System for evaluating the development and performance of each employee from multiple perspectives and supporting their development in terms of specific expertise and at an early stage of their career. We will maximize organizational performance by having each employee recognize their particular organizational contribution and also maximize their expertise and strengths through clearly defined role expectations and their position in the organization according to category and contribution type.

■ Expected Roles by Role Type

Role Category	Expected Roles (Position in the Organization)
Executive Manager	Expresses a clear vision based on firm principles, provides overall management for the organization, and applies advanced expertise to maximize organizational performance from the perspective of total optimization for the Tokyo Gas Group. Also exerts Group-wide influence and seeks to invigorate personnel and the organization.
Division Manager	As a manager of the organization, works in cooperation and collaboration with members of other divisions to maximize results.
Supervisor	As the central figure in practical operations, seeks cooperation and collaboration with members involved in operations in order to get results.
Leader	As the autonomous leader of practical tasks, seeks to complete tasks while guiding and nurturing subordinates and junior employees.
Staff in Charge	As employees responsible for performing practical operations, seek to actively acquire business-related knowledge and executes tasks by following the organizational policies as well as the instructions and leadership of superiors.

■ Roles and Goals by Contribution Type

	Expert	General	Business Fellow
Roles and Goals	Supervises or supports duties at the Tokyo Gas Group locations by utilizing the skills, techniques, knowledge and network acquired through experience in a specialized field of work.	Promotes the business of the Tokyo Gas Group from the perspective of what is best for the organization overall while also strengthening their field of expertise based on the skills, techniques and knowledge acquired through various work-related experiences.	Promotes improvements in the Tokyo Gas Group solutions and innovation functions through high-level skills, techniques and knowledge in a specialized field.

Appraisal System

Appraisal System for Human Resource Development, Determining Benefits and Remuneration, and Transfers

We use a goal management system in which each employee sets their own goals. Under the system, we evaluate goal achievements and contributions to the Group as a means of determining appropriate benefits and remuneration.
In addition to evaluation based on goal management, we conduct other assessments, including the Role Demonstration Evaluation*1 and 360 Degree Appraisal System*2 (behavioral evaluation, multi-dimensional evaluation).

*1 Determining the skill development and demonstration necessary for satisfying the expectations for the roles of each type of contribution and expected roles, used for developing expertise and in training.
*2 A system in which a person's daily behavior is evaluated by managers as well as peers and subordinates.

Personnel and Career Development

Development of the Human Resources System

Basic Policy

With the belief that people grow through their work, Tokyo Gas develops employee skills and competencies by effectively combining core training by workplace managers on the job, with supplementary, off-the-job education and training, self-development and transfers as well as job rotations. We also provide opportunities for discussing career plans and the Open Recruitment program so that employees can experience a sense of self-fulfillment and satisfaction through their work.

Education and Training System

We take a two-pronged approach to training personnel: developing basic and common skills required of a businessperson and enhancing specialized skills. We strive to develop highly competent employees who can think independently and motivate others to join them while flexibly adjusting to changes in the business environment by expanding, heightening and increasing the skills required for each contribution type. We will strive to boost productivity driven by the development of individuals and the leadership they demonstrate at Tokyo Gas by maximizing every employee's capabilities and strengths.

Developing Basic and Common Skills Required of a Businessperson

In addition to job transfers and rotations aimed at encouraging professional development, we provide training in basic education, management skills and career planning. Part of the training engages Tokyo Gas Group employees in developing common skills as well as a sense of cohesiveness within the Group.

Training Category	Training Focus
Management Skills Development	For managers and recently promoted employees. Develop an awareness of expected roles for each contribution type and level of employment as well as enhancing management skills.
Next Generation Leadership Development	For managers. Provide training based on collaboration and interaction with other companies to develop leadership with the broad perspective and vision essential for times of change.
Human Network Development	Active intra-departmental discussion-based programs for management, directors and their subordinates from various divisions to enrich and broaden leadership vision and perspectives as well as network development.
Global Adaptability Development	Develop internationally competent professionals who can excel in both domestic and foreign markets, enabling participants to experience global business, OFF-JT, including internship programs at overseas companies, and self-development support programs.

Study Abroad Program	We encourage our employees to study at graduate schools and technical schools, both in Japan and overseas, so that they can broaden their views, obtain business-related skills and develop extensive networks toward comprehensively contributing to our business.
Self-development Support Program	We provide seminars, external training, online training and other types of education to support employee self-development. The programs encompass the purpose for increasing their expertise and other typical content such as skills for developing goals, collaboration skills and task management.

Link

▶ Fundamental and Universal Skills Development Training Structure Chart（PDF : 267KB）

Enhancing Specialized Skills

We implement divisional and cross-divisional training to develop particular specialty skills required at each division.

Development of Human Resources in the Residential Services Sector

Human Resource Development Center

Our human resource development center provides training primarily for employees in the residential services sector of the Tokyo Gas Group. In fiscal 2018, we offered approximately 460 courses (730 sessions in total) taught by nearly 50 instructors, including current and former employees as well as those from Group companies. In collaboration with the related departments, we set up an internal qualification program and provide technical training in areas such as safety inspection, equipment repair, installation of gas appliances and water heaters in order to guarantee the quality of our residential services sector business. We offer basic knowledge and mindset training to remain the customer's number one choice. In addition, we give facility tours at manufacturers with the aim of spreading a broad understanding of products, as well as management training to develop leaders at Tokyo Gas Group companies. We also offer e-learning courses as a convenient way for participants to renew qualifications.

Training Facilities	Tsurumi Human Resource Development Center (23 classrooms, 25 workshop rooms, concept house, amenities, etc.)   

	Takinogawa Human Resource Development Center (2 classrooms, 3 workshop rooms) 
	Senju Human Resource Development Center (1 classroom, 4 workshop rooms) 

Human Resource Development in the Pipeline Sector

Our Pipeline Network Division identifies desired skills and implements the related training toward establishing a foundation of essential competencies from a mid- to long-term perspective. In order to maintain and pass on technical skills, we strive to improve specialty skills through OJT based on daily instruction as well as OFF-JT conducted by training centers and other sources.

Skills and Technical Ability Recognition Program

We have introduced a recognition program for supporting every employee in obtaining the required skills and technical ability to take full responsibility for attaining a level of job performance that will satisfy both our customers and society at large. The program is structured in a way that enables personnel to perform their work at a consistent level of skill and technical ability. This fundamental system enables us to continuously fulfill our responsibilities to customers and general public.

Meister Instructor Program

We have introduced this in-house qualification program to support our human resource development efforts by recognizing highly skilled personnel in order to improve workplace skills and effectively pass on technical abilities to the next generation. It is intended to clearly define the ultimate professional for handling tasks such as emergency safety, maintenance and construction management so that younger employees will strive to raise the level of their technical skills up to that of “Meister” instructors. We also require Meisters to recognize their responsibility to pass on their skills to younger personnel.

Training Centers

OFF-JT is provided at five centers designed to develop specific tasks in each line of work. We provide staff from our Group and partner companies with regular training in such areas as basic induction skills, work performance improvement and common core skills. We also offer custom training, offsite programs, training tools and video lending, open access to facilities and other channels for various training needs.

Training Facilities	Pipeline Training Center (Tsurumi)  
	Emergency Management Training Center (Tsurumi)  
	Transmission Training Center (Soka)  
	Customer-owned Gas Lines Maintenance Training Center (Tsurumi)  
	Gas Piping Training Center (Tsurumi)  

Topic

Tokyo Gas Group Mindset Orientation

In April 2019, we hosted the Tokyo Gas Group Mindset Orientation, focused on new employees. The program included lectures on our main policies, customer satisfaction, compliance, human rights, the environment, diversity and CSR to develop a strong group awareness and sense of unity.

Tokyo Gas Group Mindset Orientation

Link
▶ Production of City Gas, Initiatives for Handing Down Skills

■ Transfers and Job Rotations

Assigning the Right Person to the Right Position

We endeavor to place the right person in the right place so that employees will find their work rewarding. Every year, employees have an interview with their supervisors to discuss their career plans. Their self-evaluation along with remarks by the supervisor is registered in the personnel system and incorporated into decisions related to transfers and rotation plans as well as career development.

Open Recruitment Program and Free Agent Program

We establish an Open Recruitment program and Free Agent program to supplement our ongoing personnel transfer program, and we enable employees to apply for the position of their choice.

Action on Diversity

Management Commitment

The Tokyo Gas Group promotes diversity for our future growth and development.

As competition between energy companies continues to intensify, the Tokyo Gas Group strives to maintain its position as the customer's choice by creating safe and pleasant lifestyle and society, and to achieve sustainable growth and development far into the future.
One key priority for the Group as a whole is to promote diversity. To meet diversifying customer needs, every Group employee must have the chance to excel and fully apply their knowledge, ability and experience and to work effectively in teams.
We are committed to developing and expanding systems to achieve this goal and foster employee awareness while proactively creating an organizational culture in which all excel, regardless of gender, age, disability, employment status, nationality or sexual orientation.

April 2018
Takashi Uchida
Representative Director, President and CEO
Tokyo Gas Co., Ltd.

Diversity Concept Message

We have created a message to clearly explain the concept behind our ideal of contributing to Group growth by demonstrating the diverse strengths of each individual, which we uphold in our commitment to diversity.

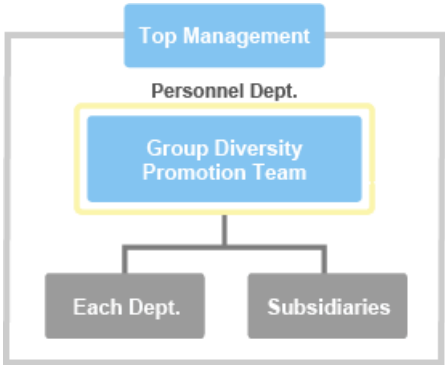
Link
▶ Diversity Concept Message for Tokyo Gas Group Member (only in Japanese)
(PDF : 3,500KB)

Basic Policy

The Tokyo Gas Group promotes workplace diversity as a corporate enterprise that offers every employee the opportunity to excel by applying their full knowledge, abilities, and experience.

(1) We structure our corporate organization to encourage mutual respect for diverse work styles while enhancing productivity.
(2) We proactively support the success of women as the foundation for promoting diversity across the organization.
(3) We deeply integrate the promotion of diversity into all our business operations through our Group Diversity Promotion Team.

■ Tokyo Gas Group Diversity Promotion System



Link

▶ Tokyo Gas: Promotion of Diversity (only in Japanese)

Diversity Month

Seeking to change the mindset and behavior of Group employees, we designated November 2018 as Diversity Month and held various seminars on diversity, with about 800 participants.

Seminar	Content	Number of Participants (subsidiaries and affiliates)
LGBT Seminar	In addition to gaining basic knowledge related to LGBT issues, participants listen to speakers about problems and other issues the LGBT community confronts and learn how to create better workplaces.	101 (21 from 8 companies)
Seminar for male employees on balancing work and parenting	An expert on male participation in parenting offers a lecture on the concept of balancing work and family.	43
Women's Career Seminar	The Tokyo Gas Group's young female employees learn how to approach work from older female employees and examine their careers.	51 (12 from 5 companies)
Paccho Farm vegetable shop	Farm staff sell fresh products from the Paccho Farm.	60
Seminar for employees returning to work after childcare leave	Participants learn how to balance work and parenting and collaborate with colleagues after returning to the workplace while also considering career development.	24
Seminar for balancing work and nursing care	This two-part seminar is divided into courses on basic issues and nursing facilities. The basics including learning how to turn concerns about nursing into preparations for the future. Also covers information on available facilities, benefits, and costs related to home nursing and other nursing care.	132 (46 from 6 companies)
Lecture on Promoting the Advancement of Diverse Talent Diversity Today and Tomorrow – Looking Beyond 2020	In this session, outside lecturer Dai Tamesue, CEO of Deportare Partners, speaks about creating working environments that enable diverse personnel to thrive.	371 (55 from 10 companies)


LGBT Seminar


Seminar for male employees on balancing work and parenting


Women's Career Seminar


Paccho Farm vegetable shop


Seminar for employees returning to work


Nursing Care Seminar


Lecture on Promoting the Advancement of Diverse Talent

■ Active Training and Elevation of Women

Tokyo Gas has been actively promoting the career development of women. In addition to enriching our programs to support a balance between childcare and work, we are strengthening employee awareness and evolving our corporate culture by hosting seminars on women's career development. The ratio of women in management positions has increased by 3.9% in 10 years, from 4.1% in 2009 to 8.0% in 2019. Appointments to the general manager and manager level in particular have dramatically increased from 4 to 20, while the first women was promoted to managing executive officer in April 2018. Our goal is to raise our female management ratio to 10.0% by 2020.

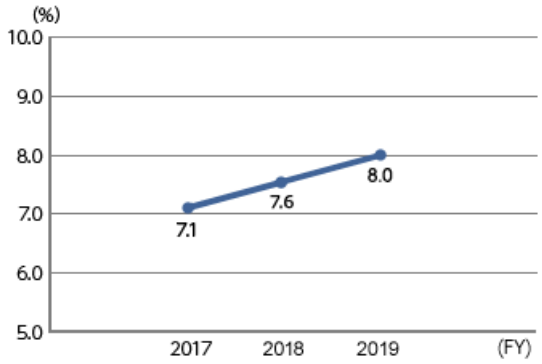
Action Plan for Promoting Women's Careers (Tokyo Gas Co., Ltd.)

Target	Action Plan
Ratio of women in management positions in FY2020 10%	❶ Increase percentage of female job applicants ❷ Create more opportunities for female employees ❸ Increase the number of women pursuing management positions ❹ Identify and tackle other issues (PDCA cycle)

Ratio of Women in Management[*1, 2]

▸ Third-party Assured

The ratio of female management is steadily rising as a result of strategic measures.



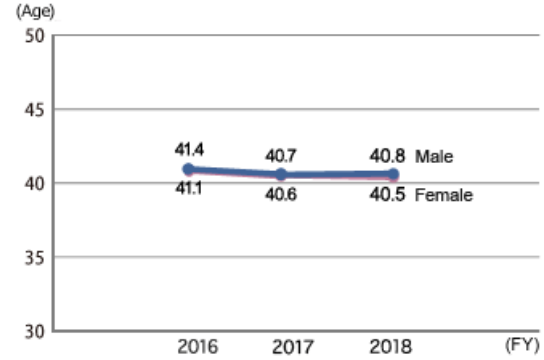
*1 Number of Tokyo Gas employees, exclude personnel on loan to Tokyo Gas from other organizations and include personnel on loan from Tokyo Gas to other organizations (registered personnel). Data are as of April 1 of each fiscal year.

*2 Employees in supervisory positions, or employees of equivalent status.

Average Age by Gender[*3]

▸ Third-party Assured

No significant difference in average age between male and female employees.

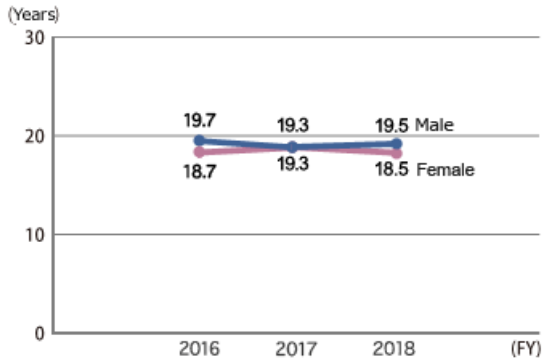


*3 Number of Tokyo Gas employees (registered personnel) are as of the end of March of each fiscal year.

Average Length of Employment by Gender[*4]

▸ Third-party Assured

No significant difference in length of employment between male and female employees.

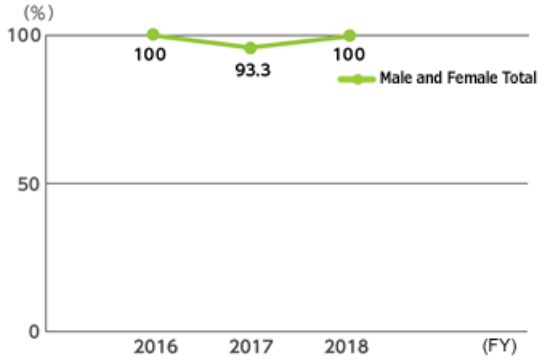


*4 Number of Tokyo Gas employees (registered personnel) are as of the end of March of each fiscal year.

Percentage Returning to Work from Parental Leave[*5, 6]

▸ Third-party Assured

Most of our employees return to work after taking a maternity leave.

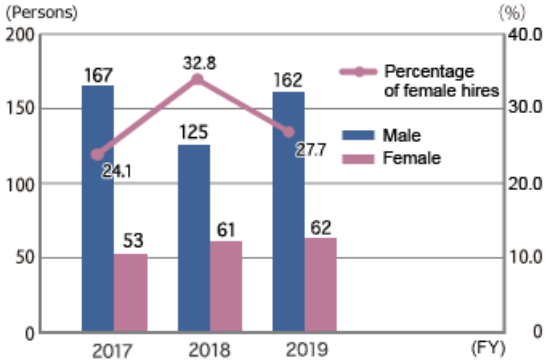


*5 Number of Tokyo Gas employees (registered personnel) are as of the end of March of each fiscal year.
*6 Percentage of employees who completed parental leaves each fiscal year and those returned to work at the company.

Hiring by Gender[*7]

▸ Third-party Assured

The ratio of female is approximately 30% every year.



*7 New graduates (graduates, undergraduates, technical college graduates) among Tokyo Gas employees as of April 1 of each fiscal year.

Efforts for Promoting Female Advancement

As part of our active efforts to recruit and retain female employees, we are building employee awareness and evolving our corporate culture through seminars we host for both female employees and their managers.

■ Seminars and Lectures in FY2018[*8]

Date	Theme	Number of attendees (subsidiaries and affiliates)
May 2018	Seminar for managers with subordinates who have small children	47 (21 from 4 companies)
November 2018	Seminar for employees returning to work after childcare leave	24
November 2018	Women's Career Seminar	51 (12 from 5 Companies)
March 2019	Seminar for employees returning to work after childcare leave	31 (4 from 2 companies)

*8 Data represents the Tokyo Gas Group employees.

Training for Female Employees

Women's Career Seminar

Focused on early career development, we provide female

employees in their 20s with opportunities to proactively develop their careers.

Enthusiastic female employees attending a seminar

Women's Seminar for Returning to Work after Childcare Leave

Prior to returning from childcare leave, female employees are offered opportunities to easily transition back to work and balance work and childcare by envisioning how they can practically manage their working style and work in cooperation and collaboration with their managers and peers.

Seminar on returning to work after maternity leave

Seminar on Career Development for Parents of Small Children

We provide opportunities for considering long-term career development to those who have spent a given period of time balancing work and childcare.

Male employees also attend the seminar for managing their careers while raising children

Mentorship Program for Women

This program was introduced to help female employees succeed by enabling them to consult female employees in senior positions, who act as mentors and provide career advice while also responding to work-related questions or concerns.

Awareness-Building and Corporate Culture Development for Managers

Seminars for Supervisors with Subordinates Who Are Raising Children

For supervisors who have subordinates that are raising children, we offer seminars on management methods to help them understand and encourage support for balancing work and childcare.

Seminar for supervisors

Manager Training

New supervisors learn about performance evaluation, staff development skills, and diversity management. Diversity management includes practical training on the needs for promoting the advancement of diverse talent including women, understanding childcare and nursing care programs, how to communicate with diverse staff through case studies and role playing.

Practical management training

Lecture on Promoting the Advancement of Diverse Talent

Top managers of companies that lead in the area of diversity as well as other experts are invited to give lectures, during which general and other managers can learn how to create workplaces that allow each individual to excel.

Seminar on work-life balance

External Evaluation

We have obtained the “Kurumin” certification from the Minister of Health, Labour and Welfare as a company that actively supports childcare based on the Act on Advancement of Measures to Support Raising Next-Generation Children. In addition, we obtained the “Eruboshi” Certification (the second level out of third one) as a company which has best initiatives in promoting women based on the Act on Promotion of Women's Participation and Advancement in the Workplace. The Tokyo Gas Customer Support, which is one of our main group companies, received the highest level of the certification.
Furthermore, in fiscal 2018, we were selected for the third consecutive year as a “Nadeshiko Brand” company that actively promotes women, by the Ministry of Economy, Trade and Industry and the Tokyo Stock Exchange.

Kurumin

Eruboshi

Nadeshiko Brand

Supporting Career Development for Employees in their 50s

In April 2016, we established the Grand Career Support Program, which replaced our program that had primarily focused on enriching the life of employees in retirement. The new program provides comprehensive support for developing the careers of employees who are over 50, with the aim of raising their motivation and performance by clarifying the work they can contribute to through training, one-on-one meetings with superiors, and interviews with training and career consultants in the Personnel Dept. By consistently offering such support, many employees are opting for re-employment when they retire, almost all of whom have been rehired by the Tokyo Gas Group.

■ State of Reemployment after Mandatory Retirement

Third-party Assured

		Unit	2016	2017	2018
Total number of retired employees*1		Persons	348	273	172
Number of reemployed*2	Tokyo Gas	Persons (%)	251 (72.1)	203 (74.4)	103 (59.9)
	Subsidiaries		42 (12.1)	46 (16.8)	52 (30.2)

*1 Number of employees who left the company at the mandatory retirement age of 60 for Tokyo Gas Co., Ltd.
*2 Number of people hired as “career employees” (contract employees rehired after reaching mandatory retirement age).

■ Employment of Persons with Disabilities

Third-party Assured

The ratio of persons with disabilities employed as of June 2019 was 2.46%, well above the statutory rate,*1 and these individuals are actively engaged in each workplace. In April 2016, Tokyo Gas launched the Liaison Committee to Promote Employment of Disabled People to foster understanding for creating more opportunities for persons with disabilities so they can succeed professionally as we continue to develop safer, more accessible working environments. Furthermore, in our effort to create an inclusive society, we opened a farm in fiscal 2018 to provide a safe and lively workplace for persons with intellectual and mental disabilities.

*1 The statutory employment rate is determined by the Employment Rate System for Persons with Disabilities and is the percentage of regular workers who are required to be employees with disabilities.

Paccho Farm

■ Prohibiting LGBT Discrimination

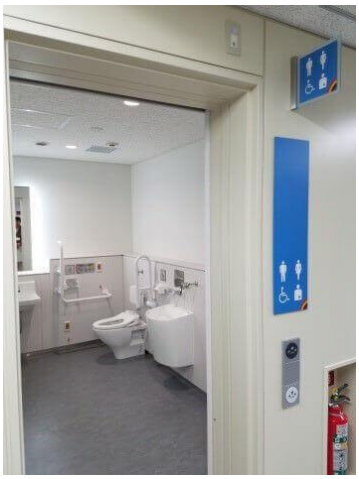
Our Code of Conduct, which defines the required values and standards of behavior for everyone at the Tokyo Gas Group, explicitly prohibits discrimination and harassment on the grounds of sexual orientation or gender identity. In the Management Commitment, it is clearly stated that in order to be a corporate group, we must proactively create an organizational culture for everyone and excel, regardless of sexual orientation.
We have sought to provide a sound working environment by setting up consultation desks to address employee concerns related to the personnel system or benefits. This is in addition to our consultation desks dealing with issues related to compliance and communication in the workplace. We also organize human rights training and talks by outside lecturers in connection to LGBT issues.

Training for human rights promotion leaders

Accessible Bathrooms

Multipurpose, accessible bathrooms are available and equipped to accommodate people using wheelchairs as well as ostomates[*1] in addition to fitting boards for changing clothes at three locations in the Tokyo Gas head office building. Groupwide, nine accessible bathrooms are provided in seven buildings.

*1 An ostomate is a person who has undergone surgery to create an artificial opening in the body (a “stoma”) to discharge waste due to damage to the digestive tract or urinary tract caused by illness or accident.



Multipurpose, accessible bathroom

Supportive Environment for Balancing Work and Childcare or Nursing Care

We practice a style of management that cultivates and maximizes the diverse characteristics and abilities of employees and creates a workplace environment that is comfortable at different life stages, so that everyone can meet the expectations for their respective roles and make the most of their abilities.
We provide programs for parental leave, shorter hours for parents of small children, and nursing care leave that exceed statutory requirements. For employees seeking to balance work with nursing care, we made revisions that enable them to work with greater flexibility by introducing a flex-time system for nursing care with no core time periods in April 2018.
We also offer systems that allow employees to take leaves of absence for fertility treatment, to attend events at their children's and grandchildren's schools, and to provide nursing care for family members, and these systems are widely used by employees.
We have introduced other arrangements to further increase the options for employee work styles, including leaves to allow employees to accompany spouses working overseas and various programs offering shorter work hours for employees receiving medical treatment.

■ Major Programs and Usage[*1]

(Programs which exceed regulatory requirements are underlined.)

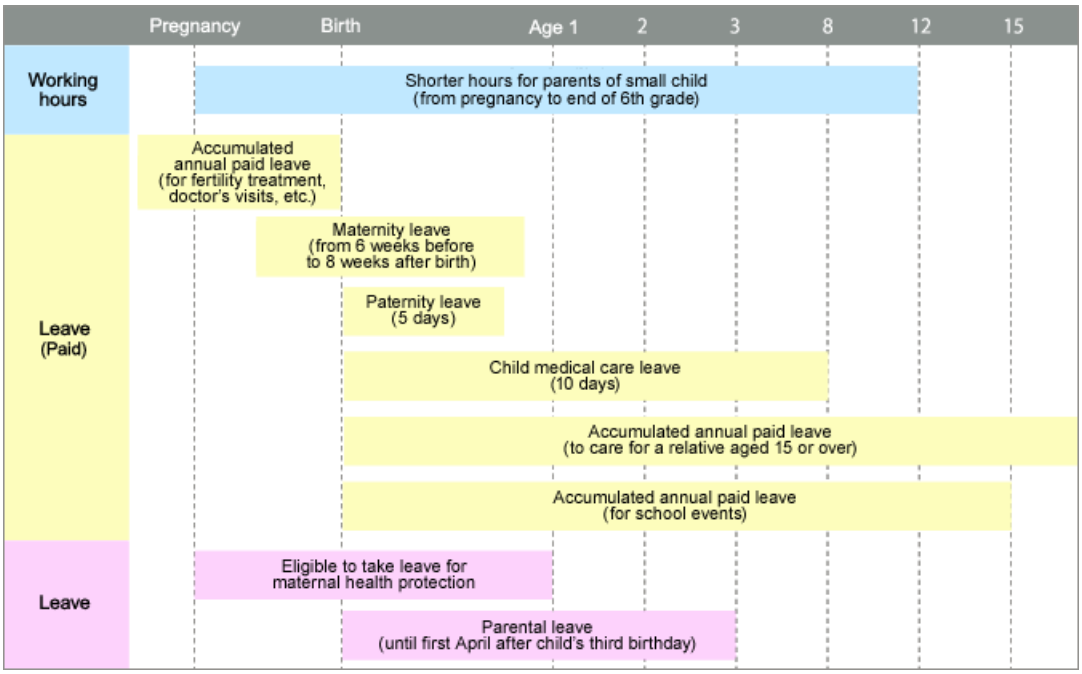
Third-party Assured

Program	Outline	Item	Unit	FY2016		FY2017		FY2018	
				Male	Female	Male	Female	Male	Female
Parental leave	Until the end of April immediately following the child's 3rd birthday (employees are allowed to change the scheduled date of reinstatement if they are unable to enroll their children in a nursery school)	Number of users	Persons	2	65	5	45	5	70
		Rate of return to work (%) [*2]	%	100	100	100	92	100	100
Shorter hours for parents of small children	Flex-time system is available during pregnancy and until the child completes the 6th grade	Number of users	Persons	227		3	214	9	220
Nursing care leave	Up to 3 years for one relative within the second degree of kinship	Number of users	Persons	4		0	1	2	0
Nursing care work	Applicable to a relative within the second degree of kinship Flextime program available up to 3 years to provide care	Number of users	Persons	3		0	2	0	3
Leave to accompany partner	For employees accompanying a spouse posted overseas	Number of users	Persons	4		3		4	
Community service leave	Special leave (paid) for up to 5 days within 1 year	Cumulative number of users	Persons	48		58		61	
Sabbatical system	For employees who reach the age of 30, 35, 40 and 50 Provided with commemorative gifts and special leave (paid)	Number of users	Persons	514		673		509	

*1 Data are for Tokyo Gas, Co., Ltd.

*2 Percentage of employees who completed parental leaves each fiscal year and those returned to work at the company.

■ Support for Work-Parenting Balance



■ Work Style Reform

Management tenaciously focuses on the value of ”time” to rectify and reduce long working hours so that every employee can work with enthusiasm while maximizing their potential.
In addition to establishing diverse working styles, we review work processes and methods while also taking action to boost organizational productivity.

Work Style Reform Action Plan

Since fiscal 2018, we have been working to achieve the goals of our Work Style Reform Action Plan. We launched the Work Style Reform Promotion Campaign, from September to November of the same year, to accelerate our efforts for work style reform with the aim of nurturing the corporate and organizational culture.

■ Work Style Action Plan

	KPIs (Numerical Targets)
Theme 1: Rectifying and reducing long working hours	By fiscal 2020, reduce cases of over 80 hours of extra non-legal working hours per month to zero and reduce cases of 60–80 hours/month by half of the fiscal 2017 level
Theme 2: Encouraging employees to take annual leave	Reduce the number of employees who have taken fewer than 5 annual paid vacations during fiscal 2018 to zero
Theme 3: Promoting flexible work styles	Create an environment that allows for teleworking for all employees by 2020

Theme 1: Rectifying and reducing long working hours

We are working to rectify and reduce long working hours to prevent health disorders and enable each employee to engage in work with vigor and fully demonstrate their potential.

Targets and Outcomes

Target for FY2020	Target for FY2018	Outcome
By fiscal 2020, reduce cases of over 80 hours of extra non-legal working hours per month to zero and reduced cases of 60–80 hours/month by half of the fiscal 2017 level Note: Non-consolidated basis	Reduce the number of cases of 60–80 hours/month by 25% of the fiscal 2017 level Note: Non-consolidated basis)	Reduced the number of employees reporting over 80 hours of extra non-legal working hours per month by 32% of the fiscal 2017 level (excludes employees involved in earthquake response efforts)

Our Initiatives

Work Style Reform Promotion Campaign (September to November 2018)

(1) Work Style Reform Seminars	We held seminars to provide knowledge and know-how on efficient work processes that can be put into practice by each workplace and individual. In addition to organizing lectures by outside specialists, we also introduced various IT tools, and our IT staff demonstrate how they work.  Work Style Reform Seminar
(2) Workplace Meetings	We organized Workplace Meetings throughout the company to nurture a culture based on the motto “start with what we can” and with a sense of speed as we promote concrete efforts by each workplace. Every member shares their wisdom to address issues that the organization faces along with effective solutions, and each workplace is taking action to make improvements. With respect to company-wide issues that cannot be resolved at the workplace level, we seek necessary improvements in consultation with relevant departments.

Generally Prohibiting Overtime Work after 20:00

In principle, we prohibit overtime work after 8:00 pm. When working after 8:00 pm is unavoidable, the employee will submit a request to their supervisor and the occasion is used as an opportunity to discuss omitting tasks and reviewing the work process.

Declaration of Time to Leave Office

To promote a work style that focuses on the value of time, we ask employees to decide and declare the time they plan to leave the office each day. A motivational poster is displayed at each workplace to establish a working environment that makes it easier to leave the office.

Flex-time System (Super Flex-Time System)

Employees can flexibly alter their reporting and leaving time through consultation with their superiors as long as they include the required core time. This system applies to about 90% of our employees, excluding shift workers.

When operations present a special reason for different working hours, or when the press and slack

of business is evident, a flex-time system without a core time, which we call a “super flex-time system,” is applied to eligible employees in an effort to raise the productivity of the entire workplace and reduce working hours.

Leave-on-Time Day

We designate a monthly “Leave-on-Time Day” as an opportunity to reflect on working productively by maximizing results within a given period.

Premium Friday

In an effort to review work processes and methods while also boosting productivity, employees have been encouraged since February 2017 to take a half day off or use the flex-time system to finish work early on the last Friday of each month as long as this does not disrupt work.
We revised the program in July 2018 and designated Friday of each week as “Premium Friday.” We encourage employees to take advantage of the program at least once a month, depending on workload in their workplace and of the individual, and about 40% of our employees use the program at least once a month.

Morning-oriented Work to Make Use of Summer Evenings

In July and August, employees are encouraged to start and finish work around 30–60 minutes earlier than usual by utilizing the flex-time program, as long as this does not disrupt work, so they can enjoy their personal lives during a longer evening.

Reminders on the importance of targeting time to leave work

Sharing Good Practices for Operational Efficiency at Each Workplace

We gather information from each workplace on initiatives for improving operational efficiency. Then we share them on our internal website and Group newsletter to spread good practices throughout the organization.

Sharing good practices for operational efficiency at each workplace

Review of Business Processes

We take a top-down approach to raising efficiency and advancing our Group operations by reviewing the operations of each department from the process level and making active use of digital technology. We set up the Project Department in fiscal 2019 to implement a fundamental review of operations for the entire Group.

Robotic Process Automation (RPA)

We make active use of RPA, which automates standardized tasks through software. Also, we are pursuing operational efficiency with about 80 RPA terminals in operation as of December 2018.

Theme 2: Encouraging employees to take annual leave

To help employees achieve a better balance between their work and private life, we are creating an environment where all employees can pursue a well-paced work style that allows them to concentrate on either work or rest.

Targets and Outcomes

Target for FY2018	Outcome
Reduce the number of employees who have taken fewer than 5 annual paid leave during fiscal 2018 to zero (non-consolidated basis)	Target achieved for approximately 99.5% of employees (about 30 employees took fewer than 5 annual paid vacations)

Initiatives

Increased follow-up of individuals taking fewer than five annual paid leaves

When an employee takes fewer than five annual paid leaves, we work with the workplace, supervisor, and individual toward creating an environment that facilitates taking paid leave.

Campaign Encouraging Employees to Take Leaves in the Summer

The period from July to September has been designated the “period for summer leaves” with the goal of encouraging all employees to take at least seven days of paid leave during this time. Currently, about half of our employees take summer leaves of at least seven days.

Work Style Reform Promotion Campaign (September to November 2018)

▶ See Theme 1 for details

Theme 3: Promoting flexible work styles

To establish an environment where diverse personnel can fully demonstrate their abilities, we review uniform work patterns to promote flexible work styles with no limitations on where employees work. We will replace the computer terminals of all employees to allow for teleworking in fiscal 2019. At the same time, we will promote paperless offices to create an environment where employees can work without limitations on location.

Targets and Outcomes

Target for FY2020	Target for FY2018	Outcomes
Create an environment that allows for teleworking for all employees by fiscal 2020 to promote flexible work styles Note: Non-consolidated basis	Enhance the teleworking system and expand its application to more workplaces Note: Non-consolidated basis	• Revised the system in May 2018 to allow a combined application with half-day office work • The system was expanded as follows (began implementation in April 2019) (1) Expanded eligibility to more workplaces (all workplaces excluding those involving work shifts) (2) Simplified the application flow (verbal application with a supervisor is acceptable) (3) Eliminated the limitation on the number of items implemented (4) Eliminated a limitation on work locations (coffee shops, homes, hospitals, and other locations are acceptable)

Initiatives

Dokodemo (“Anywhere”) Work System

To raise productivity, a homeworking system was introduced on a trial basis in fiscal 2016, and full-scale implementation began at some workplaces in fiscal 2017. To enable work styles with greater flexibility and efficiency, we added the balancing of parenting and nursing care with work and also bolstered the work-life balance to serve that purpose. Accordingly, we expanded the scope as mentioned in the table above. So that employees can balance nursing care with their work, we also allow employees to work from their parents’ home or hospitals.

Telework Days

To further raise productivity by making use of the Dokodemo Work System, we have been participating in the Telework Days initiative sponsored by the Ministry of Internal Affairs and Communication and others since 2017. In fiscal 2019, with one year remaining before the Tokyo 2020 Olympic and Paralympic Games, we will implement a large-scale trial using the teleworking system in order to put in place a work style not requiring the use of public transport.

Satellite Shared Office Space

We have signed agreements with outside satellite office operators to develop an environment where employees can work on location without limitations.

Electronic Settlement

By enabling approval via laptop computer and smartphone, we provide speedy approval not affected by the location of the staff involved in operations.

Reforming the Office Space

We are reforming the office environment by having each workplace determine their own work-friendly environment.
In February 2019, the Digital Innovation Division renovated their office environment to raise its productivity.
We are developing an environment where employees can work together to create value. This involves making our offices paperless and encouraging employees to use any available desk while also creating spaces that facilitate open communication.


Office space reform


Office space reform

Web-Based Teleconferencing

We are creating an environment that facilitates communication with distant workplaces, including overseas bases.

Work Style Reform Promotion Campaign (September to November 2018)

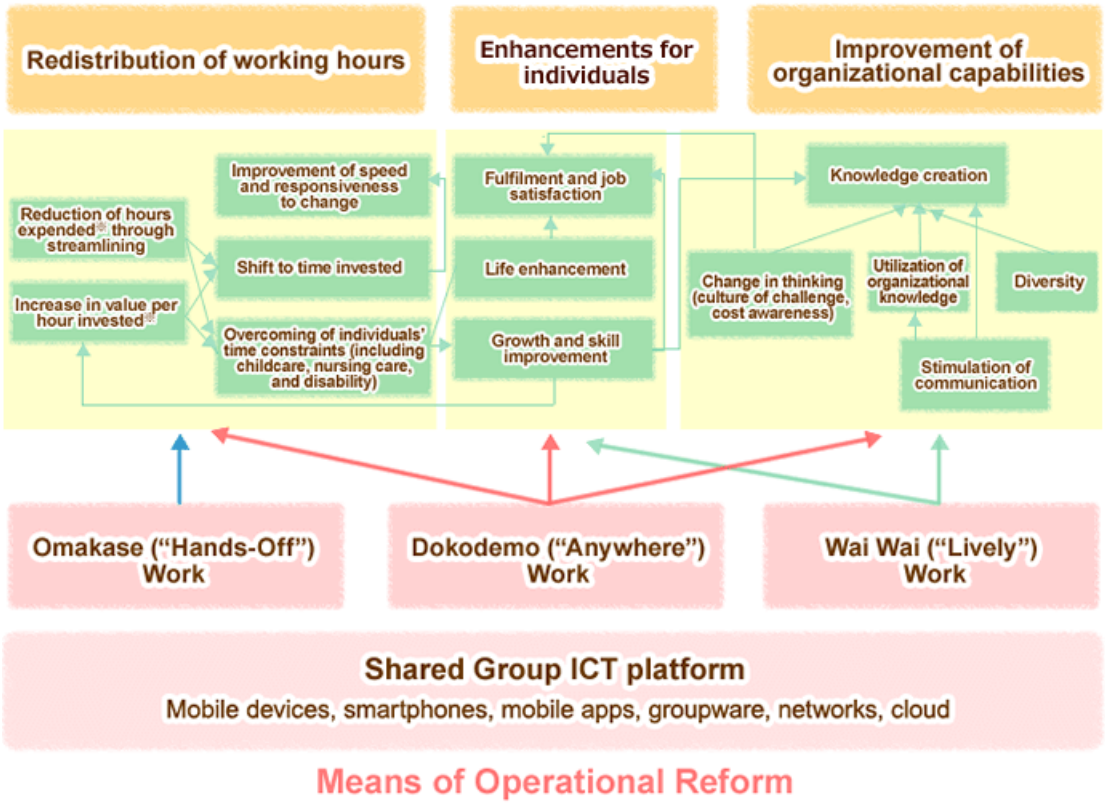
▶ See Theme 1 for details

"Waku Waku ("Exciting") Work”

As part of our initiatives for work style reform, we have been utilizing ICT to pursue Waku Waku Work since fiscal 2016, which is defined as work that creates value and is varied and fun.
Using ICT and other resources to raise productivity and create value, we aim to establish highly productive office environments and collaborations that transcend divisions.
We categorize Waku Waku Work into the following three forms in accordance with their objectives.

Under the leadership of promotion managers at each department and headquarters, each workplace has been exploring and implementing exciting work styles.

■ Challenges to Overcome toward Achieving Goals



*1 Working hours = hours invested + hours expended
*2 Hours invested: time used to generate value (thinking, communicating, etc.)
*3 Hours expended: time consumed without generating value (administrative tasks, searches, transit time, etc.)

Engaging in Occupational Safety and Health

Basic Principle of Occupational Safety and Health Activities

●Basic Policy

Occupational safety and health, which protects workers' lives and wellbeing, is the foundation of a company's existence and a fundamental corporate social responsibility. Tokyo Gas Group believes that the values of Safety, Security, and Reliability that we advocate for our customers as our corporate brand can only be accepted when we consistently secure our own occupational safety and health. We consider occupational safety and health to be one of the most important challenges of corporate management. Our Group places the highest priority on ensuring safety and health, and enforces compliance, including adherence to all related laws and regulations, and making every effort to eliminate the risk of disasters and accidents toward securing an excellent safety and health record.

To put its Basic Policy into practice, the Tokyo Gas Group takes concerted action to promote safety and health in line with objectives established by workplace leaders in each organization based on the Group-wide Occupational Safety and Health Policy. This Policy is revised every year.

●Fiscal 2019 Group-wide Occupational Safety and Health Policy

All employees, from top management down, will actively promote safety and health activities to safeguard the safety and health of each individual.

1. With full awareness of its public mission and social responsibilities, the Group will strictly enforce internal rules on safety and health, work procedures, etc., as well as legislation, such as the Industrial Safety and Health Act and Road Traffic Act. Furthermore, we will fully comply with the "13th (2018–2022) Occupational Health and Safety Program" set by the Ministry of Health, Labor and Welfare as well as the Industrial Safety and Health Law amendments.
2. The Group will further establish and enhance its occupational safety and health management system (OSHMS). We will also strive to reduce the risk of accidents by intensifying our efforts to eliminate human error. In the workplace, we will seek to eliminate all accidents with a high severity rating resulting[*1] in casualties by ensuring "point and check" procedures and strengthening safety awareness.
3. To reinforce the Tokyo Gas brand's corporate brand Safety, Security, and Reliability, workplace leaders will take the initiative to prevent traffic accidents. Particular attention will be paid to reducing accidents caused by younger employees, parking area accidents and accidents at crossings that are highly likely to result in casualties. We will aim to reduce the number of traffic accidents associated with negligence as well as accidents causing injury to others to the lowest level in recent years (72 incidents).
4. Action will be taken to ensure that all employees receive health examinations and to implement a stress check program throughout the organization. The Group will use the results to enhance measures to prevent employee mental and physical illness and maintain and improve their health. Furthermore, the Group will follow up on guidelines for preventing passive smoking while reviewing and implementing measures to discourage smoking altogether.

5. We provide support aimed at promoting health and safety activities such as addressing legal aspects, sharing problems and collaborating on education programs to support Tokyo Gas Group member companies in more efficiently and completely conducting their own proactive health and safety initiatives.

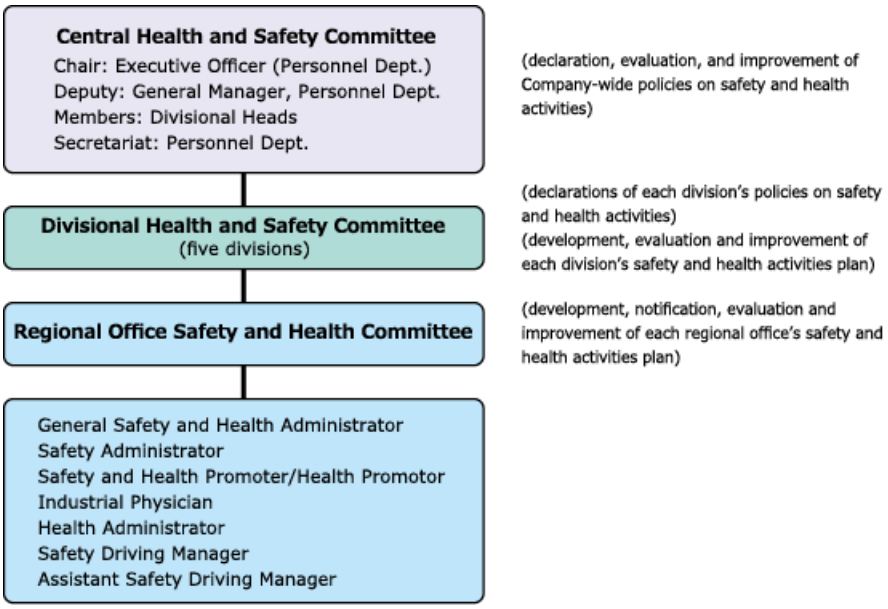
*1 High severity casualty accidents are “fatal accidents” and “injury accidents resulting in a one-month suspension of operations.”

■ Structure for Promoting Occupational Safety and Health

Promotion Structure

The Tokyo Gas Group has established a Central Safety and Health Committee, which is chaired by the executive officer responsible for the Personnel Department. The committee formulates policy on safety and health activities and reviews and promotes the implementation of measures to prevent accidents and disasters as well as to improve mental and physical health across the Group. It also determines the Group’s safety and health promotion awards. If necessary, the committee reports on issues under consideration to the Corporate Executive Meeting and the Board of Directors for final discussion and decision-making.

■ Safety and Health Management Structure

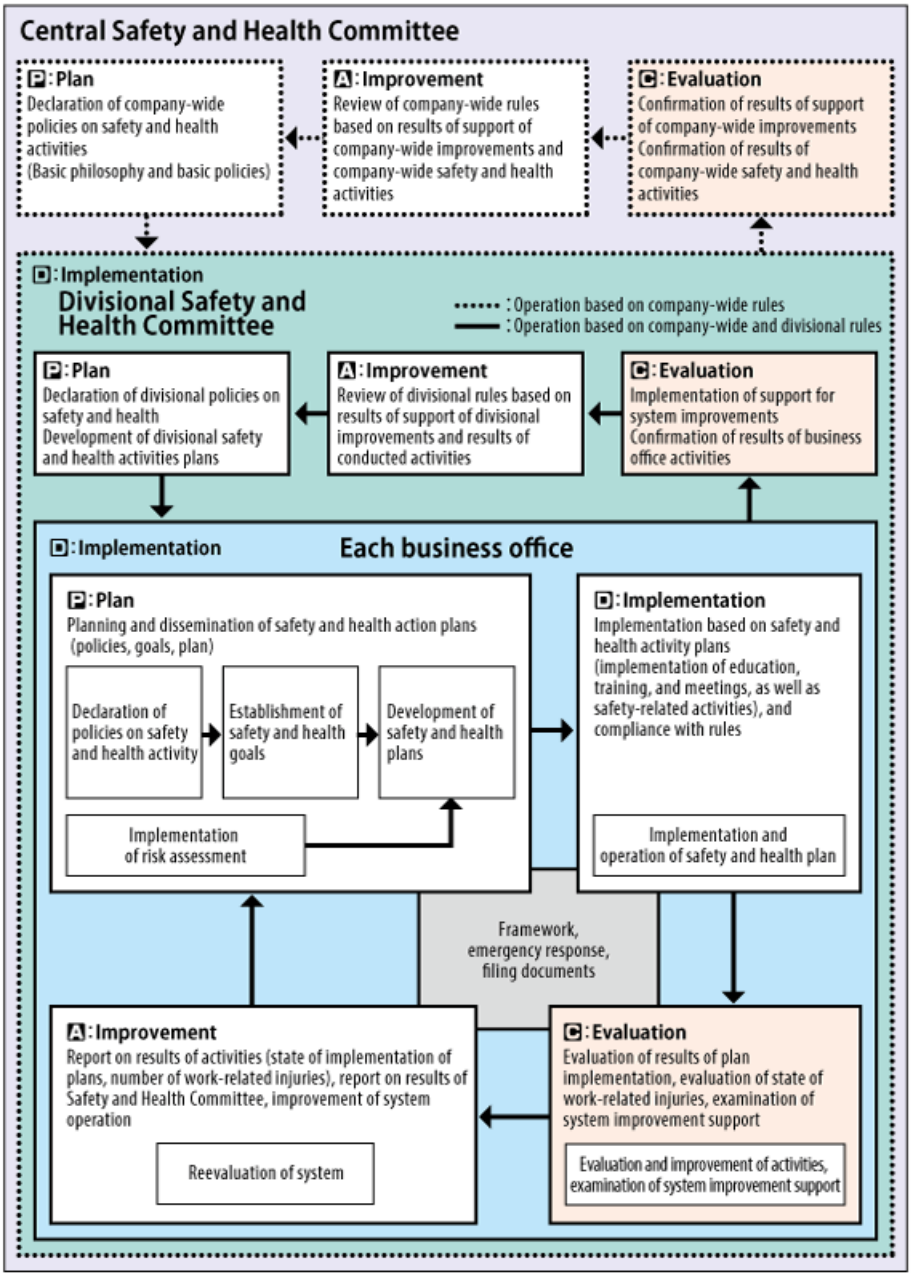


■ Industrial Accident Prevention

Industrial Accident Prevention

Tokyo Gas manages safety and health through a company-wide occupational safety and health management system (OSHMS) to reinforce everyday occupational safety and health activities undertaken by each workplace.
All workplaces proactively implement health and safety activities that reflect their particular circumstances, and we continuously raise our health and safety standards by following a PDCA cycle for all related activities. Using a common framework for health and safety activities facilitates periodic confirmation and checks of the management system. Looking ahead, we will consistently strengthen our OSHMS to prevent industrial accidents.

■ Occupational Safety and Health Management System Operational Flow



Risk Assessment

Risk assessments enable us to quantify potential accident risks and then take action to reduce or eliminate them. Since 2016, we have been complying with mandatory chemical risk assessment to raise awareness of these risks.

Preventing Traffic Accidents

Tokyo Gas provides training programs that use outside facilities for drivers licensed under our own in-house system. When employees renew their licenses, in principle every five years, they receive behind-the-wheel instructions from driving instructors outside the company using drive recorders. Through these initiatives, participants can reflect on how they drive and improve their skills, which helps to reinforce their commitment to safe driving.

We strive to prevent accidents through multifaceted initiatives and plan to equip all company vehicles with the “Safety Support Car” systems introduced in fiscal 2017. We will also assign specially trained safe-driving instructors to each workplace to provide instructions through sessions both behind the wheel and in the classroom.

Training Implementation

We are implementing multi-level educational programs on occupational safety and health as well as safety awareness. In addition, we provide educational programs for the development of legal managers.

■ Implementation of Safety and Health Educational Programs (FY2018)[*1]

Details		Period	Participants
Level-specific training on safety and health and on safety planning	New employee training	April (one session)	206
	Safety and health training for new managers	April, May (7 sessions)	245
Foreman training (legally mandated)		April–February (6 sessions)	146
Training for safety administrators at the time of appointment (legally mandated)[*2]		April	40
Hygiene supervisor training		May	94
Traffic safety and driving training (new drivers, people involved in accidents, etc.)		April–March	747
Safe driving with attendant instructors utilizing drive recorders		May–March	853

*1 Data is for Tokyo Gas Co., Ltd.
*2 Data is for the results of the Tokyo Gas Group.

■ Work-related Accidents, Traffic Accidents, Rate of Lost Work Time Due to Accidents and Severity Rates

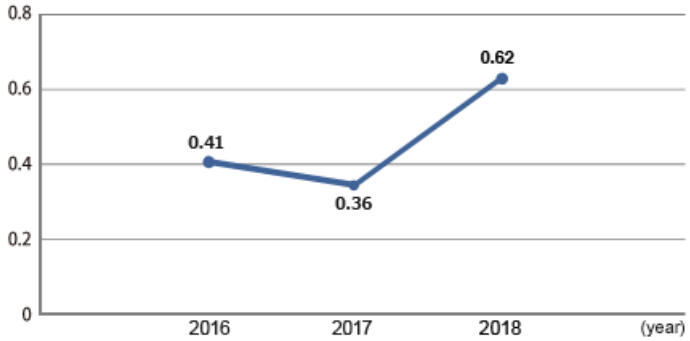
▸ Third-party Assured

	Unit	2016	2017	2018
Work-related injuries[*4]	Cases	23	38	36
Traffic accidents		141	134	142
Rate of lost work-time injuries[*5, 7]	-	0.41	0.36	0.62
Severity rate[*6, 7]		0.003	0.002	0.005

*3 Data is for regular and semi-regular employees of Tokyo Gas.
*4 Includes accidents that do not result in lost worktime.
*5 Rate of people taking work leave per 1 million actual work hours.
*6 Number of workdays lost as a result of accidents/injuries per 1,000 actual working hours.
*7 Includes injuries due to traffic accidents caused by others.

■ Rate of Lost Work Time due to Accident Trend[*8]

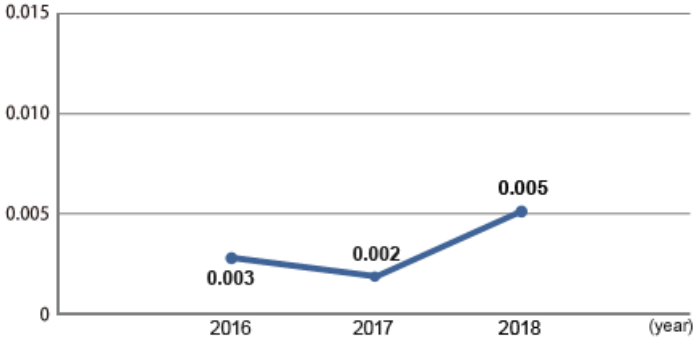
▸ Third-party Assured



*8 Lost work time rate: rate of employees taking work leave due to accidents per 1 million actual work hours.

■ Severity Rate Trend*9

▸ Third-party Assured



*9 Severity Rate: rate of lost working days due to accidents per 1,000 actual work hours.

■ Maintaining and Improving Health

Occupational Health Activities

Tokyo Gas created a Health Insurance & Employees' Welfare Section within the Personnel Department. A number of occupational health activities are conducted under the leadership of our occupational physician. Moreover, we are committed to providing checkups for 100% of our employees as a fundamental means for raising their awareness of their own health. Also, we support the early detection of diseases, the effective use of outside medical institutions, and follow ups for employees who require further attention.
Close collaboration with workplaces and individuals facilitates the provision of counseling for mental health, improving workplace environments and preventing the recurrence of illness, with the overall objective of maintaining and improving employee well-being. Additionally, health-related information is shared across the Group companies.

Approach to Mental Health

We are strengthening our efforts to manage mental health issues, since about 70% of all sick leaves taken are due to mental health concerns.

(1) Stress checks
- Ongoing mandatory stress checks required by Industrial Safety and Health Law
- Effort for promoting voluntary workplace assessments (group analysis) conducted by workplace managers and applying results to actual improvements

(2) Business line assistance
- Utilizing manager training and other opportunities to provide education on improving workplace environments and effectively engaging managers

(3) Individual support
- Individual support through a stress-check program and support for employees returning to the workplace after an absence
- Our consultation programs include our resident occupational physicians and nurses as well as telephone consultations and counseling by external institutions

Preventing Lifestyle-related Diseases

We are developing and implementing the following activities to prevent lifestyle-related diseases.
(1) Promoting good exercise habits
(2) Preventing passive smoking
(3) Smoking cessation programs

Health Support for Expatriates Overseas

Health management support is offered to the growing number of overseas representatives and staff on overseas business trips in the wake of the globalization of our business.
(1) Full implementation of statutory health checkups before and after posting
(2) Recommendation of vaccinations against infectious diseases according to location of posting

(3) Health counseling for employees and their families

Infection Control Measures

To minimize the threat of infectious diseases, we established a countermeasure office and are implementing preventive initiatives.

(1) Countermeasure for new influenza strains

- Informing applicable employees as necessary for pursuing their work as well as providing mask training through our websites
- Maintaining adequate stock of sanitation materials for preventing the spread of infectious diseases (masks, etc.), food and others
- Providing the latest information through the intranet and other tools

(2) Countermeasures for other infectious diseases (seasonal influenza, norovirus, rubella, etc.)

- Posting the latest information on Intranet and other tools as well through the Safety and Health Committee and lectures

Occupational health staff interviewing employee

Training Implementation

We provide lectures on health management and encourage employees to attend them.

■ Safety and Health Education Programs Implemented in Fiscal 2018

Activity	Period	Participants
Lectures on Managing Health	April–March (40 sessions)	1,452

External Recognition

We are certified as a Health and Productivity Management Organization (White 500), large enterprises category—as determined by the Ministry of Economy, Trade and Industry in collaboration with the Japan Health Conference.

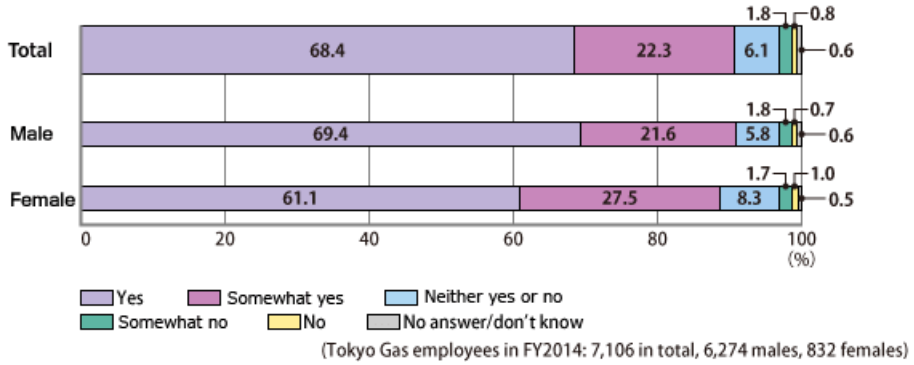
The healthcare management superior corporate accreditation system is designed to recognize large, mid-size and small corporations with exceptional healthcare management, in accordance with the regional health issues and the health promotion initiatives promoted by the Japan Health Conference. Our recognized efforts include attainment of 100% participation in regular health checkups for employees, the promotion of measures to prevent passive smoking, lifestyle-related diseases and mental health issues.

2019
健康経営優良法人
Health and productivity
ホワイト500

Communicating with Employees

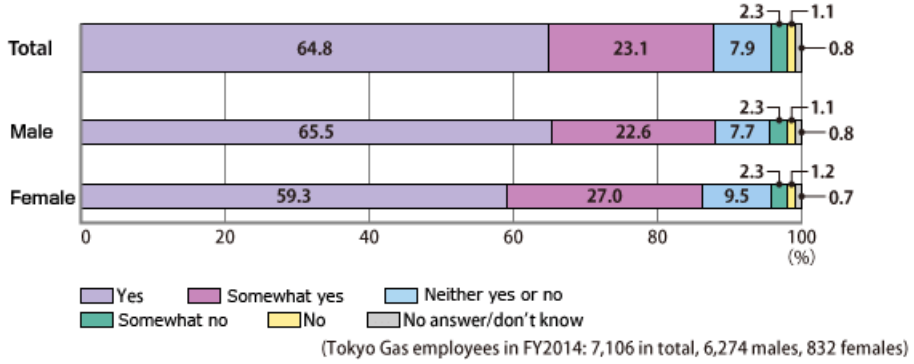
Employee Awareness Survey

■ I am satisfied with working at Tokyo Gas.



(Tokyo Gas employees in FY2014: 7,106 in total, 6,274 males, 832 females)

■ I feel connected to Tokyo Gas.



(Tokyo Gas employees in FY2014: 7,106 in total, 6,274 males, 832 females)

We regularly survey all employees to ascertain their views on work, the workplace, lifestyles, and other factors, and survey responses are used, for example, to improve our personnel programs. The surveys have shown that, in general, our employees are satisfied working for Tokyo Gas.

Building Positive Labor-Management Relations through Active Communication

Our labor union operates under a union shop system. All employees except for those in management are subject to membership in the Tokyo Gas Labor Union based on a union shop agreement[*1] and therefore the labor union participation rate of applicable employees is 100%. The agreement with our labor union clearly states that “the company and the labor union confirm and mutually respect the company’s management rights and the labor union’s basic labor rights.” It honors the freedom to associate and organize as well as the right to act and bargain collectively. The company and labor union establish sound and positive labor-management relations and exchange honest opinions on various management issues and labor conditions through periodic labor-management negotiations. Also, we strive to provide our non-labor union contract employees with a safe working environment and have signed a minimum wage agreement with them. In

addition, we are mindful of local laws and regulations and respect worker rights.

*1 An agreement under which employers agree to dismiss workers who do not become union members or who withdraw from or are expelled from the union. All qualifying employees are enrolled in the union.

■ Main Labor-Management Consultations and Topics Discussed in FY2018

Negotiation	Period	Main Themes
Intensive spring labor-management talks	February through March	Economic working conditions, personnel arrangements, rules of employment and other working conditions
Special Subcommittee of the Joint Management Council (policy related)	October	Current state and future direction of business strategy and key policies
Special Subcommittee of the Joint Management Council (financial results)	May	Forecasts of company performance and financial results
Working Hours Committee	May and November	Current and projected working hours and productivity increases
Employee Pay and Benefits Programs Committee	December	Current state of personnel arrangements and policies
Business Process and Work Style Reform Promotion committee	May and September	Verification and analysis of our involvement in business processes and labor innovation for improved productivity
Departmental labor-management councils	June	Current state and future direction of departmental/divisional policies

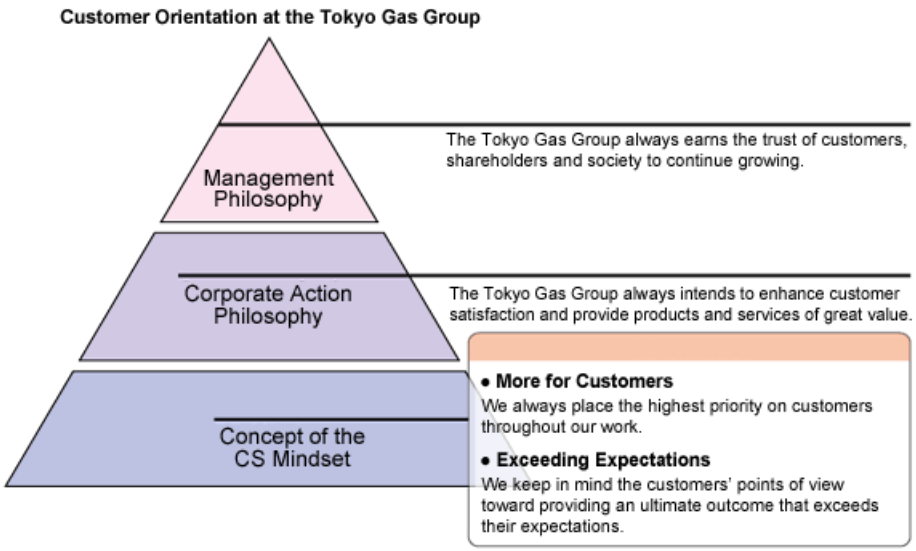
Efforts to Enhance Customer Satisfaction

Customer-oriented System and Activities

Customer-oriented CS Mindset

The Tokyo Gas Group believes that delivering customer satisfaction is more important than simply delivering a product or service. With this understanding, we set the CS Mindset as stated in Tokyo Gas Group Our Code of Conduct. We intend to be a customer-oriented enterprise by instilling the CS mindset throughout the Group as the criteria for decision-making and the guidelines for action for all employees.

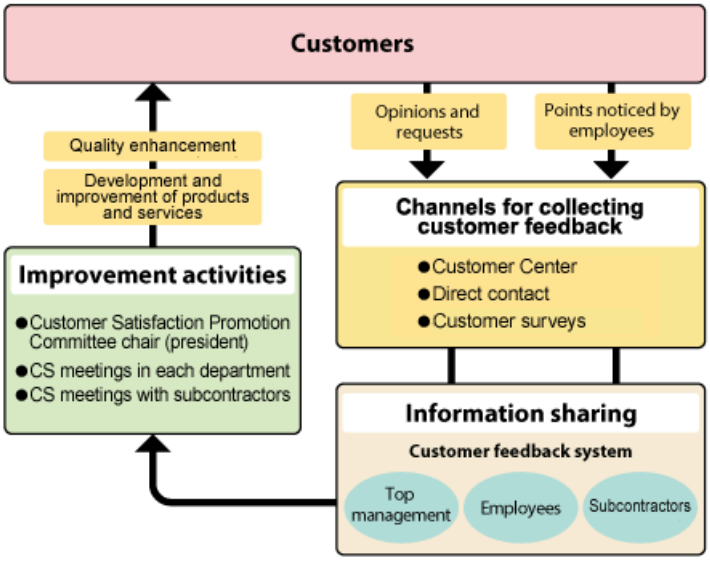
■ Concept of the CS Mindset



System for Promoting Customer Satisfaction

We seek feedback from customers through calls to our Customer Center, direct contact and various surveys. The opinions and requests we receive are shared within the company all the way up to top management. They are incorporated into our daily activities as we make improvements and enhance quality.

■ Customer Satisfaction Promotion System



Customer Satisfaction Promotion Committee

Providing customers with greater satisfaction is high on our management agenda. We have been convening the Customer Satisfaction Promotion Committee, which comprises Corporate Executive Meeting members and is chaired by the president. The committee discusses solutions to issues deemed too difficult for individual workplaces or departments to solve, as well as issues requiring a response by the company as a whole. We also maintain a CS Improvement Promotion Subcommittee, primarily composed of the leaders of departments that come into frequent contact with customers, to promote various measures aimed at enhancing customer satisfaction.

CS Meetings in Each Department

Every department and workplace holds CS meetings to listen to customers and quickly respond to their requests. The meetings offer opportunities to receive new feedback from customers, discuss and implement improvements, and consider and share CS measures.

Service Quality Surveys

We apply the results of surveys to our efforts to meet diversified customer needs.

■ Survey Results in Fiscal 2018

HDI-Japan Benchmark survey	
Electricity retail industry portal support	☆☆☆3 stars
JCSI(Japan Customer Satisfaction Index)	
Electricity retail	1st place in customer satisfaction

Measures at the Customer Center

In addition to receiving questions about contracts and various fees related to gas and electricity, the Customer Center responds to a wide range of inquiries, including a round-the-clock response to emergencies. We are further improving our system to respond quickly and effectively to customer requests while collecting opinions and suggestions from customers that could lead to operational improvements and better services, and sharing them with the relevant sections.

Making the Best Use of Customer Feedback

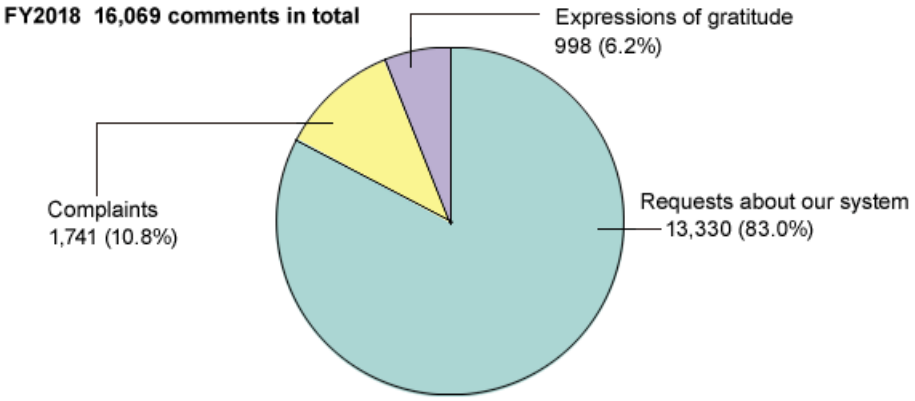
Using a Database to Identify Problems

Customer feedback is promptly and accurately relayed to the relevant sections so they can respond quickly. Information obtained through these processes is stored in our customer feedback database toward recognizing and analyzing customer expectations for the Tokyo Gas Group and to identify problems that need to be addressed.

Breakdown of Customer Feedback

We received 16,069 items of customer feedback in fiscal 2018. Details are shown in the list below. The Customer Center will continue to broadly collect customer feedback, mainly views on our system.

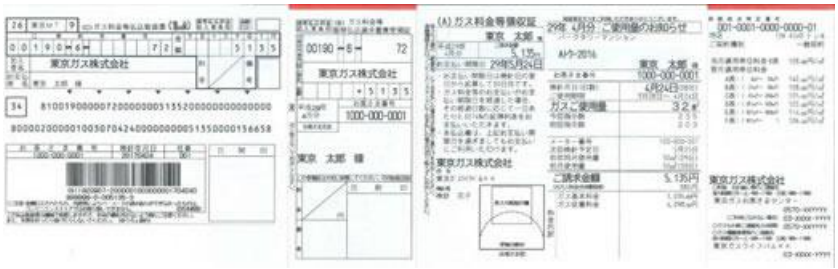
■ Breakdown of Customer Feedback



Basing Business Improvement on Customer Feedback

Each department uses customer feedback to make improvements. We report back to customers on some of these efforts through our corporate website.

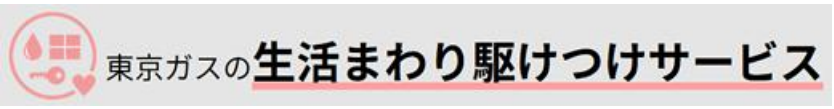
Improvement Example 1

Customer feedback	• Please make it easier to pay via the Internet. • I have the transfer slip in hand but don't have time to pay at the convenience store. • I have no cash with me and would like to pay through my bank account on a temporary basis.
Improvements made	We introduced the PayB[*1] settlement service so that customers with transfer slips could use their smartphone to pay their gas and electricity bills instead of doing it a convenience store or bank. *1 PayB is an app that allows users to make a payment via a pre-registered bank account by simply reading the bar code printed on the transfer slip. 

Improvement Example 2

Customer feedback	• It is difficult to get through on the phone to schedule a visit to the Emergency Home Assist Services. • I tend to forget the date scheduled over the phone.

▼

Improvements made	In addition to phone calls, we began using the short messaging via SMS as a method of communication for scheduling visits to customers. We also enabled communication via SMS, based on the user's preference when registering for the service. 

Dialogue with Shareholders and Investors

Timely and Appropriate Disclosure of Investment Information

Proactive and Timely Disclosure of Business Results

We place a high priority on the timely and appropriate disclosure of information as a means to ensure sound, transparent management and to deepen understanding and trust among our shareholders, investors, and other stakeholders. As part of this effort, we disclose our business results, stock price, and financial status through our website and other media and update the information on a timely basis. Furthermore, we disclose all our strategies and action plans for achieving the Tokyo Gas Group's short-term and medium-term targets and publish progress reports and results as necessary.

Production and Disclosure of Various Reports

We prepare various reports as important IR tools. In fiscal 2018, we produced the Annual Report, Investors' Guide, and Tokyo Gas Tsushin (shareholders' newsletter) as well as annual securities reports and quarterly reports. Starting in fiscal 2019, we have published the Integrated Report instead of the Annual Report in order to further consolidate financial and non-financial information in our disclosure of materials. All of these publications are available in the IR Library section of our website.

Integrated Report 2019

Investors' Guide 2019

Tokyo Gas Tsushin for the 2nd Quarter of FY2018

Links
- Integrated Report
- Investors' Guide

Realizing Two-Way Communication

Shareholders' Meetings and Earnings Presentations

We hold the Ordinary General Meeting of Shareholders in June of each year and earnings presentations on a quarterly basis. Not only do they present opportunities for decision-making and reporting on business performance, plans, and strategies, these are also important for communicating with our shareholders, institutional investors, and analysts. We guard against one-way disclosure of information by carefully regarding stakeholder feedback on Company policy and achievements, and we seek to maintain and enhance our corporate value by continuously engaging in close dialogue with our stakeholders.

IR Events

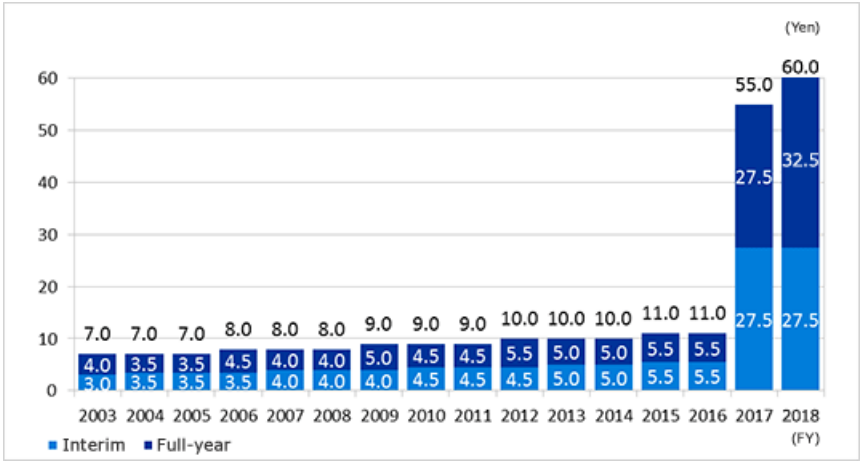
We organize a number of events for investors, such as five briefings for individual investors at the branch offices of major securities companies in fiscal 2018. Attended by about 300 participants, these seminars provided details on the growth strategy and shareholder return policy laid out in our medium-term management plan as well as on the growth strategies for our gas and electricity businesses in the era of deregulation of the power market.
In addition, we hold meetings with individual institutional investors and analysts in Japan and overseas and facility tours for individual shareholders.

Appropriate Shareholder Returns

Realizing a Total Payout Ratio of 60%

In our Challenge 2020 Vision, we announced our basic policy of shareholder returns until fiscal 2020, by targeting total dividends and share repurchases of around 60% of consolidated net income. The policy is aimed to steadily increase dividends while offering timely returns on our management results. Looking ahead, we will strive to raise the value of ROE and profit levels to meet shareholder expectations.
Under this policy, we increased our dividends in fiscal 2018.

■ Dividends in Recent Years



Note: As of October 1, 2017, the Company carried out a share consolidation at a ratio of 5 common shares to 1.

Contribution to Local Communities

Concept of Social Action Programs

The Tokyo Gas Group works together with local communities to implement activities based on the following guidelines for creating a sustainable society.

Social Contribution Guidelines

1. Basic Policy

At the Tokyo Gas Group, we seek the attainment of a sustainable society where all people can live diverse, comfortable and fulfilling lives. To that end we will work together with local communities to resolve social issues as a company that people will continue to trust and make their first choice, engaging in those activities that Tokyo Gas Group is uniquely positioned to implement.

2. Three Key Fields

(1) Building communities and a way of life that is safe and secure
(2) Building a society and a way of life that is good for the environment
(3) Enriching our life and culture

Building Communities and a Way of Life that Is Safe and Secure

We are working together with local communities to build neighborhoods in which people can live safely and securely.

Promoting Tokyo Gas's Security and Safety Efforts at Disaster Prevention Events

At disaster prevention events, our regional branch offices provide information on disaster-related countermeasures so we will be able to coordinate efficiently with local authorities and communities should such a calamity occur.

Main Initiatives

- Raising Awareness in Local Communities
  We actively join disaster prevention drills that are organized by local authorities to provide information on disaster countermeasures. For example, we explain how to reset gas meters that have shut off during an earthquake with a seismic intensity of 5 or more. We also provide other useful information to enhance the safety and security of our customers in their daily lives.

- “Iza! Kaeru Caravan!”
  To enhance the disaster prevention capabilities of local communities, since 2006, we have further developed our own disaster prevention events for families. These events, called “Iza! Kaeru Caravan!”, are jointly organized with Plus Arts, an NPO, and held at our Gas Science Museum. In fiscal 2018, 7,810 customers visited these events and learned skills and knowledge that may be needed in the event of an earthquake.

- “The Day to Change from ‘Know’ to ‘Can’ ”
  In 2018, we held a disaster preparedness event, entitled “The Day to Change from ‘Know’ to ‘Can’,” at the company museum. By participating in the Tokyo Gas Group’s own disaster prevention programs, such as the HIIKU Fire Education and Emergency Toilet Program, the 5,224 visitors acquired extensive knowledge and skills that can be used to survive a disaster and until public aid becomes available.


Participating in a disaster preparedness event

Emergency Toilet Program for Preparation against Disasters

As part of our activities for protecting safety and security in daily life and saving lives, we began in fiscal 2017 to widen the reach of an emergency toilet program developed from our experience of restoring gas in disaster-affected areas. We hope people learn how to handle situations in which toilets fail to flush and will work to instill self-help and mutual assistance capabilities so they can survive a disaster in their local community.


Learning how to install an emergency toilet

Publication of Daily and Emergency Recipes for Surviving a Disaster

In 2018, we began introducing the Daily Meals & Emergency Meals survival recipes to assist self-help efforts in relation to food. We offer information on daily preparations for surviving a disaster and cooking warm meals in the event that utilities fail. The recipes can be downloaded free of charge from our website.

Cover of Daily Meals & Emergency Meals

Cooking videos on our website

■ Building a Society and a Way of Life that Is Good for the Environment

To contribute solutions for global environmental issues as an energy company, we work to raise energy and environmental awareness and suggest a variety of ways for people to save energy and protect the environment in their daily lives.

ECO COOKING

ECO COOKING[*1] is an environmentally sound activity that begins with the familiar daily activity of cooking.
Energy and resources are consumed throughout the process from the production of food materials to tidying up. ECO COOKING offers practical ideas for paying due consideration to the environment at each stage in which we are directly involved, from shopping and cooking to eating and cleaning up.
We also train ECO COOKING instructors, 3,800 of whom have registered as of May 2019.

*1 ECO COOKING is a registered trademark of Tokyo Gas Co., Ltd.


Demonstration by a lecturer during a cooking class

Contributing to the Next Generation with Activities that Support School Education

Children are our future, which is why we are committed to teaching them about the importance of energy and the environment and helping to cultivate a zest for life as the goal of school education and continue to support their personal growth.

Major Support Activities

- Training Workshop for Teachers
  We organize training workshops for teachers that incorporate facility tours and group work to provide them with information about energy in general, including city gas, and environmental issues that they can use in their own instructional plans. We held 53 such workshops in fiscal 2018, with 979 teachers in attendance.

- Classes Taught by Tokyo Gas Employees
  We have been dispatching Tokyo Gas employees to teach classes in schools since 2002. As of the end of fiscal 2018, a cumulative total of 1,125,872 children have attended the classes. Moreover, two of our visiting lecture programs, “Energy that sustains daily life—How city gas is delivered to homes” and “Nurturing eco-eating—Let’s learn ECO COOKING and food education,” have been approved by the Tokyo Organizing Committee of the Olympic and Paralympic Games as part of the Tokyo 2020 educational program “Yoi Don!”. As of the end of fiscal 2018, the “Energy that Sustains Daily Life” course was attended by 2,895 students, and the “Nurturing eco-eating” course by 12,794.

Sixth-grade class on energy and the environment

- Educational Website
  We also provide the “Odoroki! Naruhodo! Gas World” (“The Amazing and Interesting World of Gas”) educational website that makes learning about energy and the environment fun for both children and grown-ups alike while motivating children to learn on their own.

- Gas Science Museum
  The Gas Science Museum makes learning about energy and the environment fun. It is used as a venue for out-of-school learning, and provides educational support by hosting school social studies trips and organizing workshops. In 2018, the museum received 235,121 visitors.

Donguri (Acorn) Environmental Education Program for Young People

The Donguri (Acorn) Project[*1] is an experience-based environmental education program that grew out of the Donguri Arbor Festival, launched in 1993. By taking part in forest conservation work and experiencing a variety of outdoor programs that engage all five senses, participants learn about forest ecology and the role that forests play in our everyday lives. The hope is that these experiences will encourage people to lead more environmentally friendly lifestyles. The program has been held in the Nagano Tokyo Gas Forest in Nagano Prefecture since 2005 and in Sayama Hills in Saitama Prefecture since 2017. In fiscal 2018, 9 groups of 19 children along with their parents took part in nature crafts and forest maintenance such as clearing undergrowth.

*1 The Donguri (Acorn) Project is a registered trademark of Tokyo Gas Co., Ltd.

Gaining experience in clearing undergrowth

Diverse Partnerships

We are actively developing partnerships with local governments, other firms, and outside organizations involved in environmental issues to raise environmental awareness in society as a whole.

■ Enriching Our Life and Culture

In light of the challenges posed by the aging population and its declining birthrate, we organize community-based activities for maintaining fulfilling lifestyles through a smart use of energy.

Cooking Classes to Promote the Benefits of Cooking with Gas

As a company that supplies the energy needed to cook day in and day out, we actively encourage people to fully benefit from the use of gas flame in everyday life.
A major example is our cooking classes, launched over a century ago in 1913. They cover a variety of subjects tailored to different participants and needs, such as “Kids in the Kitchen,”*1 which teaches children how to cook for themselves using all five senses, “La Cucina Espressa,”*1 which shows how to shorten cooking time by making the most of all four gas kitchen burners and the grill, and “Japanese Aesthetics,” which aims to hand down traditional Japanese cuisine. The classes draw about 70,000 participants each year. All our cooking classes incorporate an environmental approach to eating habits that we call “ECO COOKING.”*1 Going forward, we will continue to enhance customer lifestyles and eating habits.

*1 Kids in the Kitchen, La Cucina Espressa, and ECO COOKING are registered trademarks of Tokyo Gas Co., Ltd.

Class with gas cooking stoves equipped with useful functions

HIIKU Fire Education about the Power and Benefits of Fire

As part of our next-generation youth education initiative, we have been working since 2012 to expand our participatory HIIKU fire education program for children of elementary school age and older. The program is intended to give youngsters an opportunity to learn about fire and develop their ability to survive disasters and enrich their own lives by experiencing the various benefits of fire and the correct way to handle it. The program attracted 3,143 participants in fiscal 2018.

Learning how to light a match safely

■ Support for Employee Volunteer Activities

The Tokyo Gas Group provides employees with opportunities to engage in volunteer activities working alongside local communities in tackling social issues.

Disaster Recovery Efforts: Earthquake Relief Volunteers

Since launching our volunteer work program in June 2011, 2,100 employees and their families have, at 47 times, taken part in support activities tailored to the needs of the areas affected by the Great East Japan Earthquake.
In fiscal 2018, volunteers offered support to the Fukushima Organic Cotton Project[*1] in Iwaki City, Fukushima.

*1 The project seeks to reclaim large swathes of farmland that remains unused and abandoned in the wake of earthquakes, to grow salt-tolerant cotton, which is harvested, processed into products, and sold.

Sowing organic cotton seeds

Fully grown cotton

Volunteer Work for Organizing Para Sports Events

As part of our support for para sports, we have been providing volunteers to organize para sports competitions since 2015, help set up and clear venues, staff receptions, and serve as interpreters. To date, 166 Group employees have participated in such events.

Volunteers clearing a sports venue

Topic

Volunteering to Collect Spoiled Postcards and Used Stamps

The Tokyo Gas Group began collecting spoiled postcards since fiscal 2003 and used stamps and cards since fiscal 2017. Used stamps and cards are delivered to the Minato Council of Social Welfare in Tokyo to promote welfare and volunteer activities in local communities. The spoiled postcards are donated to the Darunee Scholarship Fund, administered by EDF-Japan (MINSAI Center), we are contributing to the education of children overseas. Specifically, the proceeds are used to fund an international foster parent program, which enables underprivileged children in Vietnam, Thailand, Myanmar, Laos and Cambodia to continue their education. Currently, we are supporting three and one junior high school girls in Laos and Vietnam, respectively.

Darunee Scholarship certificate

Working with the International Community

Tokyo Gas Southeast Asia Japanese Language Education Support Program

The Tokyo Gas Southeast Asia Japanese Language Education Support program is operated through activities of language programs organized by the Japan Foundation.
Tokyo Gas seeks to expand its midstream and downstream operations in Southeast Asia in the years ahead. Also, by nurturing the younger generation in the region who are interested in Japan, we intend to contribute to the development of sustainable societies, strengthen our ties with local communities, and develop our profile as a business group that can be trusted and counted upon.

Vietnam

In Vietnam, we have been supporting Japanese language education since December 2016 at the Ba Ria-Vung Tau University in Vung Tau City, Ba Ria-Vung Tau Province. In the Faculty of Oriental Studies, School of Languages-Cultures-International Relations, we operate a program for students who are majoring in Japanese language. We conduct classes for students in all grades while providing guidance for them in speech contests, assistance with graduate theses, and support for teachers. Also, we support Japanese language education for students in science and engineering courses. On April 19, 2018, we held a lecture introducing Japanese culture at the university.


Japanese language majors in Ba Ria-Vung Tau University's Faculty of Oriental Studies attending class

Thailand

In Thailand, we conducted lectures for three hours on March 24, 2017 for about 40 students taking Japanese language courses at Kohn Kaen University in the northeast region. The program was attended by graduate students in science and technology courses and undergraduates in the engineering and environmental science departments. The lectures introduced the overseas business of Tokyo Gas while also explaining the application of basic technology and future outlook for a hydrogen-based society and other developments.

Lecture at Kohn Kaen University

Initiatives for the Tokyo 2020 Games

Basic Policy

As a company operating in the Tokyo metropolitan area, where the Olympic and Paralympic Games Tokyo 2020 will take place, Tokyo Gas signed an agreement with the organizing committee on July 25, 2015 to serve as an Official Partner in the Gas and Gas Utility Services category under the Tokyo 2020 sponsorship program.
Our eyes are firmly trained on a future beyond the excitement as well. Recognizing the Tokyo 2020 Games as an opportunity to create an inclusive society in which people show mutual respects and live in peace, we are promoting a wide variety of initiatives.

Contributing to the Success of the Tokyo 2020 Games

As an Official Partner of the Tokyo 2020 Games, we are working to build momentum and preparing to support the organizers in an effort to contribute to the success of the Games, which will take place in our hometown.

Building Momentum for the Success of the Tokyo 2020 Games

We are working to build momentum toward the Olympic and Paralympic Games Tokyo 2020 by holding events related to culture and education, sports, and health, including those part of the Tokyo 2020 Participation Program. Tokyo Gas is particularly focused on activities for the successful hosting of the Paralympic Games. We are working to popularize and boost recognition of Paralympic sports by holding events for participants to experience para sports both inside and outside the company, and by providing employees with the opportunity to watch para sports competitions.

Example: Experience-Based Educational Field Trip Program
As part of the official Tokyo 2020 Participation Program, we have been organizing experience-based educational field trips since fiscal 2016 to stimulate greater interest in para sports among children in local elementary schools. The Tokyo Gas Universal Challenge is held at the Shin-toyosu Brillia Running Stadium, where we provide simulated experiences of disabilities through which participants try on sports prosthetics or wear eye masks and meet paratriathlon athlete Kenshiro Nakayama, who is sponsored by Tokyo Gas Pipeline Co., Ltd. Through the activities, we seek to develop a deeper understanding of paralympic sports and convey the importance of mutual support and communication. To date, 700 students from six schools have participated in the program.


Experience-based educational field trip

Supporting Management of the Tokyo 2020 Games

We are currently making preparations to support the management of the Tokyo 2020 Games by maintaining a robust energy supply system for the continuous supply of energy to Games-related facilities. Security is an important issue, so in addition to protecting infrastructure against terrorism and other contingencies, including LNG terminals, pipelines, and governor stations, we are working closely with the central and Tokyo metropolitan governments as well as the police to guard against cyberterrorism.
Furthermore, to ensure smooth management of the Games by mitigating traffic congestion, we plan to make effective use of ”Jisa Biz” staggered commuting” campaign, promote teleworking, and encourage employees to take paid leave.

Aiming to Create an Inclusive Society

While we will do our utmost to ensure the success of the Tokyo 2020 Games, we are also aiming to achieve what lies beyond, which is the creation of an inclusive society. To accomplish this, we will seek to raise employee awareness and strive to address customer needs more closely toward improving people’s lives, developing communities, and providing services.

Nurturing Employee Awareness

Our in-house initiatives for creating an inclusive society are led by Olympic and Paralympic Ambassadors appointed at each workplace. These individuals are responsible for promoting para sports and experience-based events hosted by Tokyo Gas while also serving as supporters and guides for the events. One hundred of these ambassadors have volunteered to support the management of the Tokyo 2020 Games.
Moreover, we have held Para Sports Viewing Days since 2016 to increase understanding and recognition of para sports among as many employees as possible. To date, we have held 19 of these events and have also provided opportunities for our employees and their families to meet athletes sponsored by Tokyo Gas at the major events in which they compete. Apart from these efforts, we encourage employees to obtain basic service care-fitter qualifications toward our goal of becoming an open company without barriers.

■ Number of Olympic and Paralympic Ambassadors

Fiscal Year	2016	2017	2018	2019
Appointees (persons)	150	273	301	274

Note: Conducted activities as Para Sports Support and Promotion Leaders up to fiscal 2017.

Olympic and Paralympic Ambassadors working as guides

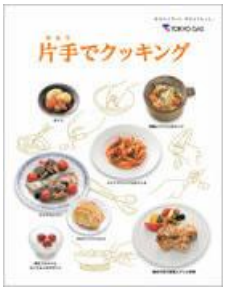

Para Sports Viewing Day

Alongside Our Customers

We actively seek to raise public awareness toward the creation of an inclusive society. Also, we educate the next generation by organizing field trips during which elementary school children can participate in simulated experiences of disability and para sports as an opportunity to learn about the importance of diversity in society as well as mutual understanding and support. In addition, we provide various tools for people with disabilities. These include pamphlets and name cards in Braille for visually-impaired customers, online videos using sign language to explain how to restart gas

meters after an emergency shutdown, and publication of the One-Handed Cooking recipe book, which has fun, easy cooking instructions for those able to use only one hand due to paralysis or injury.
Furthermore, we focus our efforts on activities such as what we refer to as “universal diagnosis,” during which we ask wheelchair users to maneuver through restricted pedestrian passages at our construction sites while getting their advice on how to improve accessibility. And we extend economic support to challenged artists by displaying their works on temporary enclosures at these sites as well.

Video instructions for restarting gas meters (sign language broadcast)



The One-Handed Cooking recipe book

■ Major Initiatives

Genre	Major Events	Start of Activity	Outcome
Viewing of para sports events	• Japan Wheelchair Basketball Championship • Japan Para Wheelchair Rugby Championship • Japan Para Swimming Championship • Japan Para Goalball Championship • Japan Sitting Volleyball Championship • Wheelchair Rugby Japan Championship and others	2016	4,192 participants (including employees of group companies and their families)
Volunteer work for organizing para sports events	• Japan Para Wheelchair Rugby Championship • Japan Para Goalball Championship • Japan Para Swimming Championship and others	2015	166 participants
Experienced-based programs and other events aimed at creating an inclusive society	• Para Sports Festa 2016 at Shinjuku Park Tower • Para Sports Experience at Ajinomoto Stadium • “What’s Universal?” event at the Gas Science Museum • Toyosu Universal Festa • Shinjuku Universal Festa • One-Handed Cooking Class at Studio +G GINZA • Shintoyosu Autumn Festival • Experience-based educational field trip at the Shintoyosu Brillia Running Stadium	2016	-

Nurturing employee awareness	• Launch of the Olympic and Paralympic Ambassador program and training sessions	2016	998 participants
	• Number of employees with service care-fitter qualifications	2016	768 participants
Corporate exhibits	• Head office lobby, Shinjuku and Yokohama showrooms, LNG terminals • Corporate museums (Gas Science Museum and Gas Museum)	2016	-
Tokyo 2020 Games Participation Program	• Experience-based educational field trips: “Tokyo Gas Universal Challenge” • Visiting lecture program: “How city gas is delivered to homes” • Visiting lecture program: “Nurturing eco-eating —Let’s learn eco-cooking and food education” • “Learning about the Culture of City Gas” at The House of Gas Lamps • “What’s Universal?” event at the Gas Science Museum • Toyosu Universal Fests and others	2016	504 cases 62,035 participants

Respect for Human Rights

Basic Stance on Respecting for Human Rights

The Tokyo Gas Group recognizes respect for human rights as a prerequisite for all Group business operations toward achieving sustainable development in an increasingly global society. We consequently established the Tokyo Gas Group Human Rights Policy in April 2018 based on the United Nations Guiding Principles on Business and Human Rights and other global standards to guide the Tokyo Gas Group, comprising Tokyo Gas Co., Ltd. and its consolidated subsidiaries, in promoting human rights and fulfilling our obligations.
We consistently confirm that our Purchasing Guidelines for Suppliers are thoroughly understood and followed and that subcontractors involved in our business with corporate partners also comply with them. In addition, we conduct due diligence on human rights and steadfastly safeguard respect for the human rights of diverse stakeholders throughout our business operations.

●Tokyo Gas Group Human Rights Policy

Established April 2018

Introduction

The Tokyo Gas Group (Tokyo Gas Co., Ltd. and its consolidated subsidiaries) strives to fulfill its public mission and social responsibilities through its energy business, with the belief that creating a society that respects human rights is essential. We are aware that respecting human rights therefore becomes a prerequisite for all our business activities.
We established the Tokyo Gas Group Human Rights Policy (hereafter “the Policy”) based on the United Nations (UN) Guiding Principles on Business and Human Rights to guide our Group-wide efforts to promote human rights and fulfill our obligations. The Policy is directly linked to the Group’s Management Philosophy and Corporate Action Philosophy and was determined with the approval of the Board of Directors of Tokyo Gas Co., Ltd. to stand as our public commitment to respect human rights.

1. Our Commitment to Respect Human Rights

The Tokyo Gas Group upholds and respects international norms on human rights, including the UN International Bill of Human Rights, which stipulates the basic human rights of all persons, the OECD Guidelines for Multinational Enterprises, and the ILO Tripartite Declaration of Principles concerning Multinational Enterprises and Social Policy. Moreover, we strive to implement the UN Guiding Principles on Business and Human Rights in our daily operations.
We comply with all applicable laws and regulations in each country and region in which we operate. Where we face conflicting internationally recognized standards of human rights and national or regional laws and regulations, we seek ways to honor the principles of international norms on human rights.

2. Scope of the Policy

The Policy applies to all officers and employees of the Tokyo Gas Group (Tokyo Gas Co., Ltd. and its consolidated subsidiaries).

3. Respect for Human Rights in Our Value Chain

3－1 We will seek to prevent or mitigate adverse impacts on human rights caused by stakeholders throughout our value chain, encompassing all processes involved in our business activities.
3－2 We respect our employees and those with whom we work, and we create a healthy and inclusive working environment.
3－3 We will sincerely deal with customers and strive to ensure safety and improve quality.

3－4 We will pay due respect to human rights in our business relationships. Where our business partners or entities in our value chain are causing or contributing to adverse impacts on human rights that are directly linked to our operations, products, or services, we will require the relevant entities to respect human rights and avoid infringing upon such rights.

3－5 We will seek to understand how our business activities may impact local communities and strive to cooperate with local communities.

4. Human Rights Due Diligence

We will identify and assess any actual or potential adverse human rights impacts and take action to prevent or mitigate human rights risks through an ongoing effort to develop and exercise due diligence to ensure respect for human rights.

5. Relief and Remediation

Where we confirm that we have caused or contributed to adverse human rights impacts, we will provide relief and remediation through legitimate processes.

6. Dialogue and Consultation

We are committed to engaging in dialogue and consultation with relevant stakeholders on measures for addressing potential and actual human rights impacts.

7. Human Rights Education

We will provide appropriate education and develop human rights awareness to ensure that the Policy is understood and embedded throughout our business activities so as to be effectively implemented.

8. Information Disclosure

We will disclose information on our human rights initiatives through various means, including our corporate website and CSR report.

Signing of the UN Global Compact

Tokyo Gas signed the UN Global Compact in March 2016 to demonstrate its commitment to protecting and respecting human rights and labor standards.

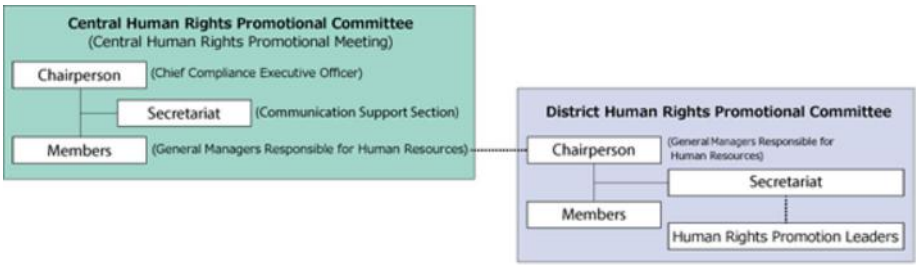
■ Human Rights Promotion System

System for Raising Awareness

The Tokyo Gas Group has set up the 16-member Central Human Rights Promotional Committee chaired by the chief compliance officer and consisting mainly of the general managers responsible for personnel matters in each department. The committee meets once a year for a central human rights promotional meeting to confirm the Group's overall understanding of human rights issues, results of training, and action plans for raising awareness for the next fiscal year. Subcommittees called District Human Rights Promotional Meetings, chaired by the general managers responsible for personnel matters in each department, are established under the committee, and district secretariats and human rights promotion leaders organize human rights training and related activities in each workplace.

Since 1995, we have trained human rights promotion leaders to lead efforts to create vibrant environments in every workplace. They have served as instructors in workplace workshops and as advisors for consultation desks on human rights.

■ System for Raising Human Rights Awareness



Enlarge

Central Human Rights Promotional Meeting

Training session for human rights promotion leaders

■ Training Topics for Human Rights Promotion Leaders

- CSR and human rights
- Compliance
- Human rights actions taken by Tokyo Gas
- Dowa[*1] issues
- Various human rights issues (e.g., LGBT, people with disabilities, women, the elderly, ethnic Koreans in Japan), harassment
- Mental health issues
- Communication skills (anger management and assertiveness training), counseling
- Overseas business and human rights
- Visits to facilities related to human rights

*1 Owing to forms of discrimination rooted in social structures that developed in Japanese society in the past, some segments of the population have been forced to endure a lower economic, social, and cultural status and remain to this day subject to various types of discrimination in their daily lives.

■ Initiatives on Respecting Human Rights

For the Tokyo Gas Group, human rights promotion begins with establishing fair human resource selection procedures and creating vibrant workplaces. We are implementing a variety of measures as a group to achieve these goals. In addition, we will continue to address human rights issues, such as the promotion of diversity and prevention of harassment, toward advancing our medium-term management plan GPS2020.

Training System

Tokyo Gas provides training for employees with the objective of creating vibrant workplaces. Through training we encourage employees to understand the latest trends in human rights surrounding companies and to sharpen their personal sensitivity by learning about the significance of supply chain management as a social responsibility required of a global company as well as human rights issues including the Dowa issue, harassment and communication in the workplace. We have adopted a participatory approach in many of our training programs to encourage participants to develop a personal awareness of issues. For example, we compiled workplace situations that make employees uneasy from a human rights perspective. These case studies are used as learning material in our level-specific training. In addition, we try to make our training as realistic as possible by having participants take a personal interest in a case study and discuss it with each other.

■ Human Rights Awareness Training in FY2018

Type	Outline	Number of Participants
(1) Level-specific training	Four levels of training provided: upon entry to the company, during the third year, and during qualification promotions (two levels)	1,291
(2) Workplace workshops	Practical training on topics selected by each workplace	15,825
(3) Training programs and follow-up for human rights promotion leaders	First-time leader training (six months) and follow-up training for current leaders	344
(4) Human rights presentations	Presentations for middle management by outside speakers	285

Level-specific human rights awareness training

Initiatives on Human Rights Due Diligence

The Tokyo Gas Group strives to practice human rights due diligence in order to identify, prevent and mitigate human rights issues that arise along our value chain.
We have consistently engaged in the following major actions and will continue to strengthen our efforts in accordance with Tokyo Gas Group Human Rights Policy, formulated in February 2018.

■ Major Actions on Human Rights Issues

Stakeholder	Major Actions
Employees	• Address human rights issues through the consultation desks • Conduct training for human rights promotion leaders who serve as lecturers in human rights workshops and advisors to those seeking consultation • Organize seminars for raising human rights awareness toward creating vibrant workplaces • Conduct compliance surveys to identify potential risks • Engage in occupational safety and health activities for the prevention of issues associated with working environments
Business partners	Monitor the status of response to human rights issues at business partners based on CSR surveys
Customers	Monitor the status of personal information management

Consultation Desks for Human Rights Issues

Consultation desks have been established both inside the Company in the Compliance Department and outside the Company at a comprehensive consultation service to handle workplace issues on communication and compliance, including human rights. In fiscal 2018, we received 98 consultations, which were addressed appropriately depending on content. First and foremost, we seek to protect the person who is seeking consultation from being placed at a disadvantage. And we address issues through face-to-face consultations whenever possible in an effort to help create a safe and secure working environment by collaborating with employees.

Human Rights Lectures

In March 2019, we held a human rights lecture titled, “The LGBT issue and companies – Thinking about diversity in the workplace.” The lecture was attended by 285 participants, including members of the Central Human Rights Promotional Committee and human resources staff of Tokyo Gas, human rights education staff at subsidiaries, managers and heads of general administration departments of LIFEVAL companies, managers of Tokyo Gas Merchandisers Organization (TOMOS) members, and human rights promotion leaders.

Initiatives for Human Rights Week

During Human Rights Week from December 4 to 10, we collect slogans for raising human rights awareness from employees and their families. In fiscal 2018, we received 10,838 entries, and posters of the best entries were displayed at each office.

Respecting Human Rights throughout the Supply Chain

As part of our initiatives for respecting human rights throughout our supply chain in Japan and abroad, we present our suppliers with the Purchasing Guidelines for Suppliers and engage in management activities such as CSR surveys. With respect to the Tokyo Gas Group employees, we seek to ensure understanding of these guidelines and stringent adherence to Tokyo Gas Group Our Code of Conduct. Furthermore, we monitor the status of response to human rights issues by conducting surveys of suppliers.

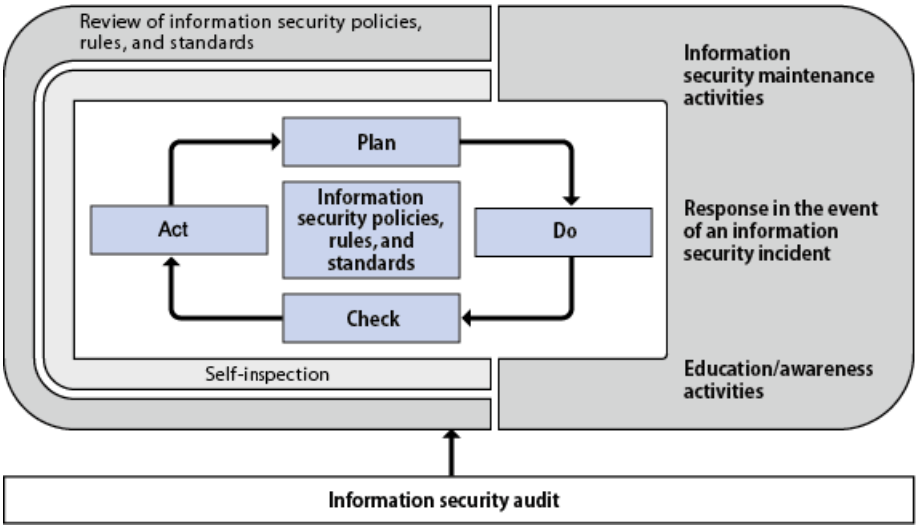
Link
▶ Supply Chain Management

Information Security Management

Basic Policies

Information security throughout our business operations is an essential part of sustaining the Tokyo Gas Group's brand value of "Safety, Security, and Reliability." In particular, we believe our social responsibility as a public utility company is to prevent any leaks of confidential information, particularly including information on our more than 11 million customers as well as the destruction of or tampering with systems.
In light of the evolving business environment, including sophisticated use of the Internet and the increased threat of cyber-attacks, such as unauthorized access from external sources and computer viruses, Tokyo Gas will establish a PDCA cycle to further strengthen our ability to ensure information security.

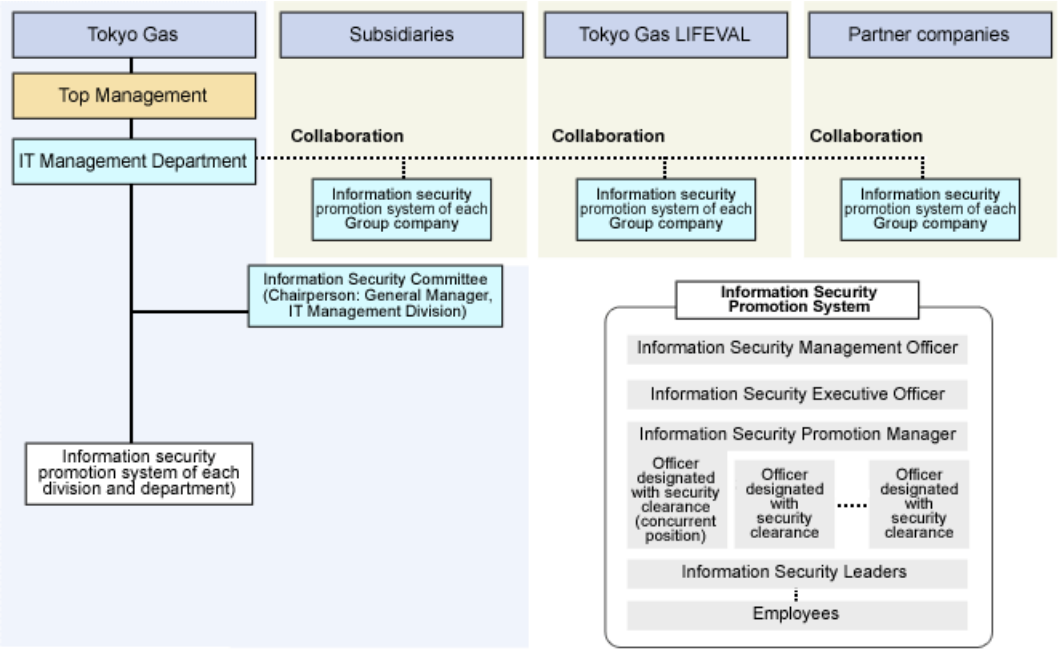
■ PDCA Cycle for Ensuring Information Security



Information Security Promotion System

Tokyo Gas has set up information security systems for each division and department to prevent accidents and minimize the impact from the leakage of confidential information or the destruction and tampering of systems. The same information security promotion system is in place at our subsidiaries and affiliates as well as at around 270 partner companies as part of a concerted effort to manage information security risks across the Tokyo Gas Group.
Through these efforts, we promote the active use of information and achieve a higher brand value as well as sustainable growth.

■ Tokyo Gas Group Information Security Promotion System



Tokyo Gas Group Information Security Promotion

Code of Conduct to Ensure Information Security

Information security cannot be established unless all employees share a strong sense of risk management. A breach can quickly occur if just one person becomes slack and lets down their guard while assuming everyone else's vigilance will provide sufficient protection. The Code of Conduct to Ensure Information Security provides guidelines on decision making and action steps for every individual in the Group for safeguarding information. The Group reviews the code as appropriate to maintain its relevance.

Code of Conduct to Ensure Information Security

Practices to Ensure Information Security

We implement measures at the technical, personnel and organizational levels to consistently ensure that information security incorporates advances in information technology in order to address the prevailing information security situation in society. We shall all be driven by this acute awareness as we strive to raise the quality of information security throughout the Tokyo Gas Group.

■ Measures for Establishing Information Security

Type	Purpose	Content
Technical measures	• Prevent viruses from entering the system • Prevent viruses from spreading in the event of a system breach • Prohibit staff from taking information outside the corporate environment	• Block access to unsolicited email and illegal websites • Install antivirus software • Introduce surveillance service
Personnel measures	• Deepen understanding of the risks of information leakage due to theft, misplacement, and viruses • Check if information security rules are followed and appropriate actions are taken	• Implement information security education • Conduct self-checks Note: Applicable to employees as well as temporary staff of approximately 80 companies including Tokyo Gas Co., Ltd., its subsidiaries, and LIFEVAL (more than 20,000 personnel in total)
Organizational measures	Rapidly respond to every information security incident	• Construct a system for promoting information security • Establish a CSIRT (Computer Security Incident Response Team) • Conduct drills for responding to cyber-attacks

■ Protection of Personal Information

We recognize that properly protecting and handling personal information is at the foundation of our business activities and a vital social responsibility. In fulfilling these responsibilities, we have established the following policies for guiding our best efforts to protect personal information.

●Policy on Protection of Personal Information at Tokyo Gas

(1) Legal compliance

In addition to observing all applicable laws and regulations and guidelines governing the protection of personal information, Tokyo Gas establishes and continually improves Company policy and internal rules for protecting personal information.

(2) Personal information management

Tokyo Gas takes necessary actions under relevant laws, regulations and guidelines and properly manages personal information to prevent any loss, leakage or unauthorized changes to said information. In addition, a person is assigned to be responsible for the protection of personal information at each workplace and to educate and monitor employees in regard to this issue.

(3) Collection and use of personal information

Tokyo Gas appropriately obtains personal information to properly and efficiently conduct business. Prior to collecting such information, Tokyo Gas informs the person in advance of the purpose for which the information will be used and only obtains the specific information necessary to achieve this purpose.

(4) Provision of personal information to third parties

Tokyo Gas does not provide personal information to any third party without obtaining the prior agreement of the person affected, except as allowed to do so under relevant laws, regulations or guidelines, and in certain cases where, for example, parties receiving the entrusted information are not legally defined as third parties. When providing personal information to, for example, an entrustee, Tokyo Gas selects a party that can meet and fulfill the necessary standards and obligations for managing personal information, makes appropriate arrangements for the protection of the personal information and monitors the

said party.

(5) Disclosure, correction, etc., of personal information

When a person seeks to disclose, correct or delete personal information, Tokyo Gas endeavors to promptly respond, within reasonable limits under relevant laws and guidelines, after confirming the person's identity.

Link

▶ Handling of Personal Information

Secure Control of Personal Information

The Tokyo Gas Group collects and utilizes a massive volume of personal information, including information on over 11 million customers. To ensure the personal information of all our customers is appropriately protected and managed, we have established a Company-wide personal information security control system. Moreover, we are committed to thoroughly informing employees and raising their awareness about legal concerns and implications.

We established a Company-wide personal information security control system even before the Act on the Protection of Personal Information took full effect on April 1, 2005, and since then we have been working to ensure that all employees are thoroughly informed of the act by developing in-house rules and manuals in compliance with it. In addition to voluntary checks conducted to confirm whether personal information is being properly managed, internal audits are conducted by the Internal Audit Department to assess compliance with the act and other applicable laws, ordinances and guidelines as well as our own policy on the protection of personal information and internal rules.

In order to constantly foster awareness of information security, employees learn about protecting personal information as part of the level-specific training provided when they join the Company, during their third year and qualification promotions, and on other appropriate occasions.

In response to the revised Act on the Protection of Personal Information that took effect in May 2017, we began informing each company of the Tokyo Gas Group of the details of the revised act. We also formulated guidelines for clarifying personal information and handling anonymously processed information. In April 2017, we distributed a pamphlet that explains the practical aspects of the Act on the Protection of Personal Information to all Group employees and its subsidiaries, Tokyo Gas LIFEVAL companies, and other partner companies in order to strengthen understanding and encourage rigorous compliance.

Let’s Follow the Rules: A Guide for Protecting Personal Information

■ Information Security Audit

The Internal Audit Department audits the Company and its subsidiaries and affiliates to determine whether the audited organizations are taking proper steps to ensure information security, to identify specific information security risks, and to confirm whether controls are being properly developed and implemented to manage these risks.

Proactive Information Disclosure to Customers

Appropriate Information Disclosure

We proactively and appropriately disclose information in addition to providing community-based customer support to ensure the safe, secure and comfortable use of energy by customers.

Tokyo Gas Website

As an energy company with a public mission, we are aware of the importance of providing timely, appropriate information to our stakeholders. In addition to company information, we explain about safety and the use of our products and services via the website.

Providing Information on Our Website

- Company Information
- Important Notices
- Press Releases
- Important Notices on Home Gas Appliances
- Application for Gas and Electricity Services
- Guidance on Response to Earthquakes, Gas Leaks and Other Emergencies
- Information and Guidance on Daily Services
- Information for Corporate Customers

We also operate a membership website for customers of our electricity and gas services. Residential customers can refer to the myTOKYOGAS Membership website to confirm monthly gas and electricity usage and exchange points earned through the patronage program offered by tie-in partner companies, member privileges, environmental activities, or contributions to the Japanese Para-Sports Association. The myTOKYOGAS Business site provides commercial and industrial customers with a service that visualizes usage of monthly gas and electricity.

Tokyo Gas Website – Important Notices

myTOKYOGAS residential membership website

Tokyo Gas Official Social Media

Tokyo Gas maintains a corporate Facebook page and Twitter account to offer instant access to our information. We post our seasonal information, recipes and other useful information for everyday life, including entertainment content such as Paccho's (Tokyo Gas's mascot character) Diary and disaster preparedness information on the safe use of city gas. In the event of a disaster, we share information through social media on how we are responding.

Proper Information Provision under Law, and Self-imposed Criteria

Despite the Tokyo Gas Group's continued efforts to ensure the proper provision of necessary information on products and services, the commissioner of the Consumer Affairs Agency in July 2017 issued a cease and desist order against an event flyer that allegedly violated the Act against Unjustifiable Premiums and Misleading Representations. The Group has taken the incident seriously and is redoubling its efforts to ensure compliance with the law and properly advertise and label products and services. We will continue our efforts to provide proper information in cooperation with legal affairs personnel in the production of flyers, catalogs and pamphlets. We remain committed to ensuring the proper provision of information and labeling in accordance with the Japanese Industrial Standards (JIS), guidelines of such bodies as the Japan Gas Appliances Inspection Association, our in-house regulations and other rules, so that consumers can confidently use Group products and services.

To ensure that customer can safely use our products and services, we also abide by the guidelines for appropriate information provision and other matters that the Ministry of Economy, Trade and Industry has set forth in concert with the full deregulation of the electricity and gas markets.

Supply Chain Management

Tokyo Gas believes that it must fulfill its social responsibility in cooperation with business partners, rather than doing so on its own when delivering products and services to customers. In 1992, we introduced guidelines and basic requirements to pursue open, equitable and fair purchasing activities. Adhering to these guidelines, we have forged relationships of trust and jointly implement CSR initiatives. In 2017, we revised the Basic Requirements for Purchasing, Purchasing Guidelines for Suppliers and Green Purchasing Promotion Guidebook to promote procurement with even greater consideration for CSR. Together we will also enhance our brand values of Safety, Security and Reliability through a committed effort to pursue open, equitable and fair purchasing activities based on these policies.

■ Principles and Standards of Purchasing Practice

Basic Policy

Our transactions and relations with suppliers are governed by Tokyo Gas Group Our Code of Conduct, which defines the values and guidelines shared by all members of the Tokyo Gas Group, and we seek to ensure that the Code is thoroughly understood and observed. Furthermore, we have stipulated a code of conduct for purchasing activities in our Principles and Standards of purchasing practice, and we strive to establish relationships of trust based on highly transparent, fair and equitable transactions with our partners.
To enhance customer trust, it is essential that not only the Tokyo Gas Group but also its suppliers practice compliance, preserve the environment, ensure occupational safety, respect human rights, and show concern for local communities. We request suppliers to adhere to our Purchasing Guidelines for Suppliers and Green Purchasing Promotion Guidebook. Each time we place an order for construction and other work, we notify suppliers of our Specifications for Common Environmental Management and seek their adherence to requirements such as legal compliance, reduced environmental impact and consideration for occupational safety and health.

●Procurement Policies (Revised in Fiscal 2017)

- Principles and Standards of purchasing practice: code of conduct governing the purchasing activities of Tokyo Gas
- Purchasing Guidelines for Suppliers: requirements for doing business, including quality, legal compliance, labor, safety and human rights, environment, and local communities
- Green Purchasing Promotion Guidebook: environmental aspects of procurement that require consideration

Principles and Standards of Purchasing Practice

To embody its Corporate Action Philosophy, Tokyo Gas established Principles and Standards of Purchasing Practice as a code of conduct for its purchasing activities. In fiscal 2017, we revised the Principles and Standards to promote procurement that pays even greater consideration for CSR.

●Principles and Standards of Purchasing Practice

Tokyo Gas Co., Ltd. (“the Company”) strives to practice its Corporate Action Philosophy by adhering to the following Principles and Standards of Purchasing Practice, which serves as the code of conduct governing purchasing activities.

1. Openness

1.1 The Company will procure goods and services, both domestically and internationally, that meet the Company's standards for quality, safety, and cost, through procedures that are simple and easily understood.

2. Fairness and Equality

2.1 The Company will select its suppliers in a fair and equitable manner on the basis of economic rationality, with due consideration to quality, price, reliability, guaranteed delivery, after-sales service, suitability with existing facilities, technological ability, financial health, and CSR stance.

2.2 The Company is fully committed to complying with the laws and regulations prohibiting bribery, corruption, misappropriation, antitrust, and other illegal behavior.

3. Mutual Trust

3.1 The Company will establish relationships of trust with its suppliers based on fair and equitable transactions and strive to maintain and enhance the safety, security, and reliability of its brand through mutual prosperity and cooperation. Indispensable to providing stable energy is the stable supply of quality goods and services from suppliers at fair prices and within the designated delivery periods, all based on mutual trust.

4. Commitment to Compliance

4.1 The Company and its suppliers must fully comply with the letter and spirit of all relevant laws and regulations, social norms, and corporate ethics when conducting business transactions.

5. Environmental Protection

5.1 The Company will work with its suppliers to protect the natural environment toward realizing a resource-saving society by adopting the perspective of environmental friendliness in addition to economic considerations.

5.2 The Company will promote Green Purchasing in accordance with its Green Purchasing Promotion Guidebook and also to follow through with its Environmental Policies.

6. Occupational Safety and Respect for Human Rights

6.1 The Company will work with its suppliers to ensure occupational safety and respect for human rights.

7. Consideration for Local Communities

7.1 The Company will work with its suppliers to preserve the environment and ensure respect for human rights in local communities, while also striving to ensure their safety and security.

7.2 The Company will actively engage in activities that contribute to the development of local communities toward the betterment of society.

Link
▶ Action on Resource Procurement

■ Purchasing Guidelines for Suppliers

To clarify and address the tasks in a collaborative effort, the Tokyo Gas Group sets out its requirements in the Purchasing Guidelines for Suppliers and requests that they be put into practice. Promotion of CSR will also result in reducing risks and enhancing quality across the supply chain. Our objective is to achieve mutual growth alongside our suppliers and play our part in creating a sustainable society.

● Purchasing Guidelines for Suppliers

The Company seeks the cooperation of its suppliers and requests that they understand and act in accordance with the Basic Requirements so as to ensure mutual trust throughout purchasing activities.

1. Quality Guarantee

1.1 The Supplier must meet the requirements for quality and performance as set by Tokyo Gas and maintain that level of quality and performance over a reasonable period of time.

2. Reasonable Pricing

2.1 The Supplier must offer prices deemed reasonable with respect to quality, performance, specifications, terms of delivery, terms of payment, trends in market prices, and other relevant areas.

3. Compliance with Terms of Delivery

3.1 The Supplier must observe the contractual time of delivery specified by the Company.

4. Safety Assurance

4.1 The Supplier must ensure the safe use and operation of its products.

5. Maintenance and After-Sales Service

5.1 The inspection, maintenance, and repair services that the Supplier is required to provide should be undertaken in a fast and precise manner, an approach that should also be applied to its design and production or implementation of goods and services. In addition, the Supplier must be capable of quickly providing the necessary parts and technical assistance for standard repairs and in the event of an emergency.

6. Risk Management

6.1 The Supplier must be able to respond quickly and effectively in the event of a quality-related problem or emergency such as a natural disaster or accident.

6.2 The Supplier must appropriately handle personal information and confidential information.

6.3 The Supplier must appropriately manage intellectual property, including confidential information and know-how.

7. Commitment to Compliance

7.1 The Supplier must comply fully with the letter and spirit of all relevant laws and regulations, including the antitrust law and subcontractor law, and is expected to observe social norms and corporate ethics. The Supplier must also maintain a fully functioning system for the prevention and early detection of illegal behavior.

8. Consideration for Labor, Safety, and Human Rights

8.1 The Supplier must act in compliance with laws, regulations, and social norms related to occupational health and safety, working conditions, and human rights, and must engage in initiatives for addressing these issues. Specific requirements include:

- Eliminating all discriminatory practices based on race, ethnicity, religion, gender, age, place of birth, nationality, physical and mental disability, academic background, social status, sexual preference, sexual identity, and other factors, and striving to provide equal opportunities and fair treatment;
- Attending to the health and safety of employees and implementing the necessary measures;
- Properly managing working hours and avoiding forcing work against the will of the employee;
- Respecting employees' right to organize and allowing collective bargaining and labor-management consultations;
- Protecting the rights of workers, complying with minimum wage requirements, and giving due consideration to providing a living wage; and
- Prohibiting child labor and forced labor and preventing illegal labor practices.

9. Environmental Protection

9.1 The Supplier is required to implement sufficient measures to avoid harming the global environment, pay due consideration to environmental issues, and reduce its environmental impact. The Supplier is also expected to implement initiatives in line with the Company's Green Purchasing Guidelines.

10. Consideration for Local Communities

10.1 The Supplier is required to work with its business partners to protect the environment, respect human rights, and ensure the safety and security of local communities.

10.2 The Supplier is encouraged to actively engage in activities that contribute to the development of local communities toward the betterment of society.

11. Supply Chain Management

11.1 In addition to observing the guidelines, the Supplier is expected to encourage its business partners to implement the initiatives set forth therein.

12. Prohibition of Involvement with Conflict Minerals

12.1 As a precondition to any business transaction, products supplied by the Supplier must not contain conflict minerals (gold ore, coltan, wolframite, and cassiterite) produced to fund militant groups in the Democratic Republic of the Congo and its neighboring countries and regions.

■ Specifications for Common Environmental Management

Specifications for Common Environmental Management cover rules on issues such as legal compliance, reduction of environmental impact and consideration for occupational safety and health. We present them to suppliers whenever we commission construction and other work, requesting their cooperation.

■ Initiatives for Green Purchasing

Tokyo Gas has been practicing green purchasing*1 since fiscal 1996.
We systematically pursue green purchasing in accordance with our Green Purchasing Promotion Guidebook and require suppliers to adhere to specifications based on our Purchasing Guidelines for Suppliers.

*1 Placing priority on purchasing products and services with lower environmental impact.

Green Purchasing Promotion Guidebook

The Tokyo Gas Group will promote Green Purchasing in accordance with these guidelines and by adopting the perspective of environmental friendliness, in addition to common criteria such as cost, quality, and terms of delivery, when procuring and purchasing construction works and services as well as materials, manufactured goods, and components (hereafter “goods and services”).

1. Purpose of Green Purchasing

1.1 Tokyo Gas endeavors to proactively and consistently contribute to protecting the global environment and building a resource-saving society, not only by reducing the environmental impact of its business activities through initiatives such as energy conservation and waste reduction but also by promoting Green Purchasing in the upstream segment of its business activities toward reducing its overall environmental impact.

2. Considerations for Selecting Goods and Services

2.1 In accordance with the Green Purchasing Guidelines laid out by the Green Purchasing Network (GPN), Tokyo Gas will select goods after considering the diverse environmental impacts throughout their life cycles, from extraction of raw materials to disposal, as explained below.

2.1.1 Reduction of environmental impact
Reduced use or emission of substances that are harmful to the environment and human health. Proper control of legally designated chemical substances.

2.1.2 Conservation of resources and energy
Limited consumption of resources, energy, and water during product manufacture, use, and installation.

2.1.3 Sustainable extraction and use of resources
Sustainable extraction methods and effective utilization to prevent depletion of resources.
2.1.4 Capacity for long-term use
Enable long-term use based on ease of repair, parts exchange, and other considerations.
2.1.5 Reusability
Can be reused.
2.1.6 Recyclability
Can be recycled.
2.1.7 Use of recycled materials
Contains a significant ratio of recycled materials and reused components.
2.1.8 Ease of treatment and disposal
Can be easily treated and disposed of as waste.
2.1.9 Legally compliant waste disposal
Promotes the recycling of resources through reduced waste generation, reuse, and thorough sorting and ensures a legally compliant waste disposal process.
2.1.10 Biodiversity conservation
Mitigates direct and indirect impacts of business operations on the ecosystem.

3. Considerations for Selecting Suppliers

3.1 When selecting suppliers, Tokyo Gas will give higher priority to companies that actively pursue environmental protection initiatives, such as implementation of an environmental management system (EMS) that includes:
3.1.1 Establishing environmental principles and guidelines;
3.1.2 Appointing dedicated environmental officers;
3.1.3 Complying with environmental laws and regulations;
3.1.4 Identifying the environmental impacts of business activities;
3.1.5 Disclosing environmental information;
3.1.6 Protecting the environment in collaboration with local communities and NGOs;
3.1.7 Promoting Green Purchasing; and
3.1.8 Asking suppliers to pursue environmental protection activities.

4. Collection and Use of Environmental Information

4.1 Tokyo Gas will actively collect, organize, and analyze environmental information on goods and services as well as manufacturers and sales companies. The information will be shared by the Purchasing Department and used to ensure appropriate management of Green Purchasing.

5. Note on Implementing Green Purchasing

5.1 When undertaking procurement and purchasing, the Purchasing Department of Tokyo Gas will give priority to selecting the goods and services with the least environmental impact, from among candidates that meet requirements such as quality and terms of delivery, while at the same time striving to contain costs.

Example of Promoting Green Purchasing through Electronic Catalog

Tokyo Gas has introduced purchasing from an electronic catalog[*2] that lists over 100,000 items. Office supplies, fixtures and equipment, and printed matter comprise the majority of listed items, and we place priority on products that meet green purchasing requirements. The catalog provides us with environmentally-friendly options.
In addition, we also promote the use of Tokyo Gas Recycled Paper made of paper waste generated by Tokyo Gas.

*2 Our PASPO purchasing system facilitates ordering from an electronic catalog via the Internet in a simple and timely manner.

■ Communication with Our Suppliers

We routinely engage in two-way communication with our suppliers by sharing information during meetings and conducting annual surveys. In addition, we established a contact page for purchasing inquiries which is equivalent to the suppliers consultation desk for the internal reporting system.

Links

- Purchasing Guidelines
- Purchasing Guidelines for Suppliers
- Green Purchasing Promotion Guidebook
- Procurement Area
- Standard Purchasing Procedure
- Contact—Purchasing Inquiries

Conducting In-house Education on Procurement

In promoting CSR procurement, it is important that every staff member responsible understands the purpose. In fiscal 2018, we conducted training for responsible staff members and newly assigned staff, study session on CSR procurement, and basic seminars on purchasing for employees in other departments. We are implementing in-house education by providing basic information as well as organizing lectures by outside experts and an exchange of views on issues such as CSR procurement that should be addressed by each relevant department.

Training	Content	Overview
Training for responsible staff members	Purchasing rules, communication with suppliers, contracts, relevant laws and regulations, risks related to procurement, ideal role of the Purchasing Department	Target: Purchasing Department staff 16 courses
Training for newly assigned staff	Purchasing rules, communication with suppliers, contracts, relevant laws and regulations, risks related to procurement, procurement system, etc.	Target: Newly assigned Purchasing Department staff 8 courses
Special seminar	Environment surrounding materials procurement and countermeasures, proper mindset for a procurement officer	Target: Purchasing Department staff 1 course
Study session on CSR procurement	Analysis of supplier survey results, exchange of views on trends in CSR procurement	Target: Purchasing Department staff 1 course
Basic seminars on purchasing for employees in other departments	Laws and regulations related to purchasing, basic knowledge for appropriate purchasing practices	Target: All employees 4 courses

Study session on CSR procurement

■ Supplier Survey

Overview

As part of our annual supplier survey, we review the status of CSR efforts at each company. In fiscal 2018, we revised the survey questions based on past survey results and the latest societal trends and also established procedures for confirming status along with a management checklist. In addition, we began providing feedback across the board to encourage two-way communication and strengthen cooperation with Purchasing Guidelines for Suppliers.

Results of FY2018 CSR Survey of Suppliers

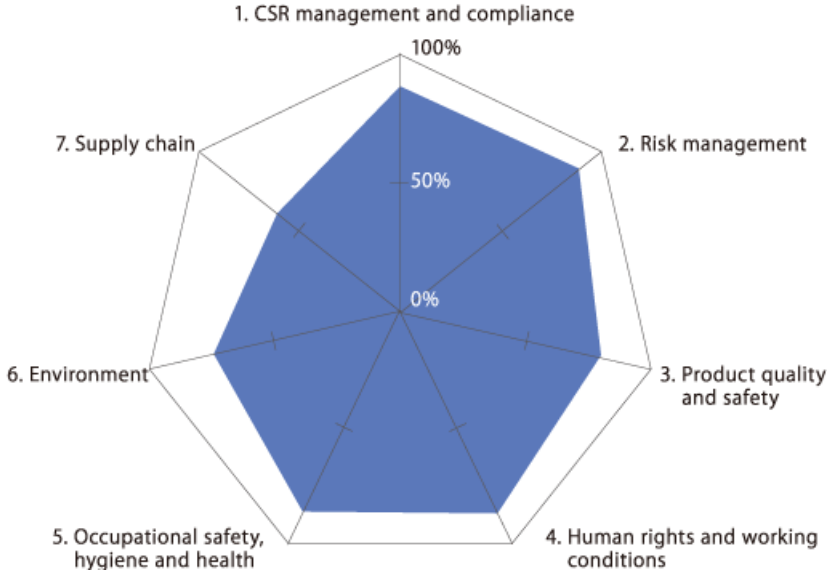
In fiscal 2018, we conducted a wide-ranging survey asking 509 companies to provide information on their policies and codes of conduct for promoting CSR. We received responses from 454 of them, which was a significant increase from the previous year. We compiled and analyzed their responses and confirmed specific points directly with them as needed. None of the suppliers demonstrated any serious risks such as legal violations.
The details and results of the survey are as follows.

■ Details of Implementation

	FY2017	FY2018
Target (companies)	527	509
Response (companies)	317	454
Response rate (%)	60.1	89.2

■ Overview of Survey Results

Categories/Typical Questions	Ratio of Suppliers Addressing the Issues (%)
1. CSR management and compliance - Establishment of codes of conduct on CSR	89
2. Risk management - Formulation of Business Continuation Plan	89
3. Product quality and safety - Establishment of policies on product quality and safety	84
4. Human rights and working conditions - Establishment of codes of conduct on human rights and working conditions	88
5. Occupational safety, hygiene and health - Establishment of codes of conduct on occupational safety and health	89
6. Environment - Formulation of environmental policy, efforts on conservation of resources	71
7. Supply Chain - Formulation of policies on the supply chain	59


1. CSR management and compliance
100%
2. Risk management
50%
0%
3. Product quality and safety
4. Human rights and working conditions
5. Occupational safety, hygiene and health
6. Environment
7. Supply chain

Basic Policy

Challenging the Advanced Technical Development

Tokyo Gas is developing energy-saving equipment and systems that help to achieve a decarbonized society and secure stable energy supplies, and taking on the challenge of developing new technologies towards the goals of raising “Safety, Security, and Reliability” in the use of gas and delivering goods and services which bring our customers joy and emotion.

■ Key Initiatives

Realizing a decarbonized society	• Promotion of expansion of city gas • Technology development towards further decarbonization (efficiency improvement and application of renewable energy in equipment for home, business, and industrial devices, system development to build smart energy networks, etc.)
Stable supply of energy	• R&D to support pipelines and other gas supply infrastructure, to make sure city gas can be used with confidence, long into the future
Earthquake and Disaster Preparedness	• Promoting the advancement of safety techniques • Developing disaster prevention systems in readiness for major earthquakes and other disasters to achieve disaster-resistant and stable gas supply
Building communities and a way of life that is comfortable and safe	• Research into lifestyles based on the provision of new values and services to enrich customer lives, and the technical development that further enhance the convenience of kitchens, bathrooms, underfloor heating, and other areas
Challenge for the Future Society	• Proposals for business in diverse fields, which are unconstrained by the boundaries of the gas business, with its developed technologies and help to solve social issues with CO_2 emission reduction and energy saving

Link
▶ Technical Development

Realizing a Decarbonized Society

In addition to advancing the popularization and expansion of city gas, we are working on the development and popularization of technologies for further decarbonization. The efficiency improvement and application of renewable energy in equipment for home, business, and industrial devices, and the development of systems to build smart energy networks, are elements in that effort.

Developing the Residential Fuel Cell CHP System "ENE-FARM"

ENE-FARM, a world-first development by Tokyo Gas, is a fitting energy system for the coming decarbonized society, as it achieves high energy-saving performance and CO_2 emission reduction. It went on general sale in May 2009, and we continued to work on popularization and expansion through cost and size reduction, which resulted in development of the world's first fuel cell CHP system[*1] for condominium housing in 2014.
We also have world-class technologies for fuel processing, to extract hydrogen from city gas, and for automatic operating control, to bring out maximum energy saving. We have been applying these proprietary technologies and product development abilities of our residential gas equipment to promote joint product development with manufacturers.
We will go on collaborating in technical development with manufacturers, and working on the popularization of home fuel cells, towards the realization of a decarbonized society.

*1 Gas engine-based CHP systems generate electricity and recover exhaust heat generated as a by-product.

Link
▶ Low-carbon Society

Technological Innovation of Gas-based CHP Systems

Customer expectations for CHP systems are rising in the areas of environmental performance, energy saving, and BCP. We are promoting broad popularization of these systems by enhancing economy and energy security.
In the future, the use of solid oxide fuel cells (SOFC), operating at high temperatures, is expected to deliver even more efficient systems.

Power generation efficiency (LHV) of CHP systems

Gas engines

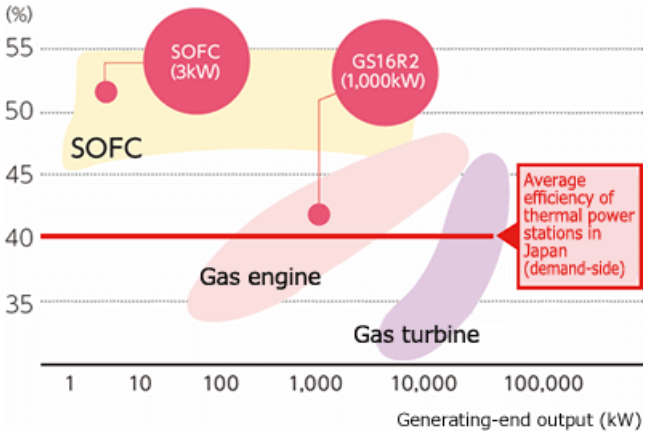
The power generation efficiency of gas engines has been greatly enhanced compared to before, through technical development of the Miller Cycle[*1] and sophisticated combustion control for each cylinder, and other measures (most commonly, efficiency is nearly 50% in large systems of 5,000 kW or more, and over 40% on medium-sized systems of 300-1,000 kW). The latest CHP systems with rated output in the 1,000 kW class achieve best-in-class power generation efficiency of 42.5%, and overall efficiency of 80.1%, and their sales numbers are rising.

*1 The focus of this method is on improving heat efficiency by making the cylinder expansion ratio greater than the compression ratio through a change in the cam profile shape in order to delay the timing of valve closing, unlike the conventional Otto cycle, in which the cylinder compression ratio and expansion ratio are the same.

SOFC

At Tokyo Gas Senju Techno Station, we are working with various manufacturers on demonstration trials of commercial SOFC systems in the range of a few kW to hundreds of kW. We are also assessing their durability and energy-saving performance and CO_2-saving effects in actual operation after installation in the facilities of various business types. As a result, we confirmed energy-saving performance in all the facilities, and in June 2017 we launched a SOFC product in the 3 kW class (power generation efficiency 52.0%, overall efficiency 90.0%) for commercial use.

■ Power Generation Efficiency (LHV) of CHP Systems



Stable Supply of Energy

We are working on R&D to support pipelines and other gas supply infrastructure, to ensure customers' safety and security, and to make sure city gas can be used with confidence, long into the future.

High-safety Supply Equipment

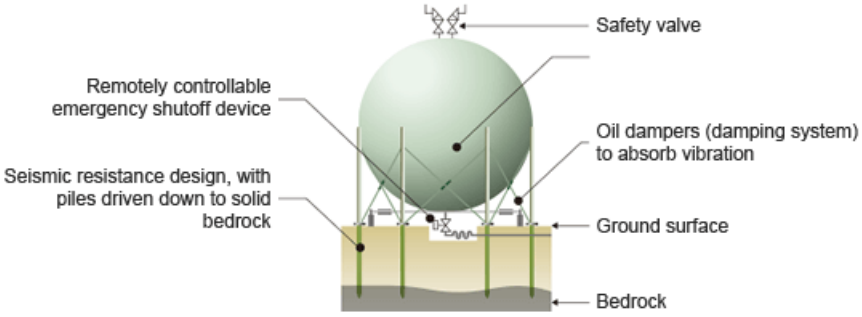
High-safety Pipelines and Gas Holders

For our city gas supply equipment, we apply materials and design methods of superior seismic resistance based on the standards set by the Japan Gas Association. Among that supply equipment, we introduce numerous safety technologies into gas holders, and to high- and medium-pressure conduits to be able to withstand ground deformation during earthquakes. For low-pressure conduits, we use highly durable and flexible materials.

Bending test

Tensile test

■ Gas holders with numerous safety technologies



Link

▶ Toward the safe and secure supply of energy

Earthquake and Disaster Preparedness

We are promoting the advancement of safety technology, including focusing efforts on the development of disaster prevention systems in readiness for major earthquakes and other disasters to achieve disaster-resistant and stable gas supply.

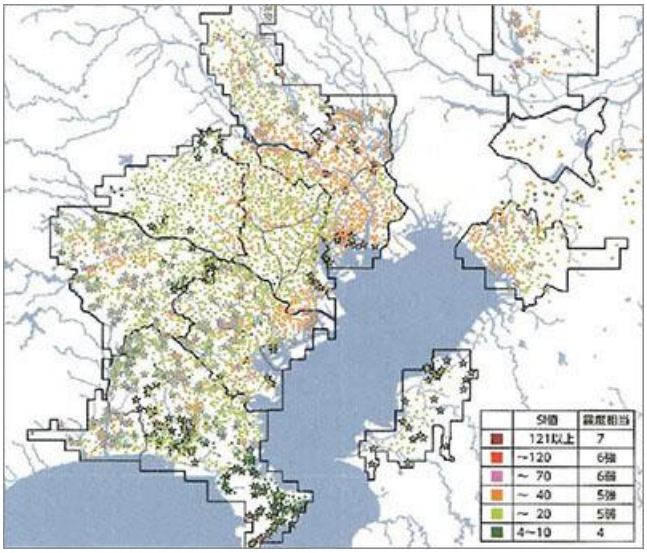
Ultrahigh Density Real Time Earthquake Disaster Preparedness System – SUPREME

Supreme is a real-time earthquake disaster prevention system to prevent secondary disasters in a major earthquake by gathering data from seismographs at around 4,000 locations and using remote operation where necessary to control gas supply in block units.

System Summary

We install seismographs called safety sensors in the district pressure regulators which supply gas at low pressure. Installed at an extremely high density of around one unit per 1km^2, they automatically shut off gas supply when detecting an earthquake which could potentially harm conduits and structures. SUPREME is a system which shuts down gas supply in a low-pressure gas conduit network, based on information from those seismographs.
Medium- and low-pressure conduit networks are divided into multiple blocks. Therefore, in an emergency, Supreme can stop gas supply to only those areas where damage is heavy, minimizing the area where gas supply has to be stopped.
The collected seismic data is also used in rapid and accurate analysis to prevent secondary disasters such as by estimating damage. During the Great East Japan Earthquake, seismic data was collected from approximately 4,000 locations in about five minutes to make swift decisions on whether to stop supplies.

- Locations of Seismographs in the Tokyo Gas Service Area and Temblor Strengths in the Southern Kanto Region during the Great East Japan Earthquake on March 11, 2011



Link

▶ Earthquake disaster prevention & stable supply

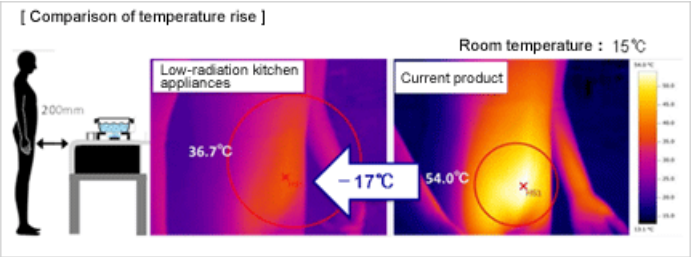
Comfortable and Secure Living

In order to provide new values and services that enrich customer lives, we study about lifestyles and technologies to further enhance the convenience of kitchens, bathrooms, and underfloor heating.

Research and Development of Commercial Kitchen Appliances

A comfortable environment is important in a professional kitchen to save energy and improve work efficiency. We have four keywords to make a comfortable professional kitchen that are Ecology, Hygiene, Economy, and Usability.
For example, we have developed low-radiation kitchen appliances to make thermal environment in kitchens comfortable. We are also working on simulation models to quantify the effects of introducing these appliances.
In addition, kitchen appliances featuring high combustion efficiency burner have been developed.

■ Development of low-radiation kitchen appliances



Link

▶ Research and development of commercial kitchen appliances

Challenge for the Future Society

Unconstrained by the boundaries of the gas business, with the technologies we accumulated, we propose business operations in various fields which help to solve social problems, through CO_2 emission reduction and energy saving.

■ Establishing a Foundation for Hydrogen Supply

Construction and Operation of Hydrogen Stations

We construct and operate hydrogen stations to popularize fuel cell vehicles (FCVs) and help establish the infrastructure for supplying hydrogen. We want to create a hydrogen society that makes use of zero-emission hydrogen energy. CO_2 emissions for which FCVs are liable do not differ significantly from those for electric vehicles in terms of mileage, and the use of FCVs helps to reduce environmental impact.

■ Current Status towards the Realizing a Hydrogen Society

Time	Action
Status at the End of January 2019	FCVs popularization to approximately 3,000 vehicles, with 100 hydrogen stations
Targets for 2030 (Ministry of Economy, Trade and Industry)	FCV diffusion to approximately 800,000 vehicles, and development of around 900 hydrogen stations

■ Private-sector Actions

Time	Action
February 2018	Japan H_2 Mobility (“JHyM”) founded through collaboration between 11 companies*1

*1 The 11 companies (at the time of foundation) were three automakers (Toyota, Nissan, Honda), six infrastructure operators (JXTG Nippon Oil & Energy Corporation, Idemitsu Kosan Co., Ltd., Iwatani Corporation, Tokyo Gas Co., Ltd., Toho Gas Co., Ltd., and Air Liquide Japan), and two private investors etc. (Toyota Tsusho Corporation, Development Bank of Japan).

■ Profile of JHyM

Profile	World-first action, through collaboration between infrastructure operators, automakers, and private investors etc., to accelerate the installation of hydrogen stations
Main Activities	Strategic development and efficient operation of hydrogen stations
Activity Goals	Enhance convenience for FCV users, increase numbers of FCVs, put the operations of hydrogen stations on an independent footing, and create “a virtuous cycle between FCVs and hydrogen stations”

Tokyo Gas will construct and operate hydrogen stations as an infrastructure company in collaboration with JHyM. Looking ahead, we will continue to pursue efforts to create a sustainable hydrogen society in collaboration with other companies.

Establishment of Japan H_2 mobility, LLC

■ Chronology of Hydro Station Construction and Operations

Time	Outline	Hydrogen Supply Method*1
May 2003	Senju Hydrogen Station opened in a pilot R&D project	On-site
December 2010	Haneda Hydrogen Station opened in a pilot project. (Japan's first hydrogen station with a natural gas stand (until 2015)	
December 2014	Nerima Hydrogen Station opened as the first commercial station in the Kanto region	Off-site
January 2016	Senju Hydrogen Station converted into a commercial facility	On-site
February 2016	Urawa Hydrogen Station started commercial operations	
February 2018	Tokyo Gas sets up JHyM with other companies to promote hydrogen stations	-

*1 Hydrogen stations supply hydrogen produced on location from city gas (on-site method) or hydrogen produced elsewhere (off-site method)


Nerima Hydrogen Station

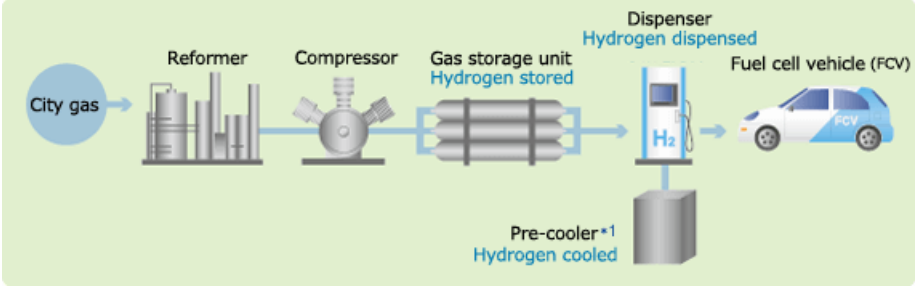
Senju Hydrogen Station


Urawa Hydrogen Station

How City Gas Is Changed into Hydrogen (On-site Hydrogen Station)

Tokyo Gas produces hydrogen through the conversion of city gas, which emits only a limited amount of CO_2 and has a low impact on the environment.

■ Process of Hydrogen Production in the On-site Method



*1 A device for cooling hydrogen to prevent the temperature in an FCV fuel tank from rising during refueling.

Development of Hydrogen Technologies

We conducted research and development on hydrogen stations for supplying hydrogen to fuel cell vehicles as a participant in a New Energy and Industrial Technology Development Organization (NEDO) project on research and development of hydrogen utilization technology from fiscal 2013 to fiscal 2017.

We will continue exploring ways to control the quality of hydrogen fuel injected into FCVs, assess the accuracy of hydrogen injection quantity measurement and inject hydrogen into FCVs other than passenger cars, such as buses and motorcycles. In addition, we will help formulate industry guidelines for these methods in the hope of incorporating them into international standards. We are further exploring efficient ways to run commercial hydrogen stations and reduce their maintenance costs.

Topic

World's First 65%-Level Power Generation Efficiency Achieved by a 5 kW-Class Fuel Cell

We have developed technologies to improve the efficiency of SOFC power generation and confirmed the world's first 65%-level*1 power efficiency rate on a lower heating value (LHV) basis by a small-output, 5 kW-class fuel cell hot box.This demonstration was received an "Innovation Award" *2 (category: commercial and industrial utilization) at World Gas Conference 2018.

We combined three technologies—building double fuel cell stacks, recycling fuel and achieving thermal self-sustainability with unused fuel—and verified their effectiveness.

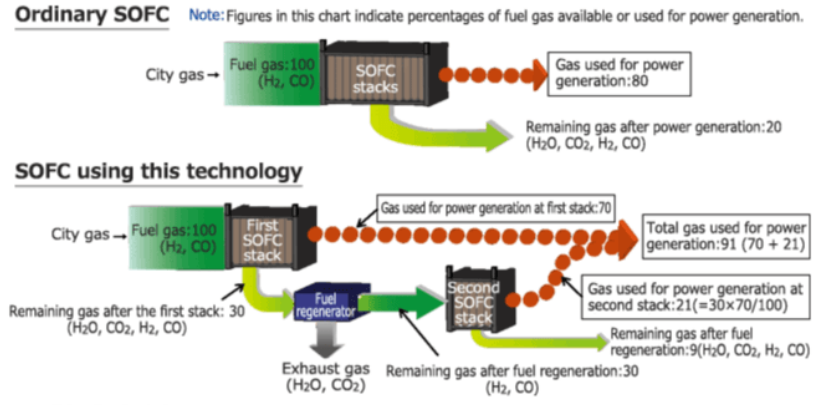
With these technologies, we will accelerate research and development to build a prototype so that we can contribute to creating a decarbonized society upheld by the advanced use of city gas with a marginal impact on the environment.

*1 Excluding the energy to operate the fuel cell when it is incorporated into a power generation system, and on a direct-currency transmission-end efficiency basis for use by customers; with an auxiliary loss of 6% and DC-AC inverter loss of 5%.

*2 A prize awarded to the next major innovations in gas industry technology.

Award ceremony at the World Gas Conference (presenter is second from left)

■ SOFC Technology for Using More Injected Fuel for Power Generation



Source: Tokyo Gas Co., Ltd.

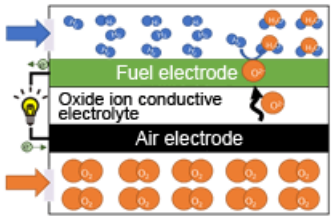
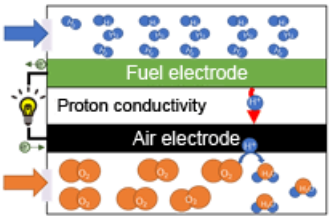
Topic

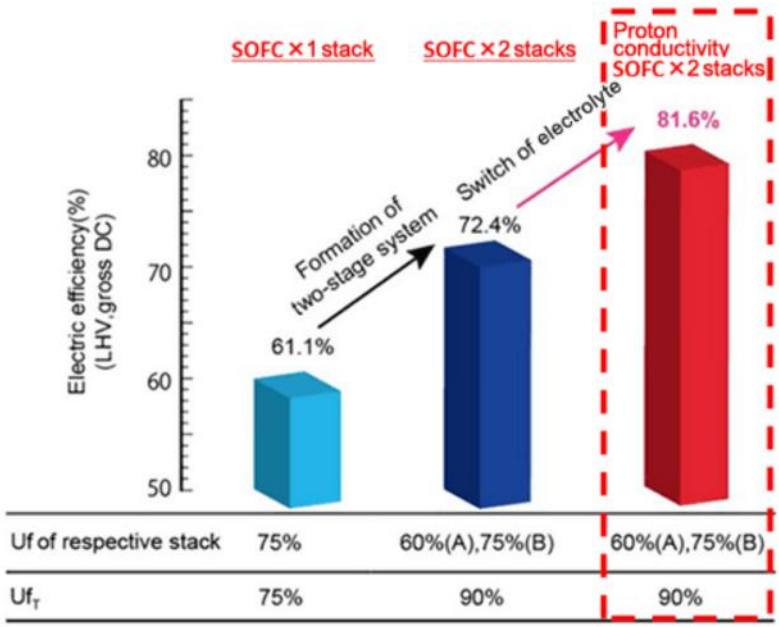
Achieving Power Generation Efficiency Exceeding 80% —Succeeded in the Theoretical Design of a New Technology that Dramatically Increases Power Generation Efficiency

In a joint study, Kyushu University's Next-Generation Fuel Cell Research Center (NEXT-FC) and Tokyo Gas have successfully designed an innovative solid oxide fuel cells (SOFCs) concept to improve electrical efficiency to over 80% on a lower heating value (LHV) basis, for the first time in the world. This achievement was published in July 2015 in Scientific Reports, Nature's sister online publication.

Super-efficient energy conversion from fossil fuel to electricity is expected to make a major contribution to reducing CO_2 emissions and provide the core energy technology for smart energy society. In addition, super-efficient power generation systems are potentially far more adaptable to market demand because they produce little exhaust heat during the power generation process that they can eliminate the need to use exhaust heat.

■ Innovative Technology to Increase Power Generation Efficiency
(The combination of proton conducting SOFC and double stack technology, with the prospect of high efficiency)

	SOFC	Proton conductivity SOFC
Principle		
Advantage	The reliability of materials is high, and durability has been established	High efficiency can be expected, because fuel is not diluted by water produced in power generation



Contributing to the Creation of a Decarbonized Society through Innovation

The technical development for the fields of distributed energy systems such as solar, storage batteries and EV has been rapidly progressing. To further bolster efforts to create a decarbonized society, we are shifting our R&D strategy from in-house and gas-related technology to an open innovation style leveraging a broad range of innovative energy technologies and ideas. In fiscal 2017, we set up two specialized companies in the United States, Acario Investment One LLC and Acario Innovation LLC, and began investing in venture capital firms and venture businesses that specialize in energy technologies. We will contribute to create new value and a decarbonized society by incorporating distributed energy systems, digital technologies such as AI / IoT and business models from either internal or external sources.

Pursuing the Effective Use of Biomass

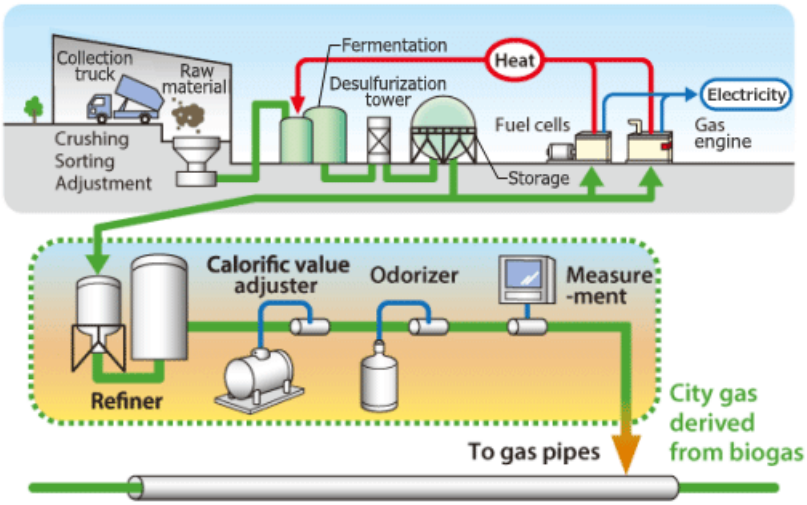
We are developing technologies that make use of biomass[*1] in a bid to reduce greenhouse gas emissions.
We plan to promote the wider use of biomass and its diffusion by working on the biogas utilization technologies we have developed through combustion of city gas and biogas as well as technologies for extracting biogas through more reasonable and efficient methane fermentation of biomass, such as food waste, and upgrading biogas to a higher quality gas.

*1 Biomass is a generic term for plant and animal-derived organic resources (excluding fossil resources) that can be recycled into energy or material. Burning biomass releases CO2, but CO2 absorbed from the atmosphere by plants during photosynthesis offsets this release. This is the greatest advantage of using biomass.
It can be used as an energy source in a number of ways, such as obtaining heat or electricity with the use of steam generated by burning it, and using biogas acquired from fermented biomass for combined heat and power (CHP) systems (gas engine-based CHP systems generate electricity and recover exhaust heat generated as a by-product).

Developing Biogas Utilization Technologies

The Tokyo Gas Group possesses technologies for converting biomass such as food waste and sewage sludge into gas for use as fuel for boilers and power generation and uses biogas that builds up at customer sites mainly as fuel for cogeneration equipment. We were the first in Japan to begin to refine biogas from food waste, adjust its calorific value and odorize it so that it could be injected into city gas pipelines. In fiscal 2017, we received 485 thousand m^3 of biogas derived from food waste (equivalent to about an 827-ton reduction in CO_2 emissions).

■ How Biogas Is Fed into Gas Pipelines



We carried out joint research, which was completed in fiscal 2018, with the city of Yokohama since fiscal 2013 on ways to expand the use of biogas from sludge at a sewerage facility in northern Yokohama. We set up test equipment for refining biogas at the North Yokohama Sludge Recycling Center and are developing technologies for removing CO_2 in sewage sludge biogas using a separation membrane to concentrate methane.

Test equipment for refining biogas at North Yokohama Sludge Recycling Center

Basic Policy

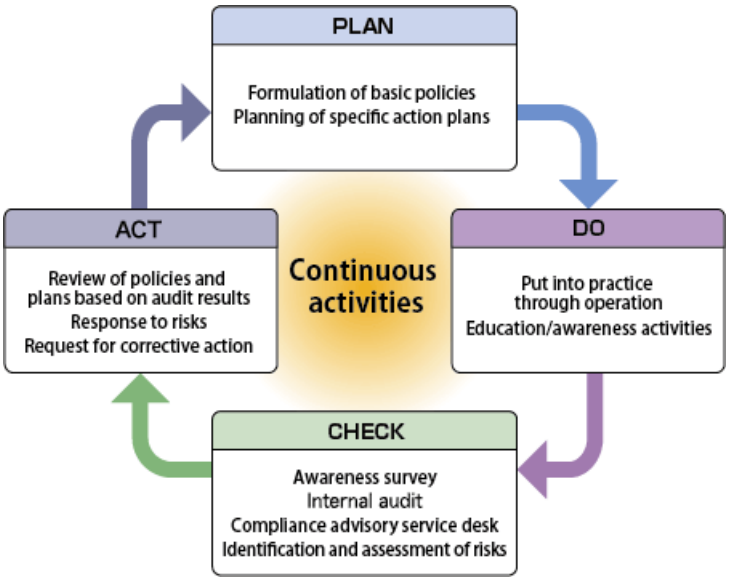
Basic Policies

The Tokyo Gas Group aspires to be a sound business enterprise that earns society's trust by ensuring all management and employee decisions and actions are rooted in legal compliance as well as ethical standards and public expectations. To this end, the Group promotes compliance in accordance with established basic policies.

Coordinated Promotion of Compliance by Business Departments Based on Basic Policies

Recognizing the importance of flexible and sustainable business activities in order to continuously adapt to changing business content and legal environments, the Tokyo Gas Group promotes collaborative cross-departmental efforts to strengthen compliance based on basic policies formulated each year by the Management Ethics Committee.
Under these basic policies, each department of the Tokyo Gas Group establishes and follows a PDCA cycle to review and improve its operations from the perspective of compliance.

■ PDCA Cycle to Promote Compliance



Tokyo Gas Group Our Code of Conduct

This code sets forth the values and standards of conduct for everyone who works at the Tokyo Gas Group. From fiscal 2003 to fiscal 2016, the code spelled out seven pledges. In fiscal 2017, however, the code was revised in the form of 11 pledges that incorporate international standards such as ISO 26000, the Olympic Charter, legal amendments and other key developments.

● **Tokyo Gas Group Our Code of Conduct**

Purpose and vision

1. "Our Code of Conduct" sets forth the values and standards of conduct that everyone who works in the Tokyo Gas Group is expected to share and follow in order to implement our

Management Philosophy and Corporate Action Philosophy and ensure a focus on compliance in business.

2. By following this Code of Conduct, we will contribute to the creation of an affluent society through the Tokyo Gas Group's growth and development as a corporate group that people will continue to trust and make their first choice.

1. We will constantly think and act responsibly as individual members of this "energy frontier corporate group" so that people will continue to trust our group and make it their first choice.

(1) Continual innovation

① We will pursue continual innovation, unfettered by convention and ever sensitive to the expectations of customers, shareholders, and society.

② We will create the maximum outputs working in partnership with one another, while being fully aware of our individual roles and responsibilities and committed to self-improvement.

(2) Doing more for the customer

We will put the customer at the heart of everything we do.

(3) Everyone is a brand builder

Day in and day out, we will strive to build the "security," "safety," and "trust" that underpin the Tokyo Gas Group's brand value.

2. We will constantly conduct business in a clear-cut and fair manner.

(1) Legal compliance

① We will constantly conduct business in compliance with laws, internal rules and regulations, and socially accepted rules.

② We will act swiftly to resolve issues where infringements of laws, internal rules and regulations, or socially accepted rules have occurred or may occur.

(2) Separation of professional and private spheres

① We will not use our professional position for personal gain.

② We will not use company property for private purposes.

(3) Active disclosure of information

We will enhance the transparency of business activities and actively and promptly disclose accurate information to customers, shareholders, communities, and other stakeholders in order to earn their trust.

(4) Firm stand against antisocial forces

① We will stand firm against illegal and improper demands made by *sokaiya* racketeers, organized crime groups, and other antisocial forces.

② We will not, under any pretext, give benefits to or otherwise accommodate the demands or interests of antisocial forces.

3. We will deal with customers, business partners, shareholders, and all our stakeholders sincerely and equitably.

3-1. Customers

(1) Satisfaction beyond expectations

① We will provide high value-added products and services that customers will make it their first choice.

② We will always put ourselves in the customer's shoes in order to deliver the best possible work that exceeds customer expectations.

③ In the event of a customer complaint or accident, we will respond swiftly and in good faith to prevent a recurrence.

3-2. Business partners

(1) Fair business dealings

① We will respect business clients and suppliers as business partners and do business with them in good faith.

② We will comply with the Antimonopoly Act and other applicable laws and ordinances, and will practice fair dealings in accordance with the principles of free competition.

③ We will not exploit our position or authority to obtain undue benefit or make unreasonable demands.

(2) Maintenance of proper relations

① We will always be conscious of social point of view in our interactions with business partners, and will never commit any act that might cause misunderstanding or distrust from inside and outside the company.

② We will maintain fair relations and do nothing questionable under applicable national and local laws and ordinances in our dealings with government and other public officials and employees.

(3) Understanding and observance of the Purchasing Guidelines for Business Partners
We will promote understanding and observance of the Purchasing Guidelines for Business Partners by our business partners and others along our supply chains, and we will require partner businesses involved in transactions with those companies to observe the same standards.

3-3. Shareholders
We will facilitate the appropriate exercise of shareholders' rights through fair, timely, and appropriate disclosure and constructive dialogue.

4. We will respect diversity and individuality among our colleagues and create an inclusive working environment.

(1) Respect for human rights

① We will respect human rights, prohibit child labor and forced labor, and not discriminate or harass anyone on the basis of race, nation, religion, gender, age, origin, nationality, disability, education, social status, sexual orientation, gender identity, or other such grounds.

② We will respect one another's positions and treat everyone equally, irrespective of form of employment, gender, title, or any other differences.

③ We will not commit sexual harassment, workplace bullying, pregnancy discrimination and other types of harassment, discrimination against employees who take family care leave, or any other acts that infringe the dignity of the individual. We will also not allow to condone such acts.

(2) Attainment of excellent record of occupational safety and health
We will enforce compliance, including adherence to all related laws and regulations, and make every effort to eliminate the risks of disasters and accidents in order to establish an excellent safety and health.

(3) Creation of a cheerful workplace

① We will create a lively workplace where everyone can realize their full potential and individual differences are respected.

② We will create an open workplace where everyone can share necessary information and engage in free expression and discussion.

(4) Promotion of diversity
We will accept one another's values and various work styles, and get the best from our own knowledge, abilities, and experience. We will also all work to raise productivity and meet the diversifying needs of society.

5. We will act for the protection of the global environment.

(1) Promotion of environmental protection

① As a leader in environmental management, we will reduce our environmental footprint and endeavor to make sustainable use of natural resources in every aspect of the Tokyo Gas Group's business activities.

② We will promote use of highly eco-friendly energy sources centered on use of natural gas, and provide high-efficiency systems and equipment that have a low environmental impact.

③ We will work with local communities to make people's lives more environmentally friendly.

6. We will contribute to local communities and society as a good corporate citizen.

① We will respect and contribute to local communities, building trust with them through active dialogue and cooperation, and making effective use of our business resources.

② We will contribute to local communities as good citizens, recognizing that we ourselves are all members of communities.

7. We will handle information appropriately.

(1) Prevention of information leaks
We will handle confidential information obtained in the course of business properly and will not divulge such information during or after our employment at the Tokyo Gas Group.

(2) Compliance with the Act on the Protection of Personal Information

① We will obtain and manage the personal information of customers, employees, and

others by appropriate methods and use such information only insofar as permitted for legitimate purposes.

② We will not disclose personal information to third parties except where permitted by law.

(3) Appropriate use of information systems

We will use information systems, including email systems and the Internet, in accordance with strict rules on proper use. Company information systems will not be used for non-business purposes.

(4) Respect for intellectual property

We will respect patents, trademarks, copyrights, and other intellectual property rights, protect and use rights held by our company, and not infringe the rights of others.

8. While conducting business globally, we will not only comply with national and local laws and regulations and respect international standards on human rights and similar issues, but also engage in business activities in a manner that is sensitive to different cultures, customs, and stakeholders' concerns.

9. We will act with integrity and decency as members of society, and maintain high ethical standards in our private lives.

In our private lives, too, we will comply with all applicable domestic and foreign laws and regulations, be aware of changes in social expectations, and always be mindful of how we should behave as a model citizen.

(1) Compliance with regulations on insider trading

We will not engage in insider trading, such as the purchase or sale of shares and other such transactions, using information obtained in relation to business. We will not communicate information or recommend transactions to other parties to enable them to make a profit or avoid a loss.

(2) Prohibition of annoying or disturbing behavior

In our private lives, we will not injure or deceive others, commit indecent acts, or engage in any other annoying or disturbing behavior.

(3) Responsible drinking and compliance with traffic rules (including not driving under the influence of alcohol)

We will be careful to drink responsibly and will never drive under the influence of alcohol. We will always stop anyone who attempts to drive while drunk, and we will not encourage anyone who is driving a vehicle to drink and will not provide a vehicle to anyone who has been drinking. We will also obey all other traffic rules.

(4) Prohibition of possession and use of illegal drugs

We will not possess or use illegal drugs, and we will not be involved in any way in their manufacture, purchase, sale, distribution, or other such acts.

(5) Prohibition of gambling

We will never engage in any acts of gambling, including the betting of even small amounts of money on golf, mahjong, or sporting events.

(6) Compliance with rules on use of social media

If communicating information via social media, we will not commit any act, even as individuals, that might harm the reputation or property of the company.

(7) Compliance with other laws, regulations, social norms, and standards of ethical conduct, and prohibition of acts that outrage public decency

10. If we transgress this Code of Conduct or learn of a transgression, we will immediately report the matter to our workplace and rectify it.

11. Executives and managers will lead from the front and take action themselves.

(1) Awareness of position and conduct as executives and managers

① Executives and managers will themselves provide models of compliance with this Code of Conduct and encourage understanding and practice of the same throughout the workplace.

② Executives and managers will lead from the front in working to resolve any problem that may arise and ensure organization-wide action to prevent a recurrence.

③ Executives will take strict action (including against themselves) where necessary.

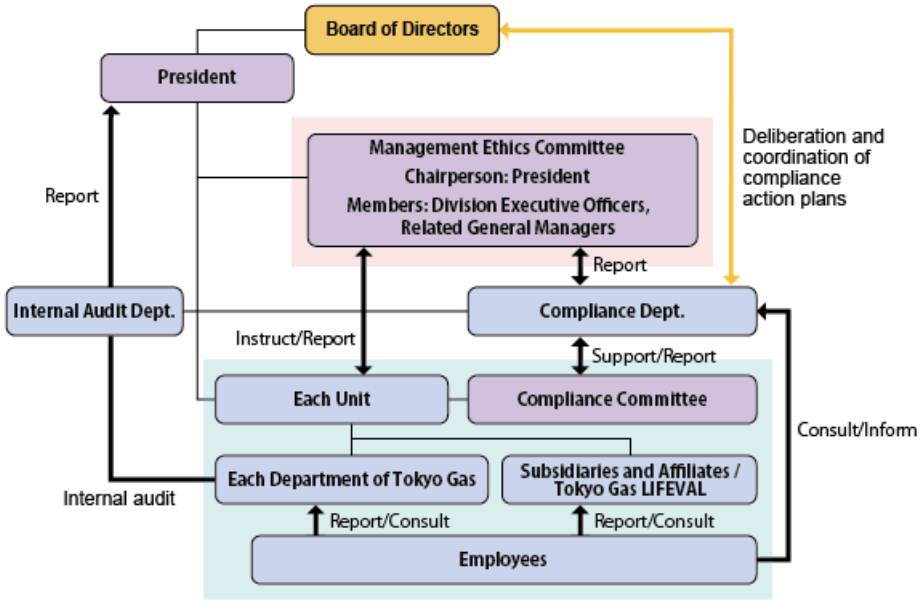
Tokyo Gas Group Our Code of Conduct

Thorough Implementation of Compliance

Compliance Promotion Structure

The Management Ethics Committee, chaired by the president, meets twice a year, in principle during March and November, to formulate Company-wide policy and confirm and discuss matters, such as the handling of inquiries and consultation by the consultation desks and the results of the monitoring of compliance awareness among employees.
We have also established Compliance Committees in each unit to consistently and proactively engage in initiatives for promoting compliance.
Over 300 management-level personnel have been appointed as compliance managers and compliance promoters at each workplace to lead in promoting concrete compliance activities.

■ Compliance Promotion Structure



Consultation Desks

The Tokyo Gas Group has set up consultation desks internally through its Compliance Department and externally through a law firm and communication support center. All individuals working at the Tokyo Gas Group, including officers, regular and temporary staff members as well as the employees of our suppliers can directly contact these desks by phone or email whenever they feel uncomfortable raising a matter within their organization. The Compliance Department also handles consultation for our suppliers. These consultation systems serve as internal points of contact, as stipulated in the Whistleblower Protection Act.
Under the operational guidelines of the consultation desks, advice and solutions are provided to employees who make inquiries or request consultation. The requests are treated in strict confidence, and the employees are protected against any discriminatory treatment for using the desks.
Independent advisory services have also been established at all subsidiaries and Tokyo Gas LIFEVAL (“LIFEVAL”) companies. In November 2018, training sessions were held for the personnel staffing the consultation desks at subsidiaries and LIFEVAL companies to strengthen their ability to handle inquiries and consultations.
These desks play an effective role in enabling Tokyo Gas to discover and resolve problems at an early stage so that the Company’s self-regulating processes function effectively.

■ Number of Cases Handled by Consultation Desks (FY2018)

Consultation Topics	Number of Cases
Interpersonal relations and harassment	51
Compensation, working hours, and related issues	20
Internal rules	11
Laws and regulations, and other issues	16
Total	98

Compliance Practices

Tokyo Gas, our subsidiaries and LIFEVAL companies organize a range of activities to encourage employees to apply Tokyo Gas Group Our Code of Conduct to their own situations.

Workplace Workshops Using Training Resources

Workshops led by compliance promoters are held at the level of individual workplaces at Tokyo Gas, our subsidiaries and LIFEVAL companies (32,796 employees participated in fiscal 2018). These workshops feature awareness-raising resources entitled “The Case Method,” “Collected Cases of Compliance,” and “Learning from Cases! Collected Statutes.” Developed in light of Tokyo Gas Group Our Code of Conduct, the resources are used to improve participant understanding of the laws, ordinances and regulations governing the practice of Our Code of Conduct and to help them apply the code in practice.

Instilling a Compliance-oriented Mindset through Training

Level-specific training for new employees and others is provided with the active participation of subsidiaries and LIFEVAL employees to foster a compliance mindset (1,291 employees underwent training in fiscal 2018).

Strict Compliance with the Antimonopoly Act, the Act against Unjustifiable Premiums and Misleading Representations and the Subcontract Proceeds Act

Training is provided annually to the Tokyo Gas Group employees to improve understanding of legal compliance.
In fiscal 2018, around 900 Group employees took part in training sessions on the Antimonopoly Act, the Act against Unjustifiable Premiums and Misleading Representations, and the Subcontract Proceeds Act. During the sessions, concrete instances of legal violations released by the Fair Trade Commission and Consumer Agency*1 were explained as practical case studies.

*1 Case studies include examples of cartels and abuses of superior bargaining position (Antimonopoly Act), and misleading representation (Act against Unjustifiable Premiums and Misleading Representations).

Sharing Information on Compliance

We are working to raise the standard of compliance by widely publicizing across the Tokyo Gas Group up-to-date information on the compliance risks associated with changes in the organization’s business environment, including those associated with our evolution as a total energy business, acceleration of our global business development, and the revision and stricter enforcement of prevailing legislation.
Specifically, information is shared through the regularly published “Compliance Information” newsletter, a resource for compliance managers and promoters who lead activities at the Company, subsidiaries, LIFEVAL companies, and some partner companies. Contemporary issues are shared quickly to keep people abreast of changes in society, such as information about the enforcement of

regulations concerning work style reform, which was featured in the publication in fiscal 2018. The newsletter is also used in workplace workshops to share details about cases in and outside the Company.

Compliance information

Support for Tokyo Gas Group Compliance Promotion

Tokyo Gas promotes compliance by LIFEVAL and partner companies providing regional services on behalf of Tokyo Gas. We also make educational tools available that are tailored to the circumstances of each company and assist in implementing PDCA cycles.
As part of our compliance promotion activities, we distribute copies of Tokyo Gas Group Our Code of Conduct and booklets on subjects, such as the protection of personal information, and hold lectures for management-level personnel. Since fiscal 2010, we have exchanged opinions on compliance with some partner companies, and we share news on compliance and information on compliance measures to raise awareness.
Copies of Our Code of Conduct are also distributed by the Tokyo Gas Merchandisers Organization (TOMOS) to all employees of its member companies to ensure that the code takes root and that business is conducted in accordance with the values and principles espoused by Tokyo Gas.

■ Prevention of Bribery and Corruption

Basic Policies

The Group is fully committed to preventing bribery and corruption in all domestic and international transactions by complying with the anti-bribery and corruption laws in each country and region and specifying in Tokyo Gas Group Our Code of Conduct our obligations to comply with laws and be fair and honest with our customers and suppliers.
In line with the expansion in our overseas business under GPS2020, we have established the Basic Policy on Overseas Business Promotion, in which we pledge to play our part in developing a sustainable society, and are carrying out equitable and transparent corporate activities in the international business community. In particular, bribery and corruption not only damages the social credibility of a company but can also become a global issue when it hampers economic growth in developing countries. We have thus formulated the Foreign Public Official Anti-Bribery and Corruption Guidelines in accordance with our Basic Policy in order to outline specific actions necessary for maintaining appropriate relationships with foreign public officials as a means of safeguarding orderly competition.

Outline of the Foreign Public Official Anti-Bribery and Corruption Guidelines

Summary of Guidelines for Action

Bribery and corruption of foreign public officials and other individuals and spending on facilitation payments to foreign public officials and other individuals are prohibited.
The provision of inappropriate hospitality, gifts, donations, and the like is prohibited.
All hospitality, gifts, donations, and the like made to foreign public officials and other individuals and

appointments of certain third parties must first be approved through the procedure described in the guidelines and must be accurately accounted for in a timely manner.
To prevent the bribery and corruption of agents, consultants, and similar third parties, due diligence must be performed before they are appointed, clauses prohibiting bribery and corruption must be incorporated into their contracts, and other appropriate measures must be completed. The same applies to M&As with foreign firms.

Action Items of the Foreign Public Official Anti-Bribery and Corruption Guidelines

- Prohibition of bribery of foreign public officials
- Prohibition of facilitation payment
- Prohibition of inappropriate hospitality, gifts, invitations, overseas donations, etc.
- Prohibition of bribery (other than foreign public officials)
- Transactions with third parties
- Relationships with partners of joint ventures, etc.
- Prohibition of taking bribes
- Mergers and acquisitions
- Prohibition of fraudulent accounting
- Obligation to whistle-blow and cooperate with investigations
- Emergency response
- Disciplinary action
- Training and monitoring

Operating Structure

The chief compliance officer acts as the executive officer with chief responsibility for preventing overseas bribery and corruption. Supervisors responsible for implementing measures to prevent bribery and corruption overseas are appointed in every department and company of the Group that is subject to the guidelines to take responsibility for the approval of hospitality, gifts, donations, and the like, confirmation of the findings of due diligence when appointing third parties, approval of entry into contracts, and other matters. The Compliance Department decides on specific measures for implementing the guidelines.

Anti-bribery and corruption training session
for employees involved in international business

Effective Application of the Guidelines to Prevent Bribery and Corruption

The Tokyo Gas Group provides training to employees primarily involved in business overseas to ensure proper compliance with the guidelines. In fiscal 2018, 371 personnel received this training. We have produced an English version of the guidelines for locally hired employees and have distributed the English edition of Tokyo Gas Group Our Code of Conduct to ensure that everyone understands its content. We have also established a system to enable Group employees working overseas to report and seek advice. We implement PDCA cycles to ensure that bribery and corruption are being prevented by monitoring the situation through internal audits and other means to confirm that the procedures established by the guidelines are being followed.

Verification and Audit of Penetration of Compliance

Compliance Awareness Surveys

We regularly conduct surveys of all employees of Tokyo Gas and its subsidiaries to monitor the effectiveness of compliance promotion activities.
In fiscal 2018, we sought responses from employees at Tokyo Gas, its subsidiaries, and LIFEVAL companies with a focus on the following points.

- Company compliance measures
- Conditions preventing compliance violations
- Workplace communication
- Compliance efforts by supervisors
- Compliance actions of the respondent
- Checks against harassment

The results showed that Tokyo Gas, its subsidiaries, and LIFEVAL companies have maintained high average scores, generally above 3 out of a maximum of 4 in every category.
As a reference for future improvement, we offered feedback on common tendencies and, where necessary, individual corporate tendencies with respect to the survey results and corresponding actions to be taken. The results are posted on the intranet for review by all employees of Tokyo Gas, its subsidiaries, and LIFEVAL companies.

Overview of the FY2018 Compliance Survey Results

■ Tokyo Gas

■ Subsidiaries

■ LIFEVAL companies

Compliance Auditing

The Internal Audit Department regularly conducts audits of Tokyo Gas and its subsidiaries and affiliates focusing on the severity of risks and the probability of their materialization from the perspective of legislation related to the audited unit’s operations, as well as corporate ethics and social norms.

Corporate Governance

Corporate Governance Systems

Basic Policy on Corporate Governance

As an “Energy Frontier Corporate Group” focused on natural gas, Tokyo Gas shall actively contribute to the creation of pleasant lifestyles and an environmentally friendly society and work to ensure continued development while consistently earning the trust of customers, shareholders, and society. Under its management philosophy, Tokyo Gas seeks to fulfill and bolster its corporate governance in order to increase its corporate value by ensuring legality, soundness and transparency of management. Simultaneously, it engages in appropriate, prompt decision making, efficient business operations, enhancement of the audit and supervisory functions, and clarity of responsibility of management and operations.

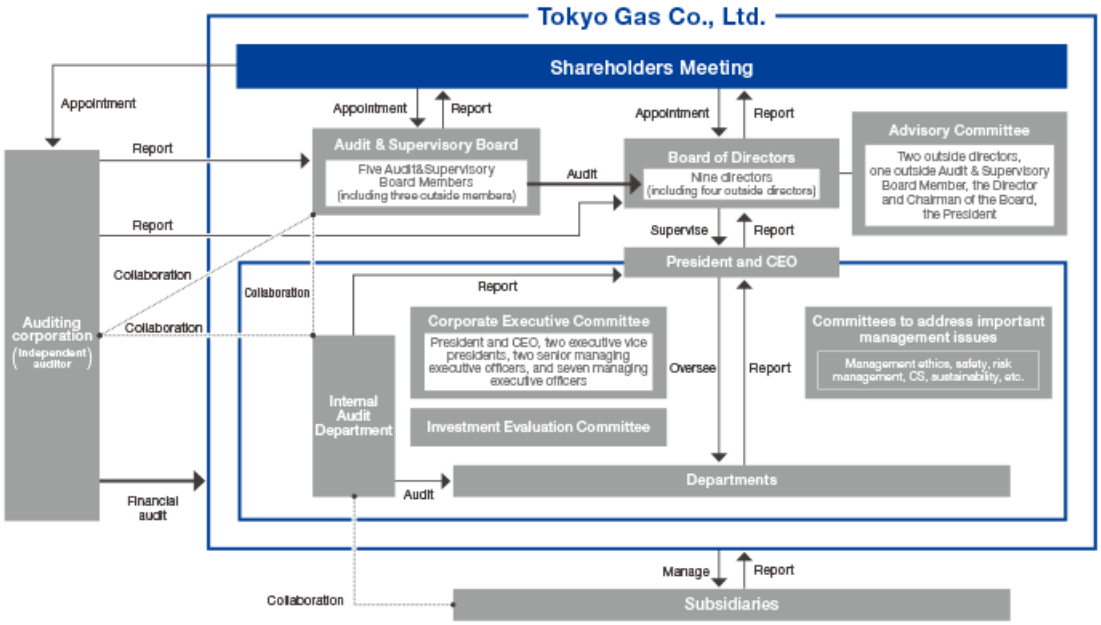
Outline of Implementation System of Corporate Governance

To increase the speed and effectiveness of management decision-making, we appoint an appropriate number of directors and invite outside directors to serve on the Board of Directors for greater transparency as well as to reinforce the supervision of business operations. Our Board of Directors now has nine members, including four outside directors. Furthermore, we have established the Advisory Committee, comprised of two outside directors, one outside Audit & Supervisory Board member, the chairman and the president to select candidates for officers in a fair and proper manner in response to an inquiry by the Board of Directors. It also deliberates on the salaries of officers, based on the Basic Policy on Officer Remuneration, and submits decisions to the Board of Directors. Our audits are conducted based on stringent standards by five Audit & Supervisory Board members, with three of them being outside members.

The Corporate Executive Meeting, which is held once a week in principle, deliberates on matters requiring approval from the Board of Directors as well as important management-related issues to achieve accurate, prompt decision making and efficient business execution. In business execution based on the resolution of the Board of Directors, by introduction of an executive officer system, the Board of Directors delegates substantial authority to executive officers in their designated criteria of responsibility by resolution. On the other hand, the directors supervise those executive officers in an appropriate manner and in accordance with a report they receive on the status of business execution by executive officers, if needed, which is submitted to the Board of Directors. (The term of office of directors and executive officers is set at one year to clarify management and executive responsibilities.) We established the Management Ethics Committee, chaired by the president, and other in-house committees to address key management concerns such as compliance, security, customer satisfaction, sustainability, and risk management and to promote transparent management and create a flexible, open corporate culture. These committees facilitate the sharing of information within the Group as well as deliberations and adjustments regarding the Group’s overall direction.

Tokyo Gas has adopted and established a highly objective and transparent governance systems to invite outside directors and Audit & Supervisory Board members to create multiple layers in its audit and supervisory functions.

■ System for Promoting Corporate Governance (as of June 27, 2019)



Enlarge

■ Overview of Corporate Governance System (as of June 27, 2019)

Number of directors	9	Participation of outside directors and outside Audit & Supervisory Board members in selecting director candidates	Yes
Average age of directors	61	Number of meetings of Board of Directors*1	12
Number of outside directors	4	Attendance rate of outside directors at meetings of Board of Directors*1	100%
Number of Audit & Supervisory Board members	5	Term of office of directors	One year
Number of outside Audit & Supervisory Board members	3	Performance-linked remuneration	Yes
Number of independent officers	7	Share purchase system to reflect the perspective of shareholders in management	Yes
Participation of outside directors / outside Audit & Supervisory Board members in determination of remuneration	Yes		

*1 Total for the period from April 2018 to March 2019

Compliance with Japan's Corporate Governance Code

Tokyo Gas has formulated the "Basic Policy on Corporate Governance" in compliance with Japan's Corporate Governance Code for listed companies. To achieve sustainable growth and increase its corporate value over the medium- to long-term, we will collaborate with our stakeholders, ensure appropriate information disclosure and transparency, and fulfill the commitment of the Board of Directors, and at the same time, we will pay due consideration to communicating and gaining the understanding of stakeholders including shareholders. Our response to each of the principles of Japan's Corporate Governance Code as of June 2019 is summarized below.

Principles		Location of Disclosure		
		Website	Basic Policy on Corporate Governance	Corporate Governance Report
Principle 1-4	Cross-Shareholdings		Article 20	●
Principle 1-7	Related Party Transactions		Article 21	●
Principle 2-6	Roles as an owner of corporate pension assets		Article 29	●
Principle 3-1 Full Disclosure	(1) Management Philosophy, strategies and medium- and long-term management plans	●		
	(2) Basic views and guidelines on corporate governance		Article 2	●
	(3) Policy and procedures for determining officer remuneration	●	Article 15	●
	(4) Policy and procedures for election (nomination) of officers		Article 6 Article 11	●
	(5) Reasons for election and nomination of individual officers	●		
Supplementary Principle 4-1-1	Scope of Matters Delegated to Management by the Board of Directors		Article 4	●
Principle 4-9	Independence Standards and Qualification for Independent Directors	●	Article 6	●
Supplementary Principle 4-11-1	View on the Board of Directors as a Whole		Article 4 Article 5 Article 6	●
Supplementary Principle 4-11-2	Concurrent Posts Held by Directors and Audit & Supervisory Board Members			●
Supplementary Principle 4-11-3	Analysis and Evaluation of Effectiveness of Board of Directors as a Whole		Article 8	●
Supplementary Principle 4-14-2	Policy for Training of Directors and Audit & Supervisory Board Members		Article 16	●
Principle 5-1	Policy for Constructive Dialogue with Shareholders		Article 19	●

Links

- Corporate Governance Report (PDF : 308KB)
- Basic Policy on Corporate Governance (PDF : 117KB)
- Integrated Report
- Independence Standards for Outside Officers (PDF : 59KB)
- Basic Policy on Officer Remuneration

Management Structure

Board of Directors

The management structure of Tokyo Gas is composed of the right number of directors to ensure speedy, effective decision-making. We have adopted an executive officer system and invited outside directors to serve on the Board of Directors to improve transparency while also reinforcing the execution and supervision of business operations. As of June 2019, the board had nine members, including four outside directors. Their respective terms of office are set at one year.

Officer Remuneration System

Our Basic Policy on Officer Remuneration clarifies the management responsibilities of officers in terms of Company performance and ensures objectivity and transparency in remuneration. To reflect shareholders' perspectives in management, all directors excluding outside directors are required to purchase Company stock every month and maintain ownership of this stock during the term of their service in accordance with the Guidelines for Stock Purchases.

Types of directors	Total value of remuneration (million yen)	Total value of remuneration by type (million yen)				
		Fixed remuneration (paid monthly)	Performance-linked remuneration (paid monthly)	Bonuses	Retirement allowance	Number of directors subject to remuneration
Directors (excluding outside directors)	368	253	59	56	-	8
Audit & Supervisory Board members (excluding outside members)	74	74	-	-	-	2
Outside directors	34	27	-	6	-	3
Outside Audit & Supervisory board members	33	33	-	-	-	4

Note 1: Figures above include payments to three directors and one outside Audit & Supervisory Board member who retired at the conclusion of the 218th Ordinary General Shareholder's Meeting.

Note 2: The total basic monthly salary for all directors, including outside directors, approved at the 205th Ordinary General Shareholder's Meeting, is to be a maximum of 50 million yen per month, and total bonuses for all directors approved at the 206th Ordinary General Shareholder's Meeting is to be a maximum of 90 million yen per year.

Note 3: The total basic monthly salary for all Audit & Supervisory Board members, including outside members, approved at the 190th Ordinary General Shareholder's Meeting, is to be a maximum of 12 million yen per month.

Executive Officer System

By adopting an executive officer system, we have delegated substantial authority over business operations in individual business departments to the corresponding executive officers and established clear lines of responsibility. Executive officers are assigned to ensure that Company decisions on business matters are executed quickly and reliably. These officers work to maximize Group value in accordance with policies determined by the Board of Directors. To ensure clear accountability, executive officers are appointed for terms of one year.

Advisory Committee

We have established the Advisory Committee, which comprises five members with outside members in the majority. These members are appointed by the chairman, president and Board of Directors. In response to inquiries from the Board of Directors, the committee deliberates on issues such as the appointment of officer candidates and officer remuneration, thus ensuring management transparency and objectivity.

Corporate Executive Meeting

The purpose of the Corporate Executive Meeting is to deliberate on measures pertaining to corporate management issues. It is composed of 12 executive officers with operational responsibilities. In addition, two full-time Audit & Supervisory Board members attend the committee meetings.

In-house Committees

Important management issues concerning the Company's overall policies require investigations, studies and arrangements spanning multiple business departments, subsidiaries or business domains, and to that end we have established cross-divisional in-house committees to enhance the consistency, effectiveness and cohesiveness of our policies. These committees are chaired either by an executive officer with operational responsibility or, in the case of the four most important committees responsible for ethics, safety, customer satisfaction, and sustainability, by the president. The matters considered by each committee are reported as necessary to the Corporate Executive Meeting.

Links

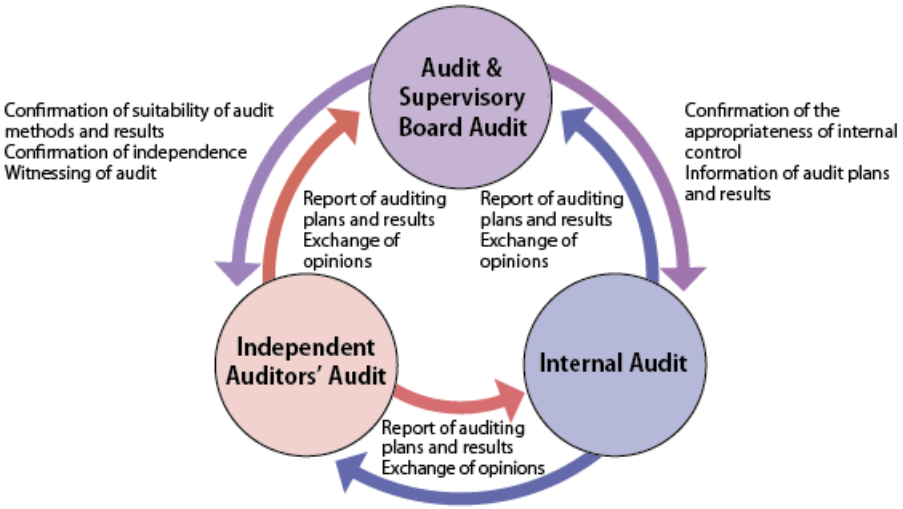
- Corporate Governance Report (PDF : 555KB)
- Basic Policy on Corporate Governance (PDF : 153KB)
- Independence Standards for Outside Officers (PDF : 59KB)

Audit Structure

Mutual Collaboration among the Audit & Supervisory Board Audit, Internal Audit, and Independent Auditors' Audit

In order to enhance the effectiveness of three-way auditing (Audit & Supervisory Board Audit, Internal Audit, and Independent Auditors' Audit) as well as to improve the quality of audits as a whole, Tokyo Gas strives to strengthen the mutual collaboration between each audit in areas such as the reporting of audit plans and results as well as exchanges of opinions and witnessing of audits, as shown in the diagram below.

■ Flow of Three-Way Auditing



Audit & Supervisory Board

The Audit & Supervisory Board consists of five members, including three outside auditors, and the Audit & Supervisory Board Office was established to provide support independent from business execution with five dedicated staff members (as of April 1, 2019). In line with the Corporate Auditor's Audit Standards, the members attend the Board of Directors, the Corporate Executive Committee, and other important meetings. They also state their opinions relating to legality and other perspectives as necessary, conduct research into the state of operations at the head office, major business offices, subsidiaries, and hold discussions with the Representative Director to exchange opinions on a regular or ad-hoc basis. The Audit & Supervisory Board members cooperate closely with the Internal Audit Department and independent auditors and strictly audit the execution of duties by the directors to enhance and strengthen high-quality corporate governance systems.

Internal Audit Department

Our company has established the Internal Audit Department as an internal audit body (with 38 assigned staff members as of April 1, 2019, including those in charge of operations in response to the Internal Control Reporting System) with a structure that can effectively implement specialized audits from the perspectives of accounting, operations, compliance, information systems, and risk management, among others.

Procedures and Status of Internal Audits

Internal audits are made of Tokyo Gas and its subsidiaries, which are completed over a three- to six-year cycle based on the annual audit resolved by the Board of Directors. The results of these audits are reported not only to the president, Corporate Executive Committee, Board of Directors, and Audit & Supervisory Board but also to the managers of all audited offices. Offices are required to submit their responses to recommendations arising from these audits, and progress on implementing these responses is followed up and reported to the Corporate Executive Committee the following year. In fiscal 2018, five divisions of Tokyo Gas and five subsidiaries were audited, four divisions and six subsidiaries were given follow-up audits, and issue-specific audits were conducted on the state of internal control at overseas subsidiaries.
In principle, the appropriateness of our internal audit procedures is assessed by external experts once every five years.

Collaboration on Audits within the Group

In the Tokyo Gas Group, Audit & Supervisory Board, Audit & Supervisory Board of subsidiaries, and the Internal Audit Department periodically exchange opinions. We have established a system that ensures efficient and effective audit activities across the Group through close ongoing coordination and liaison meetings. In fiscal 2018, we held four liaison meetings.

Internal Control

Internal Control System

To secure the soundness and transparency of our management and realize our management philosophy, Tokyo Gas has formulated the Basic Policy on Development of Corporate Structures and Systems for Ensuring Appropriateness of Operations (Internal Control System) for Tokyo Gas Group and is applying this policy in an appropriate manner.

Link

- Basic Policy on Development of Corporate Structures and Systems for Ensuring Appropriateness of Operations (Internal Control System) for Tokyo Gas Group (PDF : 240KB)

Compliance with the Internal Control Reporting System

To comply with the Internal Control Reporting System under the Financial Instruments and Exchange Act, Tokyo Gas follows the internal controls basic framework presented in Financial Services Agency standards, arranges and administers internal controls related to financial reporting, assesses their status and improves them as necessary. In the internal controls report for the previous fiscal year prepared under this system, which found our internal controls regarding financial reporting to be effective, the auditors expressed the opinion that all the material points were represented appropriately.

Risk Management

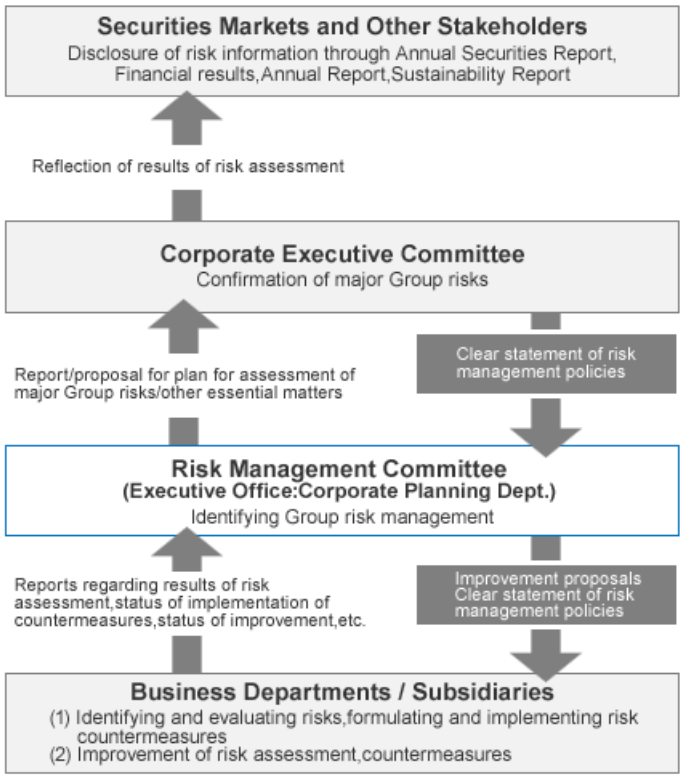
Business risks are becoming more diversified with the rapid social changes underway.
Tokyo Gas has established a risk management system to identify and minimize the impact of potential risks that could affect our business operations. Also, we are developing a crisis management system so that we can continue operations and quickly resume normal business activities even during unforeseen circumstances such as natural disasters and pandemics.

Risk Management System

Enterprise Risk Management System

Tokyo Gas has set up an enterprise risk management (ERM) system and identified major risks in its Risk Management Regulations.
The Risk Management Committee, established to advance our ERM, periodically checks on progress regarding the establishment and operational status of the ERM system, reports results to the Corporate Executive Committee and obtains the necessary approvals. Under this framework, around 150 risk management promotion officers are deployed in the business departments of Tokyo Gas and its subsidiaries to promote ERM. Each year, we assess risks and the implementation and improvement status of countermeasures. This system facilitates the steady implementation of the ERM-PDCA cycle.

■ Enterprise Risk Management System



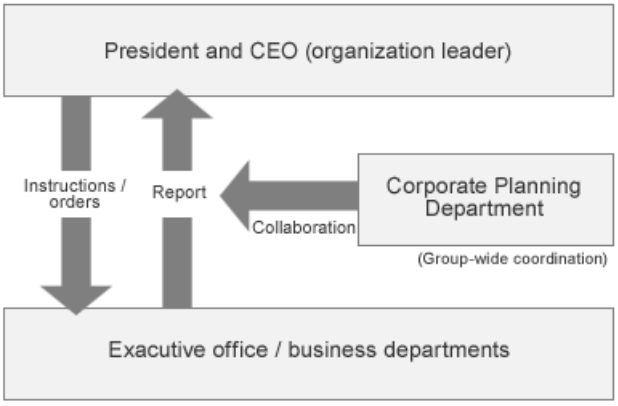
FY2019 Enterprise Risk (Risks of Businesses)

1. Risks associated with accidents, disasters, etc.
   (1) Gas resource procurement difficulties
   (2) Natural disasters
   (3) Accidents accompanying gas manufacture and supply, and supply impairments
   (4) Unforeseen, large-scale power outages
   (5) Problems in securing the safety of city gas and quality of gas appliances
   (6) Damage due to rumors caused by city gas accidents at other firms
2. Market fluctuation risk
   (1) Risk of changes in market prices and interest rates
3. Risks accompanying business execution
   (1) Risks related to existing businesses
      ① Decrease in demand due to intensified competition
      ② Changes in gas resource costs
      ③ Changes in laws, regulations, institutions, and national or local energy policies
      ④ Changes in gas sales due to climate change
      ⑤ Reduction in demand due to changes in the business environment
      ⑥ Interruption of telephone service at call centers
      ⑦ Delay in the development of new technologies
   (2) Risks associated with the development of overseas businesses
   (3) Delayed cultivation of new markets
   (4) Inability to recover investments
4. Risks related to information management and system operation
   (1) Leakage of personal information
   (2) Shutdown or malfunction of IT systems
   (3) Cyber-attacks
5. Risks related to corporate social responsibility
   (1) Compliance violations
   (2) Conformance with new environmental regulations etc.
   (3) Insufficient CS or customer service
   (4) Insufficient response to human rights issues

Crisis Management System

Since the Company provides public services that are essential lifelines, it has for many years also operated a crisis management system that serves as a response system in the event of an accident or other risk-related incidents. Specifically, we formulated the Emergency Response Regulations, with which the Emergency Response Organization will respond accordingly and immediately in the event of a crisis, including major natural disasters such as an earthquake, production or supply disruptions arising from major accidents at LNG terminals or gas pipelines, influenza outbreaks, terrorism, failures in mission-critical IT systems, and compliance problems.
The Company periodically conducts training on major risk response measures. We have also formulated a business continuity plan, which outlines how the Company will respond in the event of a major earthquake of the magnitude assumed by Japan's Cabinet Office, major accident disrupting gas supply, widespread power blackout, influenza outbreak, or large-scale mission-critical IT system stoppage. This plan is in place to reinforce our risk management system.

■ Emergency Response Organization



Note: The organization unit in charge of the executive office is determined in advance and in accordance with the type of emergency.

Promoting Risk Management

Provision of Risk Management Training

The Tokyo Gas Group provides training programs to promote risk management.
In fiscal 2018, we held training for Risk Management Promotion Officers and newly appointed general managers and managers (newly appointed mid-level managers) in each department of the Company, and for subsidiaries so that they could appropriately perform necessary risk management in their respective positions and enhance their risk management capabilities.

Escalation Rules

To further enhance a corporate and organizational culture that encourages appropriate responses to managing risks, we established our clearly defined Escalation Rules, which require that information on any apparent major risk, such as accidents and disasters, be reported to the appropriate supervisory staff in a timely and appropriate manner.

Disclosure of Incidents that Affected Our Stakeholders

The Tokyo Gas Group always makes its best effort to disclose, via the corporate website, information that includes issues and incidents which have raised concern among our customers or society at large.

Press Releases[*1]

- ▶ Defects and other problems with equipment sold under the Tokyo Gas brand
- ▶ Defects and other problems with gas appliances
- ▶ Loss of customer information and response to unauthorized access and other problems
- ▶ Gas and electricity charges
- ▶ Soil contamination
- ▶ Others

*1 Only in Japanese

GRI/Global Compact/ISO 26000 Content Index

GRI Content Index

- The Tokyo Gas Group Sustainability Report 2019 has been prepared in accordance with the GRI Standards: Core option.
- The data on the environment and human resources provided in the Tokyo Gas Group Sustainability Report have been third-party assured.

Link

▶ Third-Party Independent Assurance Report

GRI102: General Disclosures 2016 ●: Items that are required to disclose in the core option

Disclosure			Pages in 2019 Sustainability Report
1. Organizational profile			
●	102-1	Name of the organization	<Link> Corporate Profile
●	102-2	Activities, brands, products, and services	Enriching Daily Life <Link> Businesses
●	102-3	Location of headquarters	<Link> Corporate Profile
●	102-4	Location of operations	<Link> Locations
●	102-5	Ownership and legal form	<Link> Corporate Profile
●	102-6	Markets served	Stakeholder Engagement <Link> Corporate Profile INVESTORS' GUIDE [PDF : 7,227KB] P.6-15 (City Gas Business - Overseas Business) Tokyo Gas in Numbers
●	102-7	Scale of the organization	<Link> Corporate Profile INVESTORS' GUIDE [PDF : 7,227KB] P.6-15 (City Gas Business - Overseas Business) Tokyo Gas in Numbers

●	102-8	Information on employees and other workers	▸ Social Data ▸ Employment Outlook ▸ Action on Diversity
●	102-9	Supply chain	▸ LNG Value Chain and Key Initiatives Contributing to Sustainable Development <Link> ▸ INVESTORS' GUIDE [PDF : 7,876KB] P.4-5 (Gas Resource Data), P.10 (Major Facility Plans・Sales Data)
●	102-10	Significant changes to the organization and its supply chain	<Link> ▸ A Public Notice (only in Japanese)
●	102-11	Precautionary Principle or approach	▸ Risk Management System ▸ Promoting Risk Management ▸ Management of Chemical Substances ▸ Environmental Risk Management ▸ Climate Change Mitigation and Adaptation ▸ Managing Water Risk ▸ Combating Soil Pollution ▸ Environmental Data–Compliance with Local Government Ordinances on the Environment and Energy <Link> ▸ Risks of Businesses
●	102-12	External initiatives	UN Global Compact
●	102-13	Membership of associations	UN Global Compact The Japan Gas Association KEIDANREN (Japan Business Federation) Keidanren Committee on Nature Conservation The Tokyo Chamber of Commerce and Industry (TCCI) The Japanese Para-Sports Association ▸ An Official Partner of the Japanese Paralympic Committee in the Gas & Gas Utility Services category
2. Strategy			
●	102-14	Statement from senior decision-maker	▸ Top Commitment
	102-15	Key impacts, risks, and opportunities	▸ Top Commitment ▸ Perspective of CSR Management ▸ LNG Value Chain and Key Initiatives Contributing to Sustainable Development ▸ Tokyo Gas Group Business Activities and Material Balance ▸ Disclosure of Incidents that Affected Our Stakeholders ▸ Tokyo Gas Group's CSR at a Glance

			<Link> Tokyo Gas in Numbers
3. Ethics and integrity			
●	102-16	Values, principles, standards, and norms of behavior	Perspective of CSR Management Basic Stance on Respecting for Human Rights Promotion of Compliance -Basic Policies Thorough Implementation of Compliance Stakeholder Engagement Policy <Link> Management Philosophy / Our Code of Conduct
	102-17	Mechanisms for advice and concerns about ethics	Thorough Implementation of Compliance Respect for Human Rights <Link> Purchasing Inquiries
4. Governance			
●	102-18	Governance structure	Corporate Governance CSR Promotion System <Link> Corporate Governance Report [PDF : 347KB]
	102-19	Delegating authority	Corporate Governance CSR Promotion System Respect for Human Rights－Human Rights Promotion System Continual Improvement to the Environmental Management System Efforts to Enhance Customer Satisfaction Compliance Promotion Structure Action on Diversity－Basic Policy Structure for Promoting Occupational Safety and Health Information Security Promotion System
	102-20	Executive-level responsibility for economic, environmental, and social topics	Corporate Governance CSR Promotion System Respect for Human Rights－Human Rights Promotion System Continual Improvement to the Environmental Management System Efforts to Enhance Customer Satisfaction Compliance Promotion Structure Structure for Promoting Occupational Safety and Health Information Security Promotion System
	102-21	Consulting stakeholders on economic, environmental, and social topics	Corporate Governance Stakeholder Engagement CSR Promotion System

			▸ Continual Improvement to the Environmental Management System ▸ Efforts to Enhance Customer Satisfaction ▸ Proactive Information Disclosure to Customers ▸ Dialogue with Shareholders and Investors ▸ Compliance Promotion Structure ▸ Structure for Promoting Occupational Safety and Health ▸ Respect for Human Rights－Human Rights Promotion System ▸ Information Security Promotion System
	102-22	Composition of the highest governance body and its committees	▸ Corporate Governance ▸ Governance Data–Membership of the Board of Directors, Advisory Committee, Audit & Supervisory Board, and Corporate Executive Meeting
	102-23	Chair of the highest governance body	▸ Corporate Governance <Link> ▸ Corporate Governance Report [PDF : 347KB] P.1 (1. Basic Views on Corporate Governance, Capital Structure, Corporate Attributes and Other Basic Information)
	102-24	Nominating and selecting the highest governance body	▸ Corporate Governance ▸ Management Structure <Links> ▸ Corporate Governance Report [PDF : 347KB] P.2 ((4) Policy on procedures for election (nomination) of Officers) ▸ Independence Standards for Outside Officers [PDF : 59KB]
	102-25	Conflicts of interest	▸ Corporate Governance ▸ Management Structure ▸ Audit Structure ▸ Internal Control ▸ Compliance Promotion Structure
	102-26	Role of highest governance body in setting purpose, values, and strategy	▸ Corporate Governance ▸ Management Structure ▸ CSR Promotion System ▸ Environmental Management Promotion System ▸ Continual Improvement to the Environmental Management System ▸ Efforts to Enhance Customer Satisfaction ▸ Compliance Promotion Structure ▸ Structure for Promoting Occupational Safety and Health ▸ Respect for Human Rights－Human Rights Promotion System
	102-27	Collective knowledge of highest governance body	▸ Corporate Governance

			▸ Management Structure ▸ Audit Structure ▸ Internal Control ▸ Risk Management ▸ CSR Promotion System ▸ Our Approach to CSR
	102-28	Evaluating the highest governance body's performance	▸ Corporate Governance ▸ CSR Promotion System ▸ Efforts to Enhance Customer Satisfaction ▸ Environmental Management Promotion System ▸ Continual Improvement to the Environmental Management System ▸ Thorough Implementation of Compliance ▸ Structure for Promoting Occupational Safety and Health ▸ Respect for Human Rights－Human Rights Promotion System ▸ Information Security Promotion System
	102-29	Identifying and managing economic, environmental, and social impacts	▸ Corporate Governance ▸ CSR Promotion System ▸ Stakeholder Engagement Policy ▸ Efforts to Enhance Customer Satisfaction ▸ Environmental Management Promotion System ▸ Continual Improvement to the Environmental Management System ▸ Thorough Implementation of Compliance ▸ Structure for Promoting Occupational Safety and Health ▸ Respect for Human Rights－Human Rights Promotion System ▸ Information Security Promotion System
	102-30	Effectiveness of risk management processes	▸ Corporate Governance ▸ Risk Management
	102-31	Review of economic, environmental, and social topics	-
	102-32	Highest governance body's role in sustainability reporting	▸ CSR Promotion System ▸ Identifying Materiality
	102-33	Communicating critical concerns	▸ Corporate Governance ▸ Thorough Implementation of Compliance
	102-34	Nature and total number of critical concerns	▸ Thorough Implementation of Compliance
	102-35	Remuneration policies	▸ Management Structure <Links> ▸ Directors Remuneration Relationship ▸ Corporate Governance Report [PDF : 347KB] P.2

			((4) Policy on procedures for election (nomination) of Officers)
	102-36	Process for determining remuneration	<Links> ▸ Directors Remuneration Relationship ▸ Corporate Governance Report [PDF : 347KB] P.2 ((4) Policy on procedures for election (nomination) of Officers)
	102-37	Stakeholders' involvement in remuneration	-
	102-38	Annual total compensation ratio	-
	102-39	Percentage increase in annual total compensation ratio	-
5. Stakeholder engagement			
●	102-40	List of stakeholder groups	▸ Perspective of CSR Management ▸ Stakeholder Engagement
●	102-41	Collective bargaining agreements	▸ Building Positive Labor-Management Relations through Active Communication ▸ Social Data–Overview of Employees
●	102-42	Identifying and selecting stakeholders	▸ Perspective of CSR Management ▸ Identifying Materiality ▸ Stakeholder Engagement
●	102-43	Approach to stakeholder engagement	▸ Perspective of CSR Management ▸ Stakeholder Engagement ▸ Efforts to Enhance Customer Satisfaction ▸ Proactive Information Disclosure to Customers ▸ Dialogue with Shareholders and Investors
●	102-44	Key topics and concerns raised	▸ Efforts to Enhance Customer Satisfaction ▸ Identifying Materiality ▸ Stakeholder Engagement ▸ Questionnaire Results and Highlights of Feedback
6. Reporting practice			
●	102-45	Entities included in the consolidated financial statements	<Link> ▸ Major Group Companies
●	102-46	Defining report content and topic Boundaries	▸ Identifying Materiality ▸ Editorial Policy
●	102-47	List of material topics	▸ Identifying Materiality
●	102-48	Restatements of information	Not applicable
●	102-49	Changes in reporting	Not applicable
●	102-50	Reporting period	▸ Editorial Policy
●	102-51	Date of most recent report	▸ Editorial Policy

●	102-52	Reporting cycle	▸ Editorial Policy
●	102-53	Contact point for questions regarding the report	<Link> ▸ Contact Us
●	102-54	Claims of reporting in accordance with the GRI Standards	In accordance with the GRI Standards: Core option
●	102-55	GRI content index	GRI Content Index
●	102-56	External assurance	▸ Third-Party Independent Assurance Report

GRI103: Management Approach 2016

		Disclosure	Pages in 2019 Sustainability Report
	103: Management Approach 2016		
	103-1	Explanation of the material topic and its Boundary	▸ Identifying Materiality
	103-2	The management approach and its components	▸ Perspective of CSR Management ▸ Strategic Initiatives: Targets and Outcomes ▸ Fundamental Issues: Targets and Outcomes ▸ Safety Management System ▸ Efforts to Enhance Customer Satisfaction ▸ Tokyo Gas Group's Community-based Service System ▸ Environmental Management Promotion System ▸ Continual Improvement to the Environmental Management System ▸ Promotion of Compliance－Basic Policy ▸ Thorough Implementation of Compliance
	103-3	Evaluation of the management approach	▸ CSR Promotion System ▸ CSR Management PDCA Cycle ▸ Strategic Initiatives: Targets and Outcomes ▸ Promotion of Compliance－Basic Policy ▸ Thorough Implementation of Compliance ▸ Fundamental Issues: Targets and Outcomes

GRI200: Economic topics ○: Items that are identified as material aspects

		Disclosure	Pages in 2019 Sustainability Report
	GRI-201: Economic Performance		
	201-1	Direct economic value generated and distributed	<Link> ▸ INVESTORS' GUIDE [PDF : 7,227KB] P.2-3 (Challenge 2020 Vision / GPS2020 : Numerical Targets), P.16 (Personnel Data), P.22-23 (Financial Data〈Performance Indicators〉), P.30-31 (Statements of Income (Consolidated; for 10 years))

	201-2	Financial implications and other risks and opportunities due to climate change	▸ Environmental Risk Management ▸ Risk Management ▸ Climate Change Mitigation and Adaptation ▸ Challenge for the Future Society ▸ Realizing a Decarbonized Society <Link> ▸ Risks of Businesses
	201-3	Defined benefit plan obligations and other retirement plans	-
	201-4	Financial assistance received from government	-
	GRI-202: Market Presence		
	202-1	Ratios of standard entry level wage by gender compared to local minimum wage	-
	202-2	Proportion of senior management hired from the local community	-
	GRI-203: Indirect Economic Impacts		
	203-1	Infrastructure investments and services supported	▸ Benefits of LNG as Feedstock for City Gas ▸ Stable Production of City Gas and Stringent Quality Control ▸ Stable Procurement of LNG ▸ Overseas Business ▸ Production of City Gas ▸ Development of the Electric Power Business ▸ Supply of City Gas ▸ Constructing a Robust Energy Platform　Earthquake and Disaster Preparedness ▸ Technical Development　Earthquake and Disaster Preparedness ▸ Stable Supply of Energy ▸ Working to Ensure Customer Safety ▸ Enhancing the Safety of Gas Appliances ▸ Efforts to Enhance Customer Satisfaction ▸ Lifestyle Services ▸ Comfortable and Secure Living ▸ Contribution to Local Communities ▸ Initiatives for the Tokyo 2020 Games ▸ Working with the International Community ▸ Urban Development <Link> ▸ INVESTORS' GUIDE [PDF : 7,876KB] P.6-15 (City Gas Business - Overseas Business)
	203-2	Significant indirect economic impacts	-
	GRI-204: Procurement Practices		
	204-1	Proportion of spending on local suppliers	-

	GRI-205: Anti-corruption		
	205-1	Operations assessed for risks related to corruption	▸ Prevention of Bribery and Corruption
	205-2	Communication and training about anti-corruption policies and procedures	▸ Compliance Promotion Structure ▸ Compliance Practices ▸ Prevention of Bribery and Corruption ▸ Verification and Audit of Penetration of Compliance
	205-3	Confirmed incidents of corruption and actions taken	No incidents
	GRI-206: Anti-competitive Behavior		
	206-1	Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	No legal actions

GRI300: Environmental topics ○: Items that are identified as material aspects

		Disclosure	Pages in 2019 Sustainability Report
	GRI-301: Materials 2016		
	301-1	Materials used by weight or volume	▸ Environmental Data–Tokyo Gas Group Business Activities and Material Balance
	301-2	Recycled input materials used	▸ Strategic Initiatives: Targets and Outcomes ▸ Promoting the 3Rs ▸ Environmental Data–Tokyo Gas Group Business Activities and Material Balance
	301-3	Reclaimed products and their packaging materials	▸ Strategic Initiatives: Targets and Outcomes ▸ Dealing with Waste at Customer Sites ▸ Environmental Data–Tokyo Gas Group Business Activities and Material Balance ▸ Environmental Data–(2) Waste
○	GRI-302: Energy 2016		
	302-1	Energy consumption within the organization	▸ Strategic Initiatives: Targets and Outcomes ▸ Environmental Data–Tokyo Gas Group Business Activities and Material Balance ▸ Environmental Data–(1) Use of Energy and Water/Emissions into the Atmosphere and Water System
	302-2	Energy consumption outside of the organization	▸ Environmental Data–Tokyo Gas Group Business Activities and Material Balance ▸ Environmental Data–(1) Use of Energy and Water/Emissions into the Atmosphere and Water System
	302-3	Energy intensity	▸ Strategic Initiatives: Targets and Outcomes ▸ Environmental Data–(1) Use of Energy and Water/Emissions into the Atmosphere and Water System
	302-4	Reduction of energy consumption	▸ Addressing Climate Change ▸ Technological Innovation of Gas-based CHP Systems ▸ Environmental Data–Tokyo Gas Group Business

			Activities and Material Balance Environmental Data–(1) Use of Energy and Water/Emissions into the Atmosphere and Water System
	302-5	Reductions in energy requirements of products and services	Reduction of CO_2 Emissions at Customer Sites Technological Innovation of Gas-based CHP Systems Development and Promotion of Air Conditioning Systems Environmental Data–Tokyo Gas Group Business Activities and Material Balance Environmental Data–(1) Use of Energy and Water/Emissions into the Atmosphere and Water System
	GRI-303: Water and effluents 2018		
	303-1	Interactions with water as a shared resource	Managing Water Risk
	303-2	Management of water discharge-related impacts	Managing Water Risk
	303-3	Water withdrawal	Environmental Data－(1) Use of Energy and Water/Emissions into the Atmosphere and Water System
	303-4	Water discharge	-
	303-5	Water consumption	Environmental Data－(1) Use of Energy and Water/Emissions into the Atmosphere and Water System Managing Water Risk
○	GRI-304: Biodiversity 2016		
	304-1	Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	Efforts for Biodiversity Conservation Measures in Our LNG Value Chain Biodiversity Activities with Our Customers and Local Communities
	304-2	Significant impacts of activities, products, and services on biodiversity	Efforts for Biodiversity Conservation Measures in Our LNG Value Chain Biodiversity Activities with Our Customers and Local Communities
	304-3	Habitats protected or restored	Measures in Our LNG Value Chain Biodiversity Activities with Our Customers and Local Communities
	304-4	IUCN Red List species and national conservation list species with habitats in areas affected by operations	Measures in Our LNG Value Chain
○	305 : GRI-305: Emissions 2016		
	305-1	Direct (Scope 1) GHG emissions	Addressing Climate Change Environmental Data–Tokyo Gas Group Business Activities and Material Balance Environmental Data–(1) Use of Energy and Water/Emissions into the Atmosphere and Water System

	305-2	Energy indirect (Scope 2) GHG emissions	▸ Addressing Climate Change ▸ Environmental Data–Tokyo Gas Group Business Activities and Material Balance ▸ Environmental Data–(1) Use of Energy and Water/Emissions into the Atmosphere and Water System
	305-3	Other indirect (Scope 3) GHG emissions	▸ Addressing Climate Change ▸ Reducing the Transportation Carbon Footprint ▸ Environmental Data–Tokyo Gas Group Business Activities and Material Balance ▸ Environmental Data–(1) Use of Energy and Water/Emissions into the Atmosphere and Water System
	305-4	GHG emissions intensity	▸ Environmental Data–Tokyo Gas Group Business Activities and Material Balance ▸ Environmental Data–Conversion Factor, etc. ▸ Environmental Data－Assessment of CO_2 Emissions Reduction due to Reductions in Purchased Electricity
	305-5	Reduction of GHG emissions	▸ Addressing Climate Change ▸ Best Practices to Reduce CO_2 Emissions with Our Stakeholders ▸ Environmental Data–Tokyo Gas Group Business Activities and Material Balance
	305-6	Emissions of ozone-depleting substances (ODS)	▸ Management of Chemical Substances
	305-7	Nitrogen oxides (NOX), sulfur oxides (SOX), and other significant air emissions	▸ Environmental Data－Tokyo Gas Group Business Activities and Material Balance ▸ Production of City Gas ▸ Environmental Data－(1) Use of Energy and Water/Emissions into the Atmosphere and Water System
○	GRI-306: Effluents and Waste 2016		
	306-1	Water discharge by quality and destination	▸ Environmental Data–Tokyo Gas Group Business Activities and Material Balance ▸ Environmental Data–(1) Use of Energy and Water/Emissions into the Atmosphere and Water System
	306-2	Waste by type and disposal method	▸ Environmental Data–Tokyo Gas Group Business Activities and Material Balance ▸ Environmental Data–(2) Waste ▸ Promotion of a Circular Economy
	306-3	Significant spills	▸ Combating Soil Pollution
	306-4	Transport of hazardous waste	▸ Management of Chemical Substances
	306-5	Water bodies affected by water discharges and/or runoff	▸ Managing Water Risk ▸ Efforts for Biodiversity Conservation ▸ Promotion of Biodiversity Conservation－Measures in Our LNG Value Chain

	GRI-307: Environmental Compliance 2016		
	307-1	Non-compliance with environmental laws and regulations	▸ Continual Improvement to the Environmental Management System
	GRI-308: Supplier Environmental Assessment 2016		
	308-1	New suppliers that were screened using environmental criteria	-
	308-2	Negative environmental impacts in the supply chain and actions taken	▸ LNG Value Chain and Key Initiatives Contributing to Sustainable Development ▸ Stakeholder Engagement

GRI400: Social topics ○: Items that are identified as material aspects

		Disclosure	Pages in 2019 Sustainability Report
○	GRI-401: Employment 2016		
	401-1	New employee hires and employee turnover	▸ Employment Outlook ▸ Communicating with Employees ▸ Social Data–Overview of Employees
	401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	▸ Action on Diversity ▸ Social Data–Overview of Employees
	401-3	Parental leave	▸ Active Training and Elevation of Women ▸ Supportive Environment for Balancing Work and Childcare or Nursing Care ▸ Social Data–Overview of Employees
	GRI-402: Labor/Management Relations 2016		
	402-1	Minimum notice periods regarding operational changes	-
○	GRI-403: Occupational Health and Safety 2018		
	403-1	Occupational health and safety management system	▸ Engaging in Occupational Safety and Health
	403-2	Hazard identification, risk assessment, and incident investigation	▸ Industrial Accident Prevention
	403-3	Occupational health services	▸ Engaging in Occupational Safety and Health
	403-4	Worker participation, consultation, and communication on occupational health and safety	▸ Building Positive Labor-Management Relations through Active Communication ▸ Industrial Accident Prevention
	403-5	Worker training on occupational health and safety	▸ Industrial Accident Prevention
	403-6	Promotion of worker health	▸ Maintaining and Improving Health
	403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	▸ Industrial Accident Prevention ▸ Maintaining and Improving Health
	403-8	Workers covered by an occupational health and safety management system	-

	403-9	Work-related injuries	▸ Social Data-Implementation of Occupational Safety and Health Education Programs ▸ Social Data-Overview of Accidents and Injuries
	403-10	Work-related ill health	-
○	GRI-404: Training and Education 2016		
	404-1	Average hours of training per year per employee	▸ Social Data–Overview of Employees
	404-2	Programs for upgrading employee skills and transition assistance programs	▸ Development of the Human Resources System ▸ Education and Training System ▸ Transfers and Job Rotations ▸ Action on Diversity
	404-3	Percentage of employees receiving regular performance and career development reviews	▸ Personnel Programs and Appraisal System
○	GRI-405: Diversity and Equal Opportunity 2016		
	405-1	Diversity of governance bodies and employees	▸ Active Training and Elevation of Women ▸ Supporting Career Development for Employees in their 50s ▸ Employment of Persons with Disabilities ▸ Prohibiting LGBT Discrimination ▸ Social Data–Overview of Employees
	405-2	Ratio of basic salary and remuneration of women to men	-
	GRI-406: Non-discrimination 2016		
	406-1	Incidents of discrimination and corrective actions taken	▸ Respect for Human Rights
	GRI-407: Freedom of Association and Collective Bargaining 2016		
	407-1	Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	▸ Respect for Human Rights ▸ Purchasing Guidelines for Suppliers ▸ Building Positive Labor-Management Relations through Active Communication ▸ Communication with Our Suppliers ▸ Supplier Survey
	GRI-408: Child Labor 2016		
	408-1	Operations and suppliers at significant risk for incidents of child labor	▸ Respect for Human Rights ▸ Supply Chain Management ▸ Communication with Our Suppliers ▸ Supplier Survey
	GRI-409: Forced or Compulsory Labor 2016		
	409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labor	▸ Respect for Human Rights－Human Rights Promotion System ▸ Supply Chain Management ▸ Communication with Our Suppliers ▸ Supplier Survey

	GRI-410: Security Practices 2016		
	410-1	Security personnel trained in human rights policies or procedures	-
	GRI-411: Rights of Indigenous Peoples 2016		
	411-1	Incidents of violations involving rights of indigenous peoples	-
○	GRI-412: Human Rights Assessment 2016		
	412-1	Operations that have been subject to human rights reviews or impact assessments	-
	412-2	Employee training on human rights policies or procedures	▸ Respect for Human Rights－Human Rights Promotion System ▸ Respect for Human Rights－Initiatives on Respecting Human Rights
	412-3	Significant investment agreements and contracts that include human rights clauses or that underwent human rights screening	-
○	GRI-413: Local Communities 2016		
	413-1	Operations with local community engagement, impact assessments, and development programs	▸ Stakeholder Engagement ▸ Fundamental Issues: Targets and Outcomes ▸ Concept of Social Action Programs ▸ Contribution to Local Communities ▸ Initiatives for the Tokyo 2020 Games ▸ Building Communities and a Way of Life that Is Safe and Secure ▸ Building a Society and a Way of Life that Is Good for the Environment ▸ Enriching Our Life and Culture ▸ Support for Employee Volunteer Activities
	413-2	Operations with significant actual and potential negative impacts on local communities	▸ Management of Chemical Substances ▸ Climate Change Mitigation and Adaptation ▸ Managing Water Risk ▸ Combating Soil Pollution ▸ Efforts for Biodiversity Conservation ▸ Measures in Our LNG Value Chain
	GRI-414: Supplier Social Assessment 2016		
	414-1	New suppliers that were screened using social criteria	-
	414-2	Negative social impacts in the supply chain and actions taken	▸ LNG Value Chain and Key Initiatives Contributing to Sustainable Development ▸ Stakeholder Engagement ▸ Supply Chain Management ▸ Communication with Our Suppliers ▸ Supplier Survey

	GRI-415: Public Policy 2016		
	415-1	Political contributions	We do not make political contribution.
○	GRI-416: Customer Health and Safety 2016		
	416-1	Assessment of the health and safety impacts of product and service categories	▸ Launch of Voluntary Action Plan on Product Safety ▸ Improvements for Safer, User-friendly Gas Appliances ▸ Promoting Switchover to Safer Appliances ▸ Constructing a Robust Energy Platform　Earthquake and Disaster Preparedness ▸ Technical Development　Earthquake and Disaster Preparedness
	416-2	Incidents of non-compliance concerning the health and safety impacts of products and services	▸ Disclosure of Incidents that Affected Our Stakeholders
	GRI-417: Marketing and Labeling 2016		
	417-1	Requirements for product and service information and labeling	▸ Proactive Information Disclosure to Customers
	417-2	Incidents of non-compliance concerning product and service information and labeling	-
	417-3	Incidents of non-compliance concerning marketing communications	No incidents
○	GRI-418: Customer Privacy 2016		
	418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	▸ Disclosure of Incidents that Affected Our Stakeholders
	GRI-419: Socioeconomic Compliance 2016		
	419-1	Non-compliance with laws and regulations in the social and economic area	No violation of laws and regulations

Global Compact Content Index

The Ten Principles of UN Global Compact		Pages in 2019 Sustainability Report
Human Rights	Principle One: Businesses should support and respect the protection of internationally proclaimed human rights.	Special Feature - We Can Create an Inclusive Society If We All Offer a Helping Hand and Heart Tokyo Gas Group's CSR Management - Perspective of CSR Management - CSR Activities and Materiality Sound Stakeholder Relationships - Respect for Human Rights
	Principle Two: Businesses should make sure that they are not complicit in human rights abuses.	Achieving Our Public Mission as an Energy Company - Supply Chain Management Promotion of Compliance - Basic Policy - Thorough Implementation of Compliance CSR Data - Training and Consultation on Human Rights and Compliance
Labour	Principle Three: Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining.	- Tokyo Gas Group's CSR at a Glance Tokyo Gas Group's CSR Management - CSR Activities and Materiality - Stakeholder Engagement Creating a Lively Organization - Basic Policy - Employment Outlook
	Principle Four: Businesses should uphold the elimination of all forms of forced and compulsory labour.	- Personnel Programs and Appraisal System - Personnel and Career Development - Action on Diversity - Engaging in Occupational Safety and Health - Communicating with Employees Sound Stakeholder Relationships - Respect for Human Rights
	Principle Five: Businesses should uphold the effective abolition of child labour.	Achieving Our Public Mission as an Energy Company - Supply Chain Management Promotion of Compliance - Basic Policy - Thorough Implementation of Compliance
	Principle Six: Businesses should uphold the elimination of discrimination in respect of employment and occupation.	

		CSR Data ▸ Social Data ▸ Governance Data－Training and Consultation on Human Rights and Compliance
Environment	Principle Seven: Businesses should support a precautionary approach to environmental challenges.	Special Feature ▸ Contributing to a Sustainable Society with 50 Years of LNG Supply Technology Tokyo Gas Group's CSR at a Glance ▸ Environmental Protection Decarbonization through Energy Supply ▸ Basic Policy ▸ CSR KPIs and Fiscal 2018 Outcomes－Strategic Initiatives: Targets and Outcomes ▸ Environmental Management
	Principle Eight: Businesses should undertake initiatives to promote greater environmental responsibility.	▸ Climate Change Countermeasures Addressing Climate Change Reduction of CO_2 Emissions at Customer Sites Energy Savings and Reduction of CO_2 Emissions in Business Operations ▸ Promotion of a Circular Economy ▸ Promotion of Biodiversity Conservation Technical Development ▸ Realizing a Decarbonized Society ▸ Challenge for the Future Society ▸ Comfortable and Secure Living
	Principle Nine: Businesses should encourage the development and diffusion of environmentally friendly technologies.	Sound Stakeholder Relationships ▸ Contribution to Local Communities Constructing a Robust Energy Platform ▸ Urban Development ▸ Enriching Daily Life Achieving Our Public Mission as an Energy Company ▸ Supply Chain Management
Anti-Corruption	Principle Ten: Businesses should work against corruption in all its forms, including extortion and bribery.	Tokyo Gas Group's CSR Management ▸ Perspective of CSR Management ▸ CSR Activities and Materiality Achieving Our Public Mission as an Energy Company ▸ Supply Chain Management Promotion of Compliance ▸ Basic Policy ▸ Thorough Implementation of Compliance

ISO 26000 Content Index

ISO26000		Pages in 2019 Sustainability Report
Guidance on social responsibility core subjects	**Issue**	
Organizational governance	Organizational governance	Corporate Governance ▸ Corporate Governance Tokyo Gas Group's CSR Management ▸ Our Approach to CSR
Human rights	Issue 1: Due diligence Issue 2: Human rights risk situations Issue 3: Avoidance of complicity Issue 4: Resolving grievances Issue 5: Discrimination and vulnerable groups Issue 6: Civil and political rights Issue 7: Economic, social and cultural rights Issue 8: Fundamental principles and rights at work	Tokyo Gas Group's CSR Management ▸ Our Approach to CSR ▸ Stakeholder Engagement Decarbonization through Energy Supply ▸ Environmental Management ▸ Promotion of Biodiversity Conservation Sound Stakeholder Relationships ▸ Contribution to Local Communities ▸ Respect for Human Rights Promotion of Compliance ▸ Basic Policy ▸ Thorough Implementation of Compliance Creating a Lively Organization ▸ Basic Policy ▸ Employment Outlook ▸ Personnel Programs and Appraisal System ▸ Personnel and Career Development ▸ Action on Diversity ▸ Engaging in Occupational Safety and Health ▸ Communicating with Employees Achieving Our Public Mission as an Energy Company ▸ Supply Chain Management CSR Data ▸ Social Data
Labour practices	Issue 1: Employment and employment relationships Issue 2: Conditions of work and social protection Issue 3: Social dialogue	Tokyo Gas Group's CSR Management ▸ Stakeholder Engagement Sound Stakeholder Relationships ▸ Respect for Human Rights

	Issue 4: Health and safety at work Issue 5: Human development and training in the workplace	Promotion of Compliance ▸ Basic Policy Achieving Our Public Mission as an Energy Company ▸ Information Security Management Creating a Lively Organization ▸ Basic Policy ▸ Employment Outlook ▸ Personnel Programs and Appraisal System ▸ Action on Diversity ▸ Engaging in Occupational Safety and Health ▸ Communicating with Employees Achieving Our Public Mission as an Energy Company ▸ Supply Chain Management CSR Data ▸ Social Data
The environment	Issue 1: Prevention of pollution Issue 2: Sustainable resource use Issue 3: Climate change mitigation and adaptation Issue 4: Protection of the environment, biodiversity and restoration of natural habitats	Tokyo Gas Group's CSR Management ▸ CSR KPIs and Fiscal 2018 Outcomes – Strategic Initiatives: Targets and Outcomes Decarbonization through Energy Supply ▸ Environmental Management ▸ Climate Change Countermeasures Addressing Climate Change Energy Savings and Reduction of CO_2 Emissions in Business Operations ▸ Measures at the City Gas Production and Supply Stages ▸ Promotion of a Circular Economy ▸ Promotion of Biodiversity Conservation CSR Data ▸ Environmental Data
Fair operating practices	Issue 1: Anti-corruption Issue 2 : Responsible political involvement Issue 3: Fair competition Issue 4: Promoting social responsibility in the value chain Issue 5: Respect for property rights	Tokyo Gas Group's CSR Management ▸ LNG Value Chain and Key Initiatives Contributing to Sustainable Development Tokyo Gas Group's CSR Management ▸ Perspective of CSR Management ▸ Stakeholder Engagement Decarbonization through Energy Supply ▸ Climate Change Countermeasures Reduction of CO_2 Emissions at Customer

		Sites ▸ Reducing the Transportation Carbon Footprint ▸ Promotion of a Circular Economy ▸ Promotion of Biodiversity Conservation Promotion of Compliance ▸ Basic Policy ▸ Thorough Implementation of Compliance Achieving Our Public Mission as an Energy Company ▸ Supply Chain Management ▸ Disclosure of Incidents that Affected Our Stakeholders
Consumer issues	Issue 1: Fair marketing, factual and unbiased information and fair contractual practices Issue 2: Protecting consumers' health and safety Issue 3: Sustainable consumption Issue 4: Consumer service, support, and complaint and dispute resolution Issue 5: Consumer data protection and privacy Issue 6: Access to essential services Issue 7: Education and awareness	Constructing a Robust Energy Platform ▸ Earthquake and Disaster Preparedness Technical Development ▸ Earthquake and Disaster Preparedness Constructing a Robust Energy Platform ▸ Enhancing the Safety of Gas Appliances Sound Stakeholder Relationships ▸ Efforts to Enhance Customer Satisfaction Achieving Our Public Mission as an Energy Company ▸ Proactive Information Disclosure to Customers Tokyo Gas Group's CSR Management ▸ CSR KPIs and Fiscal 2018 Outcomes－Strategic Initiatives: Targets and Outcomes Decarbonization through Energy Supply ▸ Climate Change Countermeasures Addressing Climate Change Reduction of CO_2 Emissions at Customer Sites ▸ Reduction of CO_2 Emissions at Customer Sites ▸ Expanding the Use of Highly Efficient Residential Gas Appliances and Systems Technical Development ▸ Realizing a Decarbonized Society Decarbonization through Energy Supply Reduction of CO_2 Emissions at Customer Sites ▸ Best Practices of Smart Networks

		▸ Reducing the Transportation Carbon Footprint ▸ Energy Saving Life with Stakeholders ▸ Promotion of a Circular Economy Technical Development ▸ Realizing a Decarbonized Society ▸ Challenge for the Future Society Sound Stakeholder Relationships ▸ Contribution to Local Communities Achieving Our Public Mission as an Energy Company ▸ Information Security Management CSR Data ▸ Environmental Data ▸ Disclosure of Incidents that Affected Our Stakeholders
Community involvement and development	Issue 1: Community involvement Issue 2: Education and culture Issue 3: Employment creation and skills development Issue 4: Technology development and access Issue 5: Wealth and income creation Issue 6: Health Issue 7: Social investment	Tokyo Gas Group's CSR Management ▸ Perspective of CSR Management ▸ Stakeholder Engagement Constructing a Robust Energy Platform ▸ Earthquake and Disaster Preparedness Technical Development ▸ Earthquake and Disaster Preparedness Constructing a Robust Energy Platform ▸ Enhancing the Safety of Gas Appliances Technical Development ▸ Realizing a Decarbonized Society ▸ Challenge for the Future Society Sound Stakeholder Relationships ▸ Contribution to Local Communities Constructing a Robust Energy Platform ▸ Urban Development Sound Stakeholder Relationships ▸ Respect for Human Rights Promotion of Compliance ▸ Thorough Implementation of Compliance

		Creating a Lively Organization - Basic Policy - Employment Outlook - Personnel Programs and Appraisal System - Personnel and Career Development - Action on Diversity - Engaging in Occupational Safety and Health - Communicating with Employees Achieving Our Public Mission as an Energy Company - Supply Chain Management - Disclosure of Incidents that Affected Our Stakeholders

Glossary

A

Aging pipelines	Gas pipelines under roads and customer sites that may have become corroded or otherwise degraded over time and must be replaced or repaired.

B

Ballast water	Water pumped aboard a ship to assist in maintaining its balance when it is sailing with a small load and could become unstable. The seawater at ports of call is often used as ballast water, and the aquatic organisms it contains may become invasive and adversely affect ecosystems when discharged in other locations.
BCP	Business Continuity Plan. Documented preparations by a company for an emergency, such as a natural disaster, major fire or terrorist attack. These plans describe actions to be taken under normal conditions, and the means, methods and other arrangements to be implemented during emergencies to ensure the continuation of business while minimizing loss or damage to operating assets, and maintaining or immediately restoring core operations.
BELS	Building-Housing Energy-efficiency Labeling System. A system in which third-party evaluation agencies assess and certify new and older buildings for their energy-saving performance.
Biomass	Organic matter other than fossil resources derived from renewable sources such as waste wood and kitchen waste. Biomass is expected to contribute to the reduction of CO_2 emissions by replacing fossil energy.

C

Carbon offsets	Credit for reduction in emissions of greenhouse gases achieved by one source purchased to offset emissions from other sources such as human and economic activities that cannot be otherwise reduced; may include planting trees, protecting forests or producing clean energy (purchased emission rights).
CASBEE	Comprehensive Assessment System for Built Environment Efficiency. Buildings are assessed on the basis of their environmental performance and assigned a rating on a five-point scale.
Coastal carrier	A ship that operates between domestic ports.
Combined heat and power (CHP) system	Distributed energy system that generates electricity through various means, including engines, turbines and fuel cells, fueled by natural gas and other fuels, and using exhaust heat to simultaneously generate steam and hot water. This environmentally sound system diversifies power sources and saves electricity.

Cryogenic power generation	LNG is a liquid at -162°C, and 1 kg of LNG has the cryogenic energy to turn 2.5 kg of water into ice. This cold energy is recovered to generate electricity.
CSR Procurement/Supply Chain Management	Activities for promoting CSR across the entire supply chain, from the procurement of raw materials to the delivery of products and services to customers, in which a company requires suppliers to meet CSR criteria including the environment, labor conditions and human rights, in addition to specifications, pricing and delivery period.

D

Destination	The country or region that will be the final landing port for LNG transportation. LNG contracts have traditionally contained destination clauses, which restrict where LNG can be landed.
Distributed energy system	A system for independently procuring and managing heat and power by locating power sources close to the demand, in cooperation with major power grids. Solar and wind power generation and combined heat and power (CHP) systems fall under this category. Compared with conventional centralized power sources, this system offers benefits such as eliminating transmission loss and providing the possibility of using exhaust heat for the CHP systems.
Diversity	Promoting diversity in a business context means respecting and accepting all people, regardless of gender, age, disability, nationality, values and other attributes, by creating an inclusive work environment; ultimately contributes to sustainable corporate growth and development.

E

Energy services	Bundle of services efficiently delivered to customers by energy service providers to solve energy-related problems. May include provision of heat, electricity and water generated by combined heat and power systems, boilers, air conditioners, water treatment plants or other facilities.
Environmental management system (EMS)	The establishment of policies and targets by an enterprise to guide its voluntary actions for protecting the environment; encompasses the associated implementation systems, procedures and other arrangements in factories and offices.
Excavated soil	Soil and waste asphalt generated by work such as laying gas pipelines under roads.

F

Fuel cell	A system that generates electricity through an electrochemical reaction between oxygen in the air and hydrogen extracted from sources such as city gas.

G

Gas pressure differential power generation	Generation of electricity utilizing differential pressure of city gas flowing through gas pipelines to drive a turbine. This type of system conserves energy by not consuming gas. Using the cold energy produced during the generation of electricity yields further energy savings.
Gas turbine combined cycle	Highly efficient means of generating electricity combining two methods. A fuel, such as natural gas, is combusted to drive a gas turbine. The heat of the exhaust gas from the turbine is then recycled to convert water into steam, which in turn is used to drive a steam turbine.
Governor (pressure regulators)	Equipment that regulates gas pressure. Governor stations convert high-pressure gas distributed from LNG terminals to medium-pressure gas, while district pressure regulators convert medium-pressure gas to low-pressure gas.

H

HEMS	Home Energy Management System. A mechanism for optimizing energy use by making household consumption of energy, including electricity, gas and water, visible on the screens of TVs, computers and smartphones, and by automatically controlling energy consumption.
Henry Hub (U.S. natural gas market) price	Name for the benchmark price of natural gas in the U.S., derived from the Henry Hub distribution node in Louisiana in the southern U.S. The price of natural gas bought and sold is used as the index or benchmark value for the price of futures on the New York Mercantile Exchange (NYMEX).
High-pressure gas pipeline	A gas pipeline operating at a gas pressure of at least 1 MPa with a typical diameter of 65 cm to 75 cm that is used to transport city gas from an LNG terminal. Gas is supplied through this kind of pipeline using governor stations to transfer to medium-pressure pipelines, and then by district pressure regulators to the low-pressure pipelines that deliver city gas to residential users.
Human rights due diligence	The process of identifying and assessing the impacts on human rights of business activities as a whole, including the implementation measures for preventing or mitigating these impacts.

I

Inclusive society	A society in which all are entitled to a fulfilling life based on mutual recognition, respect, and support for the right of every individual to pursue happiness and their respective personality, regardless of gender, disability, or nationality.
ISO 14001	The international standard for EMS developed by the International Organization for Standardization (ISO). Intended to align management with the mitigation of environmental risk and contribution to the environment as well as to encourage continuous improvements in EMS standards.

J

J-Credit Scheme	A program in which reductions and sequestrations of emissions of greenhouse gases such as CO_2 achieved by such means as the installation of energy-saving equipment and planting trees are certified by the government as credits. These credits can then be used to offset other carbon emissions toward achieving the targets for achieving a low carbon society.

L

LCA	Life Cycle Assessment. A method of assessing how a product affects the environment at each stage of its life, from production to use and disposal.
LGBT	Collectively refers to lesbian, gay, bisexual, and transgender individuals.
Lifecycle CO_2 emissions assessment	Method for assessing the total amount of CO_2 emissions of a product throughout its lifecycle, from the consumption of resources and energy during the production of raw materials to the environmental load during final waste disposal.
LNG	Liquefied Natural Gas. Natural gas consisting principally of methane (CH_4) that has been liquefied by cooling to around -160°C. It is a clean energy source that produces virtually no SOx or particulate emissions and is primarily used in Japan as fuel for power generation and as city gas.
LNG tank lorry	Tank lorries are used to transport LNG to areas not served by gas pipelines.
LNG value chain	The series of business activities that add value at each stage from procurement of LNG to delivery of products and services to the customer. The Tokyo Gas Group considers the LNG value chain to be the chain of all business activities, extending from the procurement of LNG to the transportation, production and supply of city gas, power generation, and delivery of energy solutions.
Low voltage power	Mainly refers to residential-use 100-volt or 200-volt electricity.

M

Material Balance	Relationship between the amount of resources and energy required for business activities and the residual volume of waste and emissions.

N

NGV	Natural Gas Vehicle. Compared to vehicles fueled by gasoline or diesel, these natural gas fueled vehicles emit 10% to 20% less CO_2, little NO_x or HC, and no black smoke or particulate matter (PM). Expectations are high that NGVs will play a decisive role in preventing global warming and improving air quality.

P

Participating interest	The right to acquire resources produced by a development project granted to participants in proportion to the financial stake that they have obtained in the project through a loan or investment.
Polyethylene pipe	Gas pipe made of highly corrosion and quake resistant polyethylene and used for buried sections of pipeline. Tokyo Gas is increasing its use of these pipes for the low-pressure pipelines that make up 90% of its network to minimize damage from earthquakes.

R

Regenerative burner system	An energy-saving system that combines high combustion efficiency with low NOx emissions. Two burners are alternately fired and the heat of the exhaust gas when one burner is fired is recovered by a heat reservoir to preheat the air for the next combustion cycle. The system saves energy consumption by 30% to 50% while reducing CO_2 emissions.
Renewable energy	Inexhaustible energy sources such as sunlight, solar heat, hydropower, wind power, biomass and geothermal energy, which can be replenished relatively quickly.
RPA	Robotic Process Automation. The use of robot software to automate standard PC operations that were conventionally handled by humans.

S

SENEMS	Smart Energy Network Energy Management System. A mechanism that applies ICT to link the demand data of buildings and supply data of energy centers. Provides energy savings and cost reductions and enhances energy security by combining data on energy use for individual buildings with climate and other data for optimal operation.
Shale gas	Methane gas trapped in shale, which are thin, flakey rock formations formed from ancient mud deposits. Shale gas resources are abundant and expected to have a major impact on world energy production and consumption.
Smart Energy Networks (SENs)	An optimal local energy system centered on combined heat and power (CHP) systems for making maximum use of renewable and underused energy sources and controlled through ICT energy management.
Stakeholder engagement	Efforts undertaken by companies to understand stakeholders' expectations for corporate business activities. Stakeholder dialogues are one form of stakeholder engagement.
Supply chain management/CSR procurement	Activities for promoting CSR across the entire supply chain, from the procurement of raw materials to the delivery of products and services to customers, in which a company requires suppliers to meet CSR criteria including the environment, labor conditions and human rights, in addition to specifications, pricing and delivery period.

T

TES	Tokyogas Eco System. A Tokyo Gas residential water heating system that uses a single heat source to provide hot water, underfloor heating, bathroom heating, and drying.
Tight sand gas	A type of unconventional natural gas that has accumulated in sandstone layers, which are harder than layers in which conventional gas accumulates. Developed extensively since the late 1980s, as technological progress improved the prospects for commercial production.

U

Unconventional gas	Gas produced from sources other than ordinary gas fields. In addition to tight sand gas, coalbed methane, biomass gas and shale gas currently being produced commercially, unconventional gas also includes methane hydrate, deep earth gas and other gas sources that are expected to become commercially viable energy sources in the future.

W

Wholesale distribution	Wholesale delivery of gas via pipelines or LNG tank lorries to other gas utilities and electric power companies.

Z

ZEB	Net Zero Energy Building. A building designed to achieve a zero annual balance between primary energy consumption and generation through major energy-saving features in combination with the use of renewable energy sources.

Major Awards and Recognitions

Major Awards and Recognitions in FY2018

Recognitions for Products and Services

World Gas Conference 2018 Innovation Award (Commercial and Industrial Utilization)
Awarded by: International Gas Union Recipient: Tokyo Gas Co., Ltd.
The Innovation Awards are presented for promising technologies that could drive the next generation of innovations in the gas industry. Tokyo Gas was recognized for verifying an innovative technology that achieves power generation efficiency to as high as 65% in a 5 kW class small output Solid Oxide Fuel Cell (SOFC) system.

28th Annual Meeting of MRS-J Award for Encouragement of Research
Awarded by: The Materials Research Society of Japan Recipient: Tokyo Gas Co., Ltd.
The purpose of the Materials Research Society of Japan is to promote research and commercial application of advanced materials through cross-sectional and interdisciplinary exchanges between scientists and engineers in the field. The Award for Encouragement of Research is presented to individuals who gave excellent presentations at the Annual Meeting. This year's award was in recognition of a presentation titled "Development and demonstration of a highly efficient two-stage SOFC system with fuel regenerator," in which the presenters confirmed the effects of an innovative technology that raises the power generation efficiency of 5 kW class small output SOFC systems to 65%.

FY2018 2nd JCSI (Japanese Customer Satisfaction Index) Survey 1st Place in Customer Satisfaction (Electricity Retail Category)
Awarded by: Japan Productivity Center – Service Productivity & Innovation for Growth Recipient: Tokyo Gas Co., Ltd.
This is one of Japan's most extensive customer satisfaction surveys conducted in six installments each year. Approximately 400 companies and brands in about 30 sectors across industries are ranked based on the responses of more than 120,000 users. Tokyo Gas has seized the top spot for the second consecutive year since the sixth survey took place in fiscal 2017.

Japan Institute of Energy Society Award (Technology Division)
Awarded by: The Japan Institute of Energy Recipient: Tokyo Gas Co., Ltd.
The award recognizes the comprehensive development of technology that yields remarkable results for industry. Tokyo Gas was given the award for being the first in the world to develop and commercialize highly accurate simulation technology for predicting fluid dynamics through diverse methods of receiving gas when a mixture of LNG from different production sites are stored in a single tank.

FY2018 New Energy Award
Minister of Economy, Trade and Industry Award

Awarded by: New Energy Foundation
Recipient: Tokyo Gas Co., Ltd. and others

The award recognizes the development of new energy-related equipment with the aim of promoting the introduction of new sources of energy. We received the award for the joint development of the commercial 3 kW SOFC cogeneration system, which achieved the industry's highest power generation efficiency of 52%.

FY2018 Energy Conservation Grand Prize
Special Judging Committee Award (Product and Business Model Category)

Awarded by: The Energy Conservation Center, Japan
Recipient: Tokyo Gas Co., Ltd. and others

Awards are given to superior energy conservation efforts carried out by business operators and sites that serve as models as well as for products and business models that excel in terms of conserving energy. Tokyo Gas was recognized for its joint development of Smart Multi, the world's first hybrid air conditioning system that combines a gas heat pump and electric heat pump to maintain optimal operation through remote control.

36th IT Award 2018
Special IT Award

Awarded by: Japan Institute of Information Technology
Recipient: Tokyo Gas Co., Ltd.

The award is given to companies and other organizations that engage in business innovation that makes advanced use of information technology and yields results. Tokyo Gas was recognized for its construction of systems for sustaining its power business and that also helped launch new businesses.

WSN-IoT AWARD 2018
Grand Award

Awarded by: Wireless Smart Utility Network (WSN) Promotion Committee
Recipient: Tokyo Gas Co., Ltd.

This award aims to promote advances in Japan's IoT technology as well as the development and expansion of IoT systems that utilize wireless technology such as LPWA including Wi-SUN. It recognizes companies and organizations that create particularly excellent products, components, software, and systems or make successful use of such products to develop advanced applications, engage in R&D, or develop human resources. Tokyo Gas received the award for commercializing services using communication terminals based on the U-Bus Air wireless communication standard.

Recognition of Merit

Movement for a Brighter Society
Certificate of Appreciation from the Justice Minister

Awarded by: Ministry of Justice
Recipient: Tokyo Gas Co., Ltd.

This is a national campaign aimed at deepening people's understanding of preventing crime and delinquency as well as rehabilitating offenders to create crime-free communities. The certificate is presented by the Minister of Justice as an expression of gratitude to individuals and organizations in the private sector for their support of the movement. For the past ten years, Tokyo Gas has cooperated with the movement by providing promotional goods for the street campaign undertaken by Chuo-ku in Tokyo during the special awareness promotion month of July.

4th Social Value and Capital Formation M&A Awards
Grand Award

Awarded by: Development Bank of Japan
Recipient: Tokyo Gas Co., Ltd.

The awards are presented to M&A efforts that excel from the perspective of social value, with the aim of further promoting good M&A projects that contribute to the creation of social value and capital formation. We were recognized for our contribution to infrastructure development and an energy shift in Southeast Asia.

FY2018 Awards for Distinguished Contribution to Gas Safety
Kanto Tohoku Industrial Safety and Inspection Department Director's Award

Awarded by: Ministry of Economy, Trade and Industry
Recipient: Tokyo Gas Group
Gas Construction Work Service Outlet Category: 1 establishment
Individual Category: 12 individuals

The awards are presented with the goal of raising the motivation of those involved in gas safety and promoting public understanding. The Tokyo Gas Group was recognized for offering distinguished service in ensuring gas safety.

FY2018 Awards for Distinguished Contribution to Gas Safety
Economy, Trade and Industry Minister's Award

Awarded by: Ministry of Economy, Trade and Industry
Recipient: Tokyo Gas Group
Gas Construction Work Service Outlet Category: 1 establishment
Individual Category: 2 individuals

The awards are presented with the goal of raising the motivation of those involved in gas safety and promoting public understanding. The Tokyo Gas Group was recognized for offering distinguished service in ensuring gas safety.

Recognition for Advertising

85th Mainichi Advertisement Design Competition
Award for Excellence (Advertisers Category)

Awarded by: The Mainichi Newspapers
Recipient: Tokyo Gas Co., Ltd.

The competition has been held since 1931, making it one of the longest running comprehensive advertising competitions sponsored by a newspaper company. We received the award for our "Tokyo Gas People" series of corporate advertisements, which show the work of employees who support the stable supply of gas.

67th Nikkei Advertising Awards
Trading, Energy and Public Services Category: First Prize

Awarded by: Nikkei Inc.
Recipient: Tokyo Gas Co., Ltd.

Leading advertisement award in Japan that recognizes excellent advertisement published in the *Nihon Keizai* newspaper. We were given the award for the "Tokyo Gas People – Delivering Safety" version of the advertisement, which depicts the passionate commitment to safety and security of the Gaslight 24 staff, who are charged with providing emergency response.

Major ESG Ratings

Inclusion in Environment, Social and Governance (ESG) Indices

The Tokyo Gas Group is recognized for the overall high quality and balance of its approach to CSR and environmental, social, and governance (ESG) issues, and it has been included in the following ESG indices (as of July 31, 2019).

FTSE4Good Index Series

FTSE Blossom Japan Index

- FTSE4Good Index Series
  A series of stock indices developed by FTSE Russell, a subsidiary of the London Stock Exchange Group. They assess corporate sustainability based on environmental, social, and governance performance. Used by investors as a key benchmark for selecting companies to invest in.

- FTSE Blossom Japan Index
  Provides investors with a means for identifying Japanese companies that meet high environmental, social, and governance standards and is designed to minimize industry bias. In July 2017, the Government Pension Investment Fund of Japan (GPIF), the world's largest institutional investor, began tracking investments using this index.

Links
- ▶ FTSE4Good Index Series
- ▶ FTSE Blossom Japan Index

MSCI ESG Leaders Indexes

MSCI Japan ESG Select Leaders Index

MSCI Japan Empowering Women Index (WIN)

Tokyo Gas has been included in the following stock indices of top environmental, social, and governance performers developed by Morgan Stanley Capital Investment (MSCI) of the U.S.

- MSCI ESG Leaders Indexes
  Leading stock indices of companies selected for their outstanding environmental, social, and governance performance on a global scale.

- MSCI Japan ESG Select Leaders Index*1
  An index that consists of companies with relatively high ratings in their respective industries for environmental, social, and governance performance and that were selected from a parent index of the top 700 stocks by market capitalization in the MSCI Japan IMI index of Japanese securities.

- MSCI Japan Empowering Women Index (WIN) *1
  An index that consists of companies in each industry with high scores on gender diversity that were selected from a parent index of the top 500 stocks by market capitalization in the MSCI Japan IMI index of Japanese securities.

*1 The MSCI Japan ESG Select Leaders Index and the MSCI Japan Empowering Women Index were adopted by GPIF in July 2017 as benchmarks for their investment strategy.

MSCI Japan Empowering Women Index (WIN)	Note: MSCI ESG Indexes THE INCLUSION OF Tokyo Gas Co., Ltd. IN ANY MSCI INDEX, AND THE USE OF MSCI LOGOS, TRADEMARKS, SERVICE MARKS OR INDEX NAMES HEREIN, DO NOT CONSTITUTE A SPONSORSHIP, ENDORSEMENT OR PROMOTION OF Tokyo Gas Co., Ltd. BY MSCI OR ANY OF ITS AFFILIATES. THE MSCI INDEXES ARE THE EXCLUSIVE PROPERTY OF MSCI. MSCI AND THE MSCI INDEX NAMES AND LOGOS ARE TRADEMARKS OR SERVICE MARKS OF MSCI OR ITS AFFILIATES.
S&P Japan 500 ESG	Stock index developed by U.S.-based S&P Dow Jones Indices and consisting of securities selected from the S&P Japan 500 index of Japanese securities based on ESG criteria.
STOXX Global ESG Leaders Index	The index is provided by STOXX of Switzerland, a subsidiary of Deutsche Börse AG. Based on the results of research by Sustainalytics, a Dutch SRI research and analysis provider, it is composed of companies selected for their outstanding action on the environment, society, and governance.
ETHIBEL Sustainability Index（EXCELLENCE Global） ETHIBEL Investment Register（EXCELLENCE）	• ETHIBEL Sustainability Index（EXCELLENCE Global） Compiled by Forum Ethibel, a Belgian NPO and SRI promoter, the ETHIBEL Sustainability Index (EXCELLENCE Global) investment register consists of companies that exhibit strong environmental, social, and governance performance. • ETHIBEL Investment Register（EXCELLENCE） An investment universe comprised of companies that exhibit high standards of corporate social responsibility.
SNAM Sustainability Index	Based on corporate data on environmental, social, and governance performance gathered through corporate research executed by Sompo Risk Management Inc. and IntegreX Inc. Managed by Sompo Japan Nipponkoa Asset Management Co., Ltd.

■ CSR Ratings

The Tokyo Gas Group has been awarded the following ratings by third-party rating bodies.

2018 CDP (Carbon Disclosure Project) CDP Climate Change: B CDP Water: A- (on an eight-grade scale from A to D-)	CDP is a U.K.-based nonprofit organization that collaborates with institutional investors to operate an international framework requiring companies to disclose information on their strategies for climate change and water risk as well as concrete data. Scores for company responses are published globally and serve as an important metric of corporate value.
DBJ Environmentally Rated Loan Program	The DBJ Environmentally Rated Loan Program was created by the Development Bank of Japan. It is the world's first lending mechanism that selects excellent companies by screening and rating them according to the level of their environmental management and then sets loan conditions based on their scores. Tokyo Gas received the highest rating on October 31, 2019.

13th Toyo Keizai CSR Ranking 26th out of 1,501 companies (Score: 548.8 out of 600)	This survey is conducted by Toyo Keizai Inc. with the goal of identifying companies that are trusted by a wide range of stakeholders for their CSR and financial performance. It covers Japanese enterprises, which are assessed according to both CSR criteria (in the fields of human resource use, the environment, corporate governance, and social performance) and financial criteria.
Nikkei 22nd Environmental Management Survey Ranked 2nd out of 13 companies in the electricity and gas sector	Nikkei Inc. rates and ranks companies on their level of environmental management based on each company's survey responses. Tokyo Gas was ranked second out of 13 companies in the electricity and gas sector.
Certified Health and Productivity Management Organization (White 500), large enterprises category 2019 健康経営優良法人 Health and productivity ホワイト500	The Certified Health & Productivity Management Organization is a recognition given to large enterprises as well as small and medium-sized enterprises that practice particularly excellent health management in terms of initiatives addressing local health needs and health improvement initiatives spearheaded by Nippon Kenko Kaigi. Japan's Ministry of Economy, Trade and Industry and Nippon Kenko Kaigi have been jointly certifying companies since fiscal 2016 with the goal of expanding corporate health management practices.
Nadeshiko Brand NADESHIKO BRAND 2019	Nadeshiko Brands are companies selected jointly by the Ministry of Economy, Trade and Industry and the Tokyo Stock Exchange for actively promoting the use of female human resources (including the development of conditions that allow women to stay employed). They are selected in each industry from among companies listed on the Tokyo Stock Exchange First Section.

■ Information Disclosure through Communication Efforts

The Tokyo Gas Group has received the following recognition with regard to its disclosure of information concerning communication.

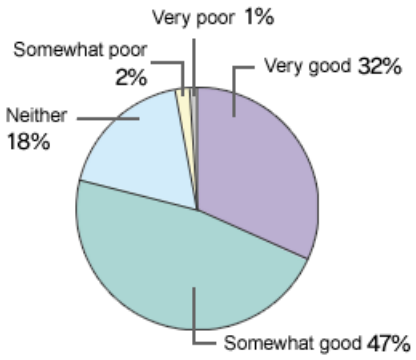
2018 Securities Analysts' Award for Excellence in Corporate Disclosure Electric Power/Gas Industry Division Excellence in Corporate Disclosure	Tokyo Gas was recognized for serving as a model to other companies in promoting disclosure, based on its efforts to consistently disclose quantitative information of interest to investors and provide useful information through its annual reports and other channels as well as clear policy on shareholder returns (7th time in a row and 12th overall).

Questionnaire Results and Highlights of Feedback

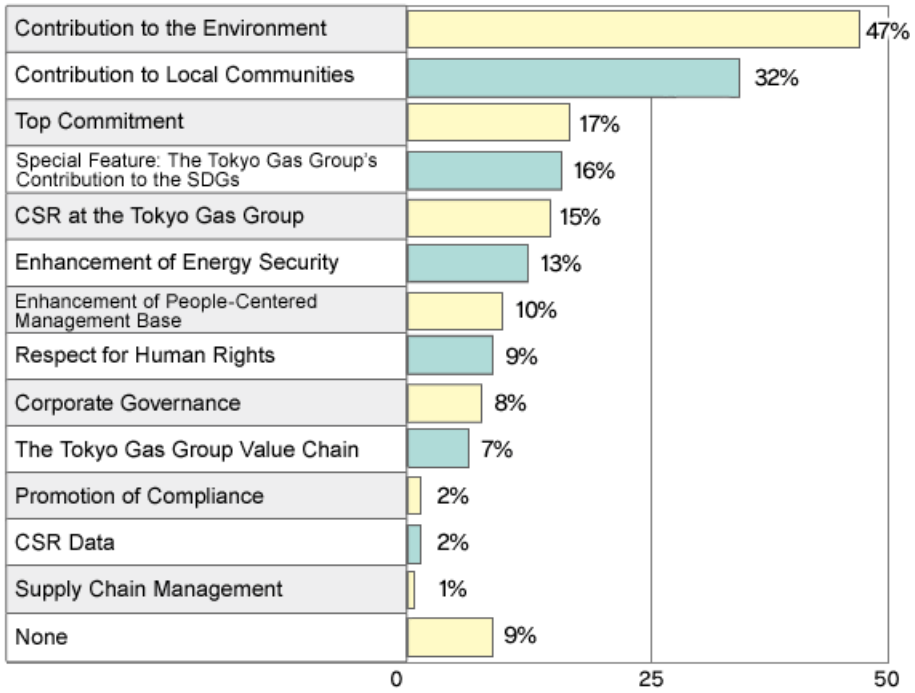
Tokyo Gas Group CSR Report 2018 Questionnaire Results

In order to obtain wide-ranging feedback from stakeholders, the Tokyo Gas Group has incorporated a feedback mechanism into its report website and also conducts questionnaires on the Group's CSR initiatives. The feedback obtained is shared with the relevant parties and used to make improvements to daily business activities and future reports.

■ Rating CSR Activities of the Tokyo Gas Group



■ Areas of Interest (multiple responses allowed)



Feedback Highlights

Views on safety and disaster prevention

- There were a number of natural disasters in 2018, and I'd like to see more disaster-related topics included in the next issue.
- Given that the Company supplies gas, a flammable substance, safety considerations are a priority. I hope the Company continues to comply with safety rules as a business operator and provides information on safety to consumers.

Views on continuity of supply

- I hope the Company continues to play its role in meeting society's needs by providing a stable supply of energy.
- Maintaining a stable supply of energy is of major importance, but I also expect the Company to engage in activities for reducing environmental impact and recycling.

Views on the environment

- Protecting the environment is an urgent issue, and I expect the Company to contribute in this area.
- I'd like to see the Company consistently promote power generation using environmentally friendly natural gas and renewables.

Views on CSR activities

- I think the Company's business is highly beneficial to society, and I expect a more proactive approach to promoting CSR.
- Gas is essential to daily life, and I expect the Company to play a more active role in local communities.

Views on the report

- It's commendable that the Company actively discloses negative information to stakeholders with diverse interests.
- I suggest reporting in greater detail the Company's initiatives on environmental protection.
- I feel the report is generally text-heavy, which could be avoided by publishing selective articles and making better use of graphic content.

Questionnaire Summary	
Survey period	November 16, 2018–March 7, 2019
Content surveyed	Tokyo Gas Group CSR Report 2018
Number of valid responses	216
Respondents	Registered CSR reviewers*1

*1 Individuals registered with DFF Inc., who have expressed interest in actively participating in questionnaires and research on CSR.

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