



Paintings shown on the cover were drawn by children attending a design and painting class sponsored by "Children Design Education," a nonprofit organization. Children Design Education has been established to support children who have to live separately from their parents for various reasons. The NPO provides them opportunities to produce paintings and design works repeatedly at a design and painting class, envisaging them to develop power to stand on their own in their infancy. Character designs created by the children through the class are sold to business corporations. Proceeds from the sales will be incorporated into a special fund set up to support the children's education in the future.

NPO Children Design Education ▶ <http://c0d0e.com/english/index.html>



Osaka Gas Group is now Daigas Group

2018 CSR REPORT



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Osaka Gas was included in the following socially responsible investment (SRI) indices and an investment universe as of the end of June 2018.



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<https://www.msci.com/esg-integration>



Notes about CSR Report 2018

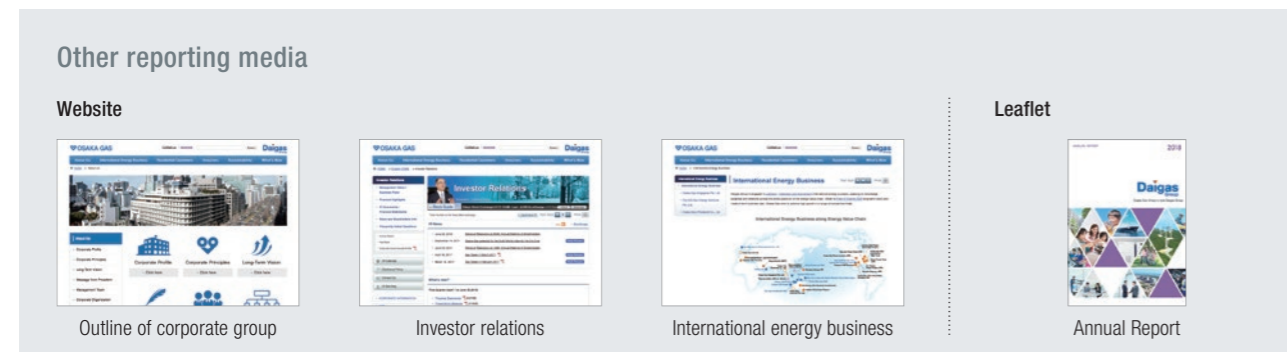
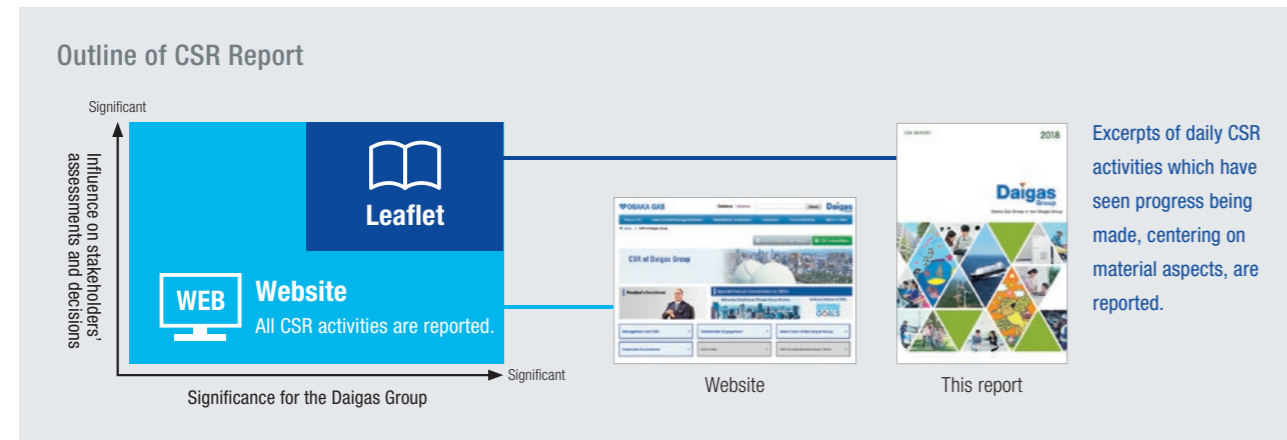
The Daigas Group reports material aspects of its CSR and its management scheme as well as associated activities for improvement.

The Daigas Group deems that it is necessary for the Group to listen to people's voices sincerely and conduct its business activities based on such voices, if it is to fulfill its corporate social responsibility (CSR).

The Daigas Group identified important aspects for the Group's CSR, which we call "materiality," or "material aspect," by referring to the GRI Sustainability Reporting Standards (GRI Standards), a global standard for sustainability report compiled by the Global Reporting Initiative (GRI), while taking into account the current

social issues and continuing dialog with stakeholders and experts in relevant fields.

In this report, the Group explains the management situation regarding each material aspects and the degree of implementation of relevant measures. The Group posts, as much as possible, activities other than those related to the material aspects so that a full picture of the Group's CSR is made known to parties outside and inside the Group.



Scope of This Report

This report covers the Daigas Group, consisting of Osaka Gas Co., Ltd. and its affiliated companies. Some information, as noted in this report by phrases such as "Osaka Gas" or "the Company," refers exclusively to Osaka Gas Co., Ltd.

Fifty-seven companies—out of 138 affiliated companies and consolidated subsidiaries of Osaka Gas—are subject to compilation of environmental performance data. Excluded are companies housed in office buildings as tenants and whose environmental performance data are difficult to grasp and whose environmental effects are minimal. Also excluded are overseas companies.

While the most recent data covered in this report represents those for fiscal 2018 (from April 1, 2017 to March 31, 2018), some refer to activities for fiscal 2019.

* Boundary of greenhouse gases (GHG) Scope 3 reporting includes one overseas subsidiary.

Guidelines referred to

- ISO 26000
 - Sustainability Reporting Standards of the Global Reporting Initiative (GRI Standards)
 - This report contains information corresponding to disclosure requirements of the GRI Sustainability Reporting Standards.
 - Environmental Reporting Guidelines 2018 of the Ministry of the Environment
 - The United Nations Global Compact COP* Policy
- * COP...Communication on Progress

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Coverage and Materiality

In selecting topics to be covered in the report and prioritizing them, we took into consideration their importance to the Daigas Group and their importance to society, chosen by outside experts. What is not covered under this report is posted on the website.

Readability and Ease of Understanding

To ensure that a wide range of readers can understand the information provided in this report, careful consideration is given to visual design, including the text size, use of colors, pictures and diagrams, and explanatory notes are provided for technical terms.

For words with this mark, refer to a terminology list.

Taking readability for people with color vision deficiency into consideration, the colors and designs of this report were examined and certified by the Color Universal Design Organization.

Reliability

We asked for third-party verification to ensure the reliability of the content and data presented in this CSR report.

The environmental performance data in this report underwent third-party verification by Bureau Veritas Japan Co., Ltd. The overall report underwent third party-review on assessment and recommendations, including simple audits, a task consigned to the Institute for Environmental Management Accounting (IEMA).



The Daigas Group is Ready to be United in Its Bid to Become an Innovative Energy Service Provider that Continues to be Chosen by Customers through Successive Generations —by Contributing to Society, Local Communities and Customers.

本庄武宏
Takehiro Honjo
President of Osaka Gas Co., Ltd.

At the beginning

One of the most important missions for an energy service provider is to deliver products—energy sources for our company—to customers safely and stably. To achieve this goal, the Daigas Group has implemented various measures to be taken not only in peacetime but also in emergencies in collaboration with stakeholders and local communities, while confirming what should be done in the event of disasters based on the lesson learned through the experience of the Hanshin-Awaji Great Earthquake. When a major earthquake occurred in northern Osaka on June 18, 2018, the Daigas Group did all it could to resume gas supply to our customers with the backing of gas service providers across Japan. As a result, we were able to supply gas to affected customers, totaling about 110,000 households, about one week after the quake. What we have experienced through the northern Osaka earthquake will be shared among all concerned parties within and outside the Group, and will be conveyed to the next generation. The experience will be reflected in our efforts to strengthen our anti-earthquake measures, including response steps.

It is difficult to forecast the business environment surrounding enterprises in the future, such as the occurrence of natural disasters including earthquakes, changes in social conditions, changes in policies and systems. Our Group has faced numerous plights and

problems since its foundation in 1905. Each time we underwent such crises, we transformed them into growth opportunities and survived them in a bold manner. To steadily expand our businesses, it is important for us to enhance the Group's CSR level and contribute to building a sustainable society as a corporate group that continues to be chosen by customers.

Thought Infused into Our New Group Brand, "Daigas Group"

We introduced our new group brand, "Daigas Group," in March 2018. Under the new group brand, we have been determined to do all we can to become a corporate group envisaged under the Long-Term Management Vision 2030, and the Medium-Term Management Plan 2020, which we call "Going Forward Beyond Borders," both adopted in 2017. The word "Daigas" reflects our determination to conduct "dynamic and innovative" business, regarded as essential for realizing the Long-Term Management Vision, in a "genuine and studious" manner—a mindset we have cherished for more than 110 years.

Social Moves on Sustainability and CSR

Global moves to establish international frameworks aimed at creating a sustainable society have gathered impetus in a stable manner. At the same time, big changes have been seen not only in Japan but also in the rest of the world concerning moves to promote sustainability and CSR.

Activities to address environmental and social problems have intensified at state, municipal and corporate levels around the world, following the adoption of the Paris Agreement at the 2015 United Nations Climate Change Conference, better known as COP21, and the setting of the United Nations Sustainable Development Goals (SDGs). Against the backdrops of growing attention in recent years to Socially Responsible Investment (SRI) [\[21\]](#), the Government Pension Investment Fund (GPIF) selected Environment, Social and Governance (ESG) indexes and started managing investment using these indexes in 2017. In this way, from the standpoint of ESG, the idea of evaluating companies' efforts to solve global social problems and selecting companies is beginning to become established.

Osaka Gas was not only selected as a component of the FY2018 SRI indexes but was also incorporated into the world index of the Dow Jones Sustainability Index (DJSI) for the first time.

Aimed at Contributing to the Sustainable Development of Society and the Sustainable Growth of the Daigas Group

In addition, we will expand our efforts to raise further the CSR level of the entire Daigas Group while abiding by the Corporate Principles of the Daigas Group, the Daigas Group CSR Charter, the Daigas Group Code of Conduct and the Daigas Group Environmental Activities Policy. Furthermore, we will continue and develop our CSR activities, and contribute to achieving our SDGs in collaboration with companies that constitute the entire value chain [\[21\]](#) network of the Daigas Group while expanding our business field—an action we are taking to enhance trust and confidence in us by customers and the society.

On the environmental front, the Daigas Group, as a comprehensive energy service provider, aims to reduce its cumulative CO₂ emissions by about 70 million tons by FY2031. For that purpose, we will further strengthen our efforts to reduce CO₂ emissions both from our business activities and at our clients—by diffusing the use of natural gas with low CO₂ emission, installing highly energy-efficient facilities. To that end, we are expanding the use of natural gas with low CO₂ emission, introducing highly energy-efficient equipment, and developing and acquiring renewable energy power supplies that expanded our target for 2030 from 500,000 kW to 1 million kW.

On the social front, we will strengthen activities in areas of human rights, labor and occupational health and safety throughout our value chain, in line with international norms and goals, such as

the United Nations Global Compact, ISO 26000, the Global Reporting Initiative (GRI) Standards and the Sustainable Development Goals (SDGs). We will also work with local communities to promote activities aimed at creating mutual values.

On the governance front, we will further strengthen the Group's control and supervisory functions both in Japan and overseas, including compliance and information security. We are also promoting diversity [\[21\]](#) under the Daigas Group Diversity Policy. Specifically, we are working on establishing a system in which workers with various backgrounds can work flexibly and efficiently, and put into practice measures to carry out such goals.

The Daigas Group has set indexes of materiality (important aspects of CSR) to evaluate its major CSR activities. Responding to changes in the business environment and social trends, the Group reviewed such indexes in FY2018 by adding new indexes for use from FY2019.

Closing Comments

By strengthening our existing CSR measures based on the Daigas CSR Charter, the Group will continue to be committed to creating value primarily for customers, as well as for society, shareholders and employees. By promoting global-standard management that gives consideration to ESG, one of the goals set under the Long-Term Management Vision 2030 and the Medium-Term Management Plan 2020, called "Going Forward Beyond Borders," we aim to create a sustainable society and attain the Group's sustainable growth.

August, 2018

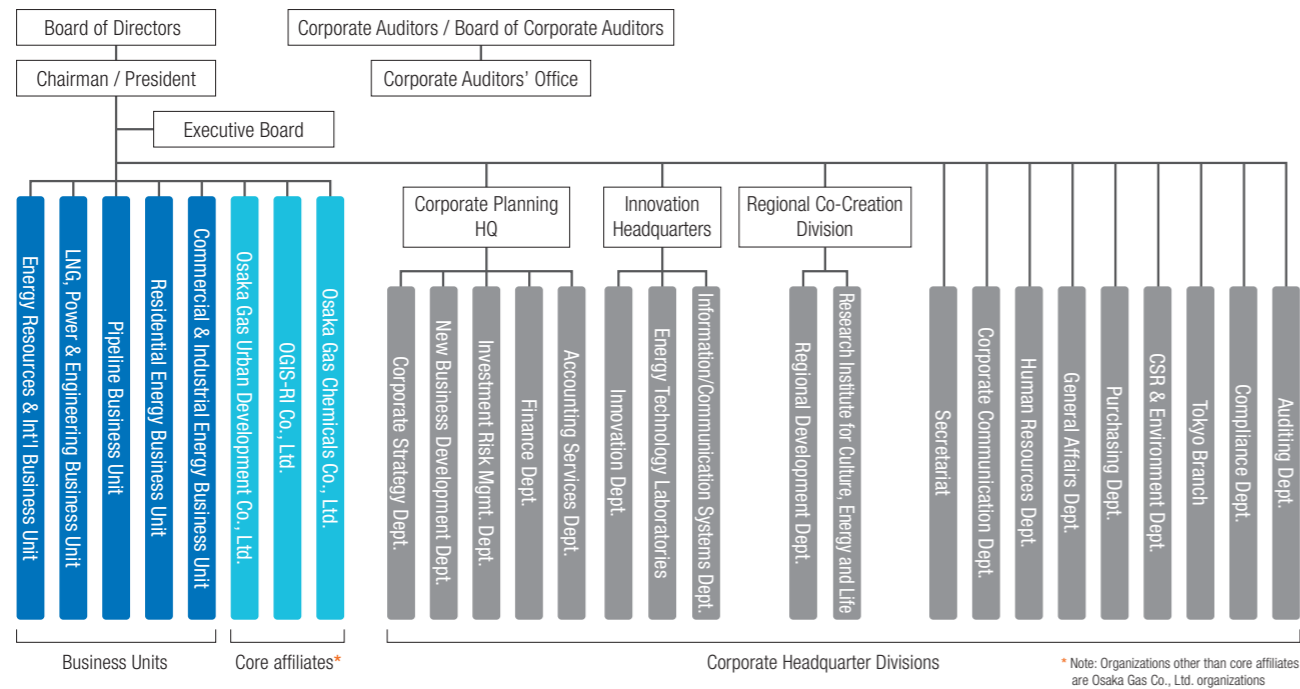
► Corporate Profile of Osaka Gas (As of March 31, 2018)

Head Office : 4-1-2 Hiranomachi, Chuo-ku, Osaka 541-0046, Japan
 Establishment : April 10, 1897
 Commencement of operations : October 19, 1905
 Capital : 132,166 million yen
 Number of employees :
 [Non-consolidated] 5,617
 (including operating officers, directors and temporary employees, and excluding employees temporarily transferred to affiliated companies)
 [Consolidated] 19,997

► Main Business Lines of the Daigas Group (As of March 31, 2018)

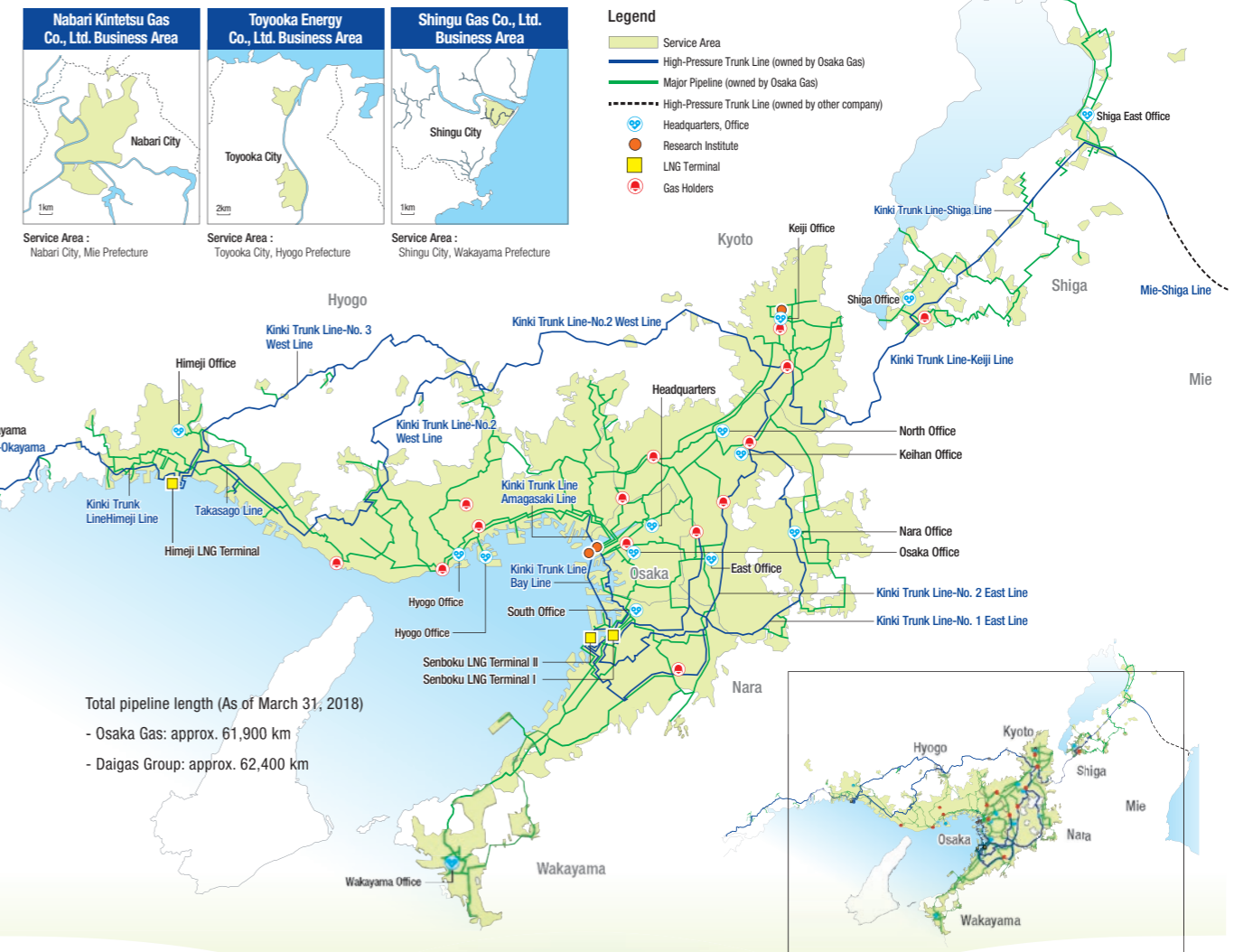
Business segments	Main business lines
Domestic energy: gas	Production, supply and sale of city gas, sale of gas appliances, gas pipe installation, sale of LNG (Liquefied Natural Gas) and LPG (Liquefied Petroleum Gas), gas sales to industrial customers
Domestic energy: electricity	Power generation, sale of electricity
International energy	Development of and investment regarding oil and natural gas, energy supply, leasing of LNG tankers
Life & business solutions (Non-energy business)	Development and leasing of real estate properties, information-processing services, sale of fine materials and carbon material products

► Daigas Group Management Structure (As of April 1, 2018)



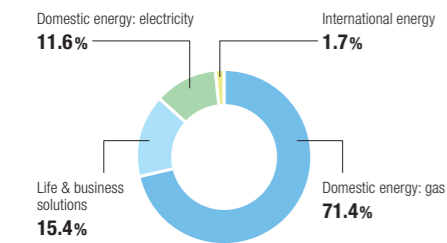
► Daigas Group City Gas Business Area

Gas Supplier of the Daigas Group (As of March 31, 2018)

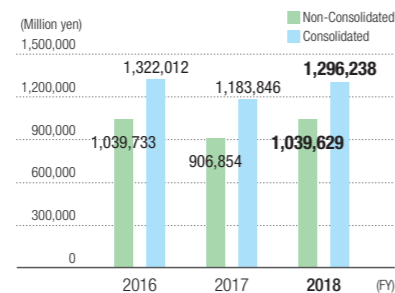


► Financial Data of the Daigas Group

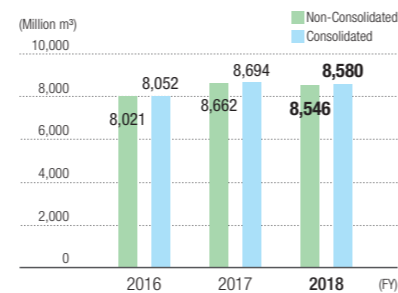
■ Sales by Segment of the Daigas Group in FY2018



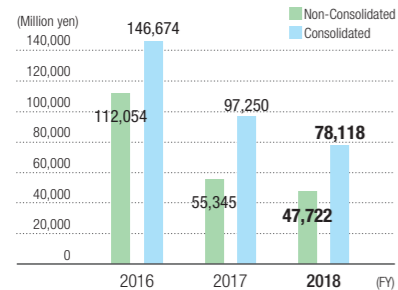
■ Net Sales



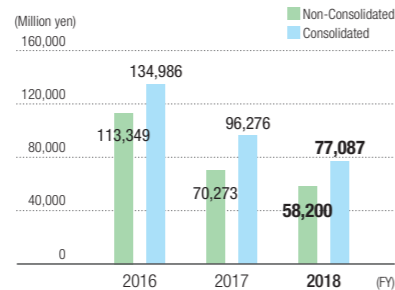
■ Gas Sales by Volume



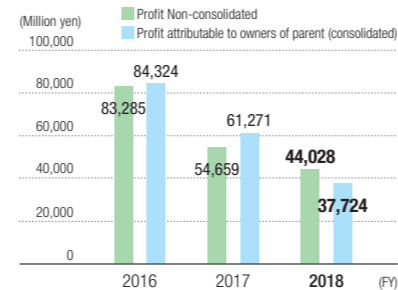
■ Operating Profit



■ Ordinary Profit



■ Profit



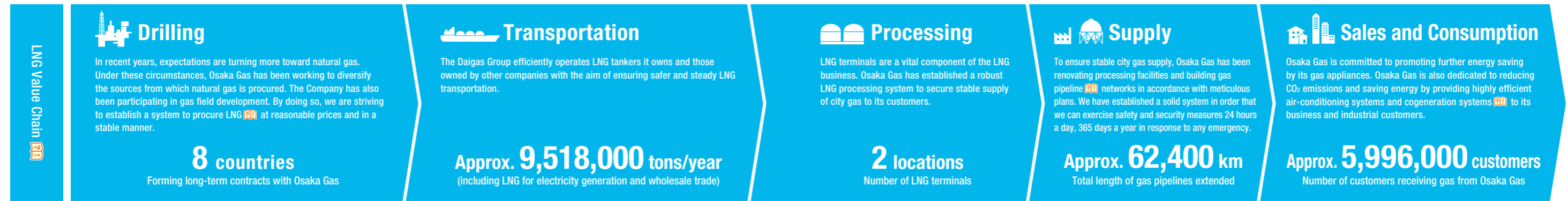
► Overseas Energy Business of the Daigas Group



Social Impact of Business Activities in Our Energy Value Chain and Efforts to Reduce Such Impact

The Daigas Group procures natural gas, which is an environmentally-friendly and stable energy source, from overseas suppliers, and provides city gas to about 5,996,000 customers and electricity to about 619,000 customers, both mainly in the Kansai Region. The Group ensures the safety of customers and gives them peace of mind by procuring natural gas in a stable manner and building a solid security and accident-prevention system.

(As of March 31, 2018)



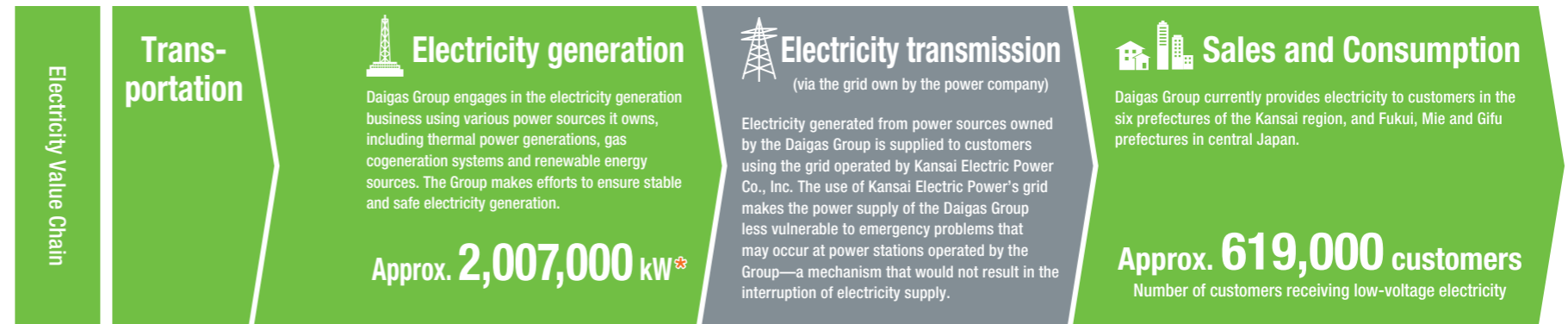
Identified Important Aspects and Its KPIs to Be Pursued Through Value-Chain

The Daigas Group has identified material aspects of its business and KPIs to be pursued as part of its efforts to grasp and manage the possible effects of its business activities on the environment and society, with a view toward creating a sustainable society. To visualize its CSR activities in line with each CSR Charter, the Group sets CSR Indicators and implements relevant measures.

Materiality (→P25)
CSR Indicators (→P24)

GRI Standards Items Identified as Materiality	
416 Customer Health and Safety	413 Local Communities
General Disclosures Product and Service Labeling	418 Customer Privacy
302 305 Energy / Emissions	Management Grievance Mechanisms
306 Effluents and Waste	308 414 Supplier Assessment

CSR Indicators under each Daigas Group CSR Charter	
Charter I Customer Satisfaction Survey	
Charter II Environmental Management Efficiency	
Charter III Communication events / Social contribution activities	
Charter IV Scores on compliance awareness / Percentage of employees receiving the "Compliance Training"	
Charter V Employee Attitude Survey	



* Power generation capacity owned by the Daigas Group is included but plants not yet in operation are excluded. (As of the end of June 2018)

Activities Undertaken under each KPI	Global environment	Local communities	Business partners	Customers	Employees
	302 305 Promote the efficient energy use and reduce GHG emissions (→P31) / 306 Promote the efficient use of natural resources and reduce the impact on the environment (→P32) / 308 414 Promote CSR activities in cooperation with business partners (→P36) / Charter II Reduce the impact of business activities on the environment (→P42, 45-48)	416 Ensure the safety of customers and a stable energy supply (→P29) / General Disclosures Enhance the quality of security and safety work, and ensure the appropriate provision of information (→P30) / 413 Respond to local communities (→P33) / Management Responds to grievances (→P35) / Charter III Communication and social contribution activities (→P49-51)	Management Responds to grievances (→P35) / 308 414 Promote CSR activities in cooperation with business partners (→P36) / Charter IV Promote compliance and respect human rights (→P52-53)	416 Ensure the safety of customers and a stable energy supply (→P29) / General Disclosures Enhance the quality of security and safety work, and ensure the appropriate provision of information (→P30) / 302 305 Promote efficient energy use and reduce GHG emissions (→P31) / 418 Protect customers' private information (→P34) / Management Responds to grievances (→P35) / Charter I Enhance customer satisfaction with main duties involving contacts with customers (→P37, 40) / Charter II Reduce the impact of business activities on the environment (→P42, 45-48)	308 414 Promote CSR activities in cooperation with business partners (→P36) / Charter IV Promote compliance and respect human rights (→P52-53) / Charter V Establish foundation for the use of diversified human resources (→P56-58)

- | Major Issues to be Tackled | Global environment | Local communities | Business partners | Customers | Employees |
|----------------------------|--|--|---|---|---|
| | <ul style="list-style-type: none"> Emissions of greenhouse gases (GHG) associated with energy consumption involved in drilling of gas resources Environmental nuisance and troubles caused during drilling of gas resources Impact on biodiversity in neighborhoods | <ul style="list-style-type: none"> Emissions of GHG associated with energy consumption involved in operations of LNG tankers Environmental problems caused during operations of LNG tankers Impact of ballast water used by LNG tankers on biodiversity | <ul style="list-style-type: none"> Safety, sanitary conditions and human rights of workers employed by gas suppliers | <ul style="list-style-type: none"> Excavated soil discharged during the laying of gas pipes Supply problems caused by natural disasters Safety, sanitary conditions and human rights of employees laying gas pipes | <ul style="list-style-type: none"> GHG emissions accompanying gas consumption at customers Accidents at customer's sites due to usage of gas equipment without safety mechanisms Provision of appropriate information regarding products, services and rates Protection of personal information of customers Contribution to local communities via educational support Safety, sanitary conditions and human rights of employees working at sites |

Addressing Social Issues through Energy Services

The Daigas Group has undertaken CSR activities as part of its efforts to build a sustainable society in line with the Daigas Group CSR Charter. The Group believes that the main philosophy envisioned under the SDGs is consistent with its basic idea on CSR. Therefore, we are convinced that we can contribute to achieving some SDGs through our CSR activities.

Among the 17 SDGs, Goal 13, "Take urgent action to combat climate change and its impacts," is closely related to business operations undertaken by the Daigas Group, a corporate group which is aiming to become a comprehensive energy service provider. The Daigas Group sees Goal 13 as the challenge to which the Group can contribute the most. It aims to reduce CO₂ emissions from its operations by a total of about 70 million tons between FY2018 and FY2031 under the Long-Term Management Vision 2030.

The Daigas Group is promoting various initiatives such as energy-saving town development through collaboration with universities and local governments, expanding use of renewable energy, disseminating state-of-the-art energy equipment and overseas expansion such as LNG utilization business. We believe that these activities can contribute to several Sustainable Development Goals (SDGs). These goals are "Goal 13: Take urgent action to combat climate change and its impacts", "Goal 12: Ensure sustainable consumption and production patterns", "Goal 7: Ensure access to affordable, reliable, sustainable, and modern energy for all", "Goal 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation." Moreover, by promoting these initiatives, we believe that it will lead to activities that create various opportunities, such as employment, creation of a place where diverse human resources can be active, and sustainable town planning.

The Daigas Group will address climate change as a comprehensive energy service provider. The Group is committed to contributing to development of industries and communities through the provision of sustainable energy.

13 CLIMATE ACTION

Cumulative amount of reduction of CO₂ emitted between fiscal 2018 and fiscal 2031 About 70 million tons

7 AFFORDABLE AND CLEAN ENERGY

- The Group will pursue an optimal energy mix with priority given to city gas.
- The Group will raise the proportion of renewable energy sources.

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

- The Group will promote the sustainable utilization of natural resources.
- The Group will propose a lifestyle focusing on the use of sustainable energy sources and disseminate relevant information to people.

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

- The Group will strive to establish a resilient energy infrastructure in which high-quality energy can be provided in a stable manner.

5 GENDER EQUALITY

- The Group will strive to establish a work environment in which female employees can display their abilities and play important roles.
- The Group will strive to create rewarding jobs for employees.

8 DECENT WORK AND ECONOMIC GROWTH

- The Group will strive to create new value backed by a variety of services and innovative ideas, with the aim of improving productivity and supporting economic growth.

11 SUSTAINABLE CITIES AND COMMUNITIES

- The Group will strive to promote sustainable urbanization by supporting the building of a community in which all people can lead safe and comfortable lives.

Action Establishment of Resilient Energy Infrastructure and Community Building ①



Establishing a Distributed Energy System through Which Impacts from Natural Disasters Can be Mitigated while Energy Consumption Can be Curbed

Osaka Gas is working on establishing resilient and efficient energy infrastructure in collaboration with local universities and municipalities, with the aim of building a safe, comfortable and sustainable community. By supporting efforts to build an anti-disaster distributed energy system, we are endeavoring to establish a system aimed at regionally neutralizing power output fluctuations associated with unstable renewable energy sources. We are also working on building a region-by-region power saving system and a system that can enable a peak-time cut in demand.

Kansai University × Osaka Gas

► "Resilience Campus" Scheme Aimed at Functioning as a Local Disaster-Prevention Base

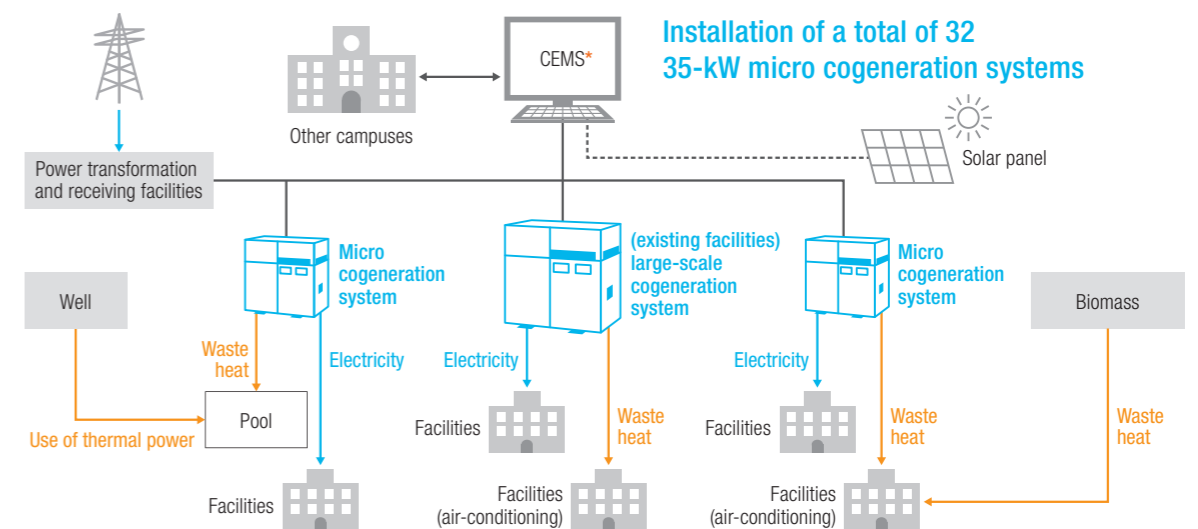
Kansai University promotes "a resilience campus" scheme, aimed at functioning as a local disaster-prevention base in the event of a natural disaster, mainly at its Senriyama Campus in Suita City, Osaka Prefecture—which our Group helps transform into a smart community by supporting the private university's efforts to establish a power-saving and more economical energy supply system that also focuses on regional disaster prevention.

The scheme envisages the installation of large-scale and micro gas cogeneration systems on the 350,000 m² Senriyama Campus in a distributed manner. Reliable intermediate-pressure gas pipes are used for gas delivery to both types of cogeneration systems, enabling a minimum necessary amount of electricity to be secured even in the event of an emergency. Therefore, it can

be expected that the Senriyama Campus will function not only as a resilient local disaster-prevention base but also as an "advanced eco campus" aimed at promoting power saving and reducing CO₂ emissions.

Furthermore, operations of facilities to be installed under the envisaged resilience campus scheme, including an already set up large-scale gas cogeneration system, the planned micro cogeneration system and facilities for renewable energy sources, can be controlled in an optimal manner under the Daigas Group's 24-hour monitoring so that overall energy saving at the campus and overall energy management including a peak-time demand cut will be realized.

■ How Kansai University's Energy System Can Work



* CEMS: The word stands for Community Energy Management System, aimed at promoting regional energy management.

Action Establishment of Resilient Energy Infrastructure and Community Building ②



Promoted Seismic Resistance and Tsunami Countermeasures in Manufacturing and Supply Facilities Prepared for Large-Scale Disasters

Osaka Gas is working on enhancing the resistance of manufacturing and supply facilities against earthquakes and strengthening anti-tsunami measures in preparation for the possible occurrence of a large-scale natural disaster. Specifically, we have introduced LNG tanks and polyethylene pipes with strong resistance to earthquakes, and established a series of measures to prevent possible damage caused by tsunami. These measures reflect our company's policy of giving the highest priority to ensuring customers' safety and stable supply.

When a major earthquake occurred in northern Osaka, our service was restored to normal operation at an early time thanks to anti-disaster measures we had put into practice, including the use of polyethylene pipes, the diffusion of microcomputer-based seismic sensing gas meters, subdivided the areas subject to service suspension, and the development of movable gas-generating machine. It was also confirmed that the earthquake caused no damage to our gas-processing plants, gas holders, and high-pressure and intermediate-pressure gas pipes.

► **Construct LNG Tanks and Expand Polyethylene Pipes with Strong Resistance to Earthquakes, and Establish a System to Prevent Damage Caused by Tsunami**

LNG tanks operated by Osaka Gas are safe against uneven land subsidence and vibration from earthquakes because they have been built on a solid foundation, supported by several hundreds of steel pipe piles that have been driven into the firm underground soil.

Polyethylene pipes are very durable and their life is almost permanent after being laid underground because they cause no corrosion. Such pipes are very strong and also flexible. Their strong resistance to earthquakes was confirmed through major earthquakes that occurred in Japan, including the January 1995 Hanshin-Awaji Great Earthquake, the March 2011 Eastern Japan Earthquake, and the June 2018 northern Osaka earthquake. At

present, polyethylene has basically been used as material for all low-pressure pipes being newly laid, with the total length of polyethylene pipes laid by our company reaching more than 15,900 km.

Also, in preparation for the Nankai Trough earthquake of which possible occurrence is expected in the future, we have developed and operated the "Tsunami Damage Prevention System." Connected to tsunami surveillance cameras installed in the premise, the System functions to monitor tsunami information such as seismic intensity, magnitude, tsunami warning, tidal level announced by Japan Meteorological Agency, etc. in a unified manner. In addition, it has a support function to judge supply stop by comprehensively judging from these information.



LNG tanks



Polyethylene pipe



Tsunami surveillance camera

Action Taken in Taiwan

Technological Consulting Using Know-How Acquired through Operations of LNG Terminals

The Daigas Group has acquired technological know-how through the design, construction and management of LNG terminals, and applied it to overseas operations, leading to the diffusion of LNG and contributing to a reduction in CO₂ emissions. In Taiwan, for example, where LNG imports have been growing, the Daigas Group has offered technological consulting to CPC Corporation and Taiwan Power Co. when they design, construct and operate LNG terminals. In earthquake-prone Taiwan, expectations have grown high regarding proposals being put forward by the Daigas Group, which can offer highly advanced anti-earthquake technologies and safety measures it has developed through operations in Japan, also a quake-prone country.



Action Provision of Energy with Less Environmental Impact Using Nature's Power



Expand the Use of Renewable Energy Sources Such as Wind Power, Solar Power and Biomass in Pursuit of an Optimal Energy Mix

As part of its efforts to arrest global warming and create a recycle-oriented society, the Daigas Group has been undertaking various business projects in collaboration with domestic and overseas companies known to be active in pushing for renewable energy projects. Under its FY2019 management plan, the Group pledged to accelerate the development and obtainment of electricity generated from renewable energy sources and announced a plan to double its power output from such energy sources, from 500,000 kW to 1 million kW, in FY2031.

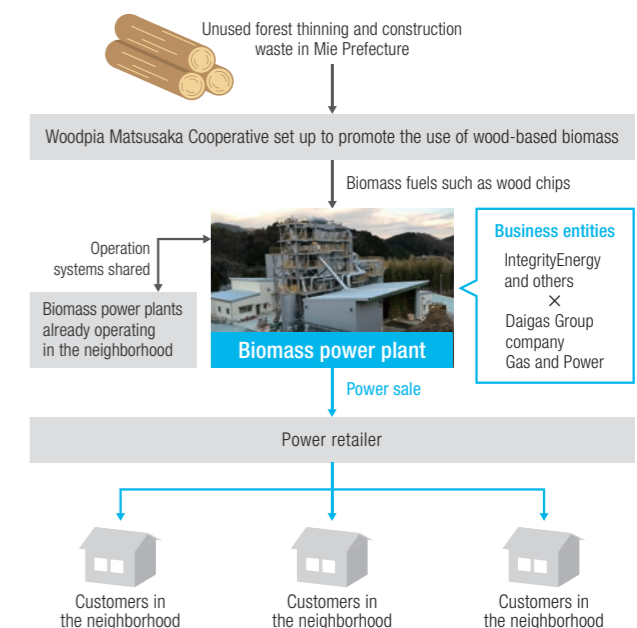
► **Active Use of Renewable Energy Sources to Curb Global Warming and Contribute to the Creation of a Recycle-Oriented Society**

The Daigas Group owns renewable energy sources, such as wind power, solar power and biomass, both in Japan and abroad. A 26,000-kW wind power plant put into operation by Inami Wind Power in Inami Town, Wakayama Prefecture in June 2018 marked the latest operation of a renewable energy facility for our Group. The combined capacity of the Group's power output from renewable energy sources has totaled about 210,000 kW in Japan and about 100,000 kW abroad.

In Matsusaka City, Mie Prefecture, the Daigas Group launched biomass business in January 2018 by having its subsidiary Gas and Power Co., Ltd. invest in a business entity established mainly by IntegrityEnergy. The biomass facility built under the project is fueled by locally unused forest-thinning, with the electricity generated being supplied to customers in the neighborhood through a power retailer. The project realized local production and local consumption through the biomass business.

In Ichihara City, Chiba Prefecture, a biomass power plant with a power-generating capacity of about 50,000 kW is under construction through a business entity set up by our Group together with Itochu Corp. and Mitsui E&S Engineering. In addition, our subsidiary Gas and Power acquired an equity stake in Shiribetsu Wind Power Development, which is constructing wind power plants with an output capacity of about 25,000 kW in Suttsu Town and Rankoshi Town in the northernmost prefecture of Hokkaido. The power plant in Suttsu aims to begin operating in 2020, and the plant in Rankoshi in 2021.

■ **Biomass Power-Generating Project in Matsusaka City, Aimed at Realizing Local Production and Local Consumption**



Action Taken in Thailand

Biomass-Refining Verification Project Undertaken with a Thai Local Company

The Daigas Group has been developing technologies to refine biogas as part of its efforts to effectively use biomass such as agricultural residue. Our verification project aimed at commercializing the technologies began in Thailand in 2017. The project involves fermenting organic matter contained in waste water discharged from a palm oil factory. The fermentation is designed to generate biogas from which CO₂ will be removed, a process that leaves methane gas. The ratio of recollecting methane gas of which impurities are removed under the project is more than 99%, with the refined gas being used as a fuel to power natural gas vehicles.



Action Promotion of Optimal Energy Use in Cooperation with Customers



Realize More Efficient Energy Use at Customers' through Connection to IoT

CO₂ is emitted through the use of energy sources such as gas, electricity and oil fuels. The Daigas Group is convinced that an important key to reducing CO₂ emissions in society is the further diffusion of highly energy-efficient equipment and systems, including Ene-Farm and cogeneration systems [21], which are promoted by the Group as they use natural gas with less CO₂ emission.

These highly energy-efficient systems enable the more expeditious and efficient management of energy use with the rapid development of fully Internet-connected IoT and AI. With the advancement of these systems, people's lives have become safer and more comfortable. Among such systems is one aimed at monitoring the safety of elderly people and providing healthcare support to them.

For Household Customers

▶ New Energy Service "Ene-Farm" and "Eco-Jozu," Developed Thanks to IoT

In April 2016, Osaka Gas launched Ene-Farm type S, an IoT-compatible home-use solid oxide fuel cell (SOFC) [21]. As of the end of FY2018, more than 80% of Ene-Farm type S users were subscribed to a remotely controlled power-generation monitoring system or a remotely controlled energy equipment service. The monitoring system won high acclaim from 94% of its customers, who said they were able to confirm the safety of the remote operation being monitored.

In October 2017, the Company launched the energy-saving and IoT-compatible hot-water supply system "Eco-Jozu," which have various user-friendly functions. Among such functions are sending a message to the subscriber's smartphone when the device develops a problem, and monitoring temperature and other conditions inside the bathroom as a way to prevent bathroom accidents. The Eco-Jozu also offers a healthcare management service to customers by monitoring their health condition while having a bath.

In addition to these services, new services taking advantage of IoT technologies were launched in April 2018 to provide new value to users, including informing the user via a "smart speaker" when the bathtub is filled up, and informing the record of use of the bathtub to the user's relative living in a remote place via smartphone.

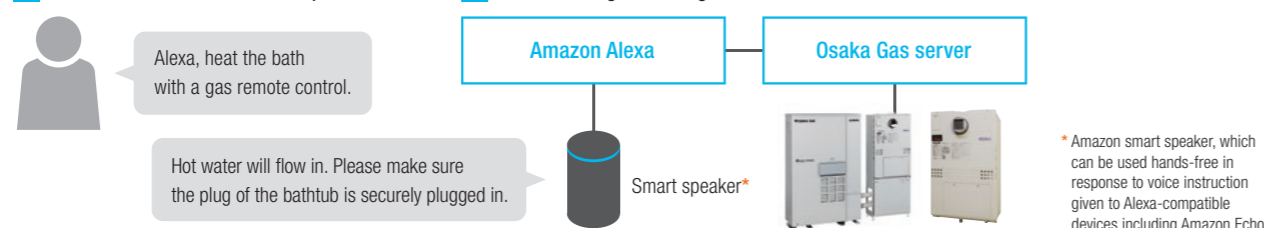
Subscribers to "My Osaka Gas," an exclusive online club for Osaka Gas customers, can confirm online the breakdown of the gas used (hot water supply, heating, reheating) through the heat source equipment of Ene-Farm type S. The Web service enables customers to grasp how the gas has been used.

The Daigas Group aims to become a corporate group that can contribute to further advancing customers' lives and businesses by continuing to offer innovative services backed by up-to-date technologies like IoT and AI.



■ Operate Gas Equipment via Smart Speaker

- 1 Voice instruction issued to fill up the bathtub
- 2 Hot water begins flowing onto the bathtub



For Corporate Customers

▶ Energy-Saving Proposal through "ekul" Service

Osaka Gas has offered energy-saving and energy-controlling services in a visible manner, using information and communication technology (ICT). Among such services are the "Eneflex" and the "Motto Save" service.

In FY2017, Osaka Gas launched the "ekul" data measurement service in response to customer demand for further "visualization" of various service data in addition to supporting customers' efforts to save energy, cut costs and increase labor efficiency. The "ekul" service is designed to provide its subscribers with gas and power

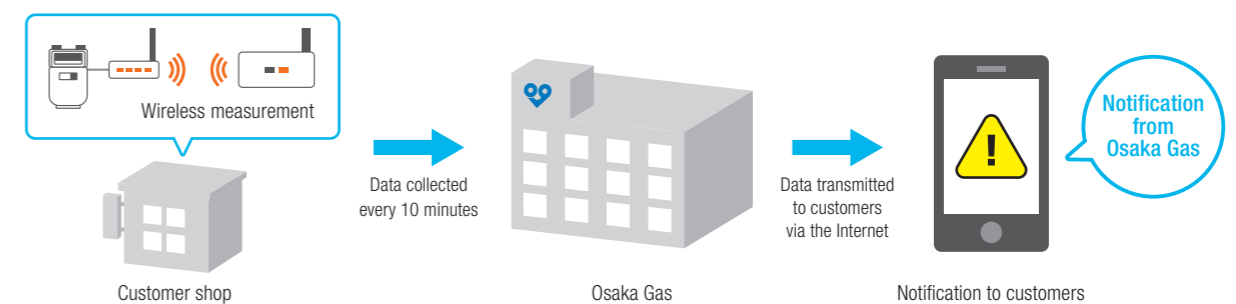
consumption data the moment these data are measured. Measurement of other data can be added to the service, including water consumption, the number of visitors, temperature and humidity.

IoT is also used in the "ekul" service. The IoT-based cloud service offered by Amazon Web Services and the use of the SORACOM Air SIM card has made "ekul" an expeditious and low-cost service. The business environment established in connection with the "ekul" service addresses security risks properly, eliminating customers' worries on the security front.

■ Visual Flow of "ekul" Service

Three-step service for data measurement and notification

- 1 Wireless installation of a measuring device
- 2 Data measured every 10 minutes
- 3 24-hour access to data from anywhere



Action Transformation into a Corporate Group Where Diversified Human Resources can Play Important Roles



Development of Human Resources and Promotion of Diversity

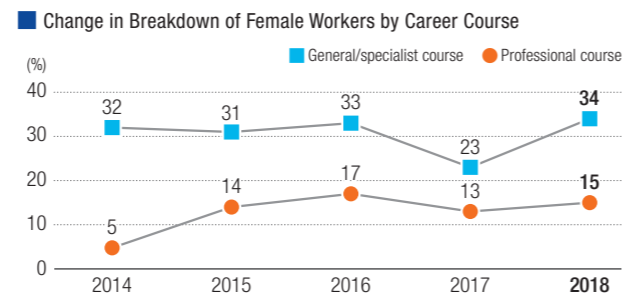
The Daigas Group is working on promoting the diversity of human resources to provide services in excess of customer expectations. The Group is developing human resources who can play important roles in the global community in response to expanding business fields covered by the Group. Furthermore, we aim to become a corporate group where human resources with various backgrounds can play their respective roles regardless of sex, age, nationality, employment style, lifestyle, religion, sexual orientation, gender identity or disability. By doing so, we are striving to establish and expand a work system in which diverse lifestyles, enhanced productivity, and efficient work styles are compatible to each other.

Establish an Organization and System in Which Women Can Continue to Work

Osaka Gas aims to become a company where each worker's individuality and free will are respected, and employees can grow through work. At our company, women are treated as invaluable human resources and their promotion to management posts has been encouraged. As a result, the scope of business fields where women can play key roles has expanded to the widest-ever areas at Osaka Gas. Women and their supervisors in charge of educating them have been asked to enhance their awareness regarding their medium- and long-term career development plans. At the same time, Osaka Gas continuously works on attaining goals set on this front by establishing a system to support female workers' career development.

Osaka Gas has endeavored to establish a better work environment that is friendly not only to women but also to men by supporting child birth, child rearing and nursing care for aged parents. The

Company has institutionalized support given to employees during childbirth leave and childcare leave so that they can return to work smoothly. A project for a similar purpose has also been launched. In addition, a special leave system has also been established to encourage employees' participation in child rearing.



Promote Efforts for Recognition, Understanding and Penetration of SDGs

The Daigas Group is committed to solving social issues through its business activities and contributing to the attainment of the Sustainable Development Goals (SDGs). For these commitments to be fulfilled, the Group believes it is essential to enhance and diffuse employees' recognition and understanding of the SDGs. Starting in FY2018, the Daigas Group has been undertaking activities aimed at encouraging its employees to lead a life and work while taking into consideration social issues and the SDGs.

CSR Seminar for All Employees

News anchorwoman Hiroko Kuniya and SDG Partners CEO Kazuo Tase were invited to the Daigas Group's FY2018 CSR seminar, and about 190 employees—comprising both executives and rank and filers—participated in the seminar. Both guests talked about the importance of the SDG activities conducted by each employee, and the additional value companies could create by incorporating SDGs into their management strategies. In a survey conducted among the employees who attended the seminar, 92% of those polled said they could contribute to the attainment of the SDGs through their work and private activities.



Guest speakers Ms. Hiroko Kuniya (left) and Mr. Kazuo Tase

Round-Table Talks under the Title of “Daigas Group’s Efforts to Attain SDGs—Each Action for Helping Curb Climate Change—”

The Daigas Group has been undertaking activities aimed at achieving the SDGs by promoting business activities addressing climate change. To clarify issues to be addressed in its further SDG efforts, the Group has held a round-table talk with the attendance of experts familiar with the SDGs.

Panelists

Mr. Junichi Fujino
Institute for Global Environmental Strategies
Principal Policy Researcher
National Institute of Advanced Industrial Science and Technology

Mr. Tomonori Honda
Safety science division in the field of energy
Advanced Life Cycle Assessment (LCA) Research Group
Senior Researcher

Ms. Yuka Matayoshi
Mizuho Securities Co., Ltd.
Market Strategic Intelligence Department
Senior Researcher

Megumu Tsuda
General Manager of CSR & Environment
Department, Osaka Gas Co., Ltd.



Clockwise from lower right: Mr. Fujino, Ms. Matayoshi, Mr. Honda, Ms. Tsuda

and incorporating an environmental action mechanism in society so that you can take an appropriate approach to environmental issues. One good example to which I want to draw your attention is putting forward lifestyle proposals to reduce greenhouse gas emissions. For example, I want Osaka Gas to think how the Ene-Farm service can contribute to cutting greenhouse gas emissions, not in terms of statistical energy efficiency but in term of how it could be effective in improving people's lifestyles. I expect Osaka Gas to find new ways of utilizing the Ene-Farm and forging a mechanism for that purpose.

Ms. Tsuda: The process by which we are to achieve the goals is important. If the goals are not attained, we will come up with the next steps to be taken and check whether the goals that had been set reflected the reality. If judged necessary, the PDCA cycle will be put into place. We have visited customers and proposed solutions after analyzing how they had used gas appliances. If we mobilize all the know-how we have acquired through these solutions, we believe we can come up with a new proposal for addressing issues related to climate change.

Mr. Honda: It is hard to make a long-term forecast through 2050. But why don't you present an idea of how Osaka Gas should be in the future? This may be all the more important despite the expected difficulty of making a long-term forecast. If you demonstrate that you are really serious, you can reach a starting point for discussion, on themes including whether the accumulated technologies are usable and which direction Osaka Gas should take.

Ms. Tsuda: We would like to think together with young employees concerning how our company should be toward 2050. The innovation we are to pursue is not an extension of what we are doing now. What we need is “discontinuous” innovation. I believe what society aims to achieve is what is sought under the SDGs. Therefore, we want to work consistently to reach the SDGs.

Promoting Information Disclosure and Dialogue, and the Process of Reflecting Them in Management Strategy are Important

Ms. Matayoshi: To build a sustainable society under the SDGs, not only a policy-oriented approach but also a change in money flow is necessary. Under these circumstances, investment indicators being used to evaluate companies based on ESG (environment, society and governance) have become a core framework in the capital market for achieving the SDGs. Especially important for energy companies heavily reliant on fossil fuels is enhanced information disclosure concerning the environment. A dialogue method as a means of addressing how information disclosure should be and enhancing corporate value has been a focus of discussion.

Ms. Tsuda: What companies had to do concerning information disclosure in the past was limited to disclosing financial information, which shows the company's “explosive power” and “muscular power.” Now, however, companies are required to disclose nonfinancial information, which shows the company's “internal organ” power that leads to sustainability. This is my perception.

Ms. Matayoshi: Information to be disclosed for evaluation is mainly data. Osaka Gas, however, should disseminate its vision concerning how the Company will recognize and respond to possible risks and opportunities deriving from uncertain factors to the investing public through dialogue. Furthermore, it is important for the Company to reflect what it has obtained through the dialogue in its management strategy. Mobilizing all options available is crucially important for the Company to solve not only climate change issues but also various social issues at the same time. In that sense, Osaka Gas should step up publicizing the fact that the active use of highly energy-efficient natural gas is instrumental in attaining the SDGs.

Ms. Tsuda: We will further analyze the risks and opportunities related to climate change and deepen our dialogue with investors, focusing on business strategies. Thank you very much for attending this panel discussion today.

Create Innovation, Deepen Communication and Enhance Motivation through SDGs

Mr. Fujino: SDGs is a key part of the United Nations' document titled “Transforming Our World: the 2030 Agenda for Sustainable Development,” adopted by the General Assembly in September 2015. The document's preamble described the 2030 Agenda as “a plan of action for people, planet and prosperity.” Behind the wording is a sense of crisis shared by UN members toward our planet based on the perception that human activities may have already surpassed the capacity of the Earth. The 2030 Agenda calls for the global community to share 17 goals to be achieved by 2030, followed by review and assessment of the results. The agenda envisages employing a back-casting approach in working out solutions. SDGs have become akin to a universal language, as they are used in dialogue with various stakeholders. The concept of SDGs can become an important factor when Osaka Gas ponders their meaning for society and the services to be provided to customers toward 2030. Employees of Osaka Gas can refer to the SDGs when discussing how to make their company a company of pride.

Ms. Tsuda: Since its foundation, Osaka Gas has undertaken its business activities with the aim of improving people's lives by lighting the town with gaslights and easing the burden of housework with gas stoves. These activities reflected our strong desire to help people. The characteristics of people working at Osaka Gas as conveyed in three slogans may have motivated our past actions. These three slogans, which also highlight our strength, are “a spirit of active involvement,” “a pioneering spirit” and “genuine sincerity.” We are proud of what we have done in the past. By utilizing SDGs effectively, we can accelerate innovation. SDGs can become a source of motivation for employees of Osaka Gas and a prime mover of the Company.

Mr. Fujino: Initially, Osaka Gas focused on achieving Goal 1 (ending poverty), Goal 2 (ending hunger) and Goal 5 (achieving gender equality). The Company has become what it is now by contributing to attaining these goals. Why not study how Osaka Gas has become what it is now and what mission it should fulfill toward 2030, while utilizing the SDGs?

Present Proposals on Social Mechanisms, including Lifestyles, and Mobilize All Know-How to Reduce CO₂ Emissions

Mr. Honda: Reducing greenhouse gas emissions as a means of curbing climate change has become an essential business element. It is important for Osaka Gas to manage its emission-cutting goals and their results. Equally important is accurately recognizing the status quo, reviewing these goals whenever necessary,

Becoming an Innovative Energy & Service Company that Continues to Be the First Choice of Customers

The Daigas Group has formulated the “Long-Term Management Vision 2030” and the “Medium-Term Management Plan 2020” called “Going Forward Beyond Borders.” These plans are designed for the Group to be an innovative energy and service company that continues to be chosen by customers through successive generations.

With the “three guiding principles” based on the Daigas Group corporate philosophy in mind, we will carry out our long-term management vision. Among these, in order to realize “Continue to acquire confidence from investors, partner companies, society and employees”, we are working on a high level of CSR activities combined with our management strategy. Major CSR activities undertaken by the Group in FY2018, the first year of the Medium-Term Management Plan, called “Going Forward Beyond Borders,” are listed on the right side page.

We aim to be a company that continues to be chosen by all stakeholders and works on promoting the prosperity of both our company and society.

Daigas Group Corporate Principles and Three Guiding Principles toward FY2031

► Daigas Group Corporate Principles

Corporate Motto	Service First
What the Daigas Group aims to be	A corporate group that supports continuous advancement of consumer life and business
Daigas Group Declaration	The Daigas Group is committed to creating four values.

The Daigas Group is committed to creating value primarily for customers, as well as for society, shareholders and employees.

Value for customers	Value for society
Value for shareholders	Value for employees

► Three guiding principles toward FY2031

1. Continue providing as many customers as possible with high-quality service, developed on the basis of its “service-first” policy.
2. Always strive to be professionals who pursue innovative challenges.
3. Continue to be trusted by investors, corporate partners, employees and society.

FY2018-2021 Medium-Term Management Plan

► Measures to be taken under the Medium-Term Management Plan 2020

- 1 Enhancement of solutions business for residential customers
- 2 Enhancement of solutions business for commercial and industrial customers
- 3 Establishment of competitive power-supply portfolio
- 4 Development of pipeline network operator business
- 5 Efforts to expand international energy business
- 6 Securing of a business footing in the LBS* business and exploration of new business fields

* Life & Business Solutions

► Main CSR Activities Undertaken during FY2018

1	Special Feature: New Energy Service “ENE FARM” and “Ecojozu,” Developed Thanks to IoT	P13
	CSR Charter I Incorporating Customer Opinions	P40
	● Sharing customer voices throughout the company ● Examples of product and service improvements based on customer voices	
1	CSR Charter I Proposing New Value	P41
	● Housing support service called “Sumikata Service,” launched to respond to various needs of customers	
1	CSR Charter II Efforts to Reduce CO ₂ Emissions	P45
	● CO ₂ emissions reduced by approx. 4,000,000 tons at customer sites	
2	CSR Charter III Social Contribution Activities	P50
	● Fostering growth together with people in local communities	
2	Special Feature: “Resilience Campus” Scheme Aimed at Functioning as a Local Disaster-Prevention Base (Kansai University)	P10
	Special Feature: Energy-saving Proposal through “ekul” Service	P14
	CSR Charter II Efforts to Reduce CO ₂ Emissions	P45
3	● Development and diffusion of gas cogeneration systems for business and industrial use	
	Special Feature: Active Use of Renewable Energy Sources to Curb Global Warming and Contribute to the Creation of a Recycling-Oriented Society	P12
3	CSR Charter I Efforts to Ensure Safety and Ease Customers’ Worry	P38
	● Ensure a stable energy supply by diversified power sources	
4	Special Feature: Construct LNG Tanks and Expand Polyethylene Pipes with Strong Resistance to Earthquakes, and Establish a System to Prevent Damage Caused by Tsunami	P11
	CSR Charter I Efforts to Ensure Safety and Ease Customers’ Worry	P39
	● Measures against large-scale earthquakes ● Passing on advanced knowledge and skills in safety and disaster prevention	
5	Special Feature: Technological Consulting Using Know-How Acquired through Operations of LNG Terminals (Taiwan)	P11
	Special Feature: Biomass-Refining Demonstration Project Undertaken with a Thai Local Company (Thailand)	P12
6	Special Feature: Realize More Efficient Energy Use at Customers through Connection to IoT	P13-14
	CSR Charter II Developing Environmental Technologies	P46
6	● Method developed by Osaka Gas to test activated carbon fibers recognized as being harmonious with ISO international standards	

► Other Measures to Realize “What we aim to be in 2030”

ESG-oriented management aimed at winning trust from stakeholders	Corporate Governance	P19-20
	CSR Management	P21-24
	Actions on Materiality	P25-28 P29-36
	● Revision of important aspects of CSR (Materiality) ● Activities on materiality in FY2018	
	CSR Charter IV Action on Human Rights	P55
Promote work style reform and develop human resources with the aim of enhancing productivity	● Osaka Gas Urban Development encourages its employees to obtain a certification as a “real estate trade human rights promoter.” (Voices of Group Employees: Osaka Gas Urban Development Co., Ltd.)	
	Special Feature: Development of Human Resources and Promotion of Diversity	P15
	CSR Charter V Acceptance of Diversity	P57
	● Promotion of diversity aimed at enhancing corporate competitiveness (Voices of Group Employees: Osaka Gas Chemicals Co., Ltd.)	
	Report on FY2018 CSR activities based on CSR Charter	P37-58



Long-Term Management Vision 2030

Becoming an innovative energy & service company that continues to be the first choice of customers

Corporate Governance

Basic Views on Corporate Governance

To implement measures envisaged under the Long-Term Management Vision 2030 and the Medium-Term Management Plan 2020, both formulated in March 2017 and together called "Going Forward Beyond Borders," Osaka Gas intends to ensure transparency, fairness and boldness in decision making, and execute its assigned business duties efficiently and adequately, based on the Daigas Group CSR Charter, a set of guiding principles, and specific standards for actions—the Daigas Group Code of Conduct

and the Daigas Group Environmental Activities Policy. By doing so, the Company aims to attain sustainable growth and enhance its corporate value on a medium- and long-term basis. The Company aims to maintain its trust from stakeholders in response to shareholders' moves to exercise their rights and by promoting dialogue and collaboration with them. To further enhance its CSR levels, the Daigas Group will continuously improve and strengthen the current corporate governance system.

System and Efforts Aimed at Enhancing Corporate Governance

Osaka Gas has chosen to be a company that adopts a corporate auditor system. The Company has also adopted an executive officer system. The Company's corporate governance system is shown below.

Board of Directors, Directors of the Company

The Board of Directors consist of 13 Directors, including three Outside Directors. Its mission is to make swift and appropriate decisions concerning important matters that affect the Group as a whole including subsidiaries, and reinforce the supervisory capability. In FY2018, the Board of Directors met a total of 13 times, with the attendance rate reaching an average of 98.8%. Sufficient time was allocated to discussing the matters tabled for the meetings and active discussions were conducted.

Executive Officers

Osaka Gas has adopted an executive officer system, which is aimed at revitalizing the activities of the Board of Directors, and enhancing its supervisory function while increasing the Company's management efficiency, by enabling Directors to focus on decision-making, and supervisory duties. Under the executive officer system, Executive Officers perform duties determined by the Board of Directors, while some Representative Directors and Directors concurrently serve as executive officers to make management decision-making more accurate and efficient.

Executive Board

Osaka Gas makes decisions on important matters concerning basic management policies and other management issues after the Executive Board fully discusses these matters. In line with the in-house rules related to the Executive Board, the Board is composed of the President, Vice Presidents, Managing Directors, Heads of HQs and Business Units, and generally meets every week. In principle, meetings held by the Executive Boards each year include three meetings held as the CSR Promotion Council, which deliberates on CSR-related activity plans and share the results of the activities.

Board of Corporate Auditors, Auditors

The Board of Corporate Auditors consists of five Auditors, including three Outside Auditors. These Auditors audit the execution of duties assigned to each Director.

Roles and Functions of Outside Directors

As a member of the Board of Directors, each Outside Director takes part in the Company's decision-making process, and monitors and supervises whether the Executive Officers have executed their

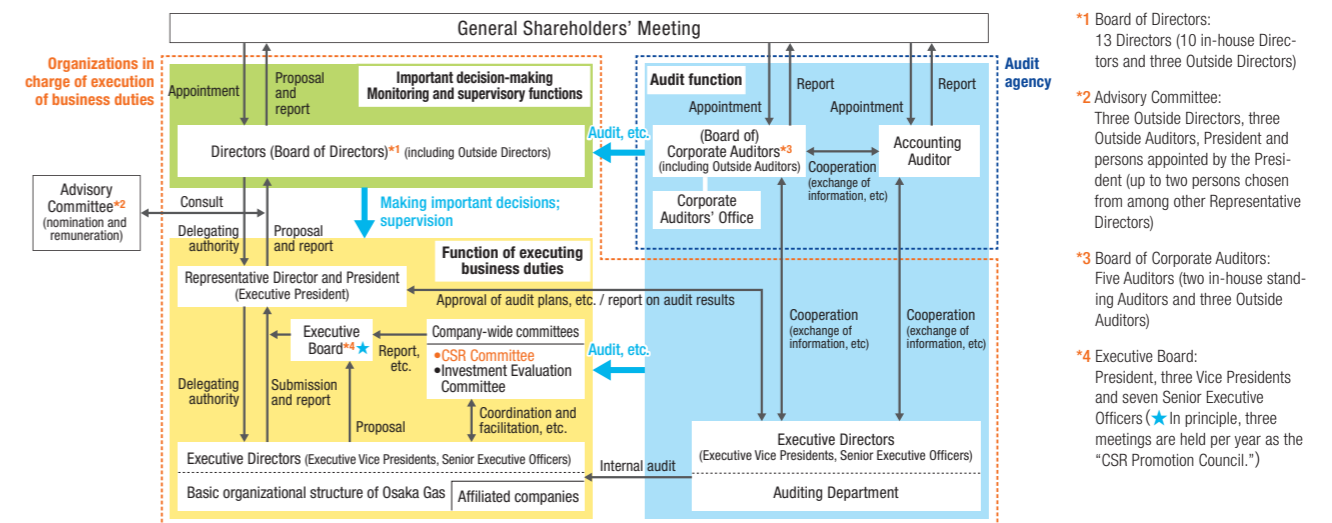
business duties appropriately, based on his or her knowledge and experience, and from an independent viewpoint.

Efforts to Strengthen the Functions of Auditors

As part of its efforts to strengthen the functions of Auditors, Osaka Gas appoints three Outside Auditors, whose role is to audit if Directors have executed their duties appropriately—from an independent viewpoint. The Auditors meet on a regular basis to discuss annual audit plans and audit reports, and exchange information to ensure the effectiveness

of auditing activities and enhance their quality. Osaka Gas has established the Corporate Auditors' Office, which is composed of full-time staff operating outside the Executive Officers' chain of command. The Office is designed to strengthen the auditing function of Auditors by supporting them in executing their business duties.

Corporate Governance System (As of the end of a regular general shareholders meeting held on June 28, 2018)



- *1 Board of Directors: 13 Directors (10 in-house Directors and three Outside Directors)
- *2 Advisory Committee: Three Outside Directors, three Outside Auditors, President and persons appointed by the President (up to two persons chosen from among other Representative Directors)
- *3 Board of Corporate Auditors: Five Auditors (two in-house standing Auditors and three Outside Auditors)
- *4 Executive Board: President, three Vice Presidents and seven Senior Executive Officers (★ In principle, three meetings are held per year as the "CSR Promotion Council.")

Risk Management

Heads of divisions of the Daigas Group and affiliates are in charge of managing crisis-related losses by conducting risk-management inspections on a regular basis. Utilizing the Gas Group Risk Management System (G-RIMS)* and other systems, each division and affiliate checks if there are any risks and if risk control has been conducted properly regarding each risk item, and implements follow-up and other measures if necessary. The CSR Committee's subpanel in charge of risk management meets to clarify and share awareness among all employees regarding how the Daigas Group should respond to possible risks in the future, based on the results of G-RIMS.

As for risk management regarding matters that affect the entire Daigas Group, such as safety, security, and disaster and accident

prevention, the departments or divisions responsible have been clarified to support each division. In order to be prepared for disasters or emergency situation, the Rules for Disaster Control and the Business Continuity Plan (BCP) in the Event of Large-Scale Disasters and Accidents have been established. Companies that newly entered the retail gas market participated in a comprehensive disaster-prevention drill in FY2018. The event enabled the participants to confirm how gas retailers and gas pipe operators should work together in the event of an emergency.

* G-RIMS is a system for risk management in routine business operations. The manager of each organization and affiliated company checks if preventive measures have been implemented or an early-detection system is in place as required, using a checklist comprising about 50 items. G-RIMS is also designed to evaluate the magnitude of risks and identify risks to be addressed, before PDCA (plan-do-check-act) is operated for improvement.

Status of Internal Control

Osaka Gas established systems (internal control systems) to ensure that the Directors of the Company execute the duties in compliance with the laws and regulations and the Articles of Incorporation and other systems necessary to ensure the properness of the Group's

operations. The Company confirms the operating status of the internal control systems on a periodic basis. At the meeting of the Board of Directors held on April 26, 2018, it was reported that the internal control systems were operating in a proper manner.

CSR Management

Promote CSR as Daigas Group

To live up to the expectations of its stakeholders, fulfill its corporate social responsibilities and achieve sustainable development, the Daigas Group adopted the CSR Charter in 2006, guiding principles based on which executives and employees execute their business duties.

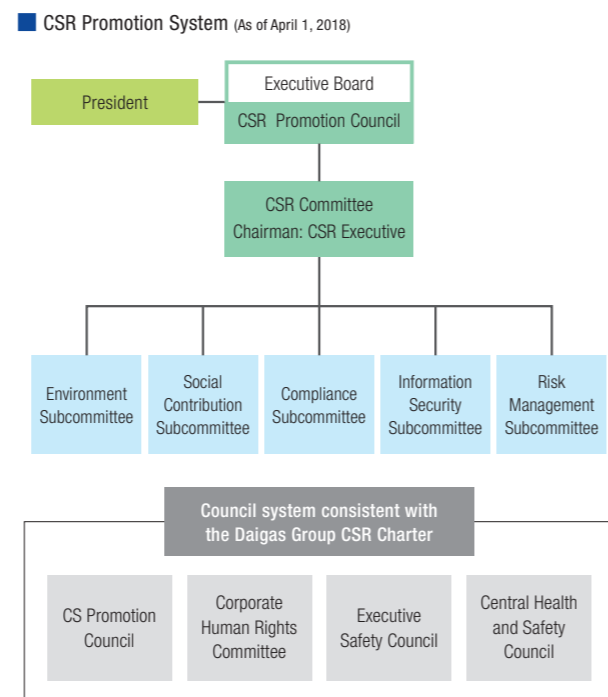
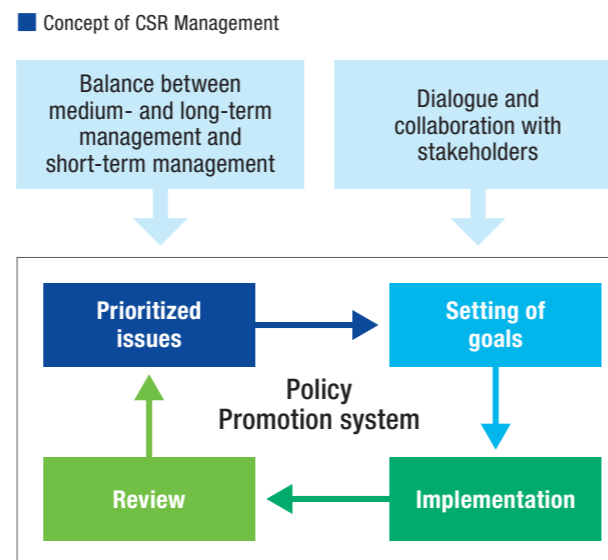
Furthermore, in 2007, Osaka Gas became the first Japanese utility to express its intention to join the United Nations Global Compact in a show of its support of principles to be respected by companies worldwide.

The Daigas Group Code of Conduct, adopted in 2000, spells out guiding principles the Group's employees and executives must abide by. In 2008, the code was revised to make it harmonious with the United Nations Global Compact. In 2011, it was also modified to reflect core elements of ISO 26000. In March 2018, the Code was also revised to promote its diffusion within the Daigas Group and smooth the execution of business duties in reflection of the Code. Meanwhile, as our business field has expanded, the scope of stakeholders—parties influenced by our operations—has further expanded, including customers, local communities, shareholders and employees.

In order to recognize the impact our business activities may have on society and the environment, and conduct business while controlling such impact, the Daigas Group has been promoting CSR activities. Specifically, in 2009, the Group introduced CSR Indicators under each chapter of the CSR Charter to promote CSR activities and visualize the process.

In FY2018, we identified new important aspects for the Group's CSR, which we call "materiality," by referring to the GRI Sustainability Reporting Standards (GRI Standards), while taking into account opinions from knowledgeable people outside the Group as well as the current social situation.

Under the "CSR Promotion System" as a basis of CSR activities, we implement CSR management system to promote and assess activities and indicators aiming for implementing effective PDCA management.



► Daigas Group CSR Charter

I	Creating Value for Customers	The Daigas Group is committed to making a positive contribution to realizing a higher level of comfort and development in the business activities of its customers. The group intends to achieve this objective through the provision of a reliable and safe supply of natural gas and other energy services with an improved level of services for its customers. We also pursue the development of new products and services furthering value for customers, and that create opportunities for growth for our business and customers and society at large.
II	Harmonizing with the Environment and Contributing to Realizing a Sustainable Society	Addressing the issues of the environment both at regional and global levels is of paramount importance for the Daigas Group which is engaged in wide-ranging energy services. Being seriously aware of the impacts of its business activities on the environment, the Daigas Group seeks to harmonize its businesses with the environment and to realize efficient utilization of energy resources, thereby contributing to realizing a sustainable society.
III	Being a Good Corporate Citizen Contributing to Society	As a good corporate citizen, the Daigas Group strives to maintain communication with society and the communities it serves. Through proactive disclosure of information and improved managerial transparency, we intend to establish favorable relationships with citizens and to make our positive contribution to the development of a healthy society.
IV	Complying with Laws and Regulations and Respect for Human Rights	The management's and the employees' compliance with laws and regulations forms the basis for gaining society's trust. Our perspectives on compliance go beyond legal and regulatory boundaries to include decent conduct expected of all citizens. Based on our respect for human rights, we intend to maintain equitable relationships with our customers, business partners, and other parties.
V	Management Policy for Human Growth	The Daigas Group strives to become a group of enterprises to realize the growth of its employees through work by ensuring employment opportunities and respecting employees' individuality and initiative. We will charge ourselves with the task of creating new value for customers, shareholders and society.

► How the U.N. Global Compact and ISO 26000 are Related to the Daigas Gas Group Code of Conduct

Daigas Group Code of Conduct	United Nations Global Compact	ISO 26000: Core subjects*
<ol style="list-style-type: none"> Respect for human rights Creating a pleasant work environment Compliance with laws and regulations Personal and professional lives Respect for international rules and regulations as well as international norms including those on human rights Consideration to the environment Compliance with anti-monopoly laws and practice of fair transaction Provision of products and services Ensuring safety of products and services Interacting with customers Contributing to society Associating with business partners Developing our partners' understanding of our Code of Conduct Use of information and information systems Disclosure of information Management of intellectual property Prohibiting association with anti-social forces, favors and benefits Appropriate payment of taxes and accounting practices 	<p>Human Rights</p> <p>Principle 1 Businesses should support and respect the protection of internationally proclaimed human rights; and</p> <p>Principle 2 make sure that they are not complicit in human rights abuses.</p> <p>Labor</p> <p>Principle 3 Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;</p> <p>Principle 4 the elimination of all forms of forced and compulsory labor;</p> <p>Principle 5 the effective abolition of child labor; and</p> <p>Principle 6 the elimination of discrimination in respect of employment and occupation.</p> <p>Environment</p> <p>Principle 7 Businesses should support a precautionary approach to environmental challenges;</p> <p>Principle 8 undertake initiatives to promote greater environmental responsibility; and</p> <p>Principle 9 encourage the development and diffusion of environmentally friendly technologies.</p> <p>Anti-Corruption</p> <p>Principle 10 Businesses should work against corruption in all its forms, including extortion and bribery.</p>	<p>Organizational governance (See P19-20)</p> <p>Human rights Daigas Group Code of Conduct 1 3 4 5 13</p> <p>Labor practices Daigas Group Code of Conduct 2 3 4 5 13</p> <p>The environment Daigas Group Code of Conduct 3 4 5 6 13</p> <p>Fair operating practices Daigas Group Code of Conduct 3 4 5 7 12 ~ 18</p> <p>Consumer issues Daigas Group Code of Conduct 3 4 5 8 9 10 13</p> <p>Community involvement and development Daigas Group Code of Conduct 3 4 5 11 13</p>

* Numbers in the right column show the items of the Daigas Group Code of Conduct relating to each core subject of ISO 26000.



Dialogue and Cooperation with Stakeholders

The Daigas Group is focusing on active engagement with stakeholders through dialogue to recognize various possible issues involved in its CSR and to come up with mutually acceptable solutions to such issues, based on the Daigas Group CSR Charter and Daigas Group Code of Conduct. For example, the Daigas Group has been promoting dialogue with the Kansai Consumers' Association, the Osaka Voluntary Action Center, and the Osaka Gas Labor Union. Furthermore, the Group is sharing information and cooperating as a member of the Global Compact Network Japan, and actively taking part in the formulation of various policy measures by the government and municipalities. The Group is also active as a member of the International Gas Union (IGU) putting forward proposals, aimed at promotion of the global gas industry.

One of the results of such engagement is that five business associations formed by partner companies undertaking gas-related services established the Code of Ethics respectively in response to the Group's policy. The Group is also actively engaging with various stakeholders, such as businesses, universities and NPOs.



CSR Indicators

▶ Efforts to promote CSR activities and visualize the process

In 2009, the Daigas Group introduced CSR Indicators under each chapter of the CSR Charter to promote CSR activities and visualize the process. Under the Group's policy of promoting CSR, the current

CSR Indicators cover the medium-term period between FY2018 and FY2021. Some of the indicators, however, are reviewed on a single-year basis as a result of dialogue with stakeholders.

▶ Achievement of Targets for CSR Indicators and Setting of New Targets for FY2021

CSR Charter	CSR Indicators	FY2021 Targets for CSR Indicators		Achievement of FY2018
I	Customer Satisfaction Survey: Seven customer service duties	Overall satisfaction rate	91% or more	92%
		Satisfaction rate for each of the seven customer service duties	86% or more	89% or more for all seven duties
II	Environmental Management Indicator	Environmental Management Efficiency	14.2 yen / 1,000 m ³ or less	11.6 yen / 1,000 m ³
III	Communication events	Number of such events held (environmental education, food education, visit to Gas Science Museum, Himeji Gas Energy Hall)	1,950 events or more	3,710 events
		Social contribution	Number of events held	600 events or more
IV	Scores on compliance awareness	(Individual) Recognition level of "Code of Conduct"	Higher than the previous year	Up 4.0 points from the previous year (85.6%)
		(Organization) Degree of compliance penetration in the organization	Higher than the previous year	Up 4.3 points from the previous year (91.9%)
	Percentage of employees receiving the "Compliance Training" 100%	Attendance rate	100%	100% (No. of employees covered by the survey: 22,349)
V	Employee Attitude Survey	Job satisfaction and attachment to the company	Maintain sufficient levels (The next survey is conducted in fiscal 2019.)	Maintain sufficient levels (3.85 for job satisfaction, 4.38 for employees' sense of attachment to the Company / five-scale survey) * FY2015 results

Contact with Stakeholders

Stakeholders	Main contact opportunities and contact tools
Customers	● Business opportunities such as safety check and sale ● "Customer Centers" ● Service shops ● Showrooms ● Corporate PR events ● Advertisements via TV and other media ● Website ● Catalogs for products and services
Consumers groups	● Meetings ● Tours ● Seminars, study meetings
Regional communities	● Social contribution activities ● Tours ● Energy and environmental education
Students and educational institutions	● Joint study ● Energy and environmental education, food education, fire education, education on disaster prevention ● Acceptance of interns ● Recruitment meetings ● Website
Knowledgeable people	● Joint study ● Meetings
Administrative authorities	● Submission of various documents ● Meetings ● Cooperation for regional development
NPO / NGO	● Joint research ● Joint work and cooperation for solving regional issues ● Meetings
Shareholders / investors	● Issuance of various reports (financial statement, annual reports) ● Briefings ● Website
Employees	● Labor-management meetings ● Education and training sessions ● Compliance Desks ● Human rights desk ● Harassment desk ● Intranet, in-house publications
Business partners, suppliers	● Business opportunities ● Various regular meetings ● Joint training and joint drills

FY2018 Results

Dialogue with Customers

Phone calls received by customer centers: approx. **3.6 million**
No. of replies to a survey on customer satisfaction: approx. **58,000**

To provide services in excess of customer expectations, we are listening to their voices through various contacts with them, with the aim of improving our products and services.



Customer Center

Dialogue with Consumer Groups

A total of **936** meetings were held with consumer organizations to enhance our communications with them.

Consumer groups with which we held meetings included the Kansai Consumers' Association, the Osaka Voluntary Action Center, and the Osaka Gas Labor Union.



Invitation of people from consumer groups to our facilities

Dialogue with Local Communities

No. of events for social contribution enhancement: **1,099**
No. of events for environmental and food education: **1,382**

The Daigas Group cannot attain its intended business goals without building a favorable relationship with local communities. As part of such efforts, we are undertaking a variety of social contribution activities, including providing energy and environmental education, food education, and disaster and fire-prevention education.



Food education

Dialogue with Shareholders and Investors

No. of meetings with institutional investors and analysts: **137**
(74 meetings held in Japan and 63 meetings held overseas)
No. of briefings on financial results and single-year business plans: **5**

The Daigas Group has been stepping up information disclosure to the general public and dialogue with shareholders and investors, using a variety of media and briefing sessions, with the aim of strengthening our management base, regarded as necessary to generate profit in a stable manner and return part of it to shareholders continuously. By doing so, we aim to create value for shareholders.



Annual Report

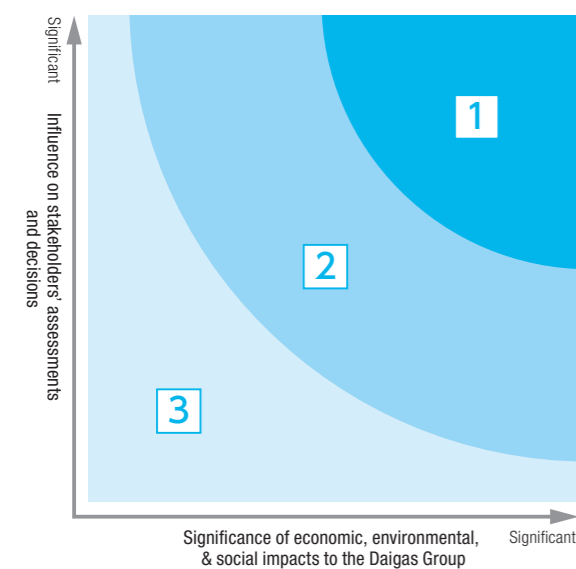
Revision of Important Aspects of CSR (Materiality) and Setting of New KPIs

The Daigas Group newly identified important aspects of CSR (materiality) in FY2018, and began PDCA management in FY2019. In identifying the new materiality, the Group evaluated the progress of CSR activities that had been seen for the previous materiality (FY2015-FY2017), identified in FY2014, based on opinions from outside experts, and referred to procedures spelled out under the GRI Standards, the latest version of GRI Guidelines, while taking into consideration the changes made in the business environment surrounding the Group and the social trends related to sustainability. Based on the identified materiality, we will introduce main KPIs and conduct the PDCA cycle. We will report on its progress on a yearly basis.

New Materiality Analysis Map

Based on the 33 seemingly important items set under the GRI Standards, we have tried to link them in accordance with their importance, judged from the viewpoints of both ourselves and stakeholders, as shown in the chart below. The upper right portion of the chart lists aspects recognized as important both by our company and stakeholders, which we call "materiality."

Two items – "Training and Education" and "Diversity and Equal Opportunity" - were newly added to the previous materiality (FY2015-FY2018). On the other hand, three items were deleted from the previous materiality or modified in line with a change in specifications in the fourth edition of the GRI Guideline (G4). The three items are "Product and Service Labeling," "Effluents and Waste" and "Grievance Mechanism." (For further information, see "Revision of Materiality," shown on the right page.)



* The GRI Standards consists of the 100 Series, a common standard, and three item-by-item standards – the 200 Series (economic items), 300 Series (environmental items) and 400 Series (social items). The items recognized by our company as materiality, listed above under 1 were chosen from among the 33 items covered by the item-by-item standards.

1 Materiality	
201	Economic Performance
302	Energy
305	Emissions
308 414	Supplier Assessment (Environmental / Social)
404	Training and Education
405	Diversity and Equal Opportunity
413	Local Communities
416	Customer Health and Safety
418	Customer Privacy

2			
202	Market Presence	403	Occupational Health and Safety
204	Procurement Practices	407	Freedom of Association and Collective Bargaining
205	Anti-corruption	409	Forced or Compulsory Labor
206	Anti-competitive Behavior	417	Marketing and Labeling
301	Materials	419	Socioeconomic Compliance
304	Biodiversity		
306	Effluents and Waste		
307	Environmental Compliance		

3			
203	Indirect Economic Impacts	408	Child Labor
303	Water	410	Security Practices
401	Employment	411	Rights of Indigenous Peoples
402	Labor / Management Relations	412	Human Rights Assessment
406	Non-discrimination	415	Public Policy

Revision of Materiality

Items continuously recognized as materiality	Reasons
Customer Health and Safety	Ensuring customers' health and safety is the responsibility of a company whose fulfillment must be given top priority in its business activities. We believe that it is necessary for us to continue making efforts on this item so as to curb social impacts in the event of an accident or disaster to the minimum level.
Energy / Emissions	We believe addressing the reduction of greenhouse gas emissions is an extremely important mission for us. The Daigas Group's Long-Term Management Vision 2030 lists CO ₂ reduction goals to be achieved by that year.
Local Communities	To ensure sustainable business operations, dialogue with local communities and regional development in collaboration with them are essential. We believe it is important grasp our operations' impact on local communities, step up information disclosure and deepen communication with them.
Customer Privacy	We recognize the importance of protecting customer information. To maintain the trust of stakeholders, we believe it is necessary to take appropriate response actions continuously.
Supplier Assessment	We believe that we can build a relationship of mutual trust with stakeholders by curbing social impacts from value-chain operations to the minimum level and fulfill our social responsibility in cooperation with suppliers – our important partners.
Economic Performance	We believe that grasping risks and opportunities of climate change and disclosing relevant information to stakeholders will lead to sustainable development of local communities and the Daigas Group.

Newly added items	Reasons
Training and Education	We believe that developing human and intellectual capital is a source of value creation. The Daigas Group's Long-Term Management Vision 2030 lists the promotion of work style reform and development of human resources as important goals to be attained by that year.
Diversity and Equal Opportunity	As a way of expanding our business fields, we will strive to build a sound business environment in which all people are given opportunities to play important roles in society, in pursuit of promoting a work style that leads to higher productivity and of striking a work-life balance.

Main Key Performance Indicators (KPIs) and Its Goals for New Materiality

CSR Charter	Materiality	Indicators <small>changed point</small>	FY2019 goals
I	Customer Health and Safety	Percentage of city gas for which health and safety impacts are assessed for improvement against total city gas provided by Osaka Gas	100%
II	Energy / Emissions	<small>Boundary expanded</small> CO ₂ emissions	Reduction of 7 million tons (FY2021 goal)
III	Local Communities	Percentage of operations with implemented local community engagement, impact assessments and development programs	100%
IV	Customer Privacy	Total number of substantiated complaints regarding breaches of customer privacy	Assessment of management situation
V	Training and Education	<small>Newly added item</small> Hours spent by each employee per year for training and education	Development of human resources, improvement of work environment
	Diversity and Equal Opportunity	<small>Newly added item</small> Percentage breakdown of rank-and-file employees and executives by sex and age	Promotion of diversity
Common Theme	Supplier assessment on Environmental Impacts, Impacts on Society, Human Rights and Labor Practices	<small>Boundary expanded</small> Percentage of new suppliers that have been selected using criteria regarding environment, social impact, human rights and labor practice	100%
	Economic Performance	<small>Content changed</small> Financial impacts, risks and opportunities due to climate change	Recognition of risks and opportunities

Materiality Review Cycle

The Daigas Group identified the materiality for the Group's CSR as a means of grasping possible impacts of the Group's business activities on the environment and society, and conducting its business operations while managing the ongoing impacts and the possible impacts. In FY2014, the Group identified the materiality for the first time. Since FY2015, the Group has conducted PDCA management. Every year, the progress of actions taken under each CSR indicator has been confirmed while problems to be tackled have been studied in light of the progress. Fields whose CSR indicators were found to be short of the required levels have been improved and

managed properly until FY2018.

In FY2018, the Group identified the new materiality based on the assessment of the previous materiality (FY2015-FY2017). The new materiality reflects opinions from parties inside and outside the Group. (For the process of identifying the new materiality, see the chart below.) The Daigas Group will continue to review the materiality on a cyclical basis and fulfill its responsibility to the environment and society. By doing so, we aim to create value for stakeholders and contribute to the development of a sustainable society.



Dialogue with Outside Experts for Validation of Materiality

To further review the materiality already identified by the Daigas Group, six outside experts were called in. They have been asked every year since FY2014 to evaluate the CSR activities of our group and its CSR reports. We will continue to seek their advice because their comments are based on a deep understanding of our company following years of dialogue with us, helping us identify problems and others to be addressed.



Dr. Katsuhiko Kokubu
Professor,
Graduate School of
Business Administration,
Kobe University

Under the GRI, compiling an economic report is close to the concept of value-added accounting. The value's distribution will be meaningless, however, unless a company clarifies what it aims to do through its corporate activities as well as disclosing information. Undertaking business activities that lead to the creation of social value will be eventually followed by economic benefits for the com-

pany engaging in the activities. Osaka Gas should clarify what kind of value it can present to society through its business activities. One example would be pledging to enhance the value of the Kansai region, the main service area for Osaka Gas, by making its local communities comfortable places for medium- and long-term living and worker-friendly places.



Mr. Hideo Iida
Representative of
organizers,
Council of the Kansai
Consumers' Association

At a time when the situation of its customers has been changing, as seen by their aging and an increase in single-person households, Osaka Gas should seriously study what the Company can do to ensure their safety continuously. In compiling a plan to protect their safety, Osaka Gas should reflect not only its own views but also stakeholders' views. As one example, the Company can

work with local authorities (municipalities). Incorporating consumers' viewpoints or the Company's existing services aimed at protecting elderly customers into existing regional administrative networks for local people is a possibility that Osaka Gas might pursue. This is an idea that can be concretized by companies none other than Osaka Gas.



Dr. Koji Shimada
Professor, Department of
Economics at Ritsumeikan
University

Working on reducing CO₂ emissions is one of the most important challenges facing energy service providers like Osaka Gas. In continuing its business activities, Osaka Gas must fulfill its accountability regarding what the Company would do with its coal-based power generation business. While pursuing efforts in line with the central government's energy policy, Osaka Gas should respond to

social needs on this point sincerely and consider various policy options. In addition, the Company should recognize the status quo concerning the environment preservation measures being taken on the side of material suppliers and the measures being taken to protect the human rights of workers engaging in the process of drilling and processing the materials used for its business.



Ms. Kaori Kuroda
Executive Director of CSO
Network Japan

Osaka Gas is likely to resort to mergers and acquisitions (M&As) as an important tool in many cases of overseas projects. What is important for the company in M&As is exercising due diligence not only on the financial front but also on the nonfinancial front, including the environment and social impacts. If Osaka Gas is to launch business projects overseas, it should ensure risk management and find a way to coexist with local communities – a task the Company might achieve by

referring to the information owned by foreign government agencies and to the international code of conduct. Engagement in certain regions of the world is difficult for a Japanese company because the regional situations there are complex. Under these circumstances, Osaka Gas should first recognize the status quo surrounding the targeted region. Having understood the situation, the Company should identify the priority parties with which it should engage, including affected people in the region.



Ms. Emi Sugawara
Associate Professor at
Faculty of Law, Osaka
University of Economics
and Law

Any business activity will involve human rights, making human rights assessment at the Daigas Group and its value chain important. Based on this idea, the Group should work out an action plan to protect human rights and an information disclosure plan in line with the results of the assessment. In view of an expected increase in material supply from overseas companies, I hope that the Group's supply chain will actively exercise due

diligence on human rights. Such due diligence should aim to protect the human rights of stakeholders by taking into account the viewpoint of suppliers in drawing up improvement plans. For example, the Group should kindly explain, to suppliers being covered by its survey on human rights assessment, how to answer each question. It is also important for the Group to share good practices with the suppliers.



Mr. Taro Tamura
Representative Director,
Institute for Human
Diversity Japan

In Japan, labor-related accident risks have been rising against the backdrops of the dwindling working population and an increase in the number of elderly workers and unskilled workers. In light of these trends, I believe it is necessary for gas and power companies in Japan to strongly support the development of human resources at engineering subcontractors and other partner companies. Labor practices should be also changed at these companies. For example, it is necessary to establish a

work environment friendly to elderly people and foreigners. Moreover, a strategy for promoting the diversity of employees should be crafted from the viewpoint of ensuring the employment of various people. I hope that Osaka Gas will draw up a strategy aimed at expediting the employment of female workers and foreigners for front-line operations by analyzing the data it has collected in the past and grasping the actual state of its workplaces.

Customer Health and Safety

Why Reasons of materiality in respect of our business

The Daigas Group puts the highest priority on securing safety of gas supply and facilities as an energy business operator which supplies city gas to 5.996 million customers. Therefore, we consider it important that we make efforts to enhance the safety level and formulate a structure to respond possible accidents and disasters.

How Management systems and its performance

Indicator (GRI Standards: 416-1)

Percentage of city gas for which health and safety impacts are assessed for improvement against total city gas provided by Osaka Gas

Commitment

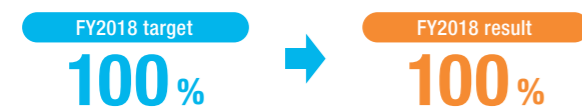
Osaka Gas is committed to ensuring the safety of city gas, our primary product, its secure supply, and safety of gas facilities—all by formulating “Gas Supply Clause” and “Security Rules” in line with the Gas Business Law.

Responsibilities

The Daigas Group has established a system to ensure the safety of city gas supply and gas appliances in all fields of the Group’s city gas value chain —processing, supply, sales and consumption. The “Head of Safety” (Vice President) and the person heading each Business Unit’s safety operation offer advice on safety and security matters concerning his or her Business Unit and other Business Units.

The Vice President in charge of safety operations, the person in charge of safety operations at each Business Unit and the chiefs of the relevant departments—who together constitute the Executive Safety Council—convene a regular safety and security meeting (five times per year) to work out safety activity plans and assess the achievements made in the relevant term. Efforts to ensure and enhance the safety of the city gas supply and gas appliances are also being planned at each Business Unit.

Performance



In fiscal 2018, every procedure was conducted based on guidelines in accordance with laws and regulations as well as in-house rules in the processes such as quality control of gas in LNG terminals, safety inspection of gas pipelines and supply facilities, as well as gas appliances at customers consented.

Specific actions taken regarding materiality

To allow customers to receive our energy service without worry, we are working on maintaining the quality of city gas being supplied at high levels while ensuring stable gas supply and the safety of gas-processing and supply facilities.

▶ Inspection of gas pipes

Gas supply facilities including pipelines and pressure regulators were inspected to ensure their safety at the frequency and content of such inspections set under in-house “Security Rules.”

▶ Securing safety at customers’ sites

Facilitate systems to respond to reports and prepare resources for dispatching in case of accidents and disasters 24 hours a day, 365 days a year.

In accordance with laws, inspection of gas appliances for gas leaks, gas water heaters for air supply and exhaust function at customers’ sites were conducted. The visits to the customers were exploited as the opportunity for recommending installation of alarms for gas leaks for residential use and ventilation for commercial use, of which penetration rate were 53.0% and 99.1%, respectively.

▶ Preparation for disaster prevention

From our experience of the earthquake occurred in Kobe, we have made every effort to prevent disasters incurred by earthquakes.

Those efforts include enhancement of safety function and measures in LNG terminals, replacement of old gas pipes with polyethylene pipes (PE) (approx. 15,900 km installed), installation of intelligent meter, of which penetration rate reached 99.8%.



A gas pipe made of high-strength polyethylene

Product and Service Labeling

Why Reasons of materiality in respect of our business

It is important for the Daigas Group to provide customers with accurate information regarding safety and environmental aspects of city gas, gas facilities and appliances being provided so that they can use them safely.

How Management systems and its performance

Indicator (GRI Standards: Shifted to general disclosure item 102)

Customer satisfaction rate for customer service duties including safety

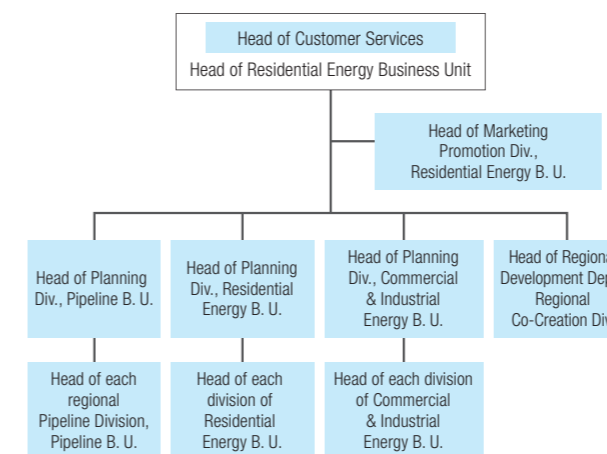
Commitment

Osaka Gas has formulated in-house rules and regulations in line with the PL Law and the Gas Business Law. The company strives to improve safeness and service quality on each business dealing with customers.

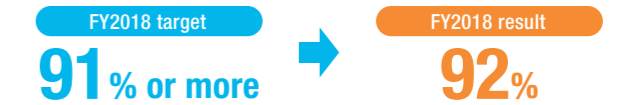
Responsibilities

In order to proceed with actions for improving customer satisfaction in a cross-sectional manner, in addition to the systems introduced in the materiality issue, “Customer Health and Safety,” mentioned in the left, the “Head of Customer Services” (Head of Residential Energy Business Unit) appointed under the security system plays a role in maintaining and improving security and service quality.

CS Operating Organization



Performance



We conduct surveys in order to evaluate whether the business duties dealing directly with customers met their expectation. In fiscal 2018, we received about 58,000 replies from customers, their overall satisfaction rate standing at 92%.

Specific actions taken regarding materiality

In FY2018, we took various actions to achieve a higher level of customer satisfaction. For example, to improve the quality of services by phone receptionists, the first contact with customers making an inquiry in various fields, educational seminars were held for them according to the length of service, along with phone service contests. Based on customers’ opinions reaching our database system “C-VOICE,” we improved the Website pages displaying our newly developed products and contact information for inquiries, as well as our business manuals.

From now on as well, we will strengthen our efforts to reflect the diversified voices of our customers in our operations and provide better services to them.



Customer Center

Energy / Emissions

Why Reasons of materiality in respect of our business

The Daigas Group, as an energy business operator, sees it as important to promote more efficient use of energy resources and curtail greenhouse gas emissions over the entire business process, from drilling of natural gas to supply.

How Management systems and its performance

Indicator (GRI Standards: 305-4)

Amount of CO₂ emissions at LNG terminals per unit gas production;
Amount of CO₂ emissions at office buildings per unit floor space

Commitment

The Daigas Group is committed to promoting environmental activities on a group-wide basis by formulating "Daigas Group Environmental Activities Policy" and "Rules for Environment Management Systems" in line with related environmental laws.

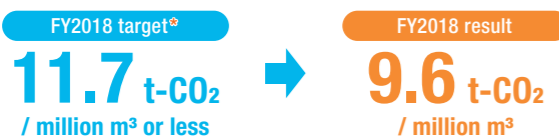
Responsibilities

At Osaka Gas, a unified environmental management system (EMS) based on ISO 14001 is deployed across the company under the supervision of the "CSR Executive" (Vice President), and all employees work to reduce the environmental impact of business activities and ensure that environment-related laws and regulations are complied with.

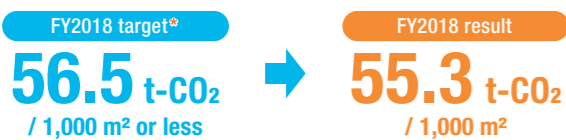
In addition, the Daigas Group's 56 domestic affiliates operate their own EMSs, such as ISO 14001, Eco Action 21, and the "Osaka Gas Environmental Management System (OGEMS)."

Performance

CO₂ Emissions at LNG Terminals Per Unit of Gas Production



CO₂ Emissions at Office Buildings Per Unit of Floor Space



* FY2021 numerical targets under Environmental Action Targets

In FY2018, CO₂ emissions at LNG terminals was 9.6 t-CO₂ per 1 million m³ of gas produced and CO₂ emissions at office buildings was 54.7 t-CO₂ per 1,000 m² floor space, meaning that we were able to achieve our target toward FY2021 of 11.7 tons or less and 56.5 tons or less, respectively.

Specific actions taken regarding materiality

▶ Efforts to curb CO₂ emissions at LNG terminals

The Daigas Group has been striving to reduce CO₂ emissions at LNG processing terminals by undertaking various energy-saving activities. By recovering cryogenic energy generated at LNG gasification facilities, the Group is reducing the amount of electricity it purchases, for example. Electricity generation using this cryogenic energy is called LNG cryogenic power generation, which is a power generation system that does not emit CO₂ at all, because no fuel is required in the process of power production. In addition to the existing facility in the Senboku LNG Terminal, a cryogenic power generation facility at the Himeji LNG Terminal started its operation in March 2017.

To promote the efficient operation of our LNG cryogenic power generation facilities, we are implementing a variety of measures. Among measures is supplying LNG cryogenic energy for the cooling process of a plant of a petrochemical company adjacent to the Senboku LNG processing terminal, thus contributing to energy saving and the reduction of CO₂ emissions at nearby plants operated by other companies as well as at our own.



LNG cryogenic power generation facilities at Himeji LNG Terminal

▶ Efforts in office buildings

Osaka Gas is promoting energy conservation and reducing CO₂ emissions by undertaking "Green Gas Building Activities" which employs advanced high-efficiency equipment and control systems and revamping energy management for the facility as a whole when reconstructing or repairing buildings.

Effluents and Waste

Why Reasons of materiality in respect of our business

Over the entire business process, from drilling of natural gas to supply of city gas, the Daigas Group, as an energy business operator, sees it as important to promote more efficient use of natural resources based on the 3Rs (reduce, reuse and recycle) and to reduce the load on the environment in doing business.

How Management systems and its performance

Indicator (GRI Standards: 306-2)

Final disposal rate of industrial waste at Osaka Gas

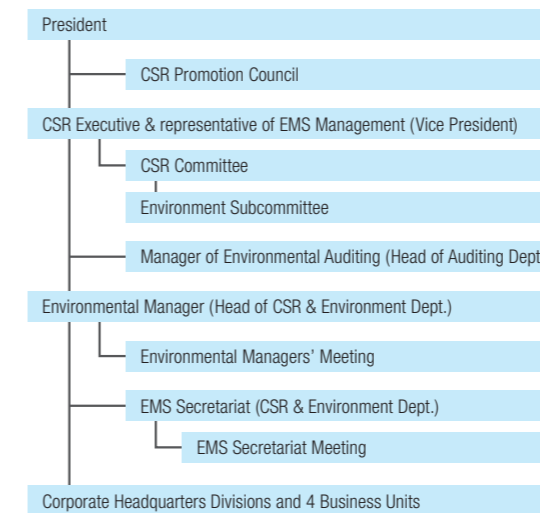
Commitment

The Daigas Group is committed to promoting environmental activities on a group-wide basis by formulating "Daigas Group Environmental Activities Policy" and "Rules for Environment Management Systems" in line with related environmental laws.

Responsibilities

Same as "Energy / Emissions" on P31.

Environmental Management Promotion Organization



Performance



* FY2021 numerical targets under Environmental Action Targets

Final disposal rate of industrial waste at overall Osaka Gas was 0.7% and it indicates that we are making steady progress toward achieving our target of 1.0% or less for FY2021. From now on as well, we are strengthening 3R (Reduce, Reuse and Recycle) of waste materials.

Specific actions taken regarding materiality

▶ Efforts at city gas manufacturing plants

Industrial waste is generated in the course of repairing/improving plants, while Osaka Gas endeavors to undertake eco-friendly construction work and to reduce industrial waste.

▶ Efforts in gas fitting

For gas fitting, Osaka Gas seeks to curb the generation of roadway waste materials (excavated soil, asphalt waste materials, etc.) by such means as adopting shallow pipe installation method and the method of replacing pipes without excavation of construction.

▶ Appropriate use and discharge of water resources

We control the discharge of drinking water, industrial-use water, underground water and seawater after their use. At power plants, industrial-use water is used for cooling inside a steam-turbine condenser. The used water is evaporated in a cooling tower. Drinking water, industrial-use water and underground water are used at LNG processing terminals, power plants and offices, and discharged into the sea. Seawater, for example, is discharged into the sea after it is used at LNG terminals mainly for vaporization of LNG and at some power plants for cooling inside a steam-turbine condenser, not for consumption. In discharging water after it is used for our industrial activities, we have controlled its quality in line with relevant laws, ordinances and agreements with local municipalities so that chemical substances such as COD*, pH, phosphorus and nitrogen are not contained in the water being discharged. Thanks to such efforts, there were no violations regarding the quality of water being discharged. The Daigas Group sees water as a limited natural resource. We will continue to use water adequately, control its discharge strictly, and promote water saving.

* COD: Chemical Oxygen Demand

Local Communities

Why Reasons of materiality in respect of our business

The Daigas Group conducts businesses rooted in and supported by the local communities. Therefore, we believe various kinds of contribution to the local communities will lead to a favorable cycle that brings the development in both the Group and the society.

How Management systems and its performance

Indicator (GRI Standards: 413-1)

Percentage of operations with implemented local community engagement, impact assessments and development programs

Commitment

Based on the "Daigas Group Code of Conduct", we care about the issues faced by society and strive to contribute to the local community recognizing what we are supposed to act as a member of the society.

Responsibilities

The "CSR Committee" has set up a "Social Contributions Subcommittee" to deliberate and report on multidisciplinary social contribution activities within the Group. The meetings of the Subcommittee were convened three times in FY2018.

In the Regional Co-Creation Division, we have set up company-wide activity planning, with each individual business operation taking advantage of the local network it built in the communities to move forward with activities in its area.

Performance

FY2018 target

100%



FY2018 result

100%

In FY2018, all major business offices undertook various activities tailored to their characteristics. We promoted communication-enhancement activities to deepen the public's understanding of business projects run by the Daigas Group. In addition, we filed proposals aimed at building resilient cities and communities while developing programs for making regional communities attractive by adding new value.

Specific actions taken regarding materiality

The Daigas Group strives to develop sustainable regional communities by building vitality-filled towns through the use of its assets, promoting a Small Light Campaign led by employees of the Group, and stepping up collaboration with nonprofit organizations. Through these activities, the Group aims to create new value (Regional Co-Creation) in each local community.

► Daigas Group's "Small Light Campaign"

This is a company volunteer effort by the Daigas Group that has taken on many forms, including assistance for disaster-hit areas and assistance for the handicapped, over its more than 30-year history starting in 1981 (the UN International Year of Disabled Persons).

► Contribution to building resilient cities and communities

The Daigas Group has been collaborating with municipal governments in building resilient cities and communities while taking advantage of the Group's strong points. Specifically, we have disseminated information regarding energy policies and disaster-prevention plans formulated by municipalities while putting forward our own proposals on these issues.

► Publicize attractive points of regional culture and history, and contribute to revitalizing regions

We are utilizing the Daigas Group's business infrastructure to make the culture and history of the Kansai region more attractive, and to cooperate with local governments and communities as well as NPOs, social designers and others in revitalizing communities.



Support social designers and NPOs in the Kansai region in their regional revitalization projects

Customer Privacy

Why Reasons of materiality in respect of our business

As an energy business operator which secures the basis of the society, the Daigas Group considers it is indispensable to recognize the importance of customers' information and those appropriate management.

How Management systems and its performance

Indicator (GRI Standards: 418-1)

Total number of substantiated complaints regarding breaches of customer privacy

Commitment

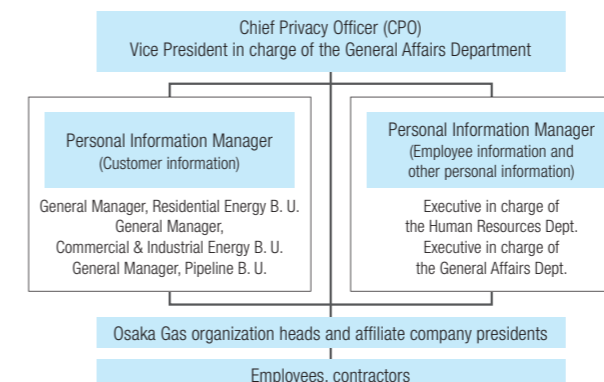
In accordance with the "Daigas Group Code of Conduct" which incorporated code of conduct and guidelines concerning the handling of private information set by the Ministry of Economy, Trade and Industry and the Japan Gas Association, we strive to ensure safety regarding the privacy of customers abiding by in-house rules, such as "Rules for Personal Information Protection," "Privacy Policy," "Manual for Handling Personal Information."

Responsibilities

The Vice President in charge of the General Affairs Department is appointed as the Chief Privacy Officer (CPO). Placed under the Vice President to ensure the protection of private information involving the Daigas Group are "Personal Information Managers," who supervise Business Units, the Human Resources Department, Osaka Gas affiliated companies and contractors working for Osaka Gas.

An "Information Security Subcommittee" was established under the "CSR Committee" (chaired by the CSR Executive), since which it has been developing systems to ensure information security throughout the Daigas Group.

Personal Information Protection Structure



Performance

FY2018 result

No objection substantiated was filed during the year.

During FY2018, no proper objection was filed regarding the alleged violation of customer privacy involving the Daigas Group. We will continue to do all we can to beef up the control of personal information of customers.

Specific actions taken regarding materiality

► Mechanism to protect personal information

The Daigas Group is doing all it can to prevent the leakage of personal information of customers and other incidents affecting their information by improving the Group's information management system, inspecting the implementation of the system as part of its risk-management efforts, carrying out a periodical audit of its business operations, and taking company-wide response actions in the event of incidents such as the loss of customer data, including information sharing and mobilization of all organizations to scrutinize the situation. In FY2018, the Group revised its manual stipulating how to handle the personal information of customers and employees, based on the revised personal information protection law. Through the revision of the manual, we disseminated the importance of protecting personal information to employees and deepened their understanding of the matter. Furthermore, the Group held an e-learning session for Osaka Gas employees regarding the protection of personal information. (6,013 employees attended the session.) In addition, the Group's Information Security Subcommittee introduced a system to check the management of data files containing customer information, and put the system in practice.

► Education of employees

All Daigas Group employees who have the authority to access PCs loaned to them by the Group, including those working on a contract basis and those dispatched from manpower agencies, are required to take an online training course on information security once a year. The percentage rate of employees taking this course reached 100% in FY2018. These employees also receive e-learning training, twice a year, aimed at enabling them to respond appropriately to targeted e-mail attacks.

Grievance Mechanisms

Why Reasons of materiality in respect of our business

A business entity has the responsibility to grasp, as far as possible, the negative effects of its business activities on the environment, local communities, the human rights of stakeholders and labor practices, and to respond expeditiously to filed complaints. Doing so will lead to building long-term mutual trust between companies and their stakeholders.

How Management systems and its performance

Indicator (GRI Standards: Shifted to Management Index 103)

Number of grievances filed, addressed and resolved through the formal grievance mechanism on environmental and social impacts, human rights, and labor practices

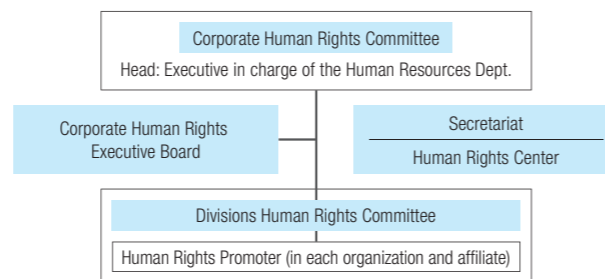
Commitment

The Daigas Group supports such international standards as the Universal Declaration of Human Rights and the United Nations Global Compact, while pledging to observe domestic laws for promoting measures against global warming and protecting whistleblowers.

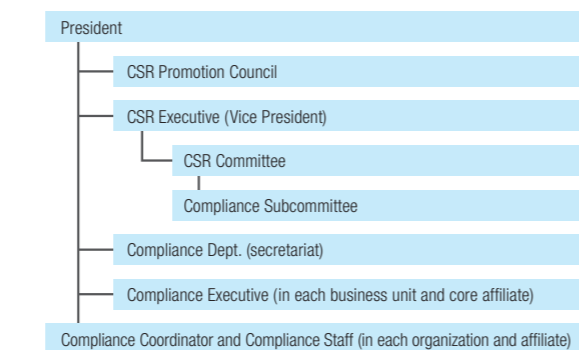
Responsibilities

To deal with voices on the environment, Osaka Gas operates a company-wide Environmental Management System (EMS) according to the ISO 14001. As for the voices of local people who are concerned about the possible effects on local communities of our operations, we set up contact desks including customer centers. To address issues associated with human rights and labor practices, we set up "Compliance Desks" at Osaka Gas's headquarters, major affiliated companies and outside law firms representing Osaka Gas, to receive reports and offer consultation regarding the observance of laws and in-house rules. Employees needing consultation or advice regarding their human rights can contact the "Human Rights Desk", established at the Human Resources Department. Furthermore, the "Harassment Desk" has been set up for employees facing harassment-related problems in their work. Other systems established for the benefit of employees include the conducting of surveys designed to measure their work-related awareness, periodically holding meetings for the management to hold talks with labor union members, as well as meetings for employees and their superiors.

Systems for Human Rights Awareness Promotion



Organization for Strengthening Compliance



Performance

FY2018 result

Responded to complaints and other negative comments

We responded to complaints and other negative comments filed through help desks and other contacts.

Specific actions taken regarding materiality

Osaka Gas has been making efforts to reflect customers' voices in its development of new products and improvement of service quality. In FY2018, for example, we improved the "My Osaka Gas" website by adding a new function whereby customers can confirm on their own past records regarding repair and other services provided to them before asking for another repair.

Supplier Assessment

Why Reasons of materiality in respect of our business

Widespread value chain of our business functions with imperative cooperation of various business partners. Fulfilling our social responsibilities together with our suppliers in the value chain leads to relationships of mutual trust with our stakeholders, resulting in the development of the entire value chain.

How Management systems and its performance

Indicator (GRI Standards: 308-1, 414-1)

Percentage of new suppliers that have been selected using criteria regarding environment, social impact, human rights and labor practices

Commitment

Osaka Gas is committed to fulfilling CSR in close cooperation with business partners in line with the "Daigas Group Code of Conduct," revised in accordance with the United Nations Global Compact.

In material-procurement activities, which often involve business transactions with new suppliers, Osaka Gas requires such suppliers to observe procurement-related standards and guidelines set by the company, including "Purchasing Policy" and "CSR-based Purchasing Guidelines."

Responsibilities

Each organization in charge of procuring particular materials is to fulfill its responsibility in accordance with the procurement-related policies and guidelines set by Osaka Gas.

Performance

FY2018 target

100%

FY2018 result

100%

A total of 34 suppliers began new business transactions with Osaka Gas in FY2018. In the year, no business deals were barred from being started due to violations of standards set in the fields of environmental and social impacts, human rights and labor practices.

Specific actions taken regarding materiality

Measures in material procurement

Before starting business transactions, Osaka Gas communicates its "Purchasing Policy" and "CSR-based Purchasing Guidelines," and even confirms their efforts on CSR. In FY2018, a survey was conducted on 175 major suppliers to check their CSR efforts. Furthermore, when the suppliers conduct business transactions with Osaka Gas, they are asked to observe "Green Purchasing Guidelines" set by Osaka Gas, attached to the specifications for the business transactions.

Revision to the "Green Partner Initiative"

The "Green Partner Initiative" adopted by Osaka Gas is designed to promote environmental conservation by suppliers of gas pipeline materials. Under the system, suppliers that are recognized as being active in environmental conservation activities such as the building of an Environmental Management System (EMS) will be registered as Partners.

Osaka Gas initially focused on suppliers of gas pipelines for its "Green Partner Initiative." In FY2016, the Company revised the initiative to cover companies other than suppliers of gas pipeline materials as well. As of the end of March 2018, 108 suppliers were registered as Partners.

CSR Survey conducted on LNG suppliers

Osaka Gas conducted a CSR survey on 11 LNG suppliers which have concluded long-term contracts with the Company. Of the 11 companies, 10 replied. Reflecting recent global social trends, the questions given in the survey focused on specific response measures being taken by the polled companies in the fields of human rights, labor and prevention of corruption.

Furthermore, Osaka Gas conducted a CSR survey of 271 companies including service companies, engineering firms and gas appliance makers to ensure the safe use of gas appliances by end customers as well as taking into consideration environmental friendliness and social concern. Of the total, 185 companies responded. We will continue to work together with suppliers and other business partners to fulfill our social responsibility and enhance the mutual prosperity of companies operating under our value-chain network.

CSR Charter

I

Creating Value for Customers



Fundamental concept

The Daigas Group will endeavor to ensure stable procurement, stable supply and security to allow customers to utilize energy safely. By doing so, the Group will provide products and services that are valuable to customers.

The Daigas Group is committed to making a positive contribution to realizing a higher level of comfort and development in the business activities of its customers through stable procurement and safe supply of natural gas and other energy sources, and ensuring of safe use of gas and equipment with an improved level of services for its customers. We believe that an important foundation in realizing this will be ensuring security so that customers can use energy without worry. We will endeavor to provide products and services that give utmost reassurance to safety and to take on the challenge of creating new value in line with customers' wishes in order to be a corporate group that continually evolves and develops alongside its customers.

CSR Indicator Customer Satisfaction Survey: Seven Customer Service Duties

The "Customer Satisfaction Survey" covers seven duties that deal directly with customers: opening of gas lines, repair of gas appliances, regular security patrol (gas facilities inspection), response to telephone inquiries, sales of appliances, security emergency response, and replacement of gas meters upon expiration of the validity period. A questionnaire form is mailed out after the completion of each operation, and assessments of responded customers received are then analyzed. Customer satisfaction is graded on a scale of one to six, and "overall satisfaction rate" is the ratio of responses in the top two grades to the total number of responses.

▶ Targets and Results

The overall satisfaction rate was 92% in FY2018, representing an improvement of 0.3 percentage points from the preceding year. We will continue to offer customer-oriented services based on their opinions shown in the survey.

	Targets	Results
Overall satisfaction rate	91% or more	92%
Each satisfaction rate for seven customer service duties	86% or more	89% or more in all duties

▶ Actions Taken

Further efforts to enhance levels of customer service

Efforts to raise our customer services to the highest level in a six-grade customer satisfaction (CS) poll began in FY2016 as part of our efforts to advance our overall service level. Specifically, we observed the behavior of Osaka Gas staff who received high CS grades in four of the seven customer-service fields—opening of gas lines, repair of gas appliances, sales of appliances, and response to telephone inquiries. This is what we call "behavioral observation."* The observation results were analyzed and developed into a customer service manual in each field for use by all other staff.

The detailed survey results are fed back to staff for further improvement of their customer service level.

* "Behavioral observation" is a methodology for seeking solutions based on the academic analysis of facts and findings obtained through the broad-based observation of people's behavior that becomes prominent in various situations.

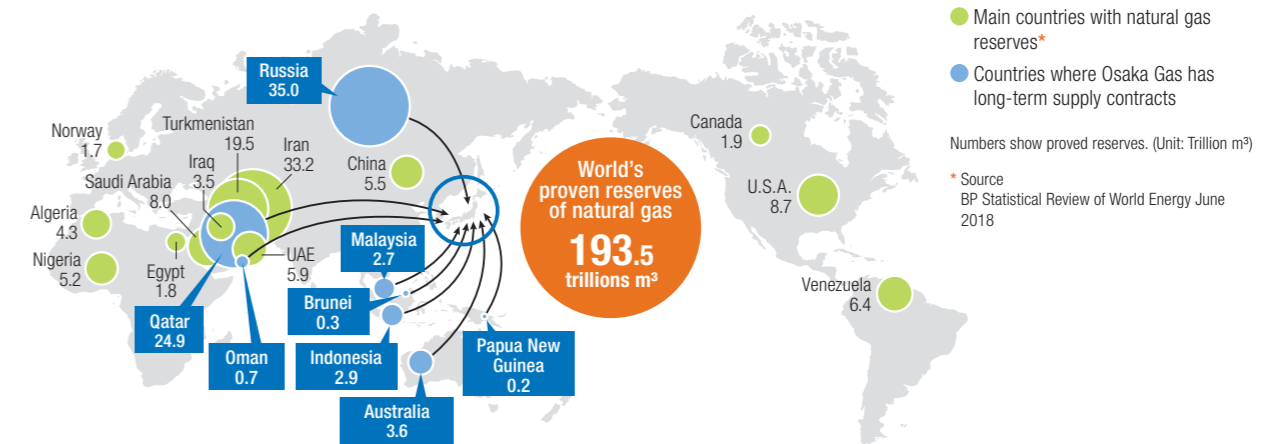
Efforts to Ensure Safety and Ease Customers' Worry

▶ Ensure stable procurement by diversifying sources of LNG imported by Osaka Gas

Unlike oil resources, which are unevenly concentrated in the Middle East, natural gas resources—materials of city gas and fuels for power generation—are spread worldwide. Natural gas's reserve-to-production ratio is also much longer than that for oil,* giving the former a comparative advantage as an energy source. Osaka Gas started importing LNG in 1972 from Brunei, and

since then has diversified its procurement sources. At present, we are procuring LNG from eight countries: Indonesia, Malaysia, Australia, Qatar, Oman, Russia and Papua New Guinea, as well as Brunei. We are set to embark on an LNG project in the state of Texas, the United States. We will continue to redouble our efforts to ensure stable LNG procurement.

■ Countries with Natural Gas Reserves and LNG Supply Sources for Osaka Gas



▶ Ensure a stable energy supply by diversified power sources

The Daigas Group engages in the electricity generation business using various power sources it owns, including thermal power generation, gas cogeneration systems and renewable energy sources. The Group has a combined power-generation capacity of about

2.01 million kW in Japan, including a main power source at the Senboku Natural Gas Power Plant, a highly energy efficient thermal power plant. The Group will continue to develop new power sources to ensure stable electricity supply.

■ Combined Power-Generation Capacity Owned by the Daigas Group in Japan (As of the end of June 2018)

Total domestic power generation capacity: approx. 2,007,000 kW*

<p>Thermal power generation source</p> <p>Approx. 1,694,000 kW</p> <p>Senboku Natural Gas Power Plant</p>	<p>Power sources using a cogeneration system</p> <p>Approx. 91,000 kW</p> <p>Uji Energy Center</p>	<p>Renewable energy sources</p> <p>Approx. 222,000 kW</p> <p>Inami Wind Power Plant Torishima Solar Power Plant Matsusaka Wood Biomass Power Plant</p>
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* Power-generation capacity at facilities in which the Daigas Group has a concession is included. However, output capacity at planned facilities and facilities under construction is not included.

► Measures against large-scale earthquakes

Osaka Gas has taken a range of measures to cope with large earthquakes, such as earthquake-resistant polyethylene pipes (PE), and intelligent meters that detect vibrations from an earthquake and shut off the gas supply, as well as an emergency communications network. However, the Hanshin-Awaji Great Earthquake of 1995 prompted us to beef up these measures.

We have seismometers installed in 259 locations in the Osaka Gas service area, which allow us to quickly determine the seismic intensity and obtain other information.

To prevent secondary damage from earthquakes, our service area is divided into blocks, each of which can have its gas supplies shut off separately when vibration that could potentially damage gas pipes operated by Osaka Gas is detected. This is possible

► Passing on advanced knowledge and skills in safety and disaster prevention

Osaka Gas is striving to develop human resources with a high level of knowledge and skills in the areas of safety and disaster prevention.

At natural gas processing terminals, we introduced an operation training simulator (OTS) in FY2005 to train employees to be able to respond to emergencies, including technical glitches, expeditiously. In FY2017, a virtual reality (VR) function using animation was added to the OTS, enabling trainees to experience serious accidents such as fire under the VR setting, a situation they rarely face in the real world. The upgraded OTS has been instrumental in improving employees' safety and disaster-prevention skills to be passed on to the next generation.

In FY2008, a new human resources development system was launched by the Pipeline Business Unit's Human Resources Development Center in preparation for the mandatory retirement of veteran engineers. We are engaged in structured and systematic human resources development as well as educational efforts "to spread know-why" that teach the meaning and background of work procedures to build a framework (i.e. safety culture) that prevents

thanks to a system of seismoscopic automatic gas shutoff devices (3,009 locations in total) that are activated in the case of a tremor, as well as remotely controlled shutoff devices (3,573 locations in total) that can be activated to stop gas supplies from the Central Control Room of the head office. A sub-control center has also been opened in case the Central Control Room of the head office is damaged.

In addition to the above infrastructure (hardware) for dealing with earthquakes, we are also making constant efforts in terms of software to improve employees' ability to respond to emergencies, such as providing company-wide earthquake drills and education using e-learning.

accidents. To convey the lessons learned from various past failures, we have set up experiential-type training facilities that reproduce the circumstances at the time of these failures. In addition, the Human Resources Development Center of the Pipeline Business Unit has sponsored a pipeline work contest among employees with high levels of skills and knowledge in the field. The contest, started in 2015, is designed to enhance the overall safety level of Osaka Gas.

In addition, a variety of educational programs for service improvement are offered at the respective Human Resource Development Centers of the Residential Energy Business Unit and the Commercial & Industrial Energy Business Unit, which are responsible for ensuring the security of gas appliances.



Education using a virtual reality (VR)-based operation training simulator (OTS)

Incorporating Customer Opinions

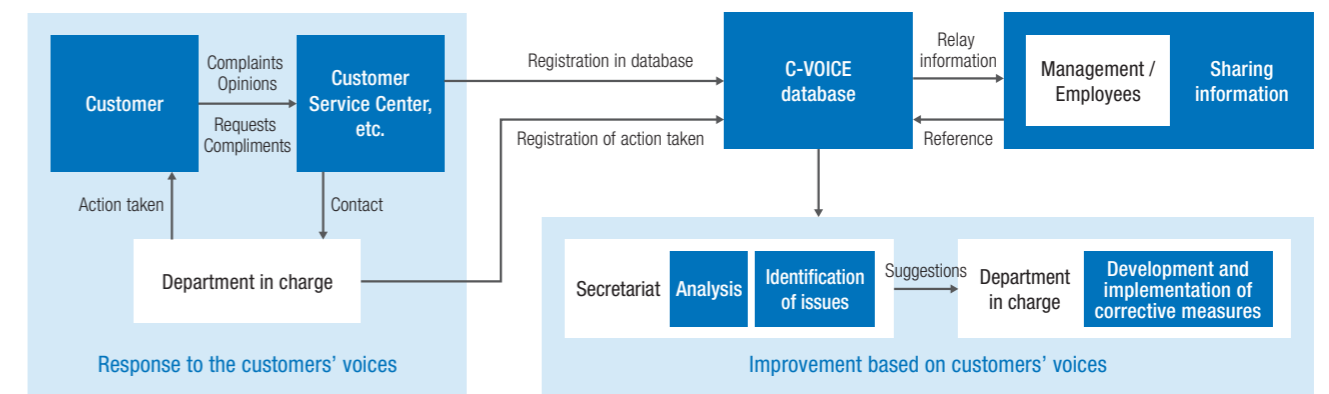
► Sharing customer voices throughout the Company

Osaka Gas has established a database system called "C-VOICE" to share customer opinions and demands among all employees. The company has reflected such customer voices in its business operations, product development and service quality.

Customers' voices reaching the Company daily, including both positive and negative comments, are sorted out by the end of each day and filed into the "C-VOICE" system, to be shared the following

day not only by the relevant sections and departments but also by top management officials and all other employees. Osaka Gas has adopted a policy of sharing all information about customers among all of its employees, not only facts and response to customers but also preventive measures and system improvement measures being devised in response to complaints and opinions.

■ Overview of C-VOICE



► Examples of improvement in product development and service quality based on customers' voices

At Osaka Gas, we have been working on improving the quality of various products and services based on comments from our customers. In FY2018, we developed and commercialized a remotely controlled device with a wireless LAN function, which enables customers to operate gas appliances installed at their homes by using their smart phones while away from home. In addition, we implemented a mechanism to accept applications on the website

for paying gas charges with credit cards. At the same time, we expanded the number of Net banks that accept payment for the service through account transfer.

Our efforts to improve our products and services will be reported to our customers. We have put up posters at our showrooms soliciting more comments from customers.



Posters notifying customers of examples of improvement in products and services based on their voices

TOPIC

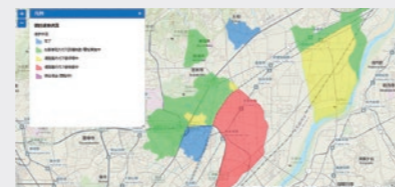
Work to Resume Service after Northern Osaka Earthquake

When a major earthquake occurred in northern Osaka on June 18, Osaka Gas activated its automatic gas shutoff device to prevent secondary damage, leading to the immediate suspension of gas supply to about 110,000 households. In our bid to normalize our service, we mobilized gas retailers across Japan (involving about 2,700 persons) and did all we could while receiving their support. As a result, gas supply to the affected households was resumed on June 24.

We would like to express our sincere gratitude to our customers and concerned parties for their understanding and support.



People and their vehicles mobilized from all over Japan to help us resume service



Colored map visualizing service areas where services have been resumed, posted on the Website for affected customers

Proposing New Value

► “Sumikata Service” to respond to customer housing needs

Osaka Gas launched a housing support service called “Sumikata Service,” which combines a wide range of housing-support services in addition to gas and electricity services to make a positive contribution to realizing a higher level of comfort and security in people’s lives.

Provided under the “Sumikata Service” are housing maintenance and repair services regarding water-related facilities, air conditioning equipment, and other housing equipment and systems. Also offered are house cleaning services, housing renovation services, and housing support aimed at realizing a higher level of comfort and security. For example, in water-related facility repair services, Osaka Gas service shops act expeditiously in response to inquiries from customers, while applying the technological expertise acquired through the maintenance and repair of gas appliances to repairing water-related facilities including kitchens, bathtubs,

bathrooms and toilets. Since the “Sumikata Service” was launched, Osaka Gas had received more than 70,000 calls for service as of the end of March 2018. Of the customers who received the service during the period, 96% replied the overall service was satisfactory.

Services provided under the newly launched “Sumikata Plus” consist of the “Sumai no Kaketsuke Service” aimed at responding to emergency housing needs, and the “Kurashi Ouen Service” designed to support customers in their daily lives. “Housing Mikata Plus” is a service that provides “Hometown Riding Service” and “Living Support Campaign” by paying monthly flat fee. Regarding this service, in April 2018, regardless of the contracted gas price menu, we expanded the scope of the service so that it can be used by all customers, and expanded the service menu including services related to housing diagnosis.



Expansion of services provided under the “Sumikata Plus”

TOPIC

Energy Sales Company Established in Greater Tokyo Area

Osaka Gas Co., Ltd. and Chubu Electric Power Co., Inc. jointly established a new sales company, CD Energy Direct Co., Ltd., on April 2, 2018 to provide gas, electricity and other services related to daily customer life and businesses in the Tokyo metropolitan area.

CD Energy Direct will combine management resources and business know-how Chubu Electric Power and Osaka Gas have fostered through electricity and gas businesses and fully harness those resources and know-how in the greater Tokyo area. At the same time, by selling our competitive products—gas and electricity—the new company will maximize value provided to household and corporate clients, thereby contributing to society.

Further, harnessing IoT-based services, CD Energy Direct hopes to build a new business model and offer new services that transcend the boundaries of an energy operator by creating new value instrumental in customers’ daily life and in businesses.



Logo of the new company

CSR Charter

II

Harmonizing with the Environment and Contributing to Realizing a Sustainable Society



Fundamental concept

Through the provision of products and services, including natural gas, the Daigas Group is committed to reducing the environmental impact of business activities. By harmonizing its business activities with the environment, the Group will strive to create a sustainable society.

Environmental conservation on a local and a global scale is an extremely important mission for the Daigas Group, whose operations center on the energy business. In accordance with the “Daigas Group Environmental Activities Policy” we established in FY2007, the Daigas Group is lessening the environmental impact of its business activities and customers through the expansion of utilization of natural gas and renewable energies, the provision of environmentally friendly products and services. And through our business activities, we contribute to environmental improvement and the development of sustainable societies locally, nationally, and internationally by pursuing harmony with the environment and making efficient use of energy and resources.

CSR Indicator Environmental Management Indicator: Environmental Management Efficiency

Osaka Gas uses “Environmental Management Efficiency” as an indicator to assess progress in environmental management in a continuous, integrated manner. This indicator is the total monetary value of seven environmental impacts* per gas produced. The smaller the figure for environmental management efficiency, the greater the reduction in environmental impact per amount of gas produced.

* GHG (CO₂) emissions, NOx emissions, emissions of COD (chemical oxygen demand), final disposal of general / industrial waste, final disposal of excavated soil (土留), emissions of chemical substances, use of drinking water and industrial water

► Targets and Results

The Environmental Management Efficiency for FY2018 was given as 11.6 yen / 1,000 m³, showing steady progress being made toward attaining the FY2021 goal.

	Targets*	Results
Environmental Management Efficiency	14.2 yen / 1,000 m ³ or less	11.6 yen / 1,000 m ³

* Goals set toward FY2021

► Actions Taken

Approach to reducing environmental impact to improve “Environmental Management Efficiency”

At the Himeji LNG Terminal, a newly expanded cryogenic power generation facility began operating in March 2017, resulting in a decline in the cost of procuring electricity used for city gas processing. At office buildings, we have promoted company-wide energy-saving through “Green Gas Buildings” activities. Among the steps taken for such activities was adopting LED-based lighting systems at office buildings.

All employees of the Daigas Group have worked on reducing the environmental impact of each person’s business activities by operating the Environmental Management System (EMS) toward the ultimate goal of cutting overall greenhouse gas (GHG) emissions. In addition, we have reduced the environmental impact of business activities by recycling drilling soil discharged during the gas pipelines (土留) works. Consequently, the Environmental Management Efficiency for FY2018 came to 11.6 yen / 1,000 m³.

Risks and Opportunities Related to Climate Change

► Background and philosophy behind actions

Tackling climate change is seen as one of the Sustainable Development Goals (SDGs) adopted by the United Nations. The Paris Agreement, a UN accord on climate change, went into force in November 2016. The accord is recognized as a framework of international efforts since 2020 for solving issues related to climate change. The Daigas Group recognizes that reducing greenhouse gas (GHG) emissions, known to be a factor for causing climate change, significantly and on a long-term basis, addressing the worldwide challenge of creating a low-carbon society in the future, and responding to heightened risks of natural disaster amid growing climate change

are social issues facing the global community.

The Daigas Group believes reducing CO₂ emissions is an extremely important mission for the company, whose primary business field is energy. The Group also believes that climate change may negatively affect its earnings and costs throughout its energy businesses.

Shown below is what the Daigas Group is trying to do in response to the perceived risks and opportunities associated with climate change.

■ Response to Risks and Opportunities Associated with Climate Change

Phenomena deriving from climate change	Irregular weather conditions	Temperature rise	Change of competitiveness of products and facilities developed by Osaka Gas	Stricter regulation of GHG emissions	Change of energy preference by energy users	Booming of ESG investment	Rise of LNG prices
Risks	-Damage to manufacturing and supply facilities -Negative impact on LNG procurement	-Fall in gas sales (hot-water supply, heating)	Decline of competitiveness -Fall in demand for Osaka Gas products and facilities, and subsequent decline in their utilization -Difficulty of recollecting capital-investment cost	Concern over fossil-based fuels -Fall in gas and electricity sales -Difficulty of recollecting capital-investment cost		-Fall in capital procurement power -Decline in stock prices	-Rise in procurement cost -Fall in gas and electricity sales
Opportunities		-Increase in gas and electricity sales (air-conditioning)	Comparative advantage -Increase in demand for Osaka Gas products and facilities, and subsequent rise in their utilization	Focus on an energy system emitting less GHGs -Increase in gas and electricity sales -Expansion of renewable energy sources and energy-saving services		-Expansion of capital procurement power -Increase in stock prices	
Our response	-Make important facilities water-tight, raise the level of important facilities, divide service areas into blocks -Diversify LNG procurement sources	-Expand the scope of business fields where demand growth is expected	-Develop and introduce highly energy efficient products and facilities, and facilities using renewable energy sources -Switch fuels to natural gas -Secure stable LNG supply by launching upstream business	-Propose and promote energy-saving services -Promote research and studies of innovative technologies, such as hydrogen, clean gas and CCS		-Promote dialogue with investors concerning the Daigas Group's contribution to GHG reduction and business vision	-Diversify procurement sources -Launch upstream business -Make conditions for procurement contracts flexible

■ Risks and Opportunities Associated with Climate Change, Indexes and Targets for Managing GHG Emissions

	Index (Unit)	Targets	FY2018 results
Materiality Indexes	Economic performance "financial impact of climate change, other risks and opportunities"	Recognition of risks and opportunities*1	Set as materiality indexes
Medium-Term Management Plan 2020	Cumulative contribution to FY2018-2021 CO ₂ reduction (t-CO ₂)	7 million*2	610,000
Long-Term Management Vision 2030	Cumulative contribution to FY2018-2031 CO ₂ reduction (t-CO ₂)	70 million*3	
CSR Indicators	Environmental Management Efficiency: Environmental impact of gas business per unit gas produced (yen / 1,000 m ³)	14.2*2	11.6
	CO ₂ emissions per unit gas produced at LNG terminals (t-CO ₂ / 1 million m ³)	11.7*2	9.6
	CO ₂ emissions per unit floor space at office buildings (t-CO ₂ / 1,000 m ²)	56.5*2	54.7
Environmental Action Targets	CO ₂ emissions per unit electricity generated through power business	-15%*2 from FY2009	-32% from FY2009
	CO ₂ emissions per unit sales scored through non-power business (t-CO ₂ / 10 million yen)	8.2*2	9.2
	Efforts to reduce CO ₂ emissions by customers and value chains	Promotion of energy-efficient value-added appliances, centering on natural gas*2	Cumulative sales of Ene-Farm, a fuel cell for residential use, reached 80,000 units.
GHG emissions	Amount of Scope 1, Scope 2 and Scope 3 emissions (t-CO ₂)	Results grasped (no targets set)	36.63 million

*1 Targets toward FY2019 *2 Targets toward FY2021 *3 Targets toward FY2031

Efforts to Reduce CO₂ Emissions

► How to evaluate the work and FY2018 results

Evaluation Method

The Long-Term Management Vision 2030 of the Daigas Group aims to reduce the Group's CO₂ emissions by a cumulative total of about 70 million tons between FY2018 and FY2031. The targeted reduction during the period was calculated based on the benchmark FY2017 CO₂ emissions. The projection took into consideration expected effects from highly energy-efficient facilities planned to be introduced in FY2018 or after, and the active use of low-carbon energy sources. The projected amount was calculated by totaling the reduction contribution of newly introduced high-efficiency equipment and low-carbon energies. The reduction contribution was assumed by multiplying the introduced amount by emission

reduction of the new facilities compared to existing facilities.*

As shown below, the Daigas Group expects to see its Scope 1, Scope 2 and Scope 3 GHG emissions grow in line with its expanding business size. However, the Group's efforts to reduce CO₂ emissions, such as replacing it with a low-carbon energy system, will reduce emissions at other companies' and their value chains, which in turn will contribute to society-wide emission reductions.

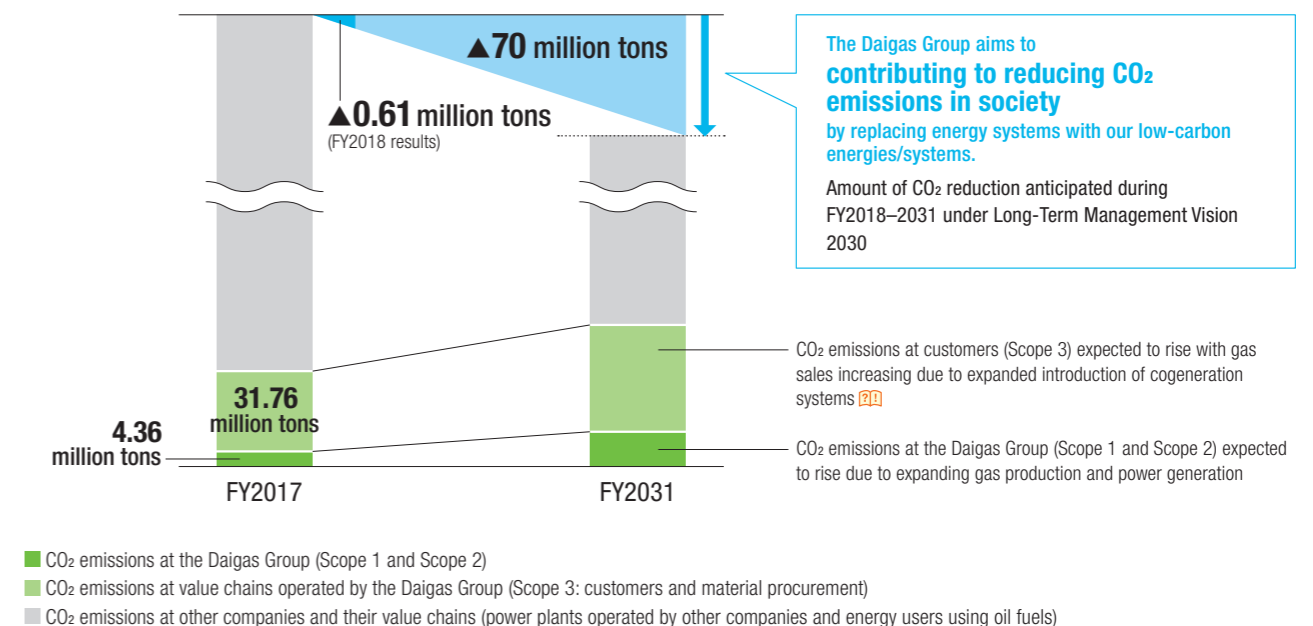
* A method employed by the state for calculating the amount of CO₂ cuts under its plan to curb global warming (approved by the Cabinet in May 2016) was used as a reference. The marginal coefficient (average emission coefficient for fossil-based electricity sources) was used for the CO₂ emission coefficient for purchased electricity.

FY2018 Results

Measures newly taken by the Daigas Group during FY2018 included the introduction of cryogenic power generation systems at gas processing terminals, the use of highly energy-efficient thermal power generation facilities both in Japan and abroad, the introduction of fuel cells, gas air conditioner systems and highly energy-efficient hot-water supply systems at customers, and the conversion of fuels into natural gas both in Japan and abroad.

Thanks to these measures, the Daigas Group was able to contribute to reducing CO₂ emissions by about 610,000 tons during FY2018. The Group will remain committed, both at its companies and customers, to contributing to building a low-carbon society by actively introducing highly energy-efficient facilities and using low-carbon energy sources.

■ Contribute to Reducing CO₂ Emissions in Society



► CO₂ emissions from Osaka Gas's city gas business

CO₂ emissions in Osaka Gas's city gas business for FY2018 were 125,000 tons, resulting in CO₂ emissions per cubic meter of gas produced (emission intensity) of 14.3 g-CO₂/m³. Compared to 1990, the Kyoto Protocol's benchmark year, total CO₂ emissions were down by 53% and emissions on a per-unit basis fell by 76%.

Reasons for the decrease in CO₂ emissions included a decline in purchased electricity following the active use of gas cogeneration systems and cryogenic power generation, efficient operations at facilities, and stepped-up energy-saving activities at office buildings.

► Reduce CO₂ emissions by about 4 million tons at customers

The Daigas Group has proposed and marketed products aimed at reducing CO₂ emissions and thereby curbing climate change. Such products for residential use are the Ene-Farm fuel cell and the highly energy-efficient hot-water supply system Eco-Jozu. Among business-use and industrial-use products are gas cogeneration systems, gas-fired absorption chiller-heaters, gas heat pumps (GHPs) and natural gas vehicles (NGV). By introducing these appli-

Osaka Gas started operating cryogenic power generation facilities in 1979, for the first time in the world. In FY2018, the Senboku LNG Terminal and Himeji LNG Terminal together generated about 83 million kWh at their cryogenic power generation facilities.

We will work for further reductions of CO₂ emissions by aggressively using electricity produced by unused energy such as LNG cryogenics and gas pressure of gasification, as well as by reducing energy use in offices.



Ene-Farm type S

ances and equipment, our customers were able to reduce CO₂ emissions by about 4 million tons cumulatively as of the end of FY2018.

► Development and diffusion of gas cogeneration systems for business and industrial use

Distributed energy systems generate power at the site where power is consumed, and utilize waste heat from the power generation process for hot water supply and air conditioning. Thus distributed energy systems are highly economic and environmentally friendly. The Daigas Group has been working on developing and diffusing environment-friendly gas cogeneration systems for business and industrial use, such as at factories, business offices and commercial facilities.

Since releasing the first business-use micro-cogeneration system in 1998, Osaka Gas has expanded its lineup of cogeneration systems featuring not only a power-saving function but also power outage response capability. These systems have been widely used in factories, hospitals, public welfare facilities, hotels, spas and restaurants. As of the end of March 2018, there were 4,529 cogeneration systems under operation in the Osaka Gas service area with a combined output capacity of 1,574,000 kW.

In order to meet the diverse needs of customers, we are developing technology to further improve energy efficiency and reliability. In FY2018, we worked with Mitsubishi Heavy Industries Engine & Turbocharger, Ltd. to develop a highly energy-efficient gas engine cogeneration system with an output capacity of 1,200 kW.

We also evaluated a small-size solid oxide fuel cell (SOFC) for business use. The Group focused on evaluating and commercializing both products. A business-use SOFC with output capacity of 3 kW, made by Kyocera Corp., achieved 52% in power-generation efficiency and 90% in overall energy efficiency. Compared with its heat efficiency, the product's electricity output is large. The product features specifications that suit the needs of customers from whom heat demand is relatively low. Osaka Gas began selling the product in FY2018.

To realize sustainable energy saving during replacement, we embarked on a project to develop an 800 kW-class gas engine cogeneration system that features improved power generation output and power generation efficiency in collaboration with Mitsubishi Heavy Industries Engine & Turbocharger.

We will step up our efforts to promote energy saving and contribute to environmental conservation by further expanding sales of cogeneration systems.



A small-size business-use SOFC

Efforts in Resource Recycling

► Recycling of resources in city gas business

The final disposal rate for industrial waste at LNG processing terminals operated by Osaka Gas was given as 0.1% in FY2018 (waste amount: 320 tons; final disposal amount: 0.4 tons). Meanwhile, the final disposal rate for industrial waste at business locations other than LNG processing terminals stood at 0.8% (waste amount: 2,276 tons; final disposal amount: 17.5 tons). The final disposal

rate for general waste generated by Osaka Gas came to 2.3% (waste amount: 483 tons; final disposal amount: 11 tons).

The figures listed above all exceeded the targeted levels. To attain the FY2021 targets, we will continue to PDCA cycle under the company-wide integrated Environmental Management System (EMS).

Conserving Biodiversity

► Key biodiversity efforts in the value chain

The Daigas Group has implemented measures as listed below at value chains to promote biodiversity.

Procurement	Taking biodiversity into consideration during transportation by LNG tankers ● Managing ballast water
Manufacturing	Using native seedlings for green space management in LNG terminals ● Conserving native seedlings and rare species ● Forming networks with local natural environments
Distribution	Reducing mountain sand extraction by curbing excavated soil generation and promoting reuse in gas pipe installation work ● Reducing generation of excavated soil through replacing pipes without excavation ● Reducing excavated soil and road waste
Customers	Providing biodiversity education at LNG terminals and at the showroom, "hu+gMUSEUM" ● Offering tours of green spaces and seminars ● Arranging paddy field experiences and lectures on venison recipe

► Publication of "Reference for Biodiversity Consideration on Planting at Daigas Group"

The Daigas Group has been promoting tree planting on the premises of LNG processing terminals and other buildings while taking biodiversity into consideration. To summarize these activities, we have revised and published a booklet, "Biodiversity Promotion Activities by the Daigas Group—for Passing the Gift of Nature on to the Future." The initial edition of the booklet was published in FY2011. The latest edition revised the content of the first edition by taking into consideration global trends, including the Sustainable Development Goals (SDGs), natural capital management and ESG management.



Cover and centerfold of the booklet

Developing Environmental Technologies

► Method developed by Osaka Gas to test activated carbon fibers recognized as being harmonious with ISO international standards

A method to test activated carbon fibers, whose draft was compiled by the liaison group called "Japan Activated Carbon Fiber Association," lead managed by Osaka Gas, was approved by the International Organization for Standardization (ISO). In November 2017, the method was recognized by the ISO as being consistent with the ISO international standards.

Activated carbon fiber, developed in Japan and now under production by companies including Ad'all Co., Ltd., a Daigas Group company, is a product with excellent removal performance of harmful substances. The method was proposed to the ISO based on the Japanese Industrial Standards we have already acquired, using

a fast-track proposal method. As a result, the method was recognized two years after the submission of the proposal, much faster than the period of at least three years required under the normal procedure.

With the diffusion of this method around the world, the function of activated carbon fibers of being able to remove harmful substances is likely to be recognized widely, possibly enhancing trust in products containing such fibers that are marketed in Japan. Consequently, environmental preservation will be promoted with safety and security expected to increase regarding people's lives.

Environmental Impact throughout the Daigas Group Value Chain in FY2018

Third-party verification completed. Osaka Gas underwent a third party verification by Bureau Veritas Japan Co., Ltd.

The Daigas Group calculated the amount of greenhouse gas (GHG) emitted by companies that constitute the Daigas Group's value chain network, based on the GHG Protocol, an international emission standard. The methodology of the calculation and its results have been certified by an independent organization to warrant their reliability and accuracy.

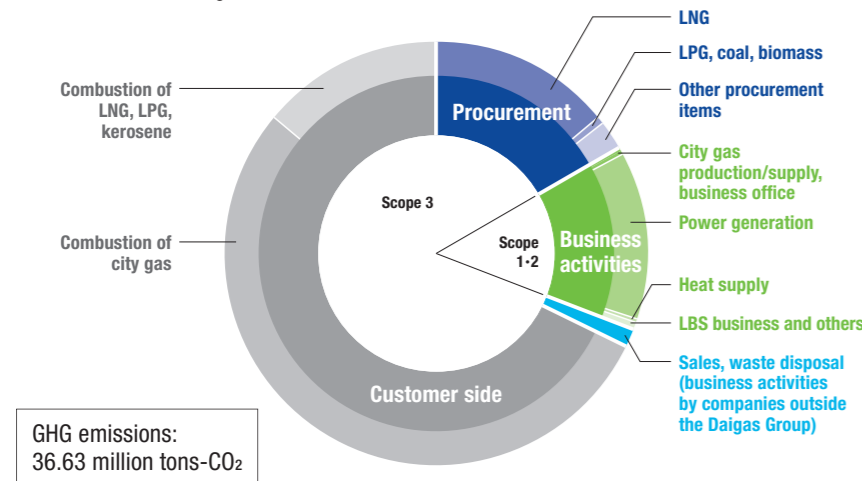
Combined GHG emissions by the Daigas Group and value-chain companies, measured by CO₂, totaled about 36.63 million tons in FY2018. The sum breaks down into about 5.16 million tons or about 14% for GHG emitted through business activities by the Daigas Group (Scope 1 and Scope 2), and about 31.47 million tons or about 86% emitted by organizations involved in our value chain (Scope 3).

GHG emissions from city gas combustion on the customer side amounted to 19.65 million tons in the reporting year in terms of CO₂, accounting for about 54% of the total. This makes it all the more important for Osaka Gas to further diffuse energy-efficient Ene-Farm systems and cogeneration systems—for which our company has mounted a promotional campaign—while promoting energy conservation using natural gas, an energy source that emits less CO₂.

GHG emissions through electricity generation by the Daigas Group, as measured in terms of CO₂, came to 4.71 million tons, representing about 13% of the total emissions from its own business activities. With the power generation business expanding, the ratio of CO₂ emissions from that business has been increasing every year. As a way of reducing GHG emissions from power generation, the Group will continue to actively introduce highly advanced energy-efficient power generation facilities and using renewable energy sources.

GHG emissions from material and fuel procurement totaled 6.19 million tons, as measured in terms of CO₂ in the year, accounting for about 17% of the total emissions. The procurement of energy sources, especially LNG, accounted for nearly 90% of the 5.9 million tons. Under these circumstances, we will continue our efforts to improve fuel efficiency regarding the operation of LNG tankers in collaboration with material suppliers. Activities that have potential environmental impacts other than GHG emissions include the disposal of waste (general waste and industrial waste), and the disposal of excavated soil and polyethylene pipes associated with gas pipe works. However, the recycling rates are high for such waste, a situation we will try to maintain in the future. About 97% of water used for our industrial activities is taken from the sea. Such water is mostly used to vaporize LNG at LNG terminals. Sea water is also used as coolant inside the steam turbine condenser at some power plants. Once used, the water is discharged into the sea under strict control.

GHG Emissions Throughout the Value Chain in FY2018



Companies subject to the calculation of GHG emissions

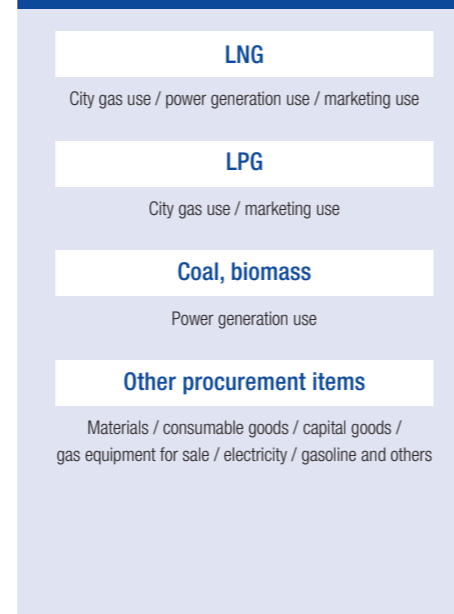
Osaka Gas and 57 companies among 138 consolidated subsidiaries are subject to calculation of GHG emissions. Those housed in office buildings as tenants and whose environmental data are difficult to grasp and whose environmental effects are minimal are not subject to such calculation. Also excluded from the calculation are overseas companies.

One overseas company was added to Scope 3 companies, a group of companies that are subject to the calculation of GHG emissions.

Main Materials and Fuels

Amount of LNG handled	9,518 thousand tons The figure above includes the amounts of the items listed below: ● Materials of city gas ● Fuels at LNG terminals ● Fuels used by Group companies for power generation ● LNG shipments to outside companies
LPG used for calorific adjustment of city gas	156 thousand tons

Procurement of materials and fuels (activities by outside companies)



GHG (Scope 3*)

	CO ₂ emission (1,000 t-CO ₂)
LNG	5,145
LPG, coal, biomass	210
Purchased goods	836
Total	6,191

[Sources of emission factors used for calculating CO₂ emissions]

- LNG production and shipment: Calculation of life cycle greenhouse gas emissions of LNG and city gas 13A (Research papers and a collection of academic speeches released at the 35th meeting of the Japan Society of Energy and Resources, held in June 2016)
- Production and shipment of LPG and coal: Future forecast for life cycle greenhouse gas emissions of LNG and City Gas 13A (Energy and Resources, Vol. 28, No. 2, March 2007)
- Other main emission factors: Emission factors for calculating supply-chain greenhouse gas emissions (Database Ver.2.4) published in March 2017 by the Ministry of Environment

Amount of Energy Used

City gas	1,559 million m³ (including gas whose calorific value has yet to be adjusted)
Purchased electricity	415 million kWh
Other energy sources	13,494 TJ

Amount of Vehicle Fuel Used

Gasoline	2,523 kl
City gas	141,000 m³
Diesel	332 kl
LPG	20,000 m³

Amount of Water Intake

General water, industrial water	12.122 million m³
Underground water	3.572 million m³
Seawater	617.642 million m³

Business activities by Osaka Gas



GHG (Scope 1 and 2)

	CO ₂ emission (1,000 t-CO ₂)
City gas production/supply	84
Business office	41
Power generation	4,705
Heat supply	113
LBS and others	215
Total	5,159

Waste

	Generated	Recycled
General waste	1,085 tons	96%
Industrial waste	104,345 tons	97%
Excavated soil	705,411 tons	100%
PE pipe	194 tons	100%
Used gas appliances recovered	1,665 tons	87%

Chemical Substances

	Amount of discharge
NOx	852 tons
SOx	184 tons
Toluene	28.51 tons
Xylene	0.80 tons
COD*	2.1 tons
Discharge of water	
Sewer	1.685 million m ³
River	2.978 million m ³
Sea	626.258 million m ³

* At time of city gas production

Sales, waste disposal (Business activities by companies outside the Daigas Group)



GHG (Scope 3**)

	CO ₂ emission (1,000 t-CO ₂)
Total	554

GHG emissions due to energy consumption arising from various activities, including commuting of employees, business trips, transportation of products, business activities at outlets that provide sales support to Osaka Gas, disposal of own waste, disposal of product waste, and leasing of assets.

[CO₂ emission factors used]

- Electricity: 0.65 kg-CO₂/kW (2016 anti-global warming plan; FY2014 average emission factor for fossil-based electricity sources)
- City gas: 2.29 kg-CO₂/m³ (based on Osaka Gas data)
- Others: Factors listed under the Law Concerning the Promotion of Measures to Cope with Global Warming

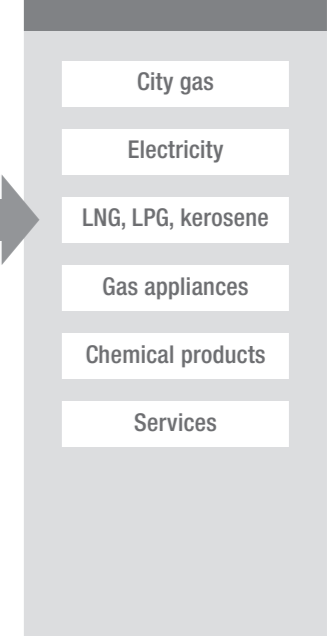
[Breakdown of Scope 3 categories]

- *1 Category 1-4 (purchased products, capital goods, fuel procurement, upstream transportation)
- *2 Category 5-9, 12-14 (waste, business trips, commuting, leased assets, downstream distribution, end-of-life treatment of sold products, franchises)
- *3 Category 11 (use of sold products)

Sales Volume of Main Products

Gas	8,580 million m³
Electricity	10,951 million kWh

Customers



GHG (Scope 3**)

	CO ₂ emission (1,000 t-CO ₂)
Combustion of city gas	19,648
Combustion of LNG, LPG and kerosene	5,078
Total	24,726

CSR Charter III

Being a Good Corporate Citizen Contributing to Society



Fundamental concept

The Daigas Group will work on creating regional value by supporting community building under five themes—people, history and culture, sports, safety and security, and diet—and undertaking volunteer activities.

The Daigas Group conducts business rooted in communities, and its business cannot succeed without good relations with these communities. Actively disclosing information to promote better understanding of our business is a matter of course, and we are engaged in social contribution activities on the topics of living, the environment and the community. We are making dynamic use of the Daigas Group's assets to contribute to the growth of local communities.

CSR Indicator Activities to Deepen Communication with Society and Social Contribution Activities

The CSR Indicator figure listed as "a number of events held to deepen communication in the fields of the environment and diet" represents the number of educational events the Daigas Group sponsored to enhance people's understanding of energy, food and fire use. The CSR Indicator figure listed as "a number of contacts" means the number of visits by the general public to the Gas Science Museum and the Himeji Gas Energy Hall. The CSR Indicator figure listed as "a number of events held to contribute to society" indicates the number of events the Daigas Group has hosted as part of its efforts to promote social contribution activities, including baseball teaching by the Group's athletic club members and educational seminars targeting young people.

▶ Targets and Results

In FY2018, the CSR Indicator figure listed as "a number of contacts," which indicates the number of visits to the Gas Science Museum and the Himeji Gas Energy Hall, was integrated into the CSR Indicator figure listed as "a number of events held to deepen communication." The number of social contribution events held in the year came to 529, including events held under the "Small Light Campaign." Osaka Gas held a total of 570 events hosted by energy and cultural-related research facilities.

	Targets	Results
Number of events held to enhance communication (environmental education, food education, visits to the Gas Science Museum and the Himeji Gas Energy Hall)	1,950 or more	3,710
Number of social contribution activities held	600 or more	1,099

▶ Actions Taken

Continued communication activities and social contribution activities

By continuing to undertake activities aimed at enhancing communication with society, the Daigas Group aims to realize the creation of regional value. In FY2018, the Group supported welfare facilities through the "Small Light Campaign" events. The Group teamed up with local municipalities and experts in the educational and medical fields to solve regional problems, using educational programs developed by Osaka Gas to promote food education, disaster-prevention education and environmental preservation. In food education, the Group opened a new-style seminar promoting soup stock for Japanese food in FY2018, enabling participants to study the value of such soup stock at a temporary facility set up near their homes or offices. The experience-based seminar, conducted by Osaka Gas employees dispatched to customers, is designed to promote a healthy diet among the general public and pass on Japan's rich food culture to the future.

Furthermore, the Group actively undertakes social contribution activities, including baseball and soccer teaching sessions held for children by athletic clubs of Osaka Gas and activities aimed at supporting healthy growth of young people.

Social Contribution Activities

▶ Fostering growth together with people in local communities

As a corporate group focusing on businesses closely related to people's day-to-day lives, the Daigas Group is working on giving the public greater safety and security by enhancing people's health and taking measures to ensure disaster prevention in each region—all in pursuit of realizing coexistence with local communities. For example, the Group has established an energy system developed by Osaka Gas at the Ibaraki campus (which opened in Osaka in the spring of 2015) of Ritsumeikan University. Building the energy system is part of an agreement reached by Ibaraki City, Osaka Prefecture, Ritsumeikan University and Aeon Retail Co., Ltd. to create a disaster-resilient community. The agreement calls for Osaka Gas to supply electricity to a disaster-prevention park adjacent to the campus in the event of a natural disaster.

Furthermore, the "Hajimaru-kun Personal Computer Donation Program" being run by Group member OGIS-RI, based on the idea of mitigating the environmental burden by encouraging the reuse of PCs, is also a social contribution activity that provides employment support for the disabled to whom recycling operations are out-

sourced as well as IT support for donation recipients.

In addition, the Group offers proposals to local governments on building towns and cities in which all residents — from children and adolescents to the middle-aged and elderly — can lead active lives. The Group has also been undertaking activities to support southern Osaka child-rearing support networks, aimed at "joint child-rearing" involving local communities, local governments, NPOs and private corporations.

In June 2014, Osaka Gas started distributing an anti-disaster booklet developed as education material for use by fourth to sixth graders at elementary schools. The booklet, titled "Class for thinking about disaster prevention," has been used by local government organizations and local self-governing groups, with the number of its copies distributed totaling more than 100,000. The Company's educational activity through the booklet received a 2018 award from the National Institute on Consumer Education in the category of consumer education material involving private companies and industry groups.

▶ NOBY T&F CLUB activities

Osaka Gas has used its resources and assets to help build vitality-filled communities. For example, NOBY T&F CLUB, an athletic club run by Olympic medalist Nobuharu Asahara, an Osaka Gas employee, provides a variety of athletic programs to young athletes to support their sound growth and foster top-level athletes who are to play a key role in Japan's future athletic sports.

A multiple number of businesses have been launched at local municipalities based on the know-how obtained through the NOBY T&F CLUB. Elementary schools and junior high schools in Suminoe Ward in Osaka City used an athletic program developed by NOBY T&F CLUB for classes conducted between September 2017 and March 2018 as part of their efforts to promote advanced and attractive education. This marked the first time that educational material developed by NOBY T&F CLUB has been used by schools.



Activities of NOBY T&F Club

Corporate Volunteering Activities under the "Small Light Campaign"

▶ Fund Management

The "Small Light Campaign" is managed by the fund received at occasions such as bazaars, book recycling, music concerts, sales of charity calendar. The fund, "Small Light Fund" provides assistance

to disaster-hit areas and subsidies to NPOs.

The FY 2018 management activities of the Fund produced 15,300,000 yen in revenues and 14,082,000 yen in expenditures.

Activities to Promote Communication with Society

▶ Food Education Activities

The Daigas Group has been undertaking food education activities under the slogan “nurturing healthy youth through food.” These activities include holding food education seminars and study sessions for people working at schools and nursing facilities, compiling and distributing food education books for use at elementary schools as learning materials, and sponsoring a food education class on *dashi* soup stock used in Japanese cuisine, in which participants can learn about “*dashi* culture” fostered in the Kansai region through actual cooking and tasting. The Daigas Group also holds cooking classes on a range of themes, including local production and local consumption, and food and health, in collaboration with local universities and municipalities. Also held by the Group are cooking contests participated in by parents and their children in the Kinki region.

The new cooking and tasting class on *dashi* soup stock started in FY2018 as an experience-oriented and locally linked program in which cooks are dispatched to schools and other venues to teach participants about *dashi* soup. The class was launched to improve children’s dietary lives amid the changing food environment following the addition of “*washoku*,” traditional Japanese food culture to UNESCO’s Intangible Cultural Heritage list.

The class is designed for Japan’s healthy and enriched food culture to be transferred to the next generation through the promotion of *dashi* soup stock. Participating in this class to support us are local university students, for whom it is also beneficial because they are given teaching and cooking opportunities through the class, closely linked to projects undertaken by local municipalities and various organizations to promote local production and local consumption. Given this situation, we will continue to sponsor this class as part of our efforts to connect with local communities.



Cooking class on *dashi* soup stock, conducted at a local elementary school

▶ Osaka Gas receives Agriculture, Forestry and Fisheries Minister Award in Second (FY2019) Food Education Commendation

In the Ministry of Agriculture, Forestry and Fisheries’ second commendation for food education, Osaka Gas received an award from the Minister of Agriculture, Forestry and Fisheries in the category of “people engaging in education / business corporations,” the highest award under the commendation, for its food education activities. The ministry introduced the award system to commend parties that have made outstanding achievements in the field of food education through volunteering activities, educational activities, agriculture, forestry and fisheries businesses, food production, and food sales. The ministry wants food-education activities recognized as commendable under the commendation system to be widely known to the general public and to spread across Japan.

The Minister of Agriculture, Forestry and Fisheries gave the latest award to Osaka Gas in recognition of the Company’s activities to promote traditional Japanese dietary culture through experience-oriented food education, focusing on a *dashi* soup stock cooking

and tasting class, in addition to efforts to diffuse the food-education content which we have been developing for years since 2008 in cooperation with Osaka Gas Cooking School, and our food-education activities undertaken jointly with food experts outside the Company.



Award ceremony for “13th National Food Education Promotion Contest in Oita”

TOPIC

Development of Regional Power Sources

Osaka Gas established a regional electric power company, Ikoma Civic Power Co., jointly with the government of Ikoma, a city in Nara Prefecture, and Nanto Bank, Ltd., marking the first time that an energy service provider has created a regional power company in a tie-up with a municipality. The new company aims to secure stable and long-running electricity supply, with energy procurement focused on renewable energy sources, such as solar power generation, plus power supply from Osaka Gas as a supplementary power source.

Earnings from the retail power business involving Ikoma Civic Power will be allotted to solve regional problems, including child rearing and educational services, with the aim of improving people’s daily lives and making Ikoma City a comfortable place to live.



Ikoma Civic Power Co., a new electric power company, established in July 2017

CSR Charter IV

Complying with Laws and Regulations and Respect for Human Rights



Fundamental concept

The Daigas Group believes that observing compliance and respecting human rights are the most important factors for the Group in winning trust from customers and society, and constitute the basis of business continuity.

Based on our notion that compliance extends beyond just following laws and regulations to include exhibiting decent behavior as a member of society, the Daigas Group recognizes fulfilling compliance as continuing to live up to the expectations of customers, employees, society and shareholders while winning their trust and sympathy. The Group thus endeavors to maintain fair and honest relations with customers, business partners, and all other parties, and to respect human rights. Ensuring compliance is the most important thing we can do to gain the trust of customers and the society. Recognizing that individual employees are the key to compliance, we are continually conducting training sessions and employee surveys to raise awareness.

CSR Indicator Scores on Compliance Awareness / Percentage of Employees Receiving “Compliance Training”

We have introduced three viewpoints deemed important for compliance promotion as CSR Indicators. These three are: (1) the degree of recognition by each Osaka Gas employee of the “Daigas Group Code of Conduct,” (2) the degree of penetration through each Daigas Group organization of employees’ awareness of the importance of compliance, and (3) the percentage of Daigas Group employees taking a compliance training course. As for indicators (1) and (2) above, the Daigas Group aims to obtain higher scores than in the previous year in the compliance awareness surveys that it has been conducting since FY2004 to measure the degree of its penetration. Concerning indicator (3), we work to ensure that all employees receive compliance training.

▶ Targets and Results

The targets and results for FY2018 are as follows.

	Targets	Results
Scores on compliance awareness		
1: (Individual) Recognition level of Code of Conduct	Higher than the previous year	Up 4.0 points from the previous year (85.6%)
2: (Organization) Degree of compliance penetration in the organization	Higher than the previous year	Up 4.3 points from the previous year (91.9%)
3: Percentage of employees receiving the “Compliance Training”	100%	100% (No. of employees covered by the survey: 22,349)

▶ Actions Taken

Actions taken to enhance the awareness and understanding of employees of compliance

Efforts are under way to have all employees understand the content of the “Daigas Group Code of Conduct” and raise their awareness of the importance of compliance to penetrate through each organization of the Group. Specifically, each organization of the Osaka Gas and its affiliated companies hold training sessions for their employees while taking into account the characteristics of business and workplace of each organization and affiliate. Employees who have yet to take a training course, will be advised to do so in order to leave nobody unattended.

In FY2018, an in-house study session conducted continuously at each organization of the Daigas Group newly took up the “Daigas Group Code of Conduct” and ethics enhancement. In the same year, an in-house case-study session focusing on interactive discussion was held for employees in management positions at two Business Units. Similar sessions are planned to be held in FY2019.

Compliance Promotion Efforts

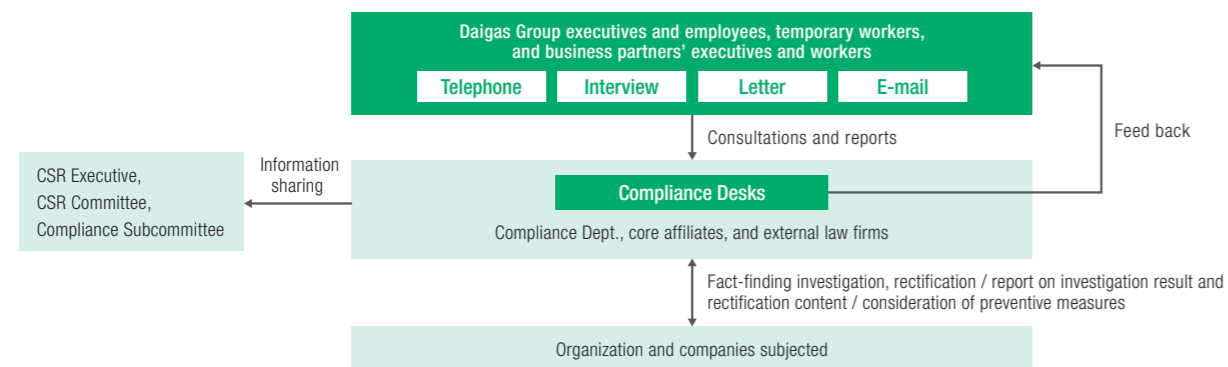
► “Compliance Desk”

The Daigas Group has established “Compliance Desks” at the Head Office, core affiliates, and law offices outside the company to provide a channel for persons who need a place to seek advice on, and report matters concerning compliance with laws and in-house rules. Not only management and employees of the Group, but also management and employees of client companies providing goods and labor to Group companies on a long-term basis can seek advice or make reports by phone, e-mail, or in writing anonymously.

In FY2018, the “Compliance Desks” received a total of 141 consultations and reports. Upon receipt of a report, an initial examination was made, following which a fair investigation of the facts was conducted and any necessary corrective measures were implemented.

Acting on a report concerning compliance, the Group will take remedial measures if the case is found to constitute a violation of law. Even if no violation is detected, the Group will carry out improvement measures as a way of creating a better working environment and maintaining it, if doing so is deemed necessary for the workplace.

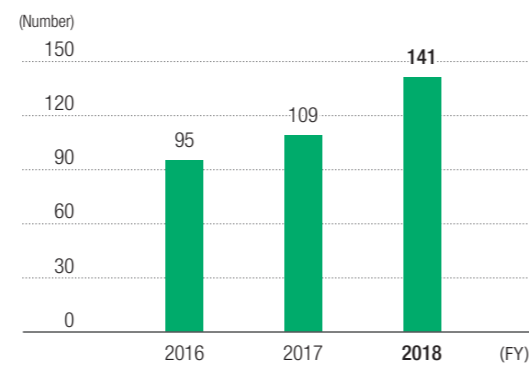
■ Organization of “Compliance Desks”



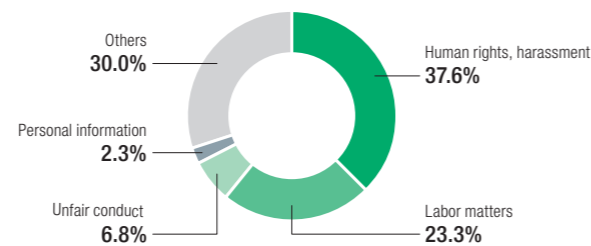
► Promotion of global compliance in step with overseas business development

In view of expanding business operations abroad, an English version of the leaflet summarizing the Corporate Principles of the Daigas Group, the “Daigas Group CSR Charter,” the “Daigas Group Code of Conduct” and “Compliance Desks” used for the internal reporting system was posted on the Intranet for dissemination to employees. In FY2018, we grasped how risks have been addressed

■ Number of Consultations



■ Breakdown of Consultations and Reports



at 12 major overseas subsidiaries while modifying risk items listed under G-RIMS, a risk management system developed by Osaka Gas, for use by such overseas subsidiaries. We checked whether preventive measures and early-detection steps on about 50 risk items had been implemented at the subsidiaries as intended. Then, we took response actions against the risks.

Information Security

► Efforts to strengthen information security

Under the leadership of the Information Security Subcommittee, the Daigas Group has established a system to enhance its overall information security by deploying managers in charge of promoting information security at core companies of the Daigas Group and organizations in charge of supporting the management of Osaka Gas, and by deploying staff in charge of promoting information security at other organizations and affiliated companies.

The entire gas industry has been working on security-enhancement measures in line with an action plan meant to strengthen information security regarding important infrastructure, compiled by the National Center of Incident Readiness and Strategy for Cybersecurity (NICS). In step with this move, our company has endeavored to enhance information security.

In FY2018, we conducted on-site surveys and checkups regarding information security at affiliated companies, formulated improvement plans for each of these companies, and had them implement suitable measures. Education on information security was also provided to all Daigas Group employees, and employees in charge of IT at each affiliate and organization to improve the information security awareness and skills of each and every employee. To enhance employees’ information security awareness and enable them to respond appropriately to security incidents, a drill simulating targeted-type email attacks based on actual cases was conducted twice in the year. A total of about 37,000 employees were covered by the drill.

Measures to Prevent Illicit Receipt of Engineering Fees by Engineering Firms Engaging in Gas Engineering Work on Consignment of Osaka Gas

During FY2018, Osaka Gas confirmed two irregularities concerning the receipt of engineering fees at companies that were entrusted by Osaka Gas to estimate design fees regarding gas appliance installation work,^{*1} undertake engineering work, and collect fees for such work. Specifically, it was found that during the year under review the two engineering firms in question received engineering fees that were inconsistent with the amount listed official under the articles^{*2} stipulated by Osaka Gas. We would like to express our sincere apologies to customers and other parties concerned for causing inconvenience and worry.

- Engineering firm I: Izuki Gas Jutaku Setsubi (released in August 2017)
- Engineering firm II: Asahi Juki (released in October 2017)

We take the latest irregularities seriously. To prevent the recurrence of an incident, we will step up the education of our employees and employees at engineering firms. We will also introduce a stricter system to ensure appropriate gas engineering work by entrusted firms.

Preventive measures

- 1) Renewed education of employees at our company and engineering firms
- 2) Strengthening of a system aimed at ensuring appropriate gas engineering work

* Details of the preventive measures were included in a press release announced on Oct. 4, 2017.

^{*1} Gas engineering work undertaken on the premises of customers

^{*2} Engineering contracts concluded on March 31, 2017 or before are covered by the article stipulating general gas supply work, while contracts concluded on April 1, 2017 or after are covered by the article stipulating gas engineering work or general gas supply work.

Action on Human Rights

► Group-wide promotion of human rights awareness

To promote human rights awareness throughout the Daigas Group, Osaka Gas has established a “Corporate Human Rights Committee” headed by the director responsible for the Human Resources Department. This committee decides activity policy with regard to human rights.

Based on this policy, the Human Resources Department’s “Human Rights Center” plans, formulates and implements numerous efforts and events such as human rights training for all job levels, human rights lectures, and human rights slogan contests, and offers cooperation and support to individual organizations. The top award-winning slogans are made into posters that are put up in offices to constantly remind employees of the importance of human rights.

As well, business units and major affiliates have their own

► Human rights training for all levels

As shown in the right-hand table, the Daigas Group has human rights training for all job levels: directors, managers, and new recruits.

Newly appointed managers learn about “business and human rights” through training sessions featuring interactive lectures and video watching. We have human rights lectures for division heads and managers led by outside experts.

Regarding trainings for all employees led by human rights promoters in each division, in FY2018, approximately 18,000 Osaka Gas and Daigas Group employees took part in such training, aimed at disseminating the three laws meant to end discrimination, under the theme “Let’s learn about the human rights laws enforced in the previous fiscal year.”

“Human Rights Committee,” which relays company policies and human rights information to employees, encourages participation in outside lectures and the human rights slogan contest. The “Corporate Human Rights Committee” also exchanges information and opinions with divisions in the Group, all in an effort to understand what must be done across the entire Group. Further, each business unit and major affiliate appoints a “Human Rights Awareness Promotion Leader,” who is in charge of dealing with daily issues related to human rights.

The Daigas Group’s “Compliance Desks,” which accept compliance consultations and reports, also provide a place for employees to seek advice on, and report all matters related to human rights.

■ Group-Wide Human Rights Training - Participants

Participants	Implementation period	Total number of persons
Executives	November	27
Organization heads, managers	May, July, August, November, December	402
New employees	April	127
Training for all employees	From August to March	18,000
Managers at affiliates	May, November	76
New employees at affiliates	April, June, November, February	158
Employees of affiliate	Year around	287
HR Committee members, etc.	Year around	165
Total		About 19,200

Voices of Group Employees | Osaka Gas Urban Development Co., Ltd.

Osaka Gas Urban Development encourages its employees to obtain a certification as a “real estate trade human rights promoter.”

Osaka Gas Urban Development Co., Ltd. has been encouraging its employees to obtain certification as a “real estate trade human rights promoter,” awarded by Osaka Prefecture and the liaison group tasked with handling human rights issues in real estate trade.

A “human rights awareness promoter” chosen from each workplace will take a “real estate trade human rights promoter” seminar during his or her tenure as “a human rights awareness promoter” to receive certification. A certified “real estate trade human rights promoters” has played a key role in enhancing human rights awareness within each workplace.

At each workplace, study sessions for human rights awareness enhancement are held periodically under the leadership of a “human rights awareness promoter,” using educational material designed to enhance human rights awareness, developed by the Osaka Gas Human Rights Awareness Center and human rights groups. Other activities undertaken at each workplace include watching a human rights awareness video and visiting various facilities related to human rights protection. Furthermore, a lecture session on human rights awareness is held once a year for all employees.



Shiho Mikami
General Affairs Department
Osaka Gas Urban Development Co., Ltd.

CSR Charter V

Management Policy for Human Growth



Fundamental concept

The Daigas Group is working on to become a company that can realize the growth of its employees through work with preparing a personnel management system and environment whereby employees’ individuality and initiative are respected, as well as their diverse talents are maximized.

The Daigas Group would like to be a company at which employees can find not just employment but also personal growth through their work. To that end, we have introduced career-course-specific human resources systems designed to respect and put to full use the individuality and autonomy of employees, and we have been conducting a wide range of training. We have also formulated the “Daigas Group Diversity Policy” to ensure that a diversity of people can play active roles at the Daigas Group. Convinced that ensuring employees’ safety and maintaining/improving their physical and mental well-being are keys to all our operations, we are also undertaking efforts to prevent work accidents and to promote fitness.

CSR Indicator Employee Attitude Survey: job satisfaction and attachment to the company

Osaka Gas periodically conduct “Employee Attitude Survey” to understand how employees satisfy with their job, workplace environment, superiors, company systems, and so on. Employees are asked to rate their satisfaction level on a five-point scale for categories including job satisfaction, attachment to the company, etc., and to leave an open comment.

► Targets and Results

The goal of the “Employee Attitude Survey,” conducted every two or three years, is to confirm changes over time in employee attitudes and the progress made in adopting/implementing the human resources systems introduced in FY2012. The results of the latest survey, conducted in FY2015, surpassed the results of the previous survey (FY2013) in the CSR Indices of job satisfaction / attachment to company and degree of satisfaction with human resources systems.

	Targets	Results*
Job satisfaction and attachment to the company	Maintain sufficient levels	Maintained sufficient levels (3.85 against scale of 5 for job satisfaction and 4.38 of scale of 5 for attachment to the company)

* Result of the survey conducted in FY2015

► Actions Taken

“Employee Attitude Survey”

In the latest “Employee Attitude Survey,” a grade on a five-point scale was assigned to the attitudes of Osaka Gas employees in categories including “job satisfaction” and their “degree of attachment to the Company.” The next survey is scheduled for FY2019, covering all employees.

Employment

► Data on Daigas Group workforce

Osaka Gas has 5,617 employees (4,745 men and 872 women) as of March 31, 2018. We hold joint hiring seminars as a Group, and 15 companies participated in the FY2018 seminar, where approximately 270 students were briefed on each company's business and

the types of human resources needed. Osaka Gas also provided about 430 students with opportunities to gain work experience through internships in FY2018.

Acceptance of Diversity

► Ensuring a diversified workforce

As a way of enhancing its corporate value, the Daigas Group believes that it is essential for the Group to promote diversity in its corporate membership and corporate structure whereby employees can maximize their potential, irrespective of gender, age, nationality or physical disability. Recognizing that it is necessary for

the Group to foster a corporate culture, the Group has adopted the "Daigas Group Diversity Promotion Policy" aiming for people with diverse personality and talent are respected, accepted, they can feel rewarded and fulfilled through their work.

► Reemployment scheme

Osaka Gas has a system known as the Reemployment Scheme to rehire employees who are 60 and older after retirement, under which applicants are placed in jobs that match their skills and desires. All Daigas Group companies have similar reemployment schemes.

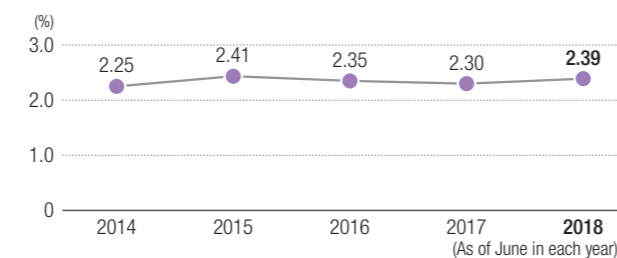
■ Number of Employees Utilized the Scheme at Osaka Gas

	FY2014	FY2015	FY2016	FY2017	FY2018
No. of retirees	219	236	239	277	313
No. of persons seeking reemployment	167	200	184	214	260
No. of persons reemployed	167	200	184	214	260
No. of reemployed persons working full-time	33	106	105	184	181

► Hiring the disabled

Osaka Gas does all it can to hire disabled persons and creates a work environment conducive to the talents of each individual. As a result of these efforts, disabled persons accounted for 2.39% of our workforce as of June 2018, well above the legal minimum of 2.2%. Of the 33 affiliate companies subjected to the relevant law, 19 have achieved the legal minimum.

■ Percentage Rate of Disabled Employees (Osaka Gas)



Voices of Group Employees | Osaka Gas Chemicals Co., Ltd.

We are working on promoting diversity as a means of enhancing our company's corporate competitiveness.

Behind such efforts is our company's goal of establishing a flexible organizational structure in which excellent human resources with diversified backgrounds can play effective roles in corporate operations.

In 2013, we inaugurated an organization tasked with promoting diversity. Starting with a commitment from the President for diversity, Osaka Gas Chemicals implemented a range of measures to diversify the Company, including the empowerment of women, expanded support of child rearing by employees, and review of personnel management systems. Thanks to these measures, Osaka Gas Chemicals was certified by the Osaka City Government as "a leading company in Osaka City in terms of the empowerment of women," and was awarded "two stars" in March 2016. On the leverage of the certification, we have continued to take further actions, even in FY2018 and later, to promote diversity, including the introduction of a telecommuting system, aimed at achieving a work-life balance for employees while enhancing productivity.

We will continue to work hard on this front in the future.



Ryuji Nakamura
Deputy Chief of General Affairs Department
Osaka Gas Chemicals Co., Ltd.

Mayuko Yamatogi
Manager of the Personnel Management Team,
General Affairs Department
Osaka Gas Chemicals Co., Ltd.

Balancing Work and Family

► Supporting nursing care through systems and the workplace environment

Osaka Gas has a number of systems to support employees both while they are working and taking care of their families. Osaka Gas's nursing care leave system allows an employee to take up to 366 days of nursing care time off per family member who needs care. For those who choose to continue working instead of using the nursing care leave system, the nursing care time system allows them to shorten each working day by up to 3 hours. Both these systems give employees more time off than is required under Japanese labor laws.

■ No. of Employees Taking Childcare and Nursing Leave at Osaka Gas (excluding loaned employees)

	FY2014	FY2015	FY2016	FY2017	FY2018
Childcare leave	21	28	21	18	31
Male	1	1	1	1	4
Shorter working hours for childcare	35	35	37	31	21
Nursing care leave	0	4	2	1	1
Shorter working hours for nursing care	2	2	2	5	0
Nurturing leave	192	164	171	168	198
Male	175	140	153	149	172
Rate (%)	87.7	77.0	79.2	76.7	88.8

► Establishment of satellite offices

As part of efforts to promote flexible work styles through telecommuting, satellite offices have been set up inside some of the Osaka Gas's business locations. Employees, who usually work at other business locations, can choose work at the satellite offices occasionally, shortening their commuting hours and travel distance from their homes. By using the satellite offices as their remote offices, these workers can concentrate on their assigned business duties, helping increase productivity.

In FY2018, a satellite office was set up at our business office located at the Grand Front Osaka, a commercial complex near the

main railway terminal JR Osaka Station, in addition to five other satellite offices set up at other business locations. Our office at the Grand Front Osaka serves as a new satellite base, helping increase the convenience of our workers.



Satellite office set up inside the Grand Front Osaka

Improving Occupational Health and Safety

► Promotion of measures to prevent lifestyle-related diseases

Employees aged 40 or older undergo medical examination for designated diseases. Special health guidance and advice will be provided by the Osaka Gas Health Insurance Union to employees who have already contracted "metabolic syndrome" or are likely to develop the disease. The program is intended to prevent employees from developing lifestyle-related diseases while alleviating the severity of symptoms if they have already suffered from such disease.

In FY2018, a follow-up guidance seminar, focusing on the measurement of the body composition value, was held for young workers, aged 25 to 34, who participated in a health seminar held in FY2015. The employees recognized as having a predisposition toward obesity in the body composition test were made aware of the risks of developing obesity-related diseases, while smokers were advised to stop smoking. Furthermore, to enhance awareness among young employees of

their risks of contracting lifestyle-related diseases in the future deriving from high blood pressure and excess blood glucose, Osaka Gas analyzes the results of their latest health checkups, based on which a health condition sheet to be distributed to each employee will be compiled. In the sheet, each employee will be shown his/her probability of developing lifestyle-related diseases within seven years and a comparison with the average probability for all employees who underwent the checkup. The Company will use the results when it gives advice to young employees to help maintain and enhance their health.

As these measures show, Osaka Gas is working on enhancing workers' consciousness toward health from the early life stage, with the aim of reducing their risks of contracting lifestyle-related diseases in the future.

► Osaka Gas recognized as one of the "Health & Productivity Management Outstanding Organizations"

In February 2018, Osaka Gas was certified as a "Health and Productivity Management ~ White 500 ~ Company for 2018" (large-scale corporate entity category) under the commendation system introduced by the Ministry of Economy, Trade and Industry, and Nippon Kenko Kaigi to commend companies recognized as being active in enhancing employees' health while engaging in business operations.

The "White 500" award is intended to encourage business corporations to establish a work environment in which companies

active in managing their employees' health—from business and strategic viewpoints—can be commended socially. Osaka Gas was recognized under the commendation system for the series of health-enhancement measures listed above.



Third-Party Review

The Daigas Group CSR Report underwent a third-party review by the Institute for Environmental Management Accounting (IEMA), including recommendations as well as simple audits. The IEMA interviewed Tadashi Miyagawa, Executive Vice President and CSR Executive, regarding the planning and implementation of CSR-related activities at the Daigas Group.

Questions and answers were actively exchanged between the interviewer and the CSR Executive, with a focus on the environment, society and governance (ESG) management listed under the Long-Term Management Vision 2030 and the Medium-Term Management Plan 2020. Other subjects taken up in the interview were efforts that reflect the United Nations Sustainable Development Goals (SDGs), the concept of the revised materiality indicators, and challenges to be addressed for the creation of new value. Based on the interview, the IEMA prepared and presented a report that summarized its overall evaluation and advice regarding the Daigas Group's CSR efforts.



The Vice President being interviewed.
(From left, Mr. Kokubu, Ms. Nashioka, CSR & Environment Department head Tsuda and CSR Executive Miyagawa)

Evaluation and Opinion of CSR Management



Purpose and outline of work that has been undertaken

As a third-party that has no business relationships with Osaka Gas, we are expressing our opinion to help enhance the reliability of the Daigas Group CSR Report 2018 by evaluating all the CSR initiatives mentioned in the report, excluding numerical information on the environment. We interviewed Tadashi Miyagawa, Executive Vice President and CSR Executive, to clarify the planning and implementation of CSR management of the Daigas Group, and the evaluation and utilization of the performance data that indicates the results of these activities and serves as the basis for the disclosed information. Questions and answers were also exchanged with officials in charge at the head office.

Evaluation and Opinion

As an energy service provider, the Daigas Group, in order to address climate change, facing the global community as a social issue, vowed to reduce CO₂ emissions by a cumulative 70 million tons by FY2031, a pledge the Group clarified under the Long-Term Management Vision 2030. In particular, the Group specified numerical targets to be attained under Goal 13 (climate change) of the 17 Sustainable Development Goals (SDGs), recognizing the attainment of that goal as the responsibility it has to fulfill as an energy service provider. The Daigas Group should be highly evaluated for specifying its target, presenting a model case of a leading company. As for Japan's energy policy, however, it is important for the Group to respond to it as an energy company, while taking into consideration possible effects from the global energy trend, the situation of Japan, and ideas fostered in the country. Challenges facing the Daigas Group on this front in the future include sorting out its thinking regarding what it should do, and disclosing information on risks and opportunities in an appropriate manner. The Daigas Group has identified risks and opportunities related to climate change under the new materiality, to be mentioned below, and started its efforts, an action which should win high acclaim.

In FY2018, the Daigas Group reviewed the 16 materiality

items it analyzed and extracted in FY2015, and revised them into a new set of materiality items, based on which the Group started CSR activities in FY2019. In the second phase of materiality, its items were reviewed from a strategic viewpoint. The new materiality added items related to people—"training and education" and "diversity." The Daigas Group should be commended for reviewing the materiality under the appropriate process.

Work style reform is an extremely important social issue in Japan. It is desirable for each corporate employee to think, propose and act to create new value in line with social demand and to promote CSR activities. For each employee to behave in that way, however, it is important to establish an appropriate system. Therefore, it is advisable for Daigas Group employees to think what the Group should do to create new value that surpasses the value of existing businesses and have the mindset that they are the ones who are to serve as an antenna for connecting the Daigas Group to new technologies or future business partners. I believe that by doing so, the Daigas Group can realize CSR management that reflects the SDGs. As for the SDGs, pursuing the linkage between the Group's CSR activities and the SDGs alone is insufficient. What is equally important is exploring new activities for the SDGs by introducing the "outside in" concept. For that to happen, each employee is asked to seek ingenuity in doing business.

The Daigas Group should be highly evaluated for its management attitude strongly oriented toward building a new business model and exploring the creation of new social value despite being a company that plays an important role for local communities and takes charge of building regional infrastructure. It is hoped that other companies will refer to the Group's business model as one they should follow.

July 18, 2018

Katsuhiko Kokubu,
Professor, Graduate School of Business Administration,
Kobe University; Director of IEMA

Eriko Nashioka,
Representative Director of IEMA, CPA

Third-Party Verification

The environmental performance data of the Daigas Group included in this report underwent third-party verification by Bureau Veritas Japan Co., Ltd. The verification was conducted to check whether the data were reliable and accurate, and consistent with the purpose of the report.

Daigas Group CSR Report 2018 Independent Verification Report (Excerpt)

Bureau Veritas Japan Co., Ltd. (Bureau Veritas) has been engaged by Osaka Gas Co., Ltd. (Osaka Gas) to conduct an independent verification and review of its environmental data selected by Osaka Gas for inclusion in the Daigas Group CSR Report 2018 (the Report), issued under the responsibility of Osaka Gas.



1. Verification and Review Outline

1) Environmental data through business operations

Bureau Veritas conducted a verification of the following data. This verification was conducted using Bureau Veritas' standard procedures and guidelines for external verification of nonfinancial reporting, based on current best practice. Bureau Veritas refers to the International Standard on Assurance Engagements (ISAE) 3000 in providing a limited assurance for the scope of work stated herein.

Scope of verification Environmental data selected by Osaka Gas for FY2018, which are related to the following items:
- Energy consumption; atmospheric emissions; water withdrawal and discharge; chemical substances; waste; environmental impact reduction; Environmental Management Indicators; gas sales by volume; FY2018 results to Environmental Action Targets.
Note: The scope of areas to be reported for each item of data is decided by Osaka Gas.

2) Amount of contribution to CO₂ emission reduction

Bureau Veritas conducted the review of the following data. The review was conducted using Bureau Veritas' standard procedures for external review of sustainability reporting.

Data reviewed
- The amount of contribution to CO₂ emission reduction through business operations of Osaka Gas in FY2018
- The amount of contribution to CO₂ emission reduction at customer sites in FY2018
Note: The reporting boundaries and calculation methodologies for each data are defined by Osaka Gas.

2. Findings

On the bases of our methodology and the activities described above:

- Nothing has come to our attention to indicate that the reviewed information within the scope of our verification and review is inaccurate and does not provide a fair representation of the performance for the defined period.
- It is our opinion that Osaka Gas has established appropriate systems for the collection, aggregation and analysis of quantitative data within the scope of our verification and review.

Bureau Veritas has implemented a code of ethics across its business which is intended to ensure that all our staff maintain high standards in their day to day business activities. We are particularly vigilant in the prevention of conflicts of interest. Bureau Veritas activities for Osaka Gas are for sustainability reporting verification only and we believe our verification assignment did not raise any conflicts of interest.

Greenhouse Gas Emissions Verification Statement (Excerpt)

Bureau Veritas Japan Co., Ltd. (Bureau Veritas) was engaged by Osaka Gas Co., Ltd. (Osaka Gas) to conduct independent verification of the greenhouse gas (GHG) emissions reported in the Daigas Group CSR Report 2018 for the period of April 1, 2017 through March 31, 2018.

1. Scope of Verification

Osaka Gas requested Bureau Veritas to verify, to a limited level of assurance, the accuracy of the following GHG information:

- 1) Scope 1 and Scope 2 GHG emissions: GHG emissions through business operations of Osaka Gas and its 57 consolidated subsidiaries
- 2) Categories 1, 2, 3, 4, 5, 6, 7, 9, 11, 12, 13 and 14 of Scope 3 GHG emissions accounted and reported in line with the GHG Protocol's "Corporate Value Chain (Scope 3) Accounting and Reporting Standard" within the boundaries defined by Osaka Gas for each category.

2. Methodology

Bureau Veritas conducted the verification in accordance with the requirements of the international standard 'ISO 14064-3 (2006): Greenhouse gases - Part 3'.

3. Conclusion

Based on the verification work and its processes followed, there was no evidence to suggest that the GHG emissions assertion shown below:

- The assertions are not materially correct and are not a fair representation of the GHG emissions, as per the scope of work;
- The assertions are not prepared in accordance with the methodology for calculating GHG emission established and implemented by Osaka Gas.

Comments on "Evaluation and Opinion of CSR Management"

As an energy service provider, we strongly recognized the importance of implementing measures to address climate change. Concerning how we can contribute to global efforts to reduce CO₂ emissions, the Daigas Group explicitly showed the numerical targets to be attained under the Long-Term Management Vision 2030, which the Group has cherished. We will continue to advance our efforts steadily based on the progress being made in each area of action. In addition, we will analyze the risks and opportunities related to climate change under various envisaged situations, and incorporate the analyzed results into our future business operations.

In conducting the latest materiality review, we focused on what we should do in the field of human resources. For the current business year, we will accelerate our work style reform based on the results of the awareness surveys conducted on our employees and while managing the progress of each index. Furthermore, we will work on enhancing awareness among our employees of the importance of attaining the SDGs. By doing so, I want each employee to exercise his or her ingenuity and demonstrate a pioneering spirit in doing business, while paying attention to social issues we should tackle, with the eventual aim of creating innovation.

We are committed to effectively creating four values—"value for customers," "value for society," "value for shareholders" and "value for employees"—based on the Daigas Group CSR Charter. The Daigas Group aims to become a corporate group that helps the further evolution of customers' livelihood and businesses.



Tadashi Miyagawa
Executive Vice President
and CSR Executive,
Osaka Gas Co., Ltd.