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 was included in the following socially responsible investment (SRI) indices and an investment universe as of the end of July 2017.

* The inclusion of Osaka Gas Co., Ltd. in any MSCI Index, and the use of MSCI logos, trademarks, service marks or index names herein, does not constitute a sponsorship, endorsement or promotion of Osaka Gas Co., Ltd. by MSCI or any of its affiliates. The MSCI Indexes are the exclusive property of MSCI. MSCI and the MSCI Indexes names and logos are trademarks or service marks of MSCI or its affiliates.

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

Published in September 2017
Notes about CSR Report 2017

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

The Osaka Gas 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 Osaka Gas Group identified important aspects for the Group’s CSR, which we call “materiality,” or “material aspect,” by referring to the fourth edition of the Sustainability Reporting Guidelines (G4) 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 aspect and the degree of implementation of relevant measures. The Group discloses, as much as possible about 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.

Guidelines referred to

- ISO 26000
- Sustainability Reporting Guidelines of the Global Reporting Initiative (G4)
- Environmental Reporting Guidelines 2012 of the Ministry of the Environment
- The United Nations Global Compact COP 19
- The United Nations Global Compact COP 20
- Enhancing the Value of Environmental Management Accounting (IEMA)

The environmental performance data in this report are based on the content and data presented in our CSR report.

We asked for third-party verification to ensure the reliability of the environmental performance data in this report and estimated these data by using simple audits, a task consigned to the Institute for Energy and Environmental Change Organization. (Refer to P.41 for more information.)

For words with this mark, refer to a terminology list.
President’s Commitment

The Osaka Gas Group Aims to Become an Innovative Energy Service Provider That Continues to Be Chosen by Customers Through Successive Generations — by Contributing to Society, Local Community and Customers.

Social Issues and Changes in Business Environment

The year 2016 will be remembered as a year during which the international community moved ahead in its efforts to solve global issues, as characterized by the coming into force in November of the Paris Agreement, a U.N. accord on climate change signed at the 21st session of the Conference of the Parties (COP) to the 1992 United Nations Framework Convention on Climate Change, and the formulation in December by the Japanese government of implementation guidelines following the adoption in the previous year by the United Nations General Assembly of the Sustainable Development Goals (SDGs). Efforts to establish a framework for creating a sustainable society gathered impetus across the world, although the international situation has become opaque and uncertain following Britain’s decision to leave the European Union (EU) and the United States’ announcement that it would withdraw from the Paris Agreement.

The Osaka Gas Group formulated a four-year medium-term management plan in March 2017, a U.N. accord on climate change signed at the 21st session of the Conference of the Parties (COP) to the 1992 United Nations Framework Convention on Climate Change, and the formulation in December by the Japanese government of implementation guidelines following the adoption in the previous year by the United Nations General Assembly of the Sustainable Development Goals (SDGs). Efforts to establish a framework for creating a sustainable society gathered impetus across the world, although the international situation has become opaque and uncertain following Britain’s decision to leave the European Union (EU) and the United States’ announcement that it would withdraw from the Paris Agreement.

Competition has been intensified in the domestic energy market in view of complete liberalization of retail sales of electricity in 2016 and the complete opening of the retail gas market in April 2017. Since its founding in 1905, the Osaka Gas Group has faced a large number of difficulties. However, the Group has overcome each of them with an undaunted and challenging spirit, while recognizing them as providing opportunities for growth. The Osaka Gas Group aims to become a corporate group that continues to be chosen by customers—by further enhancing the Group’s overall CSR standard, promoting fair and transparent business operations and contributing to the development of a sustainable society—at a time when the business environment facing the Group has been changing dramatically.

What the Group Aims to Realize Under the Long-Term Management Vision and Medium-Term Management Plan

In March 2017, the Osaka Group formulated a four-year medium-term management plan through fiscal 2021, which we call “Going Forward Beyond Borders.” The management plan is part of our efforts to realize our long-term management vision toward fiscal 2031. By going beyond three “boundaries,” we aim to become an innovative energy service provider that continues to be chosen by customers through successive generations.

The first boundary we will go beyond is expectations of customers. By further improving our service know-how and expertise, which we have accumulated through our operations in the Kansai region in the past 110 years, we will continuously provide services that exceed the expectations of customers—a task that all of our employees have joined hands with each other to achieve.

The second boundary to be overcome is “business boundaries.” We will not limit our operations to existing business fields. Instead, we are ready to branch out into any promising fields where we are competitive—in order to contribute to the development of society, local communities and customers.

The third boundary we are to transcend is “corporate boundaries.” We are always receptive of potentially innovative ideas and are ready to team up with other promising companies for business collaboration. We are also prepared to embark on domestic and overseas projects that are even more challenging.

By overcoming these boundaries, we will work on tripling our consolidated ordinary income in fiscal 2031 from the fiscal 2018 plan. On the domestic front, we will step up peripheral energy-related businesses in broader regions while expanding the electricity generation business, life & business solution (LBS) business and new businesses. In overseas markets, we aim to establish a business structure in which we can expect profitability from operations in strategically important regions. Based on this policy, we intend to raise the share of income from overseas operations to 50% of the income from domestic operations in fiscal 2031. Our major business fields are domestic energy service, overseas energy service and the LBS business. These three fields are subdivided into nine areas. By helping each of the nine areas to grow significantly, we will build a portfolio management system, believed to be effective in dealing with unexpected situations in the future.

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

In recent years, increased attention is given to the aspects of ESG (environment, society and governance) from the viewpoint of enhancing corporate values in a sustainable manner. The move has resulted in establishing corporate governance codes and stewardship codes. Furthermore, moves to use ESG performance in investment judgments and monitoring have gathered momentum among global institutional investors. In formulating our long-term management

Closing Comments

By strengthening our existing CSR measures based on the Osaka Gas Group CSR Charter, the Group is committed to creating value primarily for customers, as well as for society, shareholders and employees. We will further promote ESG-oriented management to help create a sustainable society and attain the Group’s sustainable growth. By doing so, we aim to become a corporate group that continues to be chosen by customers.

August, 2017
Outline of the Osaka Gas Group

Corporate Profile of Osaka Gas

- Head Office: 4-2-1 Hiramachi, Chuo-ku, Osaka 541-0046, Japan
- Establishment: April 10, 1897
- Commencement of operations: October 19, 1905
- Capital: 1,192,166 million yen
- Number of employees:
  - Non-consolidated: 67,731
  - Including operating officers, directors and temporary employees, and excluding employees temporarily transferred to affiliated companies: Consolidated, 20,762

Main Business Lines of the Osaka Gas Group

- Business segments:
  - Gas: Sale of gas and gas appliances, gas pipeline installation, head supply
  - LNG, electricity and other energies: Sale of LNG, electricity supply, sale of LPG, gas for industrial customers
  - Overseas energies: Overseas energy supply, leasing of LNG tankers, development and investment regarding oil and natural gas
  - Life & business solutions: Development and leasing of real estate properties, information processing services, sale of fine materials and carbon material products

- Financial Data of the Osaka Gas Group

Sales by Segment of the Osaka Gas Group in FY2017

- Gas: 61% of total sales
- LNG: 10%
- Other energies: 29%

- Number of Customers


Operating Revenues

- Non-consolidated: 2015: 1,192,166, 2016: 1,163,846, 2017: 1,163,846

Operating Income and Net Income


Overseas Energy Businesses of the Osaka Gas Group

- Gas Supplier of the Osaka Gas Group

- Service Area of the Osaka Gas Group

- Gas Supplier Information posted on the Web

- About Us

- Investment in upstream businesses such as LNG projects and gas field development
- Participation in mid- and downstream energy business
- Energy business affiliated with Osaka Gas
- Overseas business efforts by the Osaka Gas Group

(Ass of March 31, 2017)
The Osaka Gas Group procures natural gas, which is an environmentally-friendly and stable energy source, from overseas suppliers, and provides gas to about 7.34 million households and electricity to about 300,000 households, 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.

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

- **Electricity generation**
  - The Osaka Gas Group engages in the electricity generation business using various power sources (gas, renewable energy, etc.), and is involved in gas cogeneration systems and renewable energy sources. The Group makes efforts to ensure stable and safe electricity generation.
  - **Electricity transmission**
    - The Group is involved in the electricity transmission business using underground pipelines and power transmission lines, with the aim of ensuring stable and safe electricity supply.
  - **Operation of gas pipeline network business**
    - The Group assists in the optimal operation of gas pipeline facilities, including the safety and stability of gas supply to customers.
  - **Promotion of downstream business**
    - The Group engages in the downstream business, mainly in Southeast Asia, ensuring the supply of stable and safe gas.

**Major Issues to be Tackled**

- **Global environment**
  - Emissions of greenhouse gases (GHG) associated with energy consumption
  - Environmental emissions and nuisance caused during maintenance of gas resources
- **Local communities**
  - Safety, sanitary conditions and safety of employees working at LNG terminals
- **Social Impact of Business Activities in Our Energy Value Chains and Efforts to Reduce Such Impact**

**LNG, value chain**

- **Participation in upstream businesses**
  - LNG project
    - The Osaka Gas Group has started to participate in LNG project development activities, with the aim of diversifying its gas supply sources.
  - **Launch of electricity generation business**
    - Senboku Natural Gas Power Plant
      - The Group plans to expand its LNG transportation business to diversify its gas sources.
  - **Operation of gas pipeline network business**
    - The Group is involved in the operation of gas pipeline facilities, ensuring the safe and stable supply of gas.
  - **Promotion of downstream business**
    - The Group engages in the downstream business, managing the importing and distribution of LNG.

**Sales and Consumption**

- **Sales and Consumption**
  - The Group plans to expand its business in downstream businesses, as part of its move to overseas markets.

**Electricity value chain**

- **Electricity generation**
  - The Group is involved in the electricity generation business using various power sources (gas, renewable energy, etc.), and is involved in gas cogeneration systems and renewable energy sources. The Group makes efforts to ensure stable and safe electricity generation.
  - **Electricity transmission**
    - The Group is involved in the electricity transmission business using underground pipelines and power transmission lines, with the aim of ensuring stable and safe electricity supply.
  - **Operation of gas pipeline network business**
    - The Group assists in the optimal operation of gas pipeline facilities, including the safety and stability of gas supply to customers.
  - **Promotion of downstream business**
    - The Group engages in the downstream business, mainly in Southeast Asia, ensuring the supply of stable and safe gas.

**Activates self-discharge during the laying of gas pipes**

**Customers**

- **Customers**
  - Gas equipment without safety mechanisms
  - Provision of appropriate information regarding products, services and rates
  - Protection of personal information of customers
- **Local communities**
  - Contribution to local communities via educational support and so on

**Global environment**

- **GHG emissions accompanying gas consumption at customers**
- **Accidents at customer’s sites due to usage of gas equipment without safety mechanisms**
- **Protection of personal information of customers**
Osaka Gas Group Long-Term Management Vision 2030 and Medium-Term Management Plan 2020 [Going Forward Beyond Borders]

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

The Osaka Gas Group has formulated a Long-Term Management Vision toward fiscal 2031, called “Going Forward Beyond Borders,” and a Medium-Term Management Plan toward fiscal 2021. The Group aims to contribute to the development of society, local communities and customers by going beyond “customer expectations,” “business boundaries” and “corporate boundaries.” By doing so, the Group aims to become an innovative energy and service provider which continues to be chosen by customers through successive generations.

The Osaka Gas Group has adopted “a service-first” policy as its corporate motto, while continuing to be a corporate group which can support customers for their “further evolution” in consumer life and business. In its corporate philosophy, the Group is committed to creating four values—“value for customers,” “value for society,” “value for shareholders” and “value for employees.” Based on this philosophy, the Group will also cherish “three guiding principles” until fiscal 2031 and implement activities to realize the Long-Term Management Vision.

Osaka Gas Group Corporate Philosophy and three guiding principles toward fiscal 2031

- **Corporate Philosophy**
  - **Service First**
    - A corporate group that supports continuous advancement of consumer life and businesses
  - **Osaka Gas Group Declaration**
    - The Osaka Gas Group is committed to creating four values.

- **Three guiding principles toward FY2031**
  1. Continue providing the high-quality services we have developed in the Kansai area to as many customers as possible.
  2. Always strive to be professionals who pursue innovative challenges.
  3. Constantly winning confidence of investors, corporate partners, employees and society.

Medium-Term Management Plan Fiscal 2018–2021

- **Measures to be taken under the Medium-Term Management Plan 2020**
  - Enhancement of solutions business for residential customers
  - Enhancement of solutions business for commercial and industrial customers
  - Establishment of competitive power-supply portfolio
  - Development of pipeline network operator business
  - Efforts to expand international energy business
  - Securing of a business footing in the LBS business and exploration of new business fields

Long-Term Management Vision 2030

- **“What we aim to be in FY2031” - Target income level and structure**
  - **International business**
  - **Domestic business**
  - **Gas business**
  - **Electricity business**
  - **LBS business**

- **Project of business fields**
  - **International business**
  - **Domestic business**

**Information posted on the Web**

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

**OSAKA GAS GROUP CSR REPORT 2017**

**Special Feature: Long-Term Management Vision 2030 / Medium-Term Management Plan 2020**
### CSR Efforts to Realize Long-Term Management Vision 2030

The Osaka Gas Group has formulated the Long-Term Management Vision 2030 and the Medium-Term Management Plan 2020, in which we adopted “three guiding principles” under its corporate philosophy. One of these principles is setting global ESG (environment, social and governance) standards in its business operations, with the aim of becoming a corporate group that continues to be trusted by investors, business partners, citizens and employees.

We have stepped up our ESG efforts in line with the Osaka Gas Group CSR Charter. To get the campaign moving further, the Group has identified important aspects in its CSR activities, which we call “materiality.” Based on the materiality, we have undertaken specific CSR activities. We will continue to see ESG as an important element of our business operations and redouble our efforts to realize the sustainable development of society and the Osaka Gas Group.

#### Materiality of our CSR

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>ESG Efforts in the Long-Term Management Vision</th>
<th>Osaka Gas CSR Charter</th>
<th>Identified material aspects</th>
<th>Long-term management goals</th>
</tr>
</thead>
<tbody>
<tr>
<td>E - Environment</td>
<td>Support customers in introducing high-efficiency energy equipment, and provide them with energy services</td>
<td>Management that wins confidence of stakeholders</td>
<td>Material aspects Indexes toward fiscal 2031</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Promote fuel conversion to natural gas, a clean energy source, and introduction of energy-saving technologies</td>
<td>Work style reform and development of human resources to improve productivity</td>
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<tr>
<td></td>
<td>Develop and introduce leading-edge thermal power plants and renewable energy</td>
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<td></td>
<td>Promote environmental management focusing on resources recycling, biodiversity, chemical substances safety, etc.</td>
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<tr>
<td>S - Social</td>
<td>Pursue activities in accordance with international norms, such as the Global Compact</td>
<td>Work style reform</td>
<td></td>
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<td></td>
<td>Promote activities relevant to the entire value chain, including initiatives to protect human rights</td>
<td>Work style reform</td>
<td></td>
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<td></td>
<td>Engage in co-creation with local communities (social design activities, community communication activities, community building, etc.)</td>
<td>Work style reform</td>
<td></td>
<td></td>
</tr>
<tr>
<td>G - Governance</td>
<td>Promote dialogue with stakeholders</td>
<td>Work style reform</td>
<td></td>
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<td></td>
<td>Pursue fair business practices</td>
<td>Work style reform</td>
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<td></td>
<td>Enhance Diversity of employees and executives</td>
<td>Work style reform</td>
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<td>Disclosure of ESG information in accordance with global standards</td>
<td>Work style reform</td>
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<td></td>
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<tr>
<td></td>
<td>Take measures to ensure information security</td>
<td>Work style reform</td>
<td></td>
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</tr>
</tbody>
</table>

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*1* Upon changes in country’s institutional designs, procurement from the market / other companies will be considered.

*2* Includes LNG. Gas to energy companies both in Japan and abroad, and natural gas handled at overseas LNG terminals.

*3* Cumulative trend of CO2 emissions reduced during fiscal 2010–2031, which includes reductions at customers and overseas projects.

*4* Degree of customer satisfaction in gas line opening, appliance repairs, marketing and engineering services.

*5* Cumulative investment since fiscal 2018.
Special Feature

Osaka Gas Group Long-Term Management Vision 2030 and Medium-Term Management Plan 2020
[Going Forward Beyond Borders]

We will Work Hard to Build a Low-Carbon Society by Conducting Environment-Friendly Business.

It is imperative for the global community to address global-scale climate change. The Paris Agreement, a U.N. accord on climate change, came into force in November 2016. The response to the climate change is seen as one of the Sustainable Development Goals (SDGs) adopted by the United Nations. It is also recognized as part of international efforts since 2020 to establish a framework for solving issues related to climate change. The Japanese government has set the goal of curtailing greenhouse gas emissions in the country by 26% in fiscal 2031 compared with the fiscal 2014 level, and presented it to the United Nations. The goal has been incorporated into a plan drawn up by the Japanese government to curb global warming.

The Osaka Gas Group believes making efforts to reduce greenhouse gas emissions is an extremely important mission for the Group, given that it is a corporate group whose primary business field is energy. The Osaka Gas Group is focusing on reducing CO₂ emissions not only at facilities run by the Group, such as city gas processing plants and electric power stations, but also at energy-consuming customers—by proposing and diffusing environment-friendly natural gas that emits less CO₂, highly energy-efficient products and services, and introducing renewable energy sources.

The Osaka Gas Group will conduct its business with more attention paid to environmental preservation under the Long-Term Management Vision 2030. Specifically, the Group aims to cut CO₂ emissions by a total of 70 million tons between fiscal 2018 and fiscal 2031 as part of its efforts to help create a low-carbon society.

2017

Energy saving during the city gas production process
The Group will strive to save energy by promoting LNG cryogenic power generation and making the overall operation efficient.

Reductions of CO₂ emissions from business activities by the Osaka Gas Group

Highly energy-efficient distributed system
The Osaka Gas Group strives to diffuse a gas cogeneration system, in which electricity is generated using city gas, and the heat generated in that process is used for heating space and water. The Group also aims to spread the use of fuel cells.

Reduction of CO₂ emissions on the side of customers

Introduction of highly energy-efficient fossil-based power generation
The Osaka Gas Group has adopted highly energy-efficient power generation technologies that are advanced and optimal, and are commercially feasible, including the gas turbine combined cycle method.

Efforts to diffuse natural gas and its advanced use
The Osaka Gas Group aims to diffuse natural gas, which emits CO₂ less than any other fossil-derived fuels. The Group also develops and offers highly energy-efficient systems and appliances.

Energy services realize energy saving
The Osaka Gas Group supports comprehensive energy-saving for customers by offering IT-based energy services and using the know-how the Group has built up through its past operations.

Long-term goals covering the period between fiscal 2018 and fiscal 2031
Aim to reduce CO₂ emissions by a total of about 70 million tons during the period*1

*1 Include reductions at customers and overseas reductions (representing about 2% of the government’s total reduction target)

Subject to calculation
CO₂ emissions that are expected to be cut between fiscal 2018 and fiscal 2031 as a result of the Osaka Gas Group’s plan to introduce highly energy-efficient facilities in fiscal 2018 or after, and to promote use of low-carbon energy sources. (Each year’s projected reduction amounts are added up.)

Calculation method
The amount of expected reductions of emissions due to the use of highly energy-efficient facilities and low-carbon energy sources is calculated based on the following formula.

Extent of expected use of highly energy-efficient technologies and low-carbon energy sources × Reduction effects expected if existing facilities and conventional energy sources are replaced by highly energy-efficient facilities and low-carbon energy sources
Osaka Gas Group Long-Term Management Vision 2030 and Medium-Term Management Plan 2020
[Going Forward Beyond Borders]

Development of Human Resources and Work Environment for Continuously Providing Services that Exceed the Customers Expectations

Among social issues facing Japan recently is the declining working population. The phenomenon has highlighted the importance of diversity in corporate management, posing a challenge to the country as it is trying to realize a society in which each of the country’s 100 million people can play an important role. Various measures are in place at business corporations in Japan. Specifically, companies are rectifying their practice of forcing their employees to work for long hours and accelerating their efforts to improve productivity.

For Osaka Gas to carry out measures envisaged under the Long-Term Management Vision 2030, it is crucially important to stay “healthy” in terms of work styles and practices.

The Osaka Gas Group will promote changes in mindset, work styles and work environment. By doing so, the Group aims to be a corporate group that is chosen by people with diverse values as their place to work. The Group will also strive to foster a work environment in which employees can work with motivation and pride, thereby realizing highly productive and creative work styles.

The Group will promote efficient work styles and diversity in order to build a solid human resources base that continuously provides services that exceed the expectations of customers.

Continue to Be a Healthy Corporate Group

To continue to be a healthy corporate group, we are committed to reforming attitude and style of work while securing an environment to promote such reforms.

Acceptance of Diversity

The Osaka Gas Group launched a committee to encourage employees to work efficiently. The committee is committed to improve the Group's productivity and establish creative work styles. As a means of increasing operational efficiency and promoting efficient manpower use, the committee has formulated a specific code of conduct for employees, which spell out how to streamline business operations in document compilation and time management during conferences. Also included in the code of conduct is what superiors should keep in mind in their everyday work. Employees of Osaka Gas and its group companies can access an in-house portal site containing information on how to work efficiently, which is open around the clock.

Masamichi Iwai
Associate Director / General Manager, Human Resources Dept., Osaka Gas Co., Ltd.

| Special Feature: Long-Term Management Vision 2030 / Medium-Term Management Plan 2020 |
| Acceptance of Diversity | Balancing Work and Family | Contribution to the Sustainable Development Goals (SDGs) |

Contribution to the Sustainable Development Goals (SDGs)

The Osaka Gas Group has undertaken CSR activities as part of its efforts to build a sustainable society in line with the Osaka Gas 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 Osaka Gas Group, a corporate group which is aiming to become a comprehensive energy service provider. The Osaka Gas Group sees Goal 13 as the challenge to which the Group can contribute the most, and has drawn up the Long-Term Management Vision 2030. The Group has pledged to reduce CO₂ emissions from its operations by a total of 70 million tons between fiscal 2018 and fiscal 2031 under the vision.

For the emissions reduction goal to be achieved, the Osaka Gas Group believes that it is essential to establish a solid energy infrastructure in which high-quality energy can be provided steadily without being disrupted by natural disasters. Under these circumstances, the Osaka Gas Group will manage sustainable utilization of energy including natural gas, and explore an optimal energy mix. By doing so, we will promote the use of renewable energy sources. We also believe it is important for the Group to disseminate adequate information to stakeholders on the energy consumption side so as to enable them to make better choices.

By implementing all these measures, the Osaka Gas Group will provide new value to society and is committed to making people’s lives safe, comfortable and sustainable.

What are SDGs?

Sustainable Development Goals (SDGs) are goals set under the “Transforming our World: the 2030 Agenda for Sustainable Development,” which was adopted by world leaders in September 2015 at the U.N. headquarters during the United Nations Sustainable Development Summit. Building on the United Nations Millennium Development Goals (MDGs), SDGs are goals set not only for developing countries but also for advanced countries. They are composed of 17 goals, divided into 169 targets.
Corporate Governance

Basic Views on Corporate Governance

To implement measures envisaged under the Long-Term Management Vision and the Medium-Term Management Plan, both formulated in March 2017 and together called “Going Forward Beyond Borders,” Osaka Gas will ensure transparency, fairness and boldness in decision making, and execute its assigned business duties efficiently and adequately, based on the Osaka Gas Group CSR Charter, a set of guiding principles for employees, and specific standards for actions—the Osaka Gas Group Code of Conduct and the Osaka Gas 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 Osaka Gas 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 consists 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 fiscal 2017, the Board of Directors met a total of 13 times, with the attendance rate reaching an average of 99.4%. 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 HQ and Business Units, and generally meets every week. In principle, meetings held by the Executive Board each year include three meetings held as the “CSR Promotion Council.”

Role of the Corporate Auditors, Auditors

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

Roles and Functions of Outside Directors

As a member of the Board of Directors, an 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.

Auditing Department

Osaka Gas has established the Auditing Department as a section in charge of internal auditing affairs. Based on a yearly auditing plan, the Department evaluates, from independent and neutral viewpoints, the adequacy of business activities in light of in-house standards, their efficiency, and the appropriateness of various systems and standards adopted by the Company. If problems related to auditing are found in certain departments or divisions, the Auditing Department proposes improvements and follow-up measures for the affected organizations, and reports the findings to the Executive Board. The Auditing Department is subject to periodic evaluation from an outside party to monitor and improve its auditing abilities.

Advisory Committee

From the viewpoint of ensuring objectivity and transparency in decision-making, matters relating to the nomination of Directors and Auditors, and remuneration paid to Directors are determined following deliberation by voluntary Advisory Committee, the majority of whose members are Outside Directors.

CSR Committee

The CSR Committee is chaired by the CSR Executive, a Director in charge of controlling CSR activities of the Osaka Gas Group, with its members chosen from among the Heads of relevant divisions and departments. The CSR Committee promotes CSR activities in such fields as the environment, compliance, social contribution, human rights, employment, information security and risk management, and plays a coordinating role between relevant departments or divisions regarding these activities.

Investment Evaluation Committee

The Investment Evaluation Committee is chaired by the Head of the Corporate Planning Headquarters (HQ), with its members chosen from among the Heads of relevant divisions and departments. The committee evaluates investment risks and returns for investment projects of a certain scale. The evaluator, put forward to the Executive Board, is used for appropriate investment decision-making.

Risk Management

Heads of divisions of Osaka Gas 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-RMS®), an originally developed by Osaka Gas for self-assessment of risk management practices, and other systems, each division and affiliate checks if there are any risks and if risk control has been conducted properly regarding each item, and implements follow-up and other measures if necessary.

In fiscal 2017, the Osaka Gas Group strengthened its overall risk management by setting up a subcommittee in charge of risk management in the CSR Committee.

As for risk management regarding matters that affect the entire Osaka Gas 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 situations, the Rules for Disaster Control and the Business Continuity Plan (BCP) in the Event of Large-Scale Disasters and Accidents have been established.

Osaka Gas revised its in-house rules concerning disaster-prevention measures following the change in the gas business system in Japan. The Group also established a response system in the event of an emergency in overseas operations.

Corporate Governance System

As of the end of a regular shareholders meeting held on June 29, 2017.

Status of Internal Control

The Company establishes 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 operations status of the internal control systems on a periodic basis by receiving reports from the organizational heads and other persons concerned regarding items to be confirmed. At the meeting of the Board of Directors held on April 26, 2017, it was reported that the internal control systems were operating in a proper manner.
CSR Management

The Osaka Gas Group Promotes CSR

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

Furthermore, in 2007, the 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 Osaka Gas Group Code of Conduct, adopted in 2000, spells out guiding principles the Group’s employees and executives must abide by. In 2009, 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.

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 taking such impact into account, the Osaka Gas 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 fiscal 2014, we identified 16 important aspects for the Group’s CSR, which we call “materialities,” by referring to the fourth edition of the Sustainability Reporting Guidelines (S4) through discussion with outside knowledgeable people.

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

How the U.N. Global Compact and ISO 26000 are related to the Osaka Gas Group Code of Conduct

<table>
<thead>
<tr>
<th>Principle</th>
<th>U.N. Global Compact</th>
<th>ISO 26000</th>
<th>Core subjects</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Create a sound business environment</td>
<td>3. Combat corruption</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Comply with laws and regulations</td>
<td>4. Protect and respect human rights</td>
<td></td>
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<tr>
<td>4. Contribute to society</td>
<td>5. Encourage the development and diffusion of environmentally friendly technologies</td>
<td></td>
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<tr>
<td>5. Support free, fair, and effective competition</td>
<td>6. Make sure that they are not complicit in human rights abuses</td>
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<tr>
<td>6. Ensure the effective abolition of child labor</td>
<td>7. The environment</td>
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<tr>
<td>7. Encourage the development and diffusion of environmentally friendly technologies</td>
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<td>8. The environment</td>
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<td>9. Make sure that they are not complicit in human rights abuses</td>
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<td>10. The environment</td>
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<td>11. Make sure that they are not complicit in human rights abuses</td>
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<td>Environment</td>
<td>12. Make sure that they are not complicit in human rights abuses</td>
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<td>13. Make sure that they are not complicit in human rights abuses</td>
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<td>16. Make sure that they are not complicit in human rights abuses</td>
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<tr>
<td>Anti Corruption</td>
<td>17. Make sure that they are not complicit in human rights abuses</td>
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<td>18. Make sure that they are not complicit in human rights abuses</td>
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<td>29. Make sure that they are not complicit in human rights abuses</td>
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<tr>
<td>30. Make sure that they are not complicit in human rights abuses</td>
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</tbody>
</table>

Note: Numbers in the right columns show the items of the Osaka Gas Group Code of Conduct relating to each core subject of ISO 26000.
Dialogue and Cooperation with Stakeholders

The Osaka Gas 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. For example, the Osaka Gas Group has been promoting dialogue with the Kansai Consumers’ Association, the Osaka Voluntary Action Center, and the Osaka Gas Labor Union.

Furthermore, Osaka Gas is sharing information and cooperating with the Osaka Voluntary Action Center, and the Osaka Gas Labor Union. The Group has also been promoting dialogue with the Kansai Consumers’ Association, mainly to explain the licensing system regarding our repair service, also as part of our efforts to improve our service quality. We also held briefing sessions for consumer servants to enhance their motivation to develop their skills and expertise on repair services.

In fiscal 2017, we conducted Service Masters 2016, a contest held among Osaka Gas servicemen to enhance their motivation to develop their skills and expertise on repair services.

Stakeholders

- Customers: Business opportunities such as security and safety, “Customer Centers”, Website
- Consumer groups: Meetings, Tours, Seminars, study meetings
- Regional communities: Social contribution activities, “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 report), Briefings, Website
- Business partners, suppliers: Business opportunities, Various regular meetings, Joint training and joint visits

Fiscal 2017 results of dialogues

In fiscal 2017, we conducted Service Masters 2016, a contest held among Osaka Gas servicemen to enhance their motivation to develop their skills and expertise on repair work and to improve the quality of our repair and maintenance service—toward which we invited members of consumer groups to provide them with a first-hand look at our efforts to improve our service quality. We also held briefing sessions for consumer groups mainly to explain the licensing system regarding our repair service, as part of our efforts to enhance the public’s understanding of what we are doing for improving service quality.

We continue to test similar meetings and study tours for consumer group members—through which they are invited to visit our facilities—to deepen our dialogue with them.

CSR Indicators

Efforts to promote CSR activities and visualize the process

In 2009, the Osaka Gas 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 fiscal 2015 and fiscal 2017. Some of the indicators, however, are reviewed on a single-year basis through dialogue with stakeholders.

In fiscal 2017, new CSR indicators were introduced based on past results—to cover the fiscal 2016–2021 period. We are working on achieving the new medium-term goals.

Reflection of results achieved in light of the CSR Indicators (FY2015-2017)

Formulation of new targets for CSR Indicators (FY2018–FY2021)

<table>
<thead>
<tr>
<th>Stakeholders</th>
<th>Main contact opportunities and contact tools</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customers</td>
<td>Business opportunities such as security and safety, “Customer Centers”, Website</td>
</tr>
<tr>
<td>Consumer groups</td>
<td>Meetings, Tours, Seminars, study meetings</td>
</tr>
<tr>
<td>Regional communities</td>
<td>Social contribution activities, Tours, “Energy and Environmental Education”</td>
</tr>
<tr>
<td>Students and educational institutions</td>
<td>Joint study, “Energy and Environmental Education”, “Food Education”, “Fire Education”, “Education on Disaster Prevention”, Acceptance of interns, Recruitment meetings, Website</td>
</tr>
<tr>
<td>Knowledgeable people</td>
<td>Joint study, Meetings</td>
</tr>
<tr>
<td>Administrative authorities</td>
<td>Submission of various documents, Meetings, Cooperation for regional development</td>
</tr>
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</tr>
<tr>
<td>Shareholders / investors</td>
<td>Issuance of various reports (financial statement, annual report), Briefings, Website</td>
</tr>
<tr>
<td>Employees</td>
<td>Labor-management meetings, Education and training sessions, “Compliance Desks”, “Human Rights Desk”, “Harassment Desk”, Intranet, in-house publications</td>
</tr>
<tr>
<td>Business partners, suppliers</td>
<td>Business opportunities, Various regular meetings, Joint training and joint visits</td>
</tr>
</tbody>
</table>
Creating Value for Customers

The Osaka Gas 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 Osaka Gas 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 energies, and ensuring 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 activities of its customers through stable procurement and safe supply of natural gas and other energies, 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 activities of its customers through stable procurement and safe supply of natural gas and other energies, and ensuring of safe use of gas and equipment with an improved level of services for its customers.

Major Activities in FY2017

CSR Indicator | Customer Satisfaction Survey: Seven Customer Service Duties
---|---
The "Customer Satisfaction Survey" covers seven operations 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.

<table>
<thead>
<tr>
<th>Targets</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall satisfaction rate</td>
<td>91% or more</td>
</tr>
<tr>
<td>Each satisfaction rate for seven customer service duties</td>
<td>26% or more</td>
</tr>
</tbody>
</table>

Actions taken

Further efforts to enhance levels of customer service

In fiscal 2017, we redoubled our efforts to improve customer satisfaction (CS). 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 staffs for further improvement of their customer service level.

Safety measures at city gas processing terminals

Gas processing is a core and vital part of the Osaka Gas Group’s business operations. Its Senboku LNG Terminal and Himeji LNG Terminal process LNG into city gas and supply it to customers in a stable manner appropriately responding to their city gas demand.

We are renovating and repairing our aging gas-processing facilities to secure facility safety and stable gas supply over the coming decades.

Flow of city gas manufacturing

LNG, used as a raw material of city gas, is transported by tankers and stocked in tanks set up at processing terminals. The LNG brought in is vaporized using heat from seawater, its calorific value is adjusted and gas odor elements are added before it is delivered to customers as city gas.
In Osaka Gas, we have been working on improving the quality of various products and services based on comments from our customers. In fiscal 2017, we improved the functions of the “My Osaka Gas” website for household customers, especially net access to monthly gas bills. As a result, customers have been able to confirm their payments in the past one year, past gas consumption and gas charges—all through graphs.

We are striving to reflect various comments from customers in our operations at relevant divisions and departments.

Osaka Gas receives comments from its customers, including critical opinions and demands. Such comments are valuable to us because they provide us with clues in improving our services in various fields.

In fiscal 2017, we were able to develop/improve gas appliances in cooperation with gas appliance makers, based on various customer comments that had reached us. Comments from customers were also reflected in the upgradation of the “My Osaka Gas” website, venue registration management has toppled 1 million, in test-run of customer comments, we improved visibility and accessibility of the website.

Our efforts to improve overall business operations and services have been disseminated not only to our employees but also to people outside the company via our website and showroom posters.

We will continue to reflect customers’ views and opinions in our services, and upgrade our operations in collaboration with relevant parties both inside and outside the company.

Multi-Energy Business

As a comprehensive energy service provider, the Osaka Gas Group proposes the optimal use of natural gas, electricity, LPG and thermal energy. The move is intended to enhance “customer value” a time when customer needs for energy have been diversified following the liberalization of the energy market.

Among various businesses we are undertaking in the energy field, the Group has been positioning the electricity business as the second most important business after the gas business. In fiscal 2010, the Semboku Natural Gas Power Plant (capacity: 1.19 million kW) went into operation as one of our key power plants. In addition, we operate five other fossil-based power plants and three cogeneration systems while participating in or operating six wind power businesses and eight solar power businesses as part of our efforts to promote power generation from renewable energy sources.

Our overseas IPP business includes investment in fossil-based power plants, wind power projects and solar power projects in North America and Australia. In 2015, we invested in St. Charles Power Project, a power station located in Maryland, the United States. The power plant began operation in February 2017. In 2017, we also invested in two power plant projects in the United States—the Shen Power Plant in New Jersey and the Fairview Power Plant in Pennsylvania.

These projects give the Osaka Gas Group power sources totaling about 1.878 million kW in Japan and about 1.403 million kW overseas, both as of the end of March 2017.

As part of our efforts to develop additional power sources, in 2016 we invested in Fukushima Natural Gas Electric Power Station currently being built by Fukushima Gas Power Co., Ltd. The Osaka Gas Group is committed to ensuring the stable supply of electricity with lower environmental impact in lower prices while contributing to industrial and economic development in local communities.

Total power generation capacity (domestic): Approx. 1.38 million kW
- fossil-based power generation: 1.63 million kW
- cogeneration systems: 0.69 million kW
- Renewable energy sources: 0.16 million kW*

Total power generation capacity (overseas): Approx. 1.40 million kW
- fossil-based power generation: 1.30 million kW
- Renewable energy sources: 0.10 million kW

*(Power generation capacity includes for Osaka Gas’s share of interests of the projects, excluding those under consideration or construction.)
The Osaka Gas Group sees Southeast Asia as a priority area, due to its promising outlook in view of its expected high economic growth in addition to the fact that many Japanese companies expand their business in the region, mostly manufacturers. To study the feasibility of launching downstream business overseas, the Group has been conducting market research in the region since around 2010.

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 chains 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, bathrooms, and toilets.

In fiscal 2018, Osaka Gas launched a new service called “Sumikata Plus,” which consists 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. Customers can receive such support services by paying fixed monthly fees.

Development of a new cart-type gas detector

Osaka Gas developed a new cart-type gas detector jointly with New Cosmos Electric Co., Ltd. The device is intended to detect gas leakage from underground gas pipes. The gas detector, operated by hand, is designed to detect possible gas leakage by absorbing ground-level air. It is equipped with a GPS function, aimed at improving search-route tracing ability, and a warning system against the cart’s use at excessive speed and against the cart’s use at excessive speed and against the cart’s use at excessive speed and against the cart’s use at excessive speed.

Osaka Gas is prepared to diffuse the newly developed cart-type gas detector to gas service providers across Japan as part of its efforts to ensure safe and care-free gas services. We will continue to work harder to develop even more upgraded gas detectors and other equipments for safety.

Harmonizing with the Environment and Contributing to Realizing a Sustainable Society

Environmental conservation on a local and a global scale is an extremely important mission for the Osaka Gas Group, whose operations center on the energy business. In accordance with the “Osaka Gas Group Environmental Activities Policy” we established in FY2007, the Osaka Gas 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.

<table>
<thead>
<tr>
<th>CSR Indicator</th>
<th>Environmental Management Indicator: Environmental Management Efficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td>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 sold. The smaller the figure for environmental management efficiency, the greater the reduction in environmental impact per amount of gas sold.</td>
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</table>

<table>
<thead>
<tr>
<th>Targets and results</th>
</tr>
</thead>
<tbody>
<tr>
<td>The environmental management efficiency for fiscal 2017 was given as 52.5 yen/1,000 m³, achieving the target set for the year.</td>
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</table>

<table>
<thead>
<tr>
<th>Environmental Management Efficiency</th>
<th>Targets</th>
<th>Results</th>
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<tbody>
<tr>
<td></td>
<td>52 yen/1,000 m³ or less</td>
<td>52.5 yen/1,000 m³</td>
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</tbody>
</table>

Actions taken

Actions taken to reduce the impact of business activities on the environment, measured by an increase in environmental management efficiency

At LNG terminals, we have constructed energy-saving facilities, such as cogeneration systems (CCHP) and cryogenic power generation systems. At electric power stations, we have begun operating highly-efficient fossil-based power generation facilities while introducing renewable energy sources. At office buildings, we have promoted company-wide energy-saving through “Green Gas Buildings” activities. All employees of the Osaka Gas Group have worked on reducing the environmental impact of business activities by operating the Environmental Management System (EMS) toward the ultimate goal of cutting overall greenhouse gas emissions. In addition, we have reduced the environmental impact of business activities by recycling drilling soil discharged during the gas pipelines works. Consequently, the Environmental Management Efficiency for fiscal 2017 came to 52.5 yen/1,000 m³.
Efforts Contributing to Realizing a Low-Carbon Society

- **CO₂ emissions from Osaka Gas’s city gas business**
  - CO₂ emissions in Osaka Gas's city gas business for FY2017 were 127,369 tons, resulting in CO₂ emissions per cubic meter of gas sold (emission intensity) of 14.7 g-CO₂/m³. Compared to 1990, the Kyoto Protocol's benchmark year, total CO₂ emissions were down 52% and emissions on a per-unit basis fell by 70%.
  - Reasons for the decrease in CO₂ emissions included a decline in purchased electricity following the active use of cogeneration systems.

- **Efforts to reduce CO₂ emissions at offices**
  - Business offices operated by Osaka Gas and its group companies have established an Environmental Management System (EMS) based on ISO 14001, Eco Action 21 developed by the Ministry of Environment and the Osaka Gas Environmental Management System (OGEMS). Under the EMS, all employees steadily work to reduce their environmental impact by turning off lights and office equipment not currently needed or in use, reducing energy use in offices, and reviewing the facility operations in its office buildings.

In fiscal 2017, the East Wing of Fukui Office in Hyogo and the showroom building “hu+g MUSEUM” in Osaka received four stars and five stars, respectively, under the BELS system for their excellent energy conservation performance. Their respective energy-conservation rates in the year were 33% and 39%.

**Notes from view.**

I want to play a role in diffusing energy conservation to society through our efforts to promote energy saving at office buildings of the Osaka Gas Group.

Observing energy-saving standards became mandatory at newly constructed office buildings when the Act on Improvement of Energy Consumption Performance of Buildings came into force on April 1, 2017. This has made corporate energy conservation activities all the more important.

I believe that, under these circumstances, boosting energy conservation performance at office buildings of the Osaka Gas Group and using our experiences and expertise in the field for society are an important mission of Osaka Gas in view of its anticipated role as an energy service provider.

BELS stands for Building Energy-efficiency Labeling System. It is used to evaluating the energy-saving ability of nonresidential buildings based on the Act on Improvement of Energy Consumption Performance of Buildings. The evaluation, certified by third parties, is given on a scale of one to five stars. The evaluation result is represented by a number of stars displayed on a special plate.

Home-use SOFC ENE-FARM type S received environmental- and technology-related awards.

**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 use the waste heat from the power generation process for hot water supply and air conditioning. Thus distributed energy systems are highly economic and environmentally friendly. Since releasing the first business-use micro-cogeneration systems in 1996, 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 2017, there were 4,463 cogeneration systems under operation in the Osaka Gas service area with a combined output capacity of 1,589,000 kW.

In order to meet the diverse needs of customers, we are developing technology to further improve energy efficiency, reliability and generated electricity value. In fiscal 2017, we worked with Mitsubishi Heavy Industries Engine & Turbocharger, Ltd. to develop a highly efficient gas engine cogeneration system with an output capacity of 1,200 kW. We also focused on evaluating and commercializing a small-size solid oxide fuel cell (SOFC) business. A business-use SOFC with output capacity of 3 kW, made by KYOCERA Corp., achieved 52% in power-generation efficiency and 96% in overall efficiency.

Engine-outside SOFC

- **Home-use SOFC ENE-FARM type S** received environmental- and technology-related awards.

ENE-FARM type S, a home-use solid oxide fuel cell (SOFC) launched by Osaka Gas in April 2016, won high acclaim from consumers in various quarters and received many environmental-related awards.

- **ENE-FARM type S** is a highly efficient energy system that generates electricity through a chemical reaction between hydrogen extracted from city gas and oxygen in the air. The product effectively uses the heat generated in the power generation process for hot water supply.

ENE-FARM type S achieved the world’s highest*5 power generation efficiency*6 of 52%, and at the same time features the world’s smallest*7 size for its main components. The compactness of the model has made installation easier in buildings, being less spacious than ordinary houses. The installation of power generation units using existing hot water-supply appliances has also been made easier, resulting in a broader base of customers being able to receive services. Furthermore, Osaka Gas has been able to purchase redundant electricity from its customers*5. By continuing to make efforts to diffuse ENE-FARM type S, Osaka Gas will contribute to CO₂ emission reductions on the customer side, while supporting the central government’s policy of diversifying power sources and promoting the distribution of power sources, and ease peak power demand. As of the end of March 2017, Osaka Gas had sold about 64,000 units of the product, which translated into CO₂ emission reductions of some 94,000 tons per year.

Main awards given to ENE-FARM type S in fiscal 2017

- **Grand award given by the head of the Agency for Natural Resources and Energy for contribution to energy saving, sponsored by the Energy Conservation Center (product and business model category)**
- **Award given by the Environment Minister for contribution to curbing global warming, sponsored by the Environment Ministry (technological development and commercialization category)**
- **Grand award given by the Chairman of the Advanced Cogeneration and Energy Utilization Center Japan (ACECJ) for the promotion of cogeneration systems, sponsored by ACECJ (technological development category)**

*1 The world’s highest power generation efficiency

*2 The world’s highest power generation efficiency among household-use fuel cells with a nominal output of 1 kW or less (based on data compiled by Osaka Gas as of Feb. 24, 2010)

*3 Calculation of power generation efficiency

Calculation based on a Lower heating value (LHV), which is the calorific value calculated by subtracting the latent heat of vaporization of the water vapor that is generated when complete fuel gas combustion occurs.

*4 The world’s smallest size

The world’s smallest size among household-use SOFCs, including systems supplying heat and hot water using redundant heat (based on data compiled by Osaka Gas as of Feb. 24, 2010)

*5 Purchaser of redundant electricity

This marked the first time in Japan that electric utilities generating by household solid oxide fuel cells brought through the grid (based on data compiled by Osaka Gas as of Feb. 24, 2010). Customers from whom we can buy their redundant electricity are those who use our specific ENE-FARM models and have concluded gas contracts with us.
Osaka Gas is working on the development of the Smart Energy House, which is designed to offer comfortable and environmentally friendly living to people by achieving “smart” management of electricity and heat when they are created, stored and consumed. The Smart Energy House runs on three batteries—a residential fuel cell, a solar power system and a storage battery—and uses IT to achieve the goal.

Osaka Gas and Sekisui House Ltd. conducted a living experiment of the Smart Energy House for three years from February 2011. The results of the experiment break down into three main points, which were released after technological studies were conducted to put them to practical use in the future.

1) The main functions in the experimental house are controlled by three batteries, including a storage battery installed in an electric vehicle. The house adopts a unique control method based on maximum use of a fuel cell to achieve energy efficiency. The experiment conducted under actual living conditions achieved a 90% reduction in CO₂ emissions, an 80% reduction in energy consumption, and savings of 315,000 yen in utility expenses and fuel costs for the whole house.
2) The experiment confirmed the functionality of the Home Energy Management System (HEMS), which is said to be effective in ensuring both comfort for residents and energy savings over many years.
3) The experiment also demonstrated that automatic control systems set up in housing facilities, such as electrically operated shutters and electric curtains, are effective in increasing the convenience and comfort of residents.

Osaka Gas developed a “Smart Energy House Storage System,” a small-size and lightweight storage system with a storage capacity of 3.2 kWh. The product, capable of charging electricity generated by ENE-FARM type 5, a home-use fuel cell developed by Osaka Gas, was developed based on the Osaka Gas’s know-how on enabling optimal control of the three batteries and a storage system developed by KYOCERA Corp. Osaka Gas began selling the new storage system in April 2017.

Launched a demonstration test for aiming zero CO₂ emissions and net zero energy consumption

Osaka Gas and Sekisui House Ltd. conducted a long-term living experiment in a smart energy house using an existing house. The test, conducted for about two-and-a-half years from December 2016 using the renovated house, is designed to demonstrate that attaining zero CO₂ emissions and net zero energy consumption is compatible with leading a healthier and more comfortable life. This marked the first time in a living experiment using a renovated house being conducted in Japan to demonstrate net zero energy consumption. The experiment will study how to realize zero CO₂ emissions and net zero energy consumption while taking into account residents’ opinions on the indoor conditions and convenient IoT systems for them to lead a comfortable life. Osaka Gas expects the ongoing test to lead to the creation of a feasible smart house in which people can live healthier and more comfortable lives.

Characteristics of a Smart Energy House

1) Generates electricity and heat in an energy-saving way by operating a fuel cell that provides constant rated output.
   - Electricity: Redundant electricity and electricity generated through a solar cell are used to power the grid (inverse power flow).
   - Heat: Exhaust heat is fully used for hot water supply and air conditioning.

2) Realizes air-conditioning with less energy consumption by people can enhance their health and lead a comfortable life by a smart air-conditioning operation.
   - Air-conditioning is controlled according to the residents’ lifestyles, helping prevent health problems caused by temperature changes, such as heat shock.

3) The smart control system can control the amount of sunlight and ventilation to make a comfortable living space by adjusting the opening of a shutter and such according to external weather conditions.

Conserving Biodiversity

A condominium introducing native plants won the Good Design Award

Osaka Gas Urban Development Co., Ltd., an Osaka Gas Group company, received the Good Design Award for fiscal 2017 for developing condominiums while taking biodiversity into account. In addressing "co-existence with the environment," one of its "five focuses"* for urban and property development, Osaka Gas Urban Development is pursuing a planting plan that takes biodiversity into consideration. The planting of native seedlings of “Chimakizasa,” a species of bamboo grass called Sasa Palmae in English was completed in March 2014 in the garden of the “Urbanex Kyoto Matsugasaki.” The indigenous bamboo grass, growing in the northern part of Kyoto City, has been traditionally used to make amulets sold at the annual Gion Festival which are alleged to have the power to protect people from illness and accidents, and as wraps for traditional Japanese sweets. Chimakizasa has been recognized as an endangered plant in Kyoto City as a result of excessive eating by wild deer, whose population in the city has been increasing in recent years. All of the 10 bamboo grass plants that were planted in the garden of the “Urbanex Kyoto Matsugasaki” were donated by the Chimakizasa revival committee, a local team formed to increase numbers of the plant, with members including researchers from Kyoto University. At the “Urbanex Kobe Okurayama,” under construction since February 2016, Osaka Gas Urban Development has planted Japanese blue oaks, Goose-neck loosestrife and other local seeds/seedlings with a support from the Museum of Nature and Human Activities, Hyogo. Signs describing plants names and their characteristics have also been put up so that local residents, too, can learn the importance of biodiversity. Osaka Gas Urban Development’s continuous efforts to promote biodiversity by using native seedlings in its condo development led to the company receiving the Good Design Award for fiscal 2017. Osaka Gas Urban Development has adopted a policy of considering biodiversity when formulating their planting plans.

Future real estate development projects by Osaka Gas Urban Development will earmark greenery that provides a natural habitat for plants and animals.

Developing Environmental Technologies

Technology to convert thermal energy into light with a wavelength suitable for power generation by a solar cell

Osaka Gas and Kyoto University joined hands and succeeded for the first time in developing technology to convert thermal energy into light with a wavelength whereby a solar cell can generate electricity most efficiently. The development is expected to improve power generation efficiency using thermal energy sources.

In their joint studies, Osaka Gas and Kyoto University used silicon, a chemical element mainly used to develop semiconductors, to form a photonic nanostructure. They used this structure to develop a thermal radiation light source that exclusively emits light with a wavelength whereby a solar cell can generate electricity efficiently when the temperature is high. A power generation efficiency of 40% or higher is expected with this technology—much higher than the figure of around 20% recorded with an ordinary solar cell. Thermal sources are not limited to solar power with this technology. Equally efficient power generation can be expected using other thermal sources such as combustion heat.

Efforts in Resource Recycling

Resource recycling in value chains

Osaka Gas is thoroughly implementing the 3Rs (reduce, reuse, recycle), cutting its resource consumption and waste generation, and endeavoring to reuse and recycle used resources in its efforts to help create a recycling-oriented society. We are recycling resources throughout our business activity value chain by such means as striving for zero emissions at LNG terminals, reusing gas meters, recycling gas pipe materials, reusing excavated soil from gas pipe installation, and recycling used gas equipment.

In fiscal 2017, the rate of reuse of excavated soil from gas pipe work stood at 88%. The rate of recycling of PE pipes came to 100%. The rate of recycling of used gas appliances was given as about 90%.
The Osaka Gas Group calculated the amount of greenhouse gas (GHG) emissions by companies that constitute the Osaka Gas Group’s value chain network, based on the GHG Protocol, an international emission standard. The methodology and the results have been certified by an independent organization to warrant their reliability and accuracy.

Combined GHG emissions by the Osaka Gas Group and value-chain companies, measured by CO₂e, totaled about 36.13 million tons in fiscal 2017. The sum breaks down into about 4.36 million tons or about 12% for GHG emitted through business activities by the Osaka Gas Group (Scope 1 and 2), and about 31.77 million tons or about 88% emitted by organizations involved in our value-chain (Scope 3).

GHG emissions from city gas combustion on the customer side amounted to 19.91 million tons in the reporting year in terms of CO₂, accounting for about 55% of the total. This makes it all the more important for Osaka Gas to further diffuse energy-efficient FINE-FARM systems and cogeneration systems—which for 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 Osaka Gas Group, as measured in terms of CO₂, came to 3.9 million tons, representing about 11% of the total. As a way of reducing GHG emissions from its own business activities, 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 5.9 million tons in fiscal 2017, representing about 16% 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 networks. However, the recycling rates are high for such waste, a situation we will try to maintain in the future.

More than 98% of water used for our industrial activities is taken from the sea. Such water is mostly used to vaporize LNG at LGN terminals. Sea water is also used as cooling inside the steam turbine condensers at some power stations. Once used, the water is discharged into the sea under strict control.
The Osaka Gas 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.

**CSR Indicator**

The Osaka Gas 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 Osaka Gas Group’s assets to undertake activities on the topics of living, the environment and the community.

**Social Contribution Activities**

**Corporate Volunteering Activities under the “Small Light Campaign”**

The “Small Light Campaign” was launched in 1981, the UN International Year of Disabled Persons, as a company volunteer effort by the Osaka Gas Group. Begun with the idea that individual employees should take an interest in their immediate surroundings and give serious thought to resolving the various problems facing their local communities, this campaign is characterized by the fact that employees voluntarily plan, participate in, and sustain activities. Our Group’s business activities are closely tied to the daily lives of everyone in the community. Acknowledging that this fact alone demands greater self-awareness and action from them as members of their local communities, employees are involved in the “Small Light Campaign” as good corporate citizens.

To promote these activities, we have set up a number of supporting systems, including a Local Community Contribution Category in the President’s Award. Community Gifts of which application is open to public, and “Volunteer Leave” as frameworks for improving employee awareness of the need for social contributions and for supporting voluntary activities.

**Actions taken**

**Continued communication activities and social contribution activities**

By taking advantage of the assets it has acquired through its business activities, Osaka Gas is continuing to undertake educational activities aimed at developing healthy next-generation human resources, on the themes of energy and environment, food, disaster prevention, and fire. In fiscal 2017, communication-enhancement events targeting elementary school children were held at 209 schools. At the Gase Science Museum and the Himeji Gas Energy Hall, fun events are held on a regular basis to teach visitors about natural gas and the global environment under the theme of “preservation of the global environment and effective use of energy.” Furthermore, the Group actively undertakes social contribution activities, including baseball teaching by the Group’s athletic club members and educational seminars targeting young people.

**People**

Support disabled people’s social participation

“Midosuji Fureai Bazaar” is a charity event the Osaka Gas Group hosts on central Osaka’s Midosuji boulevard to deepen people’s understanding of the situation surrounding disabled people. About 20 days are allotted to this event every year. The bazaar is part of the Group’s Small Light Campaign.

I have worked for this charity event for many years. Recently, a total of 40 groups have participated in the bazaar, raising nonprofit organizations and welfare workshops awareness to the disabled people. Sold at stalls and stands set up for the event are home-made cookies, bread and sundry items, all produced by disabled people. The event has thus provided such people with job opportunities while supporting their participation in society.

I hope that through this kind of event I can continue to contribute to building an all-inclusive society—a community in which all people can play an active role waving tourism in what we do.

**Creating value with society**

**Diet**

**Sports, Health**

**History and culture**

**Safety and security**

**The “Small Light Campaign”**

Volunteering activities by the Group employees

**Joining hands with local communities to create new social value**

In a bid to create new value in regions, the Osaka Gas Group is supporting community building under five themes—people, history and culture, sports, safety and security, and diet. The Group is also stepping up the “Small Light Campaign,” a volunteer initiative led by employees.

**For better society**

- Disability, volunteer activities by employees
- Support for elderly, disabled and children
- Cooperation with social designers

**For healthy people and society**

- Various education programs about food
- Disseminating the benefit of Japanese cuisine
- Cooking with local production

**For protecting ourselves**

- Education on appropriate handling of fire
- Disaster-prevention class using original textbooks
- Energy/environment education for school children

**For nurturing attachment to the society**

- Support for traditional cultures
- Advocacy on life, culture, energy/infrastructure, management

**Events held**

<table>
<thead>
<tr>
<th>Category</th>
<th>Number of events</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social contribution activities</td>
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**Results**

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</tr>
</tbody>
</table>

**Volunteers**

Ken Aikawa
Social Design Team, Regional Development Dept.

**Midosuji Fureai Bazaar**
Support Kansai-based “Social Designers”

Osaka Gas operates “My Pro Showcase Kansai,” a regional revitalization program, jointly with Greenc, a nonprofit organization known as the operator of the online magazine “greenci,” to support regional projects undertaken by Kansai-based “social designers” and nonprofit organizations. Osaka Gas sees people participating in the revitalization program, an initiative requiring a strong self-help drive, to solve social issues, as potential future partners. Osaka Gas believes such people are capable of invigorating communities in the Kansai region through the program. Our company is thus prepared to disseminate its activities to society while helping them connect with stakeholders in various fields.

Activities of the CEL

The Osaka Gas Research Institute for Culture, Energy and Life (CEI) has chosen four key areas of research—life, culture, energy infrastructure and business management—and conducts research from the perspective of day-to-day living and seeks to put its findings into practice and into recommendations. In undertaking such research, the company focuses on important and potentially important social issues facing regions. The CEL presents these findings in publications, symposiums and seminars, lectures on them at universities, and publishes them in newspapers and magazines. It also makes good use of them in actual activities undertaken in cooperation with government agencies, business committees and NPOs. The CEL also disseminates information through its triannual magazine “CEL,” as well as its social media and talking sessions. It also uses a research and networking laboratory set up within the CEL to study the attractiveness of urban cities.

Food education activities

The Osaka Gas Group has been pursuing food education activities under the slogan “Nurturing healthy youth through food” to give children a zest for living through food and help them build well-rounded characters.

These activities include holding food education and cooking classes for children, preparing and providing food education learning materials to elementary schools, and developing food menus to be provided to elementary school cooking classes. Also being held are cooking contests participated in by parents and their children chosen from across Japan, and a food education symposium that has been co-sponsored with Osaka Seikei College to enhance the cooperation of people and municipalities in the region.

A new food education program focusing on dashi soup stock started in fiscal 2018. Japanese restaurant Gion Sasaki, co-sponsored with Osaka Seikei College to enhance the cooperation of people and municipalities in the region.

Social Participation

Direct exchange of opinions between representatives of consumer groups and management

Once a year, there is a direct exchange of opinions between Osaka Gas’s management and the representatives of the Kansai Consumer Group Liaison Commission, an organization of local consumer groups throughout the Kansai region. In fiscal 2017, we received many comments and questions regarding Japan’s future energy strategy related to such topics as energy market liberalization. For example, we received comments regarding the role Osaka Gas, as a gas supplier, is supposed to play to ensure safety and security following the April 2017 full liberalization of the retail city gas market.

In March 2016, Osaka Gas published a leaflet titled “Socially Design the Kansai Region.” The leaflet included information on eight organizations Osaka Gas sees as “creatively” working to solve social issues such as the aging of society, homelessness, poverty and abuse.

In February 2018, Osaka Gas started providing “Food Education and Cooking Sessions” as a part of its “My Pro Showcase Kansai” program to enhance the cooperation of people and municipalities in the region.

Complying with Laws and Regulations and Respect for Human Rights

The Osaka Gas 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 constitutes 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, we endeavor 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 continuously conducting training sessions and employee surveys to raise awareness.

We have introduced three viewpoints deemed important for compliance promotion as CSR indicators. These three are: (1) the degree of understanding by each Osaka Gas employee of the “Osaka Gas Group Code of Conduct,” (2) the degree of penetration through each Osaka Gas Group organization of employees’ awareness of the importance of compliance, and (3) the percentage of Osaka Gas Group employees taking a compliance training course. As for indicators (1) and (2) above, the Osaka Gas Group aims to obtain higher scores than in the previous year in the compliance awareness surveys that it has been conducting since fiscal 2004 to measure the degree of its penetration. Concerning indicator (3), we work to ensure that all employees receive compliance training.

<table>
<thead>
<tr>
<th>CSR Indicator</th>
<th>Scores on Compliance Awareness / Percentage of Employees Receiving “Compliance Training”</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Targets</strong></td>
<td><strong>Results</strong></td>
</tr>
<tr>
<td>1: (Individual)</td>
<td>Higher than the previous year</td>
</tr>
<tr>
<td>2: (Organization)</td>
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</tr>
<tr>
<td>3: Percentage of employees receiving “Compliance Training”</td>
<td>100%</td>
</tr>
</tbody>
</table>

**Targets and results**

The targets and results for fiscal 2017 are as follows.

**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 “Osaka Gas 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.

As an in-house case-study session based on actual scenarios that occurred inside and outside the Group was held in fiscal 2017 to find their causes and prevent recurrence. In fiscal 2018, a similar in-house session will continue to be held, with the scope of discussion expanded to include the Osaka Gas Group Code of Conduct.
Compliance Promotion Efforts

“Compliance Desk”

The Osaka Gas 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 of compliance with laws and internal rules. Not only management and employees of the Group, and workers dispatched from manpower agencies to work for 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 fiscal 2017, the “Compliance Desks” received a total of 109 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.

Breakdown of Consultations and Reports

- Personal information: 2%
- Human rights, social and environmental: 50%
- Labor environment: 34%
- Others: 34%

Collaboration with engineering firms to enhance supply-side compliance

The Osaka Gas Pipeline Business Unit is working with the member companies of the group association, consisting of 17 engineering firms that specialized in gas pipe installation, to enhance compliance on the supply side.

Information Security

Efforts to strengthen information security within the Osaka Gas Group

The evolution of the Internet has led to sharp rises in leaks of confidential information, infections by computer viruses and other serious social issues, and the harm suffered by companies from such incidents increasingly extends beyond direct damage, even resulting in the loss of public trust. Seeing itself as a company in charge of building social infrastructure, the Osaka Gas Group recognizes the importance of promoting information control regarding customer data. For that purpose, Osaka Gas set up the Information Security Subcommittee in August 2015 and has stepped up its efforts to strengthen security in its basic business systems and implement security-enhancement measures.

The Osaka Gas 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 Osaka Gas Group, management departments at Headquarters of Osaka Gas and by deploying staff in charge of promoting information security at other organizations and affiliated companies.

The list, compiled in collaboration with the relevant divisions and departments, took into account the results of the risk-management review conducted in the previous year. As part of our efforts to strengthen global compliance, we have sponsored educational seminars on bribery and other corruptive practices that may involve Osaka Gas employees posted overseas. The seminars have been participated in by employees who have been posted overseas to sell our gas appliances for business use.

Voice from staff

We are joining hands with our important business partners to increase the awareness of each employee of the importance of observing compliance.

For instance, in fiscal 2017, Osaka Gas, in collaboration with the relevant divisions and departments, took into account the results of the risk-management review conducted in the previous year. As part of our efforts to strengthen global compliance, we have sponsored educational seminars on bribery and other corruptive practices that may involve Osaka Gas employees posted overseas. The seminars have been participated in by employees who have been posted overseas to sell our gas appliances for business use.

Information posted on the Web

Hirotaka Seki
Planning Dept., Pipeline Business Unit

Promotion of Global Compliance

In view of expanding business operations abroad, Osaka Gas has compiled an updated version of the leaflet meant for dissemination of the “Osaka Gas Group Code of Conduct” at overseas offices. Information included in the leaflet, to be handed out to employees for dissemination, are the “Osaka Gas Group CSR Charter,” the “Osaka Gas Group Code of Conduct” and “Compliance Desks” used for the internal reporting system. In fiscal 2017, Osaka Gas compiled a self-check list concerning compliance for overseas subsidiaries.

Efforts to Prevent a Recurrence of Failures

We would like to express our sincere apologies to all stakeholders and customers for causing two failures in handling personal information in fiscal 2017, which caused great concern to them.

Loss of documents containing personal information

- Osaka Gas LPG Co., Ltd.
  Osaka Gas confirmed on May 19, 2016 that documents containing the private information of 814 customers had been lost. The documents, used when conducting gas meter readings, were found to list the customers’ private information including their names and residential addresses.

  An in-house investigation revealed that there was no evidence that the data had been leaked to third parties or had been used illegally. The company visited all the customers affected by the incident and expressed its sincere apologies to them for the failure while explaining to them what had happened.

  The Osaka Gas Group recognizes the high importance of protecting customers’ personal information. The Group is ready to launch a full-scale investigation if an incident affecting customers’ private information occurs, and improve the relevant business systems if necessary to prevent recurrence. We are prepared to do all we can to ensure the protection of customer information by reviewing and checking our operations periodically.

- Nissho Gas Supply Co., Ltd.
  Osaka Gas confirmed on Dec. 8, 2016 that documents containing the private information of 258 customers had been lost.

  The affected documents were those that would have been presented to the customers following the start of LP gas services at their homes, and those containing maintenance and inspection records regarding gas appliances set up at the customers’ houses— which had been duplicated for Nissho Gas Supply before the originals were delivered to the customers. Their names and residential addresses were contained in the documents.

  Our investigation indicated there was no evidence showing their data had been leaked to third parties or had been used illegally. The company visited all the customers affected by the incident and apologized to them for the failure while explaining to them what had happened.

Our efforts to prevent a recurrence of failures

The Osaka Gas Group is committed to disseminating information security and compliance-related information to employees. For instance, in fiscal 2017, we conducted on-site surveys and checks 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 Osaka Gas Group employees to improve the information security awareness and skills of each and every employee. We also educated employees of Osaka Gas Group companies in charge of IT, and IT officials working at relevant divisions and departments of Osaka Gas.

- Targeted-type e-mail training 2 times per year 19,070
- Network disconnection training 1 time per year 13,522
- Compliance seminar

- Training Conducted in FY2017

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Action on Human Rights

Education and training for human rights awareness-raising

The Osaka Gas Group releases a human rights awareness slogan and formulates an action plan every fiscal year in an effort to build a corporate culture in which human rights are respected.

The slogan we drew up for fiscal 2017 was “Foster a corporate culture in which human rights are respected, with each and every employee having a sense of caring for others and accepting each other.” Under the slogan, we strive to achieve various initiatives including the following: Enhanced and strengthened Osaka Gas Group’s human rights awareness-raising structure, enhanced human rights education and awareness-raising activities, disseminated information on human rights to be aware of across the Osaka Gas Group, actively participated in activities outside the Group and gather various relevant information.

We had an all-time high of 6,706 entries for our human rights slogan, a year-on-year increase of about 1,100 entries.

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The Osaka Gas 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 degree of satisfaction with human resources systems.

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 the company, etc., and to leave an open comment.

The Osaka Gas Group periodically conducts the “Employee Attitude Survey” to understand how employees satisfy with their job, workplace environment, superior, company systems, and so on. Employees are asked to rate their satisfaction level on a five-point scale for 23 categories, including job satisfaction, attachment to the company, etc., and to leave an open comment.

The Osaka Gas 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.
Employment

Data on Osaka Gas workforce

Osaka Gas has 5,713 employees (4,868 men and 843 women) as of March 31, 2017. We held joint hiring seminars as a Group, and 14 companies participated in the FY2017 seminar, where approximately 440 students were briefed on each company’s business and the types of human resources needed. Osaka Gas also provided about 290 students with opportunities to gain work experience through internships in fiscal 2017.

Acceptance of Diversity

Ensuring a diversified workforce

As a way of enhancing its corporate value, the Osaka Gas 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 Osaka Gas Group Diversity Promotion Policy aiming for people with diverse personality and talent are respected, accepted, they can feel rewarded and fulfilled through their work.

Furthermore, Osaka Gas has been working on fostering a workplace environment in which female employees can display their abilities. In fact, various jobs have been assigned to female workers at the Company based on their aptitudes and wishes, including gas production, gas supply and marketing. As a result of such efforts, Osaka Gas has received high appraisal from the outside the Company, as shown by its selection as the leading company in empowering women by providing opportunities to engage in responsible jobs.

In fiscal 2017, Osaka Gas launched a company-wide committee to discuss work-life balance issues. In addition, Osaka Gas has been systematically and meticulously undertaking measures under the PDCA cycle.

Diversity Promotion Policy aiming for people with diverse personality and talent are respected, accepted, they can feel rewarded and fulfilled through their work.

We are striving to become a company where all employees can work actively and passionately.

Osaka Gas is committed to fostering a work environment where employees can display their abilities to the fullest extent. Moreover, a joint labor-management Work-Life Balance Promotion Committee has been established to systematize support measures necessary at each stage of employees’ lives and create a work environment where these measures can be implemented smoothly.

In fiscal 2017, Osaka Gas launched a company-wide committee to encourage employees to work efficiently. Measures to improve the Company’s productivity and promote creative work styles are being studied through the committee.

Balancing Work and Family

Supporting employees balancing work and home

Osaka Gas strives to create a corporate culture where employees can strike balance between taking a rewarding job and leading a fulfilling personal life with some involvement in society. The company expects the creation of such a corporate culture to enable employees to display their abilities to the fullest extent. Moreover, a joint labor-management Work-Life Balance Promotion Committee has been established to systematize support measures necessary at each stage of employees’ lives and create a work environment where these measures can be implemented smoothly.

In fiscal 2017, Osaka Gas launched a company-wide committee to encourage employees to work efficiently. Measures to improve the Company’s productivity and promote creative work styles are being studied through the committee.

Improving Occupational Health and Safety

Promoting safety and health management activities based on OSIMSS

Osaka Gas has been systematically and meticulously undertaking activities at preventing workplace accidents with establishing the “Osaka Gas Health and Safety Action Plan” based on the Occupational Safety and Health Management System (OSIMSS(1)), which was established by the Minister of Health, Labour and Welfare. Based on the plan, each organization of Osaka Gas is working on reducing the number of incidents leading to absence from work due to workplace accidents to zero. The plan, consisting of three priority themes—prevention of transportation-related accidents, prevention of general work accidents, and prevention of accidents through collaboration with business partners—is designed to enhance the level of workplace safety by implementing improvement measures under the FCQA code.

Each Osaka Gas company carried out safety- and health-enhancement measures envisaged under its own safety and health-management plan, modified based on its evaluation of the previous year’s activities in line with the Basic Plan on Health and Safety of the Osaka Gas Group covering fiscal 2015 to fiscal 2017. As a result of implementing these measures, Osaka Gas has been able to establish a system to maintain safety and sanitation in line with the mandatory requirements, while compiling an action plan aimed at enhancing employees’ safety and health. Covering the four years between fiscal 2018 and fiscal 2021, a new Basic Plan on Health and Safety of the Osaka Gas Group has been devised. The new plan is designed to enable each Group company to take improvement measures under the FCQA code to enhance employees’ safety and health, while maintaining its existing safety and sanitation management systems.
Review of Important Aspects of CSR (Materiality)

The Osaka Gas Group evaluated its three-year efforts through fiscal 2017 to improve its CSR activities in line with its important aspects (materiality), which the Group identified in fiscal 2014. The Group began reviewing the materiality in fiscal 2018 in response to changes in its business operations and the business environment while taking into account social trends.

Identification of current materiality

The Osaka Gas Group identified the materiality for the Group’s CSR for the first time in fiscal 2014. The action was designed for the Group, a comprehensive energy service provider, to grasp the impacts its activities might have on society and to conduct business while managing such impacts and possible impacts. In identifying the materiality, the Group referred to procedures set in the fourth edition of the Sustainability Reporting Guidelines (G4). In-house meetings were held repeatedly with consideration mainly given to the characteristics of business operations undertaken by the Group and where its business was conducted, and based on views and opinions from third-party experts in certain fields. Final approval of the materiality came at a meeting of the CSR Promotion Council.

Background of review

While the Osaka Gas Group has been operating the PDCA (plan-do-check-act) cycle for the materiality, the business environment surrounding the Group and the social situation for sustainability have changed dramatically in the past three years. Some indicators used for the materiality have been reviewed when necessary—in response to the changes that have occurred both inside and outside the Group. In fiscal 2018, we began reviewing the overall materiality.

Identification of materiality

The Group identified the materiality as of fiscal 2014 in line with the Sustainability Reporting Guidelines (G4). The work involved extracting issues associated with CSR while taking into account the characteristics of business operations undertaken by the Group and where its business is conducted, and based on views and opinions from third-party experts in related fields.

Materiality management process

<table>
<thead>
<tr>
<th>PLAN</th>
<th>DO</th>
<th>ACT</th>
<th>CHECK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Setting of materiality indicators</td>
<td>- Management based on indicator items</td>
<td>- Review of indicator items</td>
<td>- Finalizing of indicator items for which goals have yet to be achieved</td>
</tr>
<tr>
<td>- Extraction of indicator items</td>
<td>- Grouping of the current situation, data collection</td>
<td>- Analysis of indicator items whose goals have yet to be achieved</td>
<td>- Measurement of the degree of improvement for each indicator item, collection of measurement data</td>
</tr>
<tr>
<td>- Setting of targets</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

PDCA management based on materiality indicators

Materiality indicators have been introduced regarding the identified materiality as a way of assessing major CSR activities. Based on the indicators, activity assessment began in fiscal 2015. CSR activities under each materiality indicator have been improved and promoted through PDCA (plan-do-check-act) management.

Efforts to Review Materiality

Changes in business environment

The Osaka Gas Group has globalized its operations. The Group operates gas, electricity and other energy services in such overseas markets as North America and Southeast Asia, while embarking on new development projects overseas. For example, Osaka Gas Chemicals Co., Ltd., a wholly-owned subsidiary of Osaka Gas, acquired Jacobi Carbons AB, a chemical maker with a major share of the world market for activated carbons, environmental materials, bringing it into the Osaka Gas Group. In addition, the Osaka Gas Group has formulated the Long-Term Management Vision 2030 and the Medium-Term Management Plan 2020—a new business strategy based on which we have started action.

Social trends regarding sustainability

In recent years, moves to enhance sustainability have gathered impetus in international society, as characterized by the adoption in 2015 by the United Nations General Assembly of the Sustainable Development Goals (SDGs) following its signing by 193 countries. The move was also evidenced by the coming into force in 2016 of the Paris Agreement, a UN accord on climate change signed at the 21st session of the Conference of the Parties (COP) to the 1992 United Nations Framework Convention on Climate Change. Furthermore, the Global Reporting Initiative (GRI) Standards, the newest edition of the GRI guidelines, were published in 2017.

Changes in business and business-related environments

- Formulation of the Long-Term Management Vision 2030
- Formulation of the Medium-Term Management Plan 2020
- Expansion of overseas business
- Expansion of overseas production bases
- Expansion of electricity business
- Completion of liberalization of retail gas market

Social trends

- Coming into force of the Paris Agreement
- Adoption of the Sustainable Development Goals (SDGs)
- Publication of the GRI Standards
- Expectations of stakeholders

Review of materiality

The Osaka Gas Group decided to review the existing materiality in view of changes in the business environment, new social trends, and the formulation of a new Long-Term Management Vision and a new Medium-Term Management Plan. After reflecting on what has been achieved regarding CSR in the past three years, the Group will identify new materiality. The identification process will involve studying indicator items to be added and reviewing boundaries of those items.
Materiality Review Process

The following is a process by which we will review the current materiality. First, we evaluated our CSR activities between fiscal 2015 and fiscal 2017 under the current materiality, and recognized what had been achieved and what remained as issues to be tackled. As a second step, we will identify materiality items that must be given higher priority, and corporate and other “boundaries” that must be addressed—through in-house discussions being attended by people in relevant organizations. We will work on this process while taking into account changes in the business environment and social trends on sustainability.

Next, we will receive comments from outside experts in certain fields. Materiality review is a process that will give new help and insight into our CSR activities.

The newly identified materiality, consisting of materiality items and key performance indicators (KPI), will be formally approved by the CSR Committee and the CSR Promotion Council; then, the CSR activities based on each materiality indicator will be reviewed with those of society and our stakeholders, the experts will judge whether there is room for further improvement in fields where the targets have been achieved every year, and whether the numerical targets for the materiality have been set at appropriate levels. Acting on these comments, we have begun looking for improvement measures and reviewing parts of the numerical targets set under the materiality.

However, it is difficult to evaluate in a uniform manner regarding CSR activities that require individual judgment or those undertaken by multiple departments or divisions. Therefore, we see what to do with these activities as a challenge to be addressed in the future.

By taking this challenge into account and further deepening discussion both inside and outside the Company, we will review the materiality.

Evaluation of past CSR activities under the current materiality

After the materiality was identified, “materiality indicators” were introduced to evaluate our major CSR activities under the materiality. Evaluation started for CSR activities in fiscal 2015. Each year’s evaluation has translated into an annual CSR Report, detailing major CSR measures and their impacts. Our CSR activities based on each materiality indicator were smooth between fiscal 2015 and fiscal 2017. The target set for each indicator has been achieved.

Meanwhile, the CSR Committee and outside experts in certain fields told us that it is necessary to study whether there is room for further improvement in fields where the targets have been achieved every year, and whether the numerical targets for the materiality have been set at appropriate levels. Acting on these comments, we have begun looking for improvement measures and reviewing part of the numerical targets set under the materiality.

<table>
<thead>
<tr>
<th>CSR Charter</th>
<th>Materiality Indicators</th>
<th>64 Indicators</th>
<th>Targets (FY2015-2017)</th>
<th>FY2015 Results</th>
<th>FY2016 Results</th>
<th>FY2017 Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Customer Health and Safety</td>
<td>Percentage of city gas for which health and safety impacts are assessed for improvement against total city gas provided by Osaka Gas</td>
<td>PR1</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Customer satisfaction rate for customer service duties including safety</td>
<td>PR5</td>
<td>91%</td>
<td>91%</td>
<td>91%</td>
</tr>
<tr>
<td>II</td>
<td>Energy / Emissions</td>
<td>Amount of CO2 emissions at LNG terminals per unit gas sales</td>
<td>EN18</td>
<td>29.3 CO2/1 million m3 or less</td>
<td>10.9 t CO2/1 million m3</td>
<td>10.5 t CO2/1 million m3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Amount of CO2 emissions at office buildings per unit floor space</td>
<td>EN18</td>
<td>74.1 CO2/1,000 m2 or less</td>
<td>65.1 CO2/1,000 m2</td>
<td>60.1 CO2/1,000 m2</td>
</tr>
<tr>
<td>II</td>
<td>Effluents and Waste</td>
<td>Final disposal rate of industrial waste at Osaka Gas</td>
<td>EN23</td>
<td>2% or less</td>
<td>1.3%</td>
<td>0.9%</td>
</tr>
<tr>
<td>III</td>
<td>Local Communities</td>
<td>Percentage of operations with implemented local community engagement, impact assessments and development programs</td>
<td>SD1</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>IV</td>
<td>Customer Privacy</td>
<td>Total number of substantiated complaints regarding breaches of customer privacy</td>
<td>PR8</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Common Theme</td>
<td>Grievance Mechanisms on Environmental Impacts, Impacts on Society, Human Rights and Labor Practices</td>
<td>Number of grievances filed, addressed and resolved through the formal grievance mechanism on environmental and social impacts, human rights, and labor practices</td>
<td>EN14</td>
<td>90%</td>
<td>90%</td>
<td>90%</td>
</tr>
<tr>
<td>II</td>
<td>Supplier Assessment on Environmental Impacts, Impacts on Society, Human Rights and Labor Practices</td>
<td>Percentage of new suppliers that have been selected using criteria regarding environment, social impact, human rights and labor practices</td>
<td>EN32</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

* Targets for FY2017
Advice on Effective Function of Materiality

Dialogue was held with five outside experts regarding the materiality of the Osaka Gas Group has worked on over the past three years. Through the dialogue, the experts evaluated the Group’s CSR activities, with a focus on what the Group should take up as new themes and important issues as part of its efforts to review the materiality. The experts then pointed out fields where progress had been seen and issues to be tackled.

Comments from Experts

Views from an expert on the environment

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

Osaka Gas has seen steady progress in its materiality in the general environmental sector during the three-year period between fiscal 2015 and fiscal 2017. The Company’s environmental management efficiency, a comprehensive indicator gauging corporate environmental protection efforts, improved from 60 yen per 1,000 m³ in fiscal 2015 to 52.5 yen per 1,000 m³ in fiscal 2017. Representing an improvement of 15.5% and attaining the targeted 58 yen per 1,000 m³, the company has been striving further, setting medium-term environmental targets covering the period from fiscal 2018 to fiscal 2021. Under its Long-Term Management Vision, Osaka Gas has set the goal of raising the amount of electric sources to be purchased through fiscal 2031 to 95 million kWh, and reducing the cumulative amount of CO₂ emissions to 70 million tons. If Osaka Gas achieves these targets by effectively combining its competitive natural gas business, which the company should retain as its primary business, to energy business based on renewable energy sources, it is capable of surpassing world ESG (environment, society, and governance) investment. I hope that a virtuous business cycle for Osaka Gas will start to operate in the next fiscal year, with corporate growth assisted by its environmental protection and energy measures.

Views from an expert on diversity of human resources

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

Under the United Nations’ Sustainable Development Goals (SDGs), companies are asked to present a new approach regarding the review of people’s lifestyles—not one that relies on conventional value regarding production and consumption but one that respects each person’s lifestyle value. It would be better for the Osaka Gas Group to establish a system in which each employee is encouraged to contribute to society through his or her daily lives as well as through the company.

Mr. Hideo Iida  
Representative of organs, Council of the Kansai Consumers’ Association

Views from a customer

Shift in themes to improving the quality of people’s lives and addressing their concerns

Osaka Gas saw its capital adequacy ratio standing at an impressive 91.9% in its financial statement for fiscal 2017, a result indicating that the Company’s financial standing has been solid. The question is how the Company will use its financial resources backed by its strong financial footing. To get its value-creating management system rolling further, Osaka Gas must introduce new indicators that go beyond its conventional “boundaries” when revising the current materiality.

Furthermore, their demand for living care-free lives in their respective regions has grown strong amid the graying of society. We hope that Osaka Gas, when introducing new materiality indicators, will attach importance not only to ensuring safety and sanitation in its gas business but also to improving the quality of people’s lives and carrying out measures to dispel their concerns, including strengthening its housing support service called “Sumikata Service,” based on what the Company has achieved in the past.

Under its Long-Term Management Vision, Osaka Gas will start to operate in the next fiscal year, as its primary business, to energy business based on renewable energy sources to be purchased through fiscal 2031 to 95 million kWh, and reducing the cumulative amount of CO₂ emissions to 70 million tons. If Osaka Gas achieves these targets by effectively combining its competitive natural gas business, which the company should retain as its primary business, to energy business based on renewable energy sources, it is capable of surpassing world ESG (environment, society, and governance) investment. I hope that a virtuous business cycle for Osaka Gas will start to operate in the next fiscal year, with corporate growth assisted by its environmental protection and energy measures.

Views from an NGO

Ms. Emi Sugawara  
Executive Director of CSO Network Japan

Information posted on the Web

Views from experts on social responsibility

Prof. Kuniya Ogasawara  
Executive Director of CSO Network Japan

Overall, the Osaka Gas Group has achieved the overall improves of attaining the materiality targets the Group has set for its CSR activities, reaching 100% in the past three years. Most remarkable among the Group’s social contribution projects is the “Small Light Campaign,” a volunteer initiative led by employees, which has become more transparent in the next business year, in doing so the reliability of the mechanism will be improved.

Views from an expert on diversity of human resources

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

Reviews each materiality item from a fresh angle, promoting information disclosure, and taking necessary remedial steps

Disclosure has been promoted at the Osaka Gas Group regarding the main items of its materiality, identified in 2013. Remedial measures are in place regarding problems that have surfaced following the disclosure. Overall, the Osaka Gas Group has achieved the materiality targets. It would be better if information had been further disclosed. The Group, however, has more work to do in the field of diversity of human resources, with the exception of measures that have been taken to empower women. It is hoped that the Group will review each materiality item related to diversity from a fresh viewpoint, further promote information disclosure, and take remedial measures if necessary. The current Medium-Term Management Plan calls for the Osaka Gas Group to expand the scope of its business fields and the scale of each business project as a means of responding to problems associated with the declining population of Japan. When choosing a new set of materiality items, the Osaka Gas Group should attach importance to strengthening due diligence regarding human rights protection involving overseas projects. In domestic operations, the Group should focus on establishing a sustainable business strategy to ensure employment at companies that constitute the Group’s supply chain network.
Customer Health and Safety

Why 
Reasons of materiality in respect of our business
The Osaka Gas Group puts the highest priority on securing safety of gas supply and facilities as an energy business operator which supplies city gas to 7.34 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
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.

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage of city gas for which health and safety impacts are assessed for improvement against total city gas provided by Osaka Gas (G4-PR1)</td>
<td>FY2017 target: 100%</td>
</tr>
</tbody>
</table>

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 Osaka Gas 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.

- Inspection of gas pipes
Gas supply facilities including pipelines and pressure regulators were inspected to ensure their safety. The frequency and content of such inspections are 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.

- 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 (approx. 15,500 km installed), installation of intelligent meter, of which penetration rate reached 99.6%.

Product and Service Labeling

Why
Reasons of materiality in respect of our business
It is important for the Osaka Gas 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
Specific actions taken regarding materiality
Customer satisfaction rate for customer service duties including safety (G4-PR5)

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer satisfaction rate for customer service duties including safety (G4-PR5)</td>
<td>FY2017 target: 91% or more</td>
</tr>
</tbody>
</table>

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, mentioned in the left, "Customer Health and Safety," the "Head of Service" (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
In fiscal 2017, we took various actions to achieve a higher level of customer satisfaction. Customers’ opinions and requests reaching the Company on various occasions are shared by all of our employees through our database system called “C-VOICE.” In 2016, we reviewed the operational rules of the database and established a system whereby all of our employees are able to share information related to customer service more speedily, including the results of responses for customers’ inquiries and measures to prevent a recurrence of inappropriate behaviors. When a large number of similar customer requests or complaints are filed, for example, the secretariat expeditiously issues warnings to the relevant divisions or departments. This new system is part of our efforts to achieve a higher level of customer service.

In addition, various seminars and contests were held in the year to improve the quality of service responding inquiries via phone. Retail sales of gas were fully liberalized in fiscal 2018. In the year, we will try to reflect the views of as many customers as possible in our activities, with the aim of improving existing and new operations.
Energy / Emissions

Why Reasons of materiality in respect of our business

The Osaka Gas 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

Management systems and its performance

Amount of CO₂ emissions at LNG terminals per unit gas sales: Amount of CO₂ emissions at office buildings per unit floor space (G4-EN16)

Commitment Osaka Gas Group is committed to promoting environmental activities on a group-wide basis by formulating “Osaka Gas 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 Osaka Gas Group’s 69 domestic affiliates operate their own EMSs, such as ISO 14001, Eco Action 21, and the “Osaka Gas Environmental Management System (OGEMS).”

Performance

<table>
<thead>
<tr>
<th>Indicator</th>
<th>CO₂ Emissions at LNG Terminals Per Unit of Gas Sales</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Energy / Emissions

<table>
<thead>
<tr>
<th>Year</th>
<th>2017 Target</th>
<th>2017 Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>CO₂ Emissions</td>
<td>12.3 t-CO₂ / million m³ or less</td>
<td>10.5 t-CO₂ / million m³</td>
</tr>
</tbody>
</table>

Efforts to curb CO₂ emissions at LNG Terminals

The Osaka Gas 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.

To promote the efficient operation of our LNG cryogenic power generation facilities, we are implementing a variety of measures. We have begun to supply LNG cryogenic energy for the cooling process of a plant of a petrochemical company adjacent to an LNG terminal, thus contributing to energy saving and the reduction of CO₂ emissions at nearby plants as well as at our own.

Efforts in office buildings

Osaka Gas is promoting energy conservation and reducing CO₂ emissions by employing advanced high-efficiency equipment and control systems when renovating or repairing buildings, and by undertaking “Green Gas Building Activities” aimed at revamping energy management for the facility as a whole.

Effluents and Waste

Why Reasons of materiality in respect of our business

Over the entire business process, from drilling of natural gas to supply, the Osaka Gas 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

Management systems and its performance

Final disposal rate of industrial waste at Osaka Gas (G4-EN23)

Commitment Osaka Gas Group is committed to promoting environmental activities on a group-wide basis by formulating “Osaka Gas Group Environmental Activities Policy” and “Rules for Environment Management Systems” in line with related environmental laws.

Responsibilities Same as “Energy / Emissions” on P.53.

Performance

<table>
<thead>
<tr>
<th>Year</th>
<th>2017 Target</th>
<th>2017 Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>CO₂ Emissions at Office Buildings Per Unit of Gas Sales</td>
<td>74.4 t-CO₂ / 1,000 m² or less</td>
<td>61.0 t-CO₂ / 1,000 m²</td>
</tr>
</tbody>
</table>

Efforts at city gas manufacturing plants

Industrial waste is generated in the course of repairing/improving plants, but Osaka Gas endeavors to undertake eco-friendly construction work and to reduce industrial waste. These efforts have been ongoing since the “Zero Emission Project” launched in the early 2000s.

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

Water is not a primary material among the products the Osaka Gas Group handles. However, the Group strictly controls drinking water, industrial-use water and seawater when they are used at LNG terminals, power stations 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, 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 in excess of the relevant standards.

Thanks to such efforts, there were no violations regarding the quality of water being discharged. The Osaka Gas Group sees water as a limited natural resource. We will continue to use water adequately, control its discharge strictly, and promote water saving.
Activities on Materiality in FY2017

Local Communities

Why
Reasons of materiality in respect of our business

The Osaka Gas 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

Indicators

Percentage of operations with implemented local community engagement, impact assessments and development programs (G4-SD1)

Commitment

Based on the “Osaka Gas Group Code of Conduct”, we care about the issues faced by society and strive to contribute to the local community recognizing what we are expected 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 fiscal 2017.

Specific actions taken regarding materiality

The Osaka Gas Group strives to develop sustainable regional communities through the use of its assets, a Small Light Campaign promoted by employees of Group companies to enhance voluntary activities, and step up collaboration with nonprofit organizations. By doing so, the Group aims to create new value in each local community.

- Osaka Gas Group’s “Small Light Campaign”
  This is a company volunteer effort by the Osaka Gas 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).

- Cultivating youth
  We are engaged in activities such as education on energy, the environment, food, and disaster prevention targeting youth who will be the major players in the next generation.

- Creating local appeal
  We are utilizing the Osaka Gas Group’s business infrastructure to give the Kansai region even greater appeal, and to cooperate with local governments and communities as well as NPOs, social designers and others in revitalizing communities.

Customer Privacy

Why
Reasons of materiality in respect of our business

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

How
Management systems and its performance

Indicator

Total number of substantiated complaints regarding breaches of customer privacy (G4-PRB)

Commitment

In accordance with the “Osaka Gas 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.”

Specific actions taken regarding materiality

- Mechanism to protect personal information
  The Osaka Gas 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 fiscal 2017, the Group held a Net-based session for employees to enhance their awareness of the importance of protecting personal information. 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 Osaka Gas 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 fiscal 2017. These employees also receive e-learning training, twice a year, aimed at enabling them to respond appropriately to targeted e-mail attacks.
### Activities on Materiality in FY2017

#### Grievance Mechanisms

**Why**
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.

**Reasons of materiality in respect of our business**

- To deal with voices on the environment, Osaka Gas operates a company-wide Environmental Management System (EMS) according to laws and in-house rules. Employees needing consultation or advice regarding their human rights can contact the “Human Rights Desk” and other contacts.

**How**

**Management systems and its performance**

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Number of grievances filed, addressed and resolved through the formal grievance mechanism on environmental and social impacts, human rights, and labor practices (G4-EN34, S09, HR12, LA16)</th>
</tr>
</thead>
</table>

**Commitment**

The Osaka Gas 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 [11]. 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 concerned about the possible effects on local communities, the human rights of stakeholders and labor practices, and to respond expeditiously to filed complaints.

**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 fiscal 2017, for example, we improved the functions of the “My Osaka Gas” website for household customers, especially usability regarding monthly gas bills. As a result, customers have been able to confirm their payments in the past year, and past gas consumption and gas charges—all through graphs.

**Specific actions taken regarding materiality**

Before starting business transactions, Osaka Gas communicates its “Purchasing Policy” and “CSR-based Purchasing Guidelines,” and even confirms their efforts on CSR. In fiscal 2017, a survey was conducted on 190 major suppliers to check their CSR efforts. Furthermore, when the suppliers conduct business transactions with Osaka Gas, they are asked to observe “Green Purchase Guidelines” set by Osaka Gas, attached to the specifications for the business transactions.

#### Supplier Assessment

**Why**

Widespread value chains [12] of our business function 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.

**Reasons of materiality in respect of our business**

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

**How**

**Management systems and its performance**

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Percentage of new suppliers that have been selected using criteria regarding environment, social impact, human rights and labor practices (G4-EN32, S09, HR10, LA14)</th>
</tr>
</thead>
</table>

**Commitment**

Osaka Gas is committed to fulfilling CSR in close cooperation with business partners in line with the “Osaka Gas 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 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. A total of 63 suppliers began new business transactions with Osaka Gas in fiscal 2017. 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**

- Osaka Gas conducted a CSR survey on gas appliance makers to enhance their awareness of the importance of taking into account social and environmental aspects in doing business, and to ensure the safe use of gas appliances by end customers. The survey, conducted following the trend in the previous year, asked 31 companies about their CSR efforts regarding G7 items covered by eight themes—compliance, human rights, labor, occupational health and safety, product safety and quality, environmental protection, ethics and anti-corruption, and implementation systems—in line with the “CSR Procurement Guidelines on Gas Appliances.” Of the 31 companies, 27 replied.

- Osaka Gas plans to conduct a CSR survey of LNG [13] suppliers, service chains and engineering companies in fiscal 2018. We will continue to conduct similar surveys in the future as a means of deepening communications on our CSR with our business partners.
Third-Party Review
The Osaka Gas Group CSR Report underwent a third-party review by the Institute for Environmental Management Accounting (IEMA), including recommendations as well as simple audits. IEMA interviewed Masataka Fujiwara, Executive Vice President and CSR Executive, regarding the planning and implementation of CSR activities at the Osaka Gas Group.

Questions and answers were exchanged intensively between the interviewers and the CSR Executive, with a focus on subjects listed in the Long-Term Management Vision 2030 and the Medium-Term Management Plan 2020. Among the subjects were ESG (environment, society, and governance) management, how to respond to the complete liberalization of the retail electricity and gas markets, materiality analysis, and the setting of key performance indicators (KPIs) that reflect the United Nations' Sustainable Development Goals (SDGs). Based on the interview and documents submitted, IEMA prepared and presented a report which summarized IEMA’s overall evaluation and advice regarding the Osaka Gas Group’s CSR activities.

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 Osaka Gas Group CSR Report 2017 by evaluating all the CSR initiatives mentioned in the report, excluding numerical information on the environment. We interviewed Masataka Fujiwara, Executive Vice President and CSR Executive, to clarify the planning and implementation of CSR management of the Osaka Gas 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.

Evaluation and Opinion
The Osaka Gas Group has undertaken its CSR activities while clarifying its future policy direction through the Long-Term Management Vision 2030 and the Medium-Term Management Plan 2020, and setting relevant numerical targets. The Group has been making clear the disclosure of its CSR policy at a purpose and outline of work that has been undertaken.

Item recognition as materiality (important elements) after analysis and evaluation

Item recognition as materiality (important elements) after analysis and evaluation. Four years into the start of the activities, the Osaka Gas Group is scheduled to review this year the composition of materiality items through their comprehensive evaluation. It is relevant that CSR targets have been achieved on almost all materiality items. Evaluating and analyzing CSR activities after a certain period of time, and reviewing the materiality items in response to the changes in the business environment surrounding the Group are necessary. What is important next is to choose materiality items through which the Osaka Gas Group can explain to the public social problems it needs to address, how to solve them and what would be the value to be provided to society, while taking into account the SDGs. CSR activities under each materiality item must be managed using major key performance indicators (KPIs) as much as possible. The results of these activities, including the extent of progress, must be disclosed.

As a corporate group firmly rooted in local communities, the Osaka Gas Group should maintain a meticulously crafted customer-oriented service system and fulfill its role of shaping up the Kansai economy. It is also hoped that the Group will launch new businesses that can help realize social value beyond regional boundaries.

July 11, 2017

Katsuhiko Kokubu, Professor, Kobe University, Director of IEMA
Eriko Nashioka, Certified Public Accountant and Certified Tax Accountant, Ltd. of IEMA

Third-Party Verification

The environmental performance data of the Osaka Gas 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. The stated amount of greenhouse gas emissions also underwent verification in light of the requirements stipulated under ISO 14064-3.

Osaka Gas Group CSR Report 2017 Independent Verification Report (excerpt)

Bureau Veritas Japan Co., Ltd. (hereinafter called “Bureau Veritas”) conducted third-party verification of part of the environmental data listed in the Osaka Gas Group CSR Report 2017, compiled by Osaka Gas Co., Ltd. (hereinafter called “Osaka Gas”) under its responsibility. Subject to the verification were data received from Osaka Gas.

1. Verification Outline
This verification was conducted using Bureau Veritas’ standard procedures and guidelines for external verification of non-financial reporting, based on current best practices. Bureau Veritas refers to the International Standard on Assurance Engagements (ISAE) 3000 in providing a limited assurance for the scope of work stated herein.

2. Findings
On the basis 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 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.

Verification report regarding greenhouse gas emissions (excerpt)

Bureau Veritas Japan Co., Ltd. (hereinafter called “Bureau Veritas”) verified greenhouse gas emission data recorded between April 1, 2016 and March 31, 2017, which were reported by Osaka Gas Co., Ltd. (hereinafter called “Osaka Gas”) for inclusion in the Osaka Gas Group CSR Report 2017.

1. Scope of verification
1) Scope 1 and Scope 2 GHG emissions: GHG emissions through business operations of Osaka Gas and its 63 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. Verification method
Bureau Veritas verified the emission data in line with requirements stipulated under ISO 14064-3 (2006): Greenhouse Gases—Part 3. Based on the verification work and processes followed, there is no evidence to suggest that the GHG emissions assertion shown below:
- are not materially correct and are not a fair representation of the GHG emissions, as per the scope of work;
- are not prepared in accordance with the methodology for calculating GHG emissions established and implemented by Osaka Gas.

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 alert to 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.

Comments on “Evaluation and Opinion of CSR Management”

Once again, we recognized the extreme importance of the Osaka Gas Group enhancing its additional value in new business fields while improving our customer service quality by responding to customer needs meticulously and expeditiously using customer contact opportunities. We are committed to ensuring stable energy supply, enhancing the additional value of our services, and supporting customers’ lives and their housing systems. By doing so, we will meet social needs and expectations. At a time when our business areas and fields are expanding, we are convinced that it is all the more important for the Group to undertake business activities while fully recognizing and taking into account our operations’ possible impacts on society and the environment.

As for the proposed review of materiality items, we will revise KPIs when necessary in response to changing international trends and business environments, including the SDGs. We will continue to evaluate our CSR activities in an appropriate manner under the CSR Promotion System.

July 11, 2017

Katsuhiko Kokubu, Professor, Kobe University, Director of IEMA
Eriko Nashioka, Certified Public Accountant and Certified Tax Accountant, Ltd. of IEMA